

United States Government

Department of Energy

Bonneville Power Administration

memorandum

DATE: August 16, 2004

REPLY TO
ATTN OF: KEP-4

SUBJECT: Supplement Analysis for the Transmission System Vegetation Management Program FEIS
(DOE/EIS-0285/SA-225-Echo Lake – Monroe #1 **Project #: V-N-04/14**)

TO: Don Atkinson
Natural Resource Specialist – TFN/Snohomish

Proposed Action: Vegetation Management for the Echo Lake – Monroe #1, 500kV transmission line corridor. Approximately 20 miles (from structure 9/5 to 30/4) are to be treated. Right of way width is 150 feet for the majority of the line.

Location: Project location is in the BPA Snohomish Region in King and Snohomish Counties, Washington.

Proposed by: Bonneville Power Administration (BPA).

Description of the Proposal: BPA proposes to remove tall growing and noxious vegetation from the right of way and access roads that can potentially interfere with the operation, maintenance, and reliability of the transmission lines. Unwanted tall growing and noxious vegetation, danger trees, and reclaim trees will be removed and/or controlled inside the ROW using selective and nonselective methods that may include hand cutting, mowing, and herbicidal treatment. Vegetation management work will occur along the BPA Echo Lake – Monroe #1 transmission line corridor and encompass the entire ROW width. This proposal covers approximately 388 acres of land.

Analysis: A Vegetation Management Checklist was completed for this project in accordance with the requirements identified in the Bonneville Power Administrations Transmission System Vegetation Management Program FEIS (DOE/EIS-0285).

The subject corridor traverses public and private lands in King and Snohomish Counties, Washington, consisting of rural, urban/residential, private farmland, industrial forest, State of Washington, King County, City of Seattle and City of Snoqualmie lands. Specific land owner/land use measures are listed in section 2.3 of the checklist.

Section 3 of the checklist identifies the natural resources present in the area of the proposed work. The following summarizes natural resources occurring in the project area along with applicable mitigation measures.

Water Resources: Waterbodies (streams, rivers, lakes, wetlands) occurring in the project area are listed in section 3.1 of the Vegetation Management Checklist. Trees in riparian zones will be selectively cut to include only those that are within 50 feet of the conductor at maximum sag. Trees will be topped where shrubs are not present to provide shade and a silt buffer. Shrubs less than 10 feet high will not be cut that are where ground to conductor clearance is more than 50

feet. No ground disturbing vegetation management methods will be implemented within 35 ft. of waterbodies or on slopes greater than 20%, thus minimizing the risk for soil erosion and sedimentation near water bodies. No herbicides will be used within 100ft of any water body.

Drinking water sources, irrigation wells, or water supplies occurring within the project area are listed in Section 3.2 of the Vegetation Management Checklist. No herbicides will be used within 100 feet of any known irrigation source, well, or spring.

Threatened and Endangered Species: Pursuant to its obligations under the Endangered Species Act, BPA has made a determination of whether its proposed project will have any effects on any listed species. A species list was obtained from the United States Fish and Wildlife Service (USFWS) via the internet (<http://westernwashington.fws.gov/>) on August 9, 2004 as potentially occurring in the project area. In addition, a review of species under the jurisdiction of NOAA Fisheries was conducted. Review of site-specific information indicated that several listed species were found to be potentially present along the project corridor. These species include: Canada lynx, bald eagle, northern spotted owl, marbled murrelet Chinook salmon, bull trout, gray wolf, grizzly bear, golden Indian paintbrush, and marsh sandwort. Based on further research on listed species, and a review of the Vegetation Management Checklist, a determination of No Effect was made for all ESA listed species and designated critical habitat for the project.

Essential Fish Habitat: A review of NOAA database identified Essential Fish Habitat (EFH) streams occurring in the project area. Vegetation control measures identified for water resources will be followed for EFH. A determination of No Effect was made for EFH.

Cultural Resources: There are no known cultural resources present in the project area. If evidence of cultural resources is found, work will cease immediately, and the appropriate authorities will be contacted.

Re-Vegetation: Re-vegetation needs will be determined onsite. Native plant species will be considered in all reseeded/replanting mixes.

Monitoring: The entire project will be inspected during the work period. Additionally, the line will be patrolled intermittently after treatment to monitor the effectiveness of the treatment and any issues associated with the project.

