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(8-89)

United States Government **Department of Energy**

Bonneville Power Administration

memorandum

DATE: October 8, 2003

REPLY TO ATTN OF: KEP-4

SUBJECT: Supplement Analysis for the Transmission System Vegetation Management Program FEIS (DOE/EIS-0285/SA-169 Amended CJ-Monroe No.1 from 80/1 to 121/4 and CJ-Snohomish No. 3 & 4 from 80/3 to 81/1 & 100/3 to 105/1)

TO: Don Atkinson
Natural Resource Specialist - TFN/SNOHOMISH

Proposed Action: Vegetation Management for portion of the CJ-Monroe No.1 from 80/1 to 121/4 and CJ-Snohomish No. 3 & 4 from 80/3 to 81/1 and 100/3 to 105/1

Location: Project location is within King and Snohomish Counties, Washington.

Proposed by: Bonneville Power Administration (BPA).

Description of the Proposal: BPA proposes to clear targeted vegetation within the right-of-way. BPA proposes to clear along access roads and remove danger trees outside the right-of-way where appropriate. The project is to remove vegetation that may impede the operation and maintenance of the subject transmission line. See Section 1.1 through 1.4 of the attached checklists for a complete description of the proposed action.

Analysis: Please see the attached checklist for the resources present. Applicable findings and mitigation measures are discussed below.

Planning Steps:

1. Identify facility and the vegetation management need.

Work will take place along portions of the Chief Joseph-Monroe No.1 from 80/1 to 121/4 and Chief Joseph-Snohomish No. 3 & 4 from 80/3 to 81/1 and 100/3 to 105/1 transmission lines. The Chief Joseph-Monroe easement is from 225 to 800 feet, the Chief Joseph-Snohomish No. 3 and 4 is from 125 to 330 feet. The total project area consists of approximately 1413 acres. It is estimated that approximately 1397 acres will need treatment, and approximately 45 miles of access roads and 401 tower sites. 603 acres are on the Mt. Baker – Snoqualmie National Forest.

Tall growing vegetation of the types listed in Section 1.2 of the attached checklist are present in the ROW and will soon pose a hazard to the lines. The project involves clearing tall growing vegetation on private, municipal, state and Forest Service lands. On private, municipal and state lands treatment of the associated stumps and re-spouts with will include the use of approved herbicides to ensure that the roots are killed. On National Forest System lands there will be no application of herbicides.

Vegetation on access roads and around tower sites that impede the operation and maintenance of the transmission line will also be cleared and/or treated.

All off right-of-way trees (danger trees) that are marked as potentially unstable, or trees that are identified that well fall within the minimum approach distance or into the safety zone of the power line will be cut as part of this project. Danger trees on private, municipal and state lands may be treated to prevent re-sprouting. On National Forest System lands, where BPA facilities can be protected and safety of workers can be met, danger trees will be topped to provide for future snag habitat for wildlife.

On all lands, other than Forest Service properties, a follow-up chemical foliar treatment is scheduled within the next growing season. Control methods and requirements, as outlined in Sections 3 of the attached Vegetation Management checklist, will be employed to mitigate any environmental effects to natural resources or to Threatened or Endangered species habitat. This vegetation management program is designed to provide a 3-5 year maintenance free interval after the follow-up treatment.

On National Forest System lands the control of noxious weeds is of prime concern. To prevent the spread of noxious weeds, project machinery and support equipment, including hand tools and trailers are to be free of soil and vegetative material prior to entering Forest Service lands. Mt. Baker – Snoqualmie National Forest Service personnel may inspect equipment as deemed necessary.

2. Identify surrounding land use and landowners/managers and any mitigation.

The subject corridor traverses a mixture of private and public owned lands. Mostly rural residential, grazing and private forest lands, Washington Department of Natural Resources and the Mt. Baker-Snoqualmie National Forest lands.

A letter will be sent by mail to notify landowners in proximity to the project transmission lines prior to vegetation control activities. Personal contact along with door hangers may also be employed to notify landowners. The Prescription / Cut Sheets will be modified as needed based on input received during the project. A listing of current Landowner Agreements along the ROW can be found in Section 2.4 of the attached checklist.

Timing and treatment standards within the jurisdictional boundaries of the WA. Dept of Natural Resources lands will be coordinated with appropriate DNR personal.

All project areas that fall within the jurisdictional boundaries of the Mt Baker-Snoqualmie National Forest, the Project Manger is to coordinate with and apply Forest Service specific mitigation measures. No herbicides are to be used within the boundaries of the Mt. Baker-Snoqualmie National Forest.

3. Identify natural resources and any mitigation.

Section 3 of the attached checklist identifies the natural resources present in the area of the proposed work. The following cites resources found with applicable mitigation measures:

Riparian Habitat:
Includes all wetlands, streams, creeks and ponds meeting the definition of riparian habitat. Riparian areas were identified which may include essential fish habitat. See Section 3.1 of the attached checklist for a complete listing of identified water resources.

Riparian Habitat Mitigation:

- County or private lands, within 30.5 m (100 ft.) of a stream or open water. Available: all manual, spot and localized herbicide, and biological treatments, except grazing. On slopes less than 20% there will be no ground-disturbing mechanical methods employed within 35 ft. of the stream or wetland. On slopes greater than 20% there will be no ground-disturbing mechanical methods employed within the buffer.
- Within 50 ft. to edge of surface water only cut-stump and localized or spot chemical treatments using practically non-toxic to slightly toxic formulations of glyphosate, triclopyr (TEA) formulation, imazapyr, and metsulfuron-methyl (Escort). Highly toxic to very highly toxic herbicides (to aquatic species) or those herbicides containing a groundwater or surface water label advisory will not be used in this zone. Triclopyr (Garlon 4) may be used only more than 100 ft. from streams or water.
- On National Forest System lands trees needing to be felled within any riparian reserve should be felled into the stream course to contribute to large woody debris component of the stream.

Irrigation Source, Wells, or Springs:

Includes water sources, springs, wells and other sensitive lands within 100 ft. of sensitive riparian areas or water sources. See Section 3.2 of the attached checklist for a complete listing.

Irrigation Source, Wells, or Springs Mitigation:

- Herbicides will not be applied within 100 ft. of any irrigation water source, well, spring, or other sensitive riparian area. Only hand cutting methods are permitted within this buffer. Herbicide use is limited to those that do not have ground or surface water advisories between 100 and 165 ft of wellhead. Approved herbicides include: glyphosate, imazapyr, tryclopyr, Escort.

T & E Species/ Essential Fish Habitat:

Section 3.3 of the attached checklist presents any Threatened or Endangered Species identified in the area of the proposed work. See attached USFWS species list.

T & E Species Mitigation:

- **Listed Anadromous Fish/Bull Trout:** See checklist for identified critical habitat. No herbicides will be applied within 400 ft. of the waters edge of any T&E or Essential Fish Habitat listed water bodies. On slopes less than 20%, there will be no disturbance with 35 ft. of the stream or water source. On slopes greater than 20%, there will be no disturbance within 400 ft of the stream or water source. Project Manager is to select cut, top or trim trees within the buffer limits to maintenance stream shade producing vegetation.
- **Bald Eagle Nesting Areas:** During nesting season activities with ¼ mile of the known site will be suspended from January 1st to August 15th. If maintenance activities are required within the buffer during this period then the Wildlife Species Coordinator will be contacted for directions on how to proceed.

If perching birds or large nest (more than 24 inches in diameter) is seen within the project area, especially around or on the transmission towers discontinue the activity and contact the Regional Environmental Protection Specialist and the USFWS.

- **Marbled Murrelet:** See checklist for identified critical habitat. Mitigation measures are as follows:
  - On all lands other than Forest Service lands, no tree greater than 32 inches at breast height is to be removed. If a tree needing removal is greater than 32 inches diameter at breast height and has suitable nest tree characteristics, initiate consultation with the USFWS. On Forest Service lands no tree greater than 21 inches at breast height with limbs over five inches in diameter are to be removed. If a tree needing removal is greater than 21 inches diameter and has suitable tree characteristics (limbs over 5 inches in diameter), initiate consultation with the USFWS and Forest Service.
  - During core breeding season, from April 1-August 5, do not carry out maintenance activities that produce noise levels above ambient noise levels, within 0.25 miles of known habitat or occupancy.
  - During late breeding season, from August 6 –September 15, do not carry out maintenance activities using motorized equipment within 0.25 miles of habitat or occupancy within two hours after sunrise or within two hours before sunset.
- **Northern Spotted Owl:** See checklist for identified critical habitat. Mitigation measures are as follows:
  - Where opportunity exists, suspend vegetation management activities with 0.25 miles of spotted owl habitat between March 1 and June 30, unless the owls are shown noted to be nesting.
  - Examine any large trees that need to be removed in Spotted Owl habitat for evidence of owls. If a tree has evidence of owl nesting activity, conduct consultation with the USFWS and the Forest Service if warranted.
  - In case of an emergency danger tree removal---a tree suddenly becoming an imminent threat to the line, posing a danger to life and property---immediately examine the felled tree for evidence of nesting. If such evidence is found, start emergency consultation with USFWS and the Forest Service if warranted. If the situation occurs during off-duty hours, conduct after-the-fact emergency consultation the next business day.
- **Grizzly Bear:** Grizzly bears are not habituated to human activities. The project area falls within and along the Washington State Highway 2 corridor, with very high density of traffic and human activates (both residential and recreational) throughout the year. Dens sites usually occur well away from development and human activity. Grizzly bear are not expected in the project area.

Cultural Resources:

Vegetation management typically does not involve ground-disturbing activities, and no known cultural resources are present along the ROW.

Cultural Resources Mitigation:

On all lands other than the Forest Service, if a site is discovered during the course of vegetation control, work will be stopped in the vicinity and the local tribe will be contacted as well as the BPA Environmental Specialist. On Forest Service properties the Forest Archaeologist is to be notified to coordinate any needed investigation or mitigation measures.