Findings: This Supplement Analysis finds that 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/ Oden W. Jahn

Oden W. Jahn
Physical Scientist

CONCUR: /s/ Thomas C. McKinney
Thomas C. McKinney
NEPA Compliance Officer

DATE: 8/17/2004

Attachment

cc:

L. Croff – KEC-4
T. McKinney – KEC-4
J. Meyer – KEP-4
O. Jahn – KEPR-4
J. Sharpe – KEPR-4
M. Martin – KEPR/Covington
P. Key – LC-7
J. Hilliard Creecy – T-DITT2
K. Rodd – TF/DOB-1
L. Alvarez – TFN-Snohomish
A. DeLaCruz – TFN-Snohomish
S. Scott – TFNF- Snohomish
Environmental. File – KEC-4
Official File – KEP (EQ-14)

Vegetation Management Checklist

Echo Lake - Monroe No.1

9/5 to 30/4

Project #: V-N-04/14

Prepared By: **Don Atkinson**
Natural Resource Specialist

1. IDENTIFY FACILITY AND THE VEGETATION MANAGEMENT NEED

1.1 Describe Right-of-way.

See Handbook — List of Right-of-way Components for checkboxes and the requirements for the components Rights-of-way, Access Roads, Switch Platforms, Danger Trees, and Microwave Beam paths.

Corridor Name	Corridor Length & kV	Easement width	Miles of Treatment
Echo Lake – Monroe No.1	9/5 to 30/4 500kv	150 feet	Approx. 20 miles

Rights-of-way
Access Roads
Danger Trees

1.2 Describe the vegetation needing management.

See handbook — [List of Vegetation Types](#), [Density](#), [Noxious Weeds](#) for checkboxes and requirements.

Vegetation Types:

Western Red Cedar
Douglas fir
Grand fir
Hemlock
Alder
Noble fir
Pacific Silver fir

Willows – mid span or where ground to conductor clearance is low
Cottonwoods

Scotchbroom – along access roads and around structures or mid span where ground to conductor clearance is low

Blackberries - along access roads and around structures or mid span where ground to conductor clearance is low

Density: The density is variable through the project and ranges from Low (50 stems or less per acre) to as 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. See Handbook — for requirements and checkboxes.

Vegetation that will grow tall will be selectively eliminated *before* it reaches a height or density to begin competing with low-growing species. (This is done for maintenance of already controlled rights-of-way. This should be done when the saplings are very young.)

Desirable low-growing plants will not be disturbed. Only selective vegetation control methods that have little potential to harm non-target vegetation will be used.

On private, state, and municipal lands cut-stump or follow-up spot herbicide treatments on species that re-sprout will be carried out to ensure that the roots are killed (follow-up treatment may take place during the next two growing season). Herbicides will not be applied using high volume methods to ensure that non-target species are not treated.

1.4 Describe overall management scheme/schedule.

See Handbook - [Overall Management Scheme/Schedule](#).

Description of the Proposed Action: The project consists of clearing unwanted vegetation within and/or adjacent to the right-of-way, around structures, and along access roads that may impede the operation and maintenance of the subject transmission line. All work will be in accordance with the National Electrical Safety Code and BPA standards. It is the goal of this project to remove the tall growing vegetation that is currently or will soon be a hazard to the transmission line. The overall long-term goal is to develop low-growing plant communities within the right-of-way. The current action consists of 4 primary treatment zones:

Right-Of-Way – The total project area consists of approximately **387.5** acres. It is estimated that approximately **373.7** acres of the project area will be cut.

Access Road Clearing – Approximately **24** miles of access roads will be cleared.

Transmission Structures – Approximately **94** tower sites will be treated.

Danger Trees (off right-of-way): – All off-right-of-way trees (danger trees) that are marked as potentially unstable, or trees that are identified during the project, that would fall within the minimum approach distance (MAD) or into the safety zone of the power line, will be cut as part of this project. On private, state, and municipal lands as site conditions allow danger trees may be treated with herbicides to prevent re-sprouting.

Maintenance will include treatments to manage the target vegetation. Maintenance activities in the ROW could occur every year for the first maintenance cycle. Normally, the vegetation would be treated every 3 to 4 years. Three general control methods are being considered. They can be used individually or in combination to control vegetation including noxious weeds. The project prescription cut sheet documents exactly which treatment is proposed on a site-specific location.

Manual methods

Mechanical methods

Chemical methods (on state, private, and municipal lands)

Manual Control Methods – are the control/management of vegetation by pulling or cutting with hand tools including the following techniques:

Pulling - physically pulling vegetation from the soil.

Cutting - using shears, clippers, chainsaws, brush saws and axes to sever the above ground vegetation (including topping, pruning and side -trimming). The most common cutting prescription is “cut, lop and scatter”. This is defined as cutting the vegetation from the stump, lopping or cutting the limbs from it to ensure contact with the ground, and hand scattering the cut limbs to avoid concentrations of debris.

Girdling – cutting a ring completely around the trunk of the tree, sufficiently deep into the cambium layer to kill the tree, but leave it standing.

Mechanical Control Methods – are the control/management of vegetation by cutting it with mowing type equipment, mounted on rubber-tired or track-type tractors, including the following types of equipment:

Mowers with rotary heads or rotating drums mounted on rubber tired or track-type tractors (track hoe).

Feller Bunchers, track-mounted machines that grab the trees, cut them at the base, remove branches, cut to length, and then move them to a desired location. The feller buncher could be used during the removal of C-Trees (large trees within the right-of-way) or Danger Trees off the right of way.

Chemical Methods (On private, state, and municipal lands only) - include spot treatment (stump or stubble treatment, basal treatment, and/or spot foliar), or localized treatments including broadcast application and cut stubble treatments with Garlon 4, or other chemicals approved in our Vegetation Management EIS, to ensure that the roots are killed preventing new sprouts and selectively eliminating vegetation that prevents access to the power lines. If we are unable to treat the stumps during the project, we will wait until the next growing season and do a localized foliar treatment. In areas where the trees are less than 6ft. tall and the density is light we may do a localized basal treatment.

Critical Design Elements

Streams and Wetlands

Buffer zones have been established for all aquatic resources as follows:

For T&E streams a 200-foot (on each side of stream) no herbicide buffer.

For non T&E streams and wetlands a 100-foot (on each side) no herbicide buffer.

For other water resource buffers (springs, well and irrigation) see section 3.2

On slopes less than 20% there will be no disturbance within 35ft. of the stream or wetland.

On slopes greater than 20% there will be no disturbance within the identified buffer.

Threatened and Endangered Species Areas:

Aquatic Species

For T&E fish streams a 200-foot (on each side of stream) no herbicide buffer.

No mechanical treatments within the buffer except along access roads and around structures

Spotted Owl (None identified within the project area)

During the nesting season, from March 1 to July 1, no danger trees within ¼ mile of known northern spotted owl nest sites will be removed. If any owl nesting activity is found the NRS will contact the Regional Environmental Specialist and a determination will be made regarding formal consultation with the USFWS.

Herbicides will not be used in spotted owl critical habitat

Marbled Murrelet (None identified within the project area)

During the core-breeding season of marbled murrelets, from April 1 – August 5, activities that produce noise above ambient levels will not occur within ¼ mile of potential suitable habitat of the marbled murrelet.

During the late breeding season, from August 6 – September 15, activities utilizing motorized equipment within ¼ mile of marbled murrelet habitat will not occur within two hours after sunrise or within two hours before sunset.

Herbicides will not be used in suitable marbled murrelet habitat

Steep Slopes and Spanned Canyons

Do not use **ground disturbing** mechanical equipment on slopes over 20%.

Perform mechanical clearing when the ground is dry enough to sustain heavy equipment.

Areas with the potential for erosion may be re-seeded with low-growing vegetation or grasses if there is limited vegetation for re-establishment of the site.

Any areas in the corridor with greater than 38.1 m (125 ft.) vertical distance between the ground surface and transmission lines will have selective tree removal. Individual trees that could encroach into the conductor danger zone will be identified and selected for removal in each management entry

Specific Measures to be implemented during the project:

When chainsaws are used, conifers will be cut below the lowest live limb to eliminate continued growth of the lateral branches.

Control all tree and brush species within about 30 ft. of transmission structures. Cut stumps are not to be taller than 2 – 4 inches.

Pull all debris and slash out of the 30-ft. area around transmission structures.