Steep Slopes:

See Section 3.7 of the attached checklist for areas having a steep slope requiring vegetation management. Manual, herbicide, and biological treatments are available for treatment. Ground disturbing mechanical equipment is not allowed to clear on slopes greater than 20% except for treatment on access roads and around structures.

Spanned Canyons:

Includes areas in the corridor with a greater than 125 ft. vertical distance between the ground surface and transmission lines. Removal is periodically required of individual trees that could encroach into the transmission corridor danger zone. See Section 3.8 of the attached checklist for a listing of such areas along the ROW.

4. Determine vegetation control and debris disposal methods.

No herbicides will be applied on the Mt. Baker-Snoqualmie National Forest and/or within mitigation buffers zones. Only herbicides currently on the BPA approved list are to be applied in all others areas.

Vegetation will be removed using manual, mechanical, and chemical methods, see checklist for treatment zones.

Debris will either be disposed on-site or trucked off-site using either chip, lop and scatter, or mulch techniques as described in Section 5 of the attached checklists.

5. Determine revegetation methods, if necessary.

Re-vegetation is not planned for this project. However, if soil disturbance occurs during the project, the area will be reseeded. On Forest Service lands re-seeding is to be accomplished using the Mt. Baker – Snoqualmie National Forest desirable non-native seed mixes appropriate to the site conditions and elevation.

6. Determine monitoring needs.

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.

7. Prepare appropriate environmental documentation.

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.

This Supplement Analysis also finds that with the mitigation measures as mentioned above that the proposed actions will not affect threatened or endangered species. Therefore, no further NEPA or ESA documentation is required.

/s/ Mark Martin
Mark Martin
Environmental Protection Specialist

CONCUR: */s/ Thomas C. McKinney* DATE: 10/08/2003
Thomas C. McKinney
NEPA Compliance Officer

Attachment

cc:
L. Croff – KEC-4
T. McKinney – KEC-4
J. Meyer – KEP-4
E. Stratton – KEP/PSB-2
M. Martin – KEPR/COVINGTON
P. Key – LC-7
J. Hilliard Creecy – T-DITT2
M. Johnson – TF/DOB-1
L. Alvarez – TFN/SNOHOMISH
A. De La Cruz – TFN/SNOHOMISH
R. Sweet – TFNF/SNOHOMISH
Environmental File – KEC-4
Official File – KEP (EQ-14)

Mmartin:mm:4722:10/7/2003 (KEP-KEPR/COVINGTON-W:\EP\2002 & 2003 FILES\EQ\EQ-14\FEIS-0285-SA-169-Amended CJ-Monroe - CJ-Snoho.doc)

Vegetation Management Checklist

Chief Joseph – Monroe No.1
80/1 to 121/4 mile
Chief Joseph – Snohomish No. 3 & 4
80/3 to 81/1 & 100/3 to 105/1 mile

Prepared By: **Don Atkinson**
Natural Resource Specialist
October 6, 2003

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
Chief Joseph-Monroe No. 1	80/1 to 121/4 500kv	225' to 800'	Approx. 41miles
Chief Joseph-Snohomish No. 3 & 4	80/3 to 81/1 & 100/3 to 105/1 345kv	125' to 330'	Approx. 5 miles

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

Sitka 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. 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 National Forest System lands there will be no application of herbicides.

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 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 1413.1 acres, of which 602.8 acres on the Mt. Baker/Snoqualmie National Forest. It is estimated that approximately 1396.9 acres of the project area will be cut.

Access Road Clearing – Approximately 45 miles of access roads will be cleared.

Transmission Structures – Approximately 401 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. As site conditions allow danger trees may be treated with herbicides to prevent re-sprouting.

On National Forest System lands where BPA facilities can be protected and the safety of workers can be met, danger trees will be topped to provide for future snag habitat for wildlife. No herbicides will be used on National Forest System lands.

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 private, state, and municipal lands only)

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 400-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 400-foot (on each side of stream) no herbicide buffer.

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

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 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

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 scotchbroom 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.

Trim limbs back access road.

Pull all debris back from the access road as prescribed

Subsequent entries (on private, state, and municipal lands only) – 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 5 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 5 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.

Mt. Baker/Snoqualmie National Forest, City of Index Watershed, Washington State Parks, Washington Dept. of Natural Resources, and 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.

The Forest Service was contacted by BPA. Forest Service staff reviewed the Transmission System Vegetation Management Program FEIS (5/2000) and the Supplemental Analysis of the FEIS for the Chief Joseph-Monroe No.1 and Chief Joseph-Snohomish No.3&4 corridors (8/15/2003). Forest Service resource specialists provided review of the Supplemental Analysis, supplied specific mitigation measures, which applied to National Forest System lands and modified BPA treatment proposals where appropriate for National Forest System lands. The mitigations and modifications will be adopted in the final approved Supplemental Analysis.

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.**.

- Within all Forest System lands and the City of Index watershed no herbicides will be used.
- Timing and treatments within the Wallace Falls State Park will be coordinated with the Park Ranger.
- On National Forest System lands trees needing to be felled within riparian reserves should be felled into the stream course to contribute to the large woody debris component of the stream.
- On National Forest System lands, where BPA facilities can be protected and the safety of workers can be met, danger trees 18 inches and larger needing to be felled, will be topped to provide for future snag habitat for wildlife.

- On National Forest System lands to prevent the spread of noxious weeds, project machinery and support equipment, including hand tools and trailers are to be free of soil and vegetative material prior to entering the project area. Designated Mt. Baker-Snoqualmie National Forest personnel may inspect machinery and equipment as deemed necessary.
- On National Forest System lands, if soil disturbance occurs, the area will be re-seeded using the Mt. Baker-Snoqualmie National Forest desirable non-native seed mixes appropriate to the site conditions and elevation.

DESIRABLE NON-NATIVES ~ REVISED 9/24/03

According to USFS Region 6 policy, "nonnative plant species may be used when:

1) Needed to protect basic resource values (site productivity)
2) As an interim, non-persistent measure designed to aid in the re-establishment of native plants
3) Local native plant species are not available. The species listed below are recommended because they are relatively inexpensive, available in bulk from commercial suppliers, but not as persistent or aggressive as many non-native species traditionally used in standard pasture mixes."

SLENDER WHEATGRASS (*Elymus trachycaulis* a.k.a *Agropyron trachycaulus*)
Developed for dry sites. Quick establishment, medium lived (rapid growth for 3-4 years then declines for next 5 years or so), good for high elevations.

WINTER TRITICALE (*Triticum aestivum* x *Secale cereale*)
Winter triticale is a cross between winter wheat and winter rye. Good for quick, temporary cover – short lived. Does well on both wet and dry sites. Better winter hardiness than wheat, and not as persistent or aggressive as rye. Will probably reseed itself for several years.

TUFTED HAIRGRASS (*Deschampsia caespitosa*)
"Peru Creek" cultivar developed for cold, high elevations, good for wet meadows in the ski areas, medium lived, slow to establish and not very competitive with more aggressive species.

SOFT WHITE WINTER WHEAT (cultivated variety of *Triticum aestivum*)
Used extensively on the Dinkelman fire (late 1980's), with heavy application , with excellent results Broadcasts well because it is so heavy, re-seeded sometimes, especially after soil disturbance. Will germinate in cool soil, but lacks winter hardiness - sometimes can sow in fall, it will germinate, freeze, die and not be there when you need it for spring runoff. Certain cultivars susceptible to snow mold, ask for one resistant to it. *Caution* - make sure when ordering that seed is ***untreated*** - seed for agricultural purposes is often treated with fungicides that are toxic to fish.

WHITE OATS (cultivated variety of *Avena sativa*)
Quick, one year cover. Good for cool wet sites, but does well on dry sites too once it is established. Has been used extensively on roadsides on MBRD and DRD with great results if sowed in spring (fair in summer, poor in fall).

ANNUAL RYEGRASS (*Lolium multiflorum*)
Very effective, persists a few years but eventually dies out. Used in wet areas with good success (it stays where you put it). Can out-compete other species so keep to 25% of mix. Likes some moisture and moderate fertility, i.e. summer drought/low fertility reduce its persistence.

SICKLE-KEEL LUPINE a.k.a. PINE LUPINE (*Lupinus albicaulis*)
Successful on difficult sites and wide range of conditions from dry rocky south facing slopes to riparian areas. Can be sown in either spring or fall. Can get up to 4' tall and compete with tree seedlings, only lasts a few years. Concern about hybridization with our native *Lupinus latifolius*; so don't use in areas where native lupines occur.

ALSIKE CLOVER (*Trifolium hybridum*)
Developed for wet sites that are too acidic or too cold for red clover. Shorter lived than *Trifolium repens* or *Trifolium pratense*.

AUSTRIAN WINTER PEAS (*Pisum sativum arvense*)
Developed for drier, warmer sites at lower elevations; short lived, i.e. about the same longevity as winter wheat.

The following seed mixes were revised on 9/24/03 to eliminate sheep fescue, which we have found to be invasive under certain conditions.

≤ 3500' ELEVATION			> 3500' ELEVATION		
DROUGHTY soil lacks moisture in mid-summer	NOT DROUGHTY soil has moisture in mid-summer		DROUGHTY soil lacks moisture in mid-summer	NOT DROUGHTY soil has moisture in mid-summer	
↓	↓	↓	↓	↓	↓
↓	saturated	not saturated	↓	saturated	not saturated
↓	↓	↓	↓	↓	↓
soft white winter wheat @ 50 lbs/acre, slender wheat grass @ 20 lbs/acre, annual ryegrass @20 lbs/acre, Austrian winter peas @ 5 lbs/acre. (goal = 170 seeds/sq ft)	white oats @ 60 lbs/acre, tufted hair grass @ 4 lbs/acre, annual ryegrass @10 lbs/acre, alsike clover @ 2 lbs/acre.	tufted hair grass 4lbs/acre, annual ryegrass @ 10 lbs/acre, winter triticale @ 60 lbs/acre, alsike clover @ 2 lbs/acre.	slender wheat grass @ 20 lbs/acre, winter triticale @ 100 lbs/acre, annual ryegrass @ 20 lbs/acre. (goal =180 seeds/sq ft)	white oats @ 60 lbs/acre, tufted hair grass @ 4 lbs/acre, annual ryegrass @10 lbs/acre, alsike clover @ 2 lbs/acre.	tufted hair grass 4lbs/acre, annual ryegrass @ 10 lbs/acre, winter triticale @ 60 lbs/acre, alsike clover @ 2 lbs/acre.