Access Road Clearing Requirements: - (there are approximately 41 miles of machine and hand cutting)

Control all vegetation except grasses, to enable safe driving.

The access road is to be 14 to 25 ft. wide with a 15-ft.- high clearance. Limbs should not hang down into the access road.

Cut stumps are not to be taller than 2 – 4 inches in the roadbed.

Cut stumps horizontal to the ground to prevent personal injuries and tire puncture.

Trim limbs back as flush to the trunk as possible when trees are rooted outside of the access road.

Pull all debris back from the access road as prescribed. Cut stumps horizontal to the ground to prevent personal injuries and tire puncture.

Areas may be re-seeded with low-growing vegetation or grasses if there is limited vegetation for re-establishment of the site.

As flush to the trunk as possible when trees are rooted outside of the areas where vegetation densities are high, or that have high densities of sotchbroom and /or blackberries will be mowed using a track mounted mowing head.

All access roads and structure sites will also be mowed and chemically treated off-National Forest Lands.

Pull all debris back from the access road as prescribed

Subsequent entries – Follow-up/re-treatment, within the right-of-way, around structure sites, and along access roads, is planned within the next growing season. This will be done with herbicides in areas that were not treated due to adverse weather conditions, there was not a good kill, or that were not treated in the initial entry.

Future cycles – This area is being managed on a 3 to 4 year maintenance free cycle for brush and danger trees. During routine patrol, the right-of-way will be examined for tall growing trees on the right-of-way and danger trees (DT's) off the right-of-way. The overall vegetation management scheme will be to cut and treat all encumbering vegetation on the right-of-way using a combination of manual, mechanical and herbicide treatments as outlined in the project description every 3 to 4 years.

2. IDENTIFY SURROUNDING LAND USE AND LANDOWNERS/MANAGERS

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

See Handbook — [Landowners/Managers/Uses](#) for requirements, and [List of Landowners/Managers/Uses](#) for a checkbox list.

- State of Washington
- King County
- City of Seattle
- City of Snoqualmie
- Hancock Forest Management
- Olympic Pipeline
- Cherry Creek Water
- Private landowners (rural residential, farms, grazing land)

2.2 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.

See Handbook — [Methods for Notification and Requesting Information](#) for requirements.

Letters or Personal contact by BPA and/or the Contractor along with door hangers will be used to notify the landowners. This will be done before and during the project. The Prescription/Cut Sheets will be modified as needed based on any input received during the project.

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

See handbook — [Requirements and Guidance for Various Landowners/Uses](#) for requirements and guidance, also [Residential/Commercial](#), [Agricultural](#), [Tribal Reservations](#), [FS-managed lands](#), [BLM –managed lands](#), [Other federal lands](#), [State/ Local Lands](#).

No specific landowner measures needed. Note – not all areas within the project area will be treated with herbicides. Riparian areas and areas where the landowners do not want herbicides used, will not be treated.

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.

See handbook — [Landowner Agreements](#) for requirements.

Echo Lake - Monroe No. 1

Span		Landowner/use	Specific measures to be applied
From	To		
17/4 + 500	17/4 + 790	Tree & Brush Agreement	Landowner will maintain
21/5 + 300	21/5 + 575	Tree & Brush Agreement	Landowner will maintain
26/3 + 200	26/3 + 875	Verbal Agreement	BPA to maintain. However landowner requests that herbicides not be used.
26/4 + 1480	27/2 + 1215	Verbal Agreement Eric Klock (Organic Farm)	Need to check w/ Mr. lock, DO NOT use herbicides
27/3 + 0	27/3 + 100	Tree & Brush Agreement Wolf Landscaping	Landowner will maintain
27/3 + 1570	27/4 + 275	Tree & Brush Agreement	Landowner will maintain
28/4 + 790	27/4 1520	Fee Property leased to	Check w/landowner before cutting, lease gives BPA the right to cut.

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.

See handbook — [Casual Informal Use of Right-of-way](#) for requirements.

None Known.

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.

See handbook — [Other Potentially Affected Publics](#) for requirements and suggestions.

The Snoqualmie, Tulalip and Muckleshoot Tribes, were sent letters on **3/14/03**.

3. IDENTIFY NATURAL RESOURCES

See Handbook — [Natural Resources](#)

3.1 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.