Sowing on snow works very well. Broadcast in late spring when there's just about 6" of snow remaining. The dark seed coats will absorb heat, snow will then melt under the seeds and bring them in contact with the soil. Seeds will be protected and ready to germinate at the time of maximum soil moisture. Note: because of the very different sizes of the species listed above, it's recommended to sow them separately with the hand crank or, e.g. you'll end up with all the hair grass in one big clump.

Undesirable Non- Natives

Any species on the current Washington State noxious weed list is highly undesirable.

In addition, the Forest Service discourages continued extensive use of the following species for erosion control because they have been found to be extremely persistent (e.g. still thriving after 20 years), to the extent of excluding the invasion of the site by native species: bird's foot trefoil (*Lotus corniculatus*), perennial rye (*Lolium perenne*), timothy (*Phleum pratense*), orchard grass (*Dactylis glomerata*), tall fescue (*Festuca arundinaceae*), red or purple clover (*Trifolium pratense*), white clover (*Trifolium repens*). Sometimes, the reason these species persist is because nothing else can survive on the site, and natives won't invade until site conditions are improved.

For the Mt. Baker-Snoqualmie National Forest, the jury is still out on the following species: cereal rye (*Secale cerale*) persists longer than wheat or barley (Lambert) redtop (*Agrostis alba*) Lillybridge "very persistent but not aggressive", Lambert "can be aggressive on some sites, and not others but not known what circumstances influence this" highland bent grass (cultivar of *Agrostis*) McGrath "good on wide range of elevations, both wet and dry sites, less concern for hybridization with natives", Darris " very persistent".

Red fescue (*Festuca rubra*) concern with interbreeding with local native red fescue?

Sheep fescue (*Festuca ovina*) Hoag "will out compete many species, big root system, builds soil", Parr "still on site, with some expansion 15 years after sowing".

Hard fescue (*F. longifolia* or *duriscula* or *trachyphylla*). Fransen 'too persistent", Parr 'can take the cold, but $\geq$ persistent than red fescue, MBS may be too wet?"

It may sometimes be necessary to use these species in unusual circumstances. For example, highly disturbed areas lacking A and B soil horizons, that have been treated for noxious weeds but still have a noxious weed seed bank in the soil, may require seeding with a competitor that is very aggressive and persistent. These species should only be used if the areas in question are intended to remain a disturbed site.

Contacts - Personal Communication, September 1998.

Barenburg Seed Company. Tim Guttridge, Sales Mgr. Matt Herb, Director of Research. (800) 547-4101

Chaney, Marty. Natural Resources Conservation Service, Olympia Field Office. (360) 704-7751

Darris, Dale. Natural Resources Conservation Service, Corvallis Plant Materials Center. (541) 757-4812

Davenport Seed Company. Karen Reinbold. (800) 828-8873

Fowler, Janet. Routt National Forest. (970) 870-2174

Fransen, Steve. Agronomist for Washington State University Extension Service. (253) 445-4516

Granite Seed Company. Don Bermant (801) 531-1456

Hoag, Chris. Natural Resources Conservation Service, Idaho Plant Materials Center. (208) 397-4133

Lambert, Scott. Natural Resources Conservation Service, Washington State Office. (509) 335-7093

Leingang, Jody. USFS Naches Ranger District. (509) 653-2205 x269

Lillybridge, Terry. Wenatchee National Forest. (509) 662-4233

McGrath, Jim. USFS Wind River Nursery. (509) 427-3316

Parr, Steve. Natural Resources Conservation Service, Upper Colorado Env. Ctr. (970) 878-5003

Pick Seed Company. Don Floyd. (541) 967-0123

Rainier Seeds Inc. Karen Krysch or Harold Wood. (800) 828-8873

Trindell, Joan. Natural Resources Conservation Service, Corvallis Plant Materials Center. (541) 757-4414

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.

Chief Joseph – Monroe No. 1 (See attached maps for locations)

Span		Landowner/use	Specific measures to be applied
From	**To**		
105/3 + 150	105/3 + 230	Tree & Brush Agreement – Jack Bird	Landowner will maintain
105/3 + 410	106/2 + 2167	Town of Index Watershed	No Spray Area
109/4 + 230	109/4 + 500	Tree & Brush Agreement William Smith	Landowner will maintain
110/6 + 320	110/6 + 630	Tree & Brush Agreement Wamsley	Landowner will maintain
114/1 + 90	114/1 + 410	Tree & Brush Agreement James & Belinda Becker	Landowner will maintain
116/4 + 590	116/5 + 80	Tree & Brush Agreement Shawger	Landowner will maintain
116/5 + 120	117/1 + 230	Tree & Brush Agreement Baird	Landowner will maintain
120/6 + 00	120/6 + 200	Tree & Brush Agreement Bridges	Landowner will maintain
121/1 + 00	121/1 + 590	Tree & Brush Agreement Kehoe	Landowner will maintain
121/1 + 980	121/1 + 1140	Tree & Brush Agreement Varnell	Landowner will maintain

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.

Day hikers use a portion of the right-of-way within Wallace Falls State Park, timing and treatments within the State Park will be coordinated with the Park Ranger.

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 following tribes were sent letters: Colville, Yakima, Tulalip, Sauk Suiattle, Stillaguamish, and Swinomish. For future work within the corridor the Forest Service is providing a list of public contacts, which desire to be contacted about all project work on National Forest System lands.

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.

STC - Select tree cut (Trees < 75 feet tall will not be cut)
C, L & S – Cut Lop and Scatter

Chief Joseph – Monroe No. 1 (See attached maps for locations)

Span		Waterbody Type	T&E Species?	Cut Method	Herbicide Product	Herbicide Application Technique	Buffer Width (Feet)	Other
From	To							
80/4 + 2170	80/4 + 2680	Unnamed Creek	No	STC	None	N/A	FS - No Herbicide	
81/3 + 450	81/3 + 828	Tunnel Creek	No	STC	None	N/A	FS- - No Herbicide	
81/4 + 510	81/6 + 624	8 Unnamed Intermittent Creeks	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
81/7 + 180	81/7 + 380	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
82/1 + 20	82/1 + 700	Wetland & Unnamed Creeks	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
82/2 + 80	82/2 + 530	Wetland & Creeks	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
82/3 + 500	82/3 + 720	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
82/3 + 820	82/3 + 1030	Creek Unnamed	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
82/3 + 820	82/3 + 1030	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
82/4 + 380	82/4 + 617	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	100 ft. each side	FS & Private Lands
82/5 + 100	82/5 + 480	Unnamed Creeks	No	Cut, Lop & Scatter	None	N/A	100 ft. each side	
82/7 + 930	82/7 + 1170	Unnamed Intermittent Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
83/1 + 00	83/1 + 400	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
83/1 + 500	83/1 + 730	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
83/2 + 340	83/2 + 1490	Tye River	Yes	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	Bull Trout & Anadromous Fish
83/3 + 320	83/3 + 520	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
83/4 + 280	83/4 + 480	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	

Span		Waterbody Type	T&E Species?	Cut Method	Herbicide Product	Herbicide Application Technique	Buffer Width (Feet)	Other
From	To							
84/1 + 40	84/1 + 1300	7 Unnamed Intermittent Creeks	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
84/3 + 90	84/3 + 490	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
84/4 + 380	84/4 + 700	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
84/5 + 200	84/5 + 400	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
84/6 + 440	85/1+ 00	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
85/1 + 280	85/2 + 180	2 Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS No Herbicide	
85/2 + 230	85/3 + 00	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
85/4 + 330	85/4 + 1100	Deception Creek	Yes	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	Bull Trout & Anadromous Fish
85/5 + 680	85/5 + 890	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
85/6 + 250	85/6 + 450	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
85/6 + 830	85/6 + 1030	Intermittent Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
85/7 + 400	85/7 + 600	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
85/7 + 850	85/7 + 1050	Intermittent Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
86/2 + 400	86/2 + 630	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	100 ft. each side	Fs & Private Lands
86/3 + 120	86/3 + 440	Wetland	No	Cut, Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
86/4 + 00	86/4 + 510	Wetland	No	Cut, Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
86/4 + 740	86/4 + 1110	Unnamed Creeks	No	Cut, Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
86/5 + 500	86/5 + 730	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
87/1 + 1120	87/1 + 1330	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
87/2 + 890	87/4 + 1030	Tye River	Yes	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	Bull Trout & Anadromous Fish
88/1 + 730	88/2 + 60	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
88/2 + 430	88/3 + 460	Unnamed Creek & Wetlands	No	Cut, Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
88/4 + 450	88/4 + 1240	Pond & Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands

Span		Waterbody Type	T&E Species?	Cut Method	Herbicide Product	Herbicide Application Technique	Buffer Width (Feet)	Other
From	To							
88/5 + 810	88/5 + 1170	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
89/1 + 100	89/1 + 860	Tye River	Yes	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	Bull Trout & Anadromous Fish
89/5 + 400	89/5 + 620	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
89/5 + 1000	89/5 + 1380	Wetland	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
89/6 + 390	89/6 + 990	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
89/6 + 1150	90/1 + 590	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
90/2 + 560	90/3 + 650	Unnamed Creek	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
90/4 + 410	90/4 + 1100	2 Unnamed Creeks	No	Cut, Lop & Scatter	None	N/A	FS - No Herbicide	
91/1 + 40	91/1 + 250	Unnamed Creeks	No	Cut, Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
91/2 + 280	91/2 + 570	3 Unnamed Creeks	No	Cut, Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
91/3 + 210	91/3 + 900	3 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
91/4 + 00	91/4 + 850	Beckler River	Yes	Cut Lop & Scatter	None	N/A	400 ft. each side	Bull Trout & Anadromous Fish – Private Lands
92/4 + 450	92/4 + 650	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
92/5 + 30	92/5 + 290	Wetland	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
93/4 + 00	93/4 + 400	2 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
93/5 + 130	93/5 + 340	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
94/1 + 300	94/1 + 640	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
94/1 + 890	94/1 + 1110	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
94/1 + 1310	94/1 + 1710	Wetland	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
94/2 + 150	94/2 + 620	2 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
94/4 + 260	94/4 + 550	4 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
94/4 + 690	94/4 + 1020	4 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
94/4 + 1120	94/4 + 1370	2 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	