See Handbook — [Water Resources](#) for requirements for working near water resources including buffer zones

Echo Lake – Monroe No. 1 (See attached maps for locations)

Span		Waterbody Type	T&E and/or EFH	Cut Method	Buffer Width (Feet)	Other
From	To					
9/6 + 680	9/6 + 10799	Griffin Creek	Yes	STC	200 ft. each side	Anadromous Fish – Private Lands
10/4 + 775	10/4 + 980	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
10/5 + 500	10/5 + 700	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands

Span		Waterbody Type	T&E and/or EFH	Cut Method	Buffer Width (Feet)	Other
From	To					
10/5 + 810	10/5 + 1010	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
11/1 + 470	11/1 + 690	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
11/2 + 450	11/2 + 650	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
11/3 + 360	11/4 + 140	Wetland & 3 Unnamed Creeks	Yes	STC	200 ft. each side	Anadromous Fish – State & Private Lands
11/5 + 80	11/5 + 930	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
12/1 + 200	12/1 + 1220	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
12/2 + 522	12/2 + 830	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
12/3 + 60	12/3 + 990	Loop Lake	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
12/5 + 40	12/5 + 260	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
13/1 + 300	13/1 + 700	Unnamed Creek	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
13/2 + 710	13/2 + 940	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
13/4 + 640	13/4 + 1260	Tolt River	Yes	STC	200 ft. each side	Anadromous Fish – State & Private Lands
14/2 + 310	14/2 + 720	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
14/3 + 40	14/3 + 240	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
15/2 + 110	15/2 + 1130	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
15/3 + 460	15/3 + 930	Unnamed Creeks	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
15/4 + 50	15/4 + 700	3 Unnamed Creeks	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
16/3 + 290	16/3 + 475	Unnamed Creek	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
16/5 + 240	16/5 + 1220	Harris Creek & Wetlands	Yes	STC	200 ft. each side	Anadromous Fish – State & Private Lands
16/5 + 1410	16/5 + 1655	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
17/3 + 40	17/3 + 250	Unnamed Creek	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
18/4 + 425	18/4 + 700	Unnamed Creek	No	Select Tree Cut	100 ft. each side	State & Pvt. Lands

Span		Waterbody Type	T&E and/or EFH	Cut Method	Buffer Width (Feet)	Other
From	To					
18/6 + 150	18/6 + 930	2 Unnamed Creeks & Pond	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
19/1 + 150	19/1 + 310	Cherry Creek	Yes	Cut Lop & Scatter	200 ft. each side	Anadromous Fish – State & Private Lands
19/1 + 310	19/1 + 620	Cherry Creek	Yes	STC	200 ft. each side	Anadromous Fish – State & Private Lands
19/4 + 275	19/4 + 860	No Name Creek	Yes	Cut Lop & Scatter	200 ft. each side	Anadromous Fish – State & Private Lands
19/4 + 990	19/4 + 1300	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt. Lands
19/4 + 1640	19/4 + 2130	No Name Creek	Yes	Cut Lop & Scatter	200 ft. each side	Anadromous Fish – State & Private Lands
20/3 + 240	20/3 + 480	Unnamed Creek	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands
20/3 + 800	20/3 + 1050	Unnamed Creek	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands
21/1 + 50	21/1 + 600	Unnamed Cr. & Pond	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands
21/5 + 575	21/5 + 1380	Wetland	No	Select Tree Cut	100 ft. each side	State & Pvt Lands
22/3 + 200	22/3 + 1210	Pond & Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands
22/5 + 300	22/6 + 670	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands
22/6 + 950	22/6 + 1440	Pond & wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands
23/1 + 40	23/1 + 260	Unnamed Creek	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands
23/3 + 380	23/3 + 850	Pond & wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands
23/4 + 660	24/4 + 890	Unnamed Creek	No	Select Tree Cut	100 ft. each side	State & Pvt Lands
24/1 + 510	24/1 + 770	Unnamed Creek	No	Cut Lop & Scatter STC within 25' of the creek	100 ft. each side	State & Pvt Lands
24/4 + 50	24/4 + 510	Unnamed Creek	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands
24/4 + 1125	24/5 + 540	Creek & Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands
24/5 + 670	24/5 + 900	Unnamed Creek	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands

Span		Waterbody Type	T&E and/or EFH	Cut Method	Buffer Width (Feet)	Other
From	To					
25/1 + 100	25/1 + 300	Unnamed Creek	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands
25/3 + 550	25/3 + 860	Unnamed Creek	No	Select Tree Cut	100 ft. each side	State & Pvt Lands
26/4 + 560	26/4 + 1480	Unnamed Creek	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands
27/1 + 180	27/1 + 375	Wetland	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands
27/2 + 160	27/2 + 1215	Skykomish River	Yes	Cut Lop & Scatter	200 ft. each side	Anadromous Fish – State & Private Lands
28/2 + 260	28/2 + 500	2 Wells	No	Cut Lop & Scatter	100 ft. radius	State & Pvt Lands
28/4 + 200	28/4 + 375	Well	No	Cut Lop & Scatter	100 ft. radius	State & Pvt Lands
28/4 + 560	28/4 + 1000	Woods Creek	Yes	Cut Lop & Scatter	200 ft. each side	Anadromous Fish – State & Private Lands
29/1 + 960	29/2 + 700	Unnamed Creek	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands
29/5 + 510	29/5 + 820	Pond	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands
30/2 + 350	30/2 + 525	Unnamed Creek	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands
30/3 + 310	30/3 + 540	Unnamed Creek	No	Cut Lop & Scatter	100 ft. each side	State & Pvt Lands

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).

See Handbook — [Herbicide Use Near Irrigation, Wells or Springs](#) for buffers and herbicide restriction

Echo Lake - Monroe No. 1

Span		Wells, Irrigation or Springs	Treatment Zone	Buffer
From	To			
18/6 + 150	18/6 + 930	Springs	Hand cutting Methods only, no herbicides allowed within the buffer.	100 ft. radius around spring
19/3 + 250	19/3 + 450	Well	Hand cutting Methods only, no herbicides allowed within the buffer.	100 ft. radius around well
28/2 + 260	28/2 + 500	2 Wells	Hand cutting Methods only, no herbicides allowed within the buffer	100 ft. radius around well
28/4 + 200	28/4 + 375	Well	Hand cutting Methods only, no herbicides allowed within the buffer	100 ft. radius around well

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.

See Handbook — [T&E Plant or Animal Species](#) for requirements and determining presence.

Echo Lake - Monroe No. 1 (NONE WITHIN THE PROJECT AREA)

Threatened or Endangered Plant or Animal Species	Method/mitigation measures
Spotted Owl	During the nesting season, from March 1 to July 1, no danger trees within ¼ mile of known northern spotted owl nest sites will be removed. If any owl nesting activity is found the NRS will conduct formal consultation with the USFWS.
Marbled Murrelet	During the core-breeding season of marbled murrelets, from April 1 – August 5, activities that produce noise above ambient levels will not occur within ¼ mile of potential suitable habitat of the marbled murrelet. During the late breeding season, from August 6 – September 15, activities utilizing motorized equipment within ¼ mile of marbled murrelet habitat will not occur within two hours after sunrise or within two hours before sunset.

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

See Handbook — [Protecting Other Species](#) for requirements.

None mapped. Also, any areas in the corridor with ground to conductor clearances greater than 38.1 m (125 ft.) vertical distance will be select tree cut. This will help provide shade for salmon and other fish.

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

See Handbook — [Visual Sensitive Areas](#) for requirements.

None Known within the project area

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

See Handbook – [Cultural Resources](#) for requirements.

At this time, there are none known within the right-of-way. Letters have been sent to the following Tribes:

- Puyallup
- Tulalip
- Snoqualmie
- Muckleshoot

The proposed project does not disturbed soils within the project area; the project consists of hand brush cutting and the mowing of access and structure sites. If any cultural resource were inadvertently unearthed or identified during the project, the project would be immediately stopped and the proper authorities notified.

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

See Handbook – [Steep/Unstable Slopes](#) for requirements. See attached maps for exact locations.

Echo Lake - Monroe No. 1

Span		Describe sensitivity	Method/mitigation measures
From	To		
9/6 + 1350	9/6 + 1479	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal
13/1 + 300	13/1 + 700	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.
13/2 + 320	13/2 + 500	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal
13/4 + 100	13/4 + 2290	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.
16/3 + 40	16/3 +290	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal
19/1 + 40	19/1 + 900	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.
19/4 + 120	19/4 + 275	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal
19/4 + 1640	20/2 + 1127	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.
21/1 + 30	21/1 + 600	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.
21/5 + 100	21/5 + 300	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal
22/3 + 1210	22/3 + 1600	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal
22/6 + 950	23/2 + 520	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.