Span		Waterbody Type	T&E Species?	Cut Method	Herbicide Product	Herbicide Application Technique	Buffer Width (Feet)	Other
From	To							
95/4 + 370	95/4 + 900	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
95/5 + 180	95/5 + 510	2 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
96/1 + 490	96/1 + 780	2 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
96/2 + 660	96/3 + 70	2 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
96/3 + 270	96/3 + 540	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
96/4 + 200	96/4 + 940	4 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
96/5 + 560	97/1 + 200	3 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
97/2 + 200	97/2 + 840	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS FS - No Herbicide	
97/3 + 750	97/3 + 960	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
98/1 + 60	98/1 + 260	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
98/4 + 840	98/4 + 1370	2 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
99/1 + 370	99/1 + 780	2 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
99/2 + 290	99/3 + 510	2 Unnamed Creeks & Wetland	No	Cut Lop & Scatter	None	See below	FS - No Herbicide	
99/3 + 510	99/4 = 270	Unnamed Creek & Wetland	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
99/4 + 750	99/5 + 1170	Wetland	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
100/3 + 800	100/3 + 1030	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
100/5 + 220	100/5 + 550	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
100/5 + 680	101/1 + 450	South Fork Skykomish River	Yes	Cut Lop & Scatter	None	N/A	FS - No Herbicide	Bull Trout & Anadromous Fish
101/2 + 40	101/2 + 930	2 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
102/1 + 190	102/1 + 400	Unnamed Creek	No	Select Tree Cut	None	N/A	FS - No Herbicide	
102/2 + 750	102/2 + 990	Unnamed Creek	No	Select Tree Cut	None	N/A	FS - No Herbicide	
102/3 + 310	102/3 + 600	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	

Span		Waterbody Type	T&E Species?	Cut Method	Herbicide Product	Herbicide Application Technique	Buffer Width (Feet)	Other
From	To							
102/4 + 250	102/4 + 540	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
102/4 + 720	102/4 + 930	Unnamed Creek	No	Select Tree Cut	None	N/A	FS - No Herbicide	
102/5 + 150	102/5 + 850	3 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
102/5 + 1100	102/5 + 1390	2 Unnamed Creeks	No	Select Tree Cut	None	N/A	100 ft. each side	State & Pvt. Lands
103/1 + 250	103/1 + 570	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
103/2 + 90	103/2 + 320	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
103/2 + 490	103/2 + 690	Unnamed Creek	No	Select Tree Cut	None	N/A	FS - No Herbicide	
103/3 + 90	103/3 + 500	2 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
103/4 + 330	103/4 + 1110	2 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
104/1 + 460	104/1 + 660	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
104/1 + 750	104/1 + 1050	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
104/2 + 270	104/2 + 2540	South Fork Skykomish River	Yes	Cut Lop & Scatter	None	N/A	400 ft. each side	Bull Trout & Anadromous Fish
104/3 + 1000	105/1 + 600	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
105/2 + 90	105/3 + 610	Skykomish River	Yes	Cut Lop & Scatter	None	N/A	FS - No Herbicide	Bull Trout & Anadromous Fish
105/2 + 610	105/3 + 720	North Fork Skykomish River	Yes	Cut Lop & Scatter	None	N/A	400 ft. each side	Bull Trout & Anadromous Fish
105/5 + 300	105/5 + 1170	2 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
106/2 + 750	106/2 + 980	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
107/1 + 670	107/1 + 880	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
107/2 + 190	107/2 + 400	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
107/5 + 90	107/5 + 810	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
107/6 + 440	107/6 + 770	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
108/1 + 240	108/1 + 440	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
108/1 + 690	108/1 + 890	Unnamed Creek	No	Select Tree Cut	None	N/A	100 ft. each side	State & Pvt. Lands