Span		Describe sensitivity	Method/mitigation measures
From	To		
23/3 + 100	23/4 + 100	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.
24/1 + 210	24/3 + 770	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.
25/1 + 0	25/1 + 880	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.
25/3 + 400	25/5 + 450	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.
25/5 + 1499	26/3 + 975	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal
26/4 + 150	26/4 + 1480	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.
27/3 + 1240	27/3 + 1570	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal
28/4 + 0	28/4 + 1520	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.
29/1 + 960	29/3 + 775	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.

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

See Handbook – [Spanned Canyons](#) for requirements.

Echo Lake - Monroe No. 1 (See attached maps for locations)

Span		Describe sensitivity	Method/mitigation measures
From	To		
9/6 + 680	9/6 + 1350	Select Tree Cut	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.
13/4 + 250	13/4 + 2125	Select Tree Cut	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.
19/1 + 310	19/1 + 620	Select Tree Cut	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.

Span		Describe sensitivity	Method/mitigation measures
From	To		
23/4 + 660	23/4 + 890	Select Tree Cut	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.
24/1 + 510	24/1 + 770	Select Tree Cut	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.
25/3 + 550	25/3 + 860	Select Tree Cut	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.
27/3 + 1240	27/3 + 1570	Select Tree Cut	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.

4. DETERMINE VEGETATION CONTROL METHODS

See Handbook — [Methods](#)

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

See Handbook — [Manual](#), [Mechanical](#), [Biological](#), and [Herbicides](#) for requirements for each of the methods.

Manual: Manual control methods include the following: cutting with shears, clippers, or chainsaws; and girdling by cutting a ring around the tree. When chainsaws are used cut conifers below the lowest live limb to eliminate continued growth of the lateral branches and cut all stumps flat where possible.

Mechanical: Mechanical methods include the use of brush mowers and feller bunchers. Ground-disturbing mechanical equipment will not be used on slopes over 20% or in riparian areas (Refer to 3.1). Work will be done when the ground is sufficiently dry enough to sustain heavy equipment and minimize excessive rutting.

Herbicides: The herbicide treatments prescribed for the project area are spot stump treatment, localized basal treatment, and / or localized foliar treatment. If we are unable to treat the stumps during the project, we will wait until the next growing season and do a localized foliar treatment. In areas where the trees are less than 6ft. tall and the density is light we may do a localized basal treatment. Garlon 4, or other herbicides as approved in the Vegetation Management EIS, may be used depending on the species to be treated and the time of year the treatment takes place.

5. DETERMINE DEBRIS DISPOSAL AND REVEGETATION

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

See Handbook — [Debris disposal](#) for a checkbox list and requirements.

Mulching/Mowing – This will be done on access roads and around structure sites.

Lop and Scatter – These areas are identified in the Vegetation Control Prescription as Cut, Lope, and Scatter.

Some areas may require that the brush be chipped. These areas are identified in the Vegetation Control Prescription as cut and treat as needed, and will depend on the requirements of the landowners.

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

See Handbook — [Reseeding/replanting](#) for requirements.

Not planned at this time. However, if soil disturbance occurs during the project the area will be reseeded.

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

Native seed will be considered in all mixes. Introduced species may be more competitive against invading tree species and protecting against erosion.

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

See Handbook — [Reseeding/replanting](#) for requirements.

Not planned at this time. However, if reseeding is necessary it will take place in the fall just before the fall rains or early in the spring during the spring rains.

6. DETERMINE MONITORING NEEDS

See handbook — [MONITORING](#) for requirements.

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

The project area will be inspected during treatment. In addition, it will be reviewed during routine patrols by the line crew and within one year by the NRS.

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

Will review during line patrol by the line crew and within one year by the NRS.

7. PREPARE APPROPRIATE ENVIRONMENTAL DOCUMENTATION

See handbook — [Prepare Appropriate Environmental Documentation](#) for requirements.

7.1 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 Effects of this project are expected to be the same or less than those described in the Vegetation Management EIS.

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

None needed based on this review.