Span		Waterbody Type	T&E Species?	Cut Method	Herbicide Product	Herbicide Application Technique	Buffer Width (Feet)	Other
From	To							
108/2 + 70	108/2 + 270	Unnamed Creek	No	Select Tree Cut	None	N/A	100 ft. each side	State & Pvt. Lands
109/3 + 450	109/5 + 170	East Fork May Creek	Yes	Cut Lop & Scatter	None	N/A	400 ft. each side	Bull Trout & Anadromous Fish St & Pvt
110/5 + 420	110/5 + 670	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
110/6 + 420	110/6 + 1150	Wallace River	Yes	Cut Lop & Scatter	None	N/A	100 ft. each side	Bull Trout & Anadromous Fish St & Pvt
111/2 + 870	111/2 + 1120	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
112/2 + 00	112/2 + 400	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
112/3 + 50	112/3 + 280	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
112/3 + 420	112/3 + 630	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
112/4 + 460	112/4 + 755	2 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
112/5 + 770	112/5 + 980	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
112/6 + 115	112/6 + 320	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
112/6 + 880	112/6 + 1100	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
113/1 + 210	113/1 + 510	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
113/2 + 410	113/2 + 1560	Olney Creek	Yes	Cut Lop & Scatter	None	N/A	400 ft. each side	Bull Trout & Anadromous Fish
113/3 + 630	113/3 + 950	Unnamed Creek	No	Select Tree Cut	None	N/A	100 ft. each side	State & Pvt. Lands
114/1 + 210	114/1 + 660	2 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
114/3 + 250	114/3 + 610	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
114/4 + 280	114/4 + 480	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
115/1 + 550	115/1 + 760	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
115/2 + 900	115/2 + 1110	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
115/3 + 610	115/3 + 820	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
115/4 + 860	15/4 + 1070	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
116/1 + 40	116/1 + 300	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands

Span		Waterbody Type	T&E Species?	Cut Method	Herbicide Product	Herbicide Application Technique	Buffer Width (Feet)	Other
From	To							
116/1 + 430	116/1 + 630	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
116/2 + 440	116/2 + 690	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
116/3 + 00	116/4 + 40	7 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
116/4 + 290	116/4 + 720	2 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
117/1 + 1220	117/1 + 1475	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	State & Pvt. Lands
117/2 + 540	117/2 + 1020	3 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	100 ft. each side	Pvt. Lands
118/3 +450	118/3 + 830	Pond and Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	Pvt. Lands
118/3 + 1030	118/3 + 2171	Ponds	No	Cut Lop & Scatter	None	N/A	100 ft. each side	Pvt. Lands
118/4 + 240	118/4 + 1020	Sultan River	Yes	Cut Lop & Scatter	None	N/A	400 ft. each side	Bull Trout & Anadromous Fish, Pvt land
119/1 + 410	119/1 + 750	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	Pvt. Lands
120/4 + 300	120/4 + 530	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	100 ft. each side	Pvt. Lands
120/6 + 160	120/6 + 420	Wetland	No	Cut Lop & Scatter	None	N/A	100 ft. each side	Pvt. Lands
120/6 + 600	121/1 + 560	Wetland & Woods Creek	Yes	Cut Lop & Scatter	None	N/A	400 ft. each side	Bull Trout & Anadromous Fish, Pvt land
121/2 + 340	121/2 + 970	Wetland	No	Cut Lop & Scatter	None	N/A	100 ft. each side	Pvt. & Fee Lands
121/2 + 1210	121/3 + 140	Wetland	No	Cut Lop & Scatter	None	N/A	100 ft. each side	Pvt. & Fee Lands
121/3 + 930	121/4 + 240	Wetland	No	Cut Lop & Scatter	None	N/A	100 ft. each side	Pvt. & Fee Lands

Chief Joseph – Snohomish No. 3 & 4 (See attached maps for locations)

Span		Waterbody Type	T&E Species?	Cut Method	Herbicide Product	Herbicide Application Technique	Buffer Width (Feet)	Other
From	To							
80/3 + 340	80/3 + 2830	5 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
100/3 + 125	100/3 + 1100	4 Unnamed Creeks	No	Select Tree Cut	None	N/A	FS - No Herbicide	
100/3 + 1430	100/3 + 1630	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
100/4 + 100	100/4 + 300	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
100/4 + 625	100/4 + 825	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	

Span		Waterbody Type	T&E Species?	Cut Method	Herbicide Product	Herbicide Application Technique	Buffer Width (Feet)	Other
From	To							
101/1 + 150	101/1 + 710	Barclay Creek	No	Select Tree Cut	None	N/A	FS - No Herbicide	
101/2 + 220	101/2 + 420	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
101/2 + 600	101/2 + 800	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
101/4 + 375	101/4 + 780	2 Unnamed Creeks	No	Select Tree Cut	None	N/A	FS - No Herbicide	
101/4 + 1460	101/4 + 1700	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
102/1 + 330	102/1 + 560	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
104/6 + 360	104/6 + 1160	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
104/8 + 00	104/8 + 1248	South Fork Skykomish River	Yes	Riparian T&E	None	N/A	FS - No Herbicide	Bull Trout & Anadromous Fish

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

Chief Joseph – Monroe No. 1 (See attached maps for locations)

Span		Wells, Irrigation or Springs	Treatment Zone	Buffer
From	To			
105/3 + 410	106/2 + 2167	Town of Index Watershed	Non Herbicide Area	Whole right-of-way as shown on the Plan & Profile
109/3 + 220	109/3 + 390	Well	Hand Cutting Methods only, no Herbicides allowed within buffer	100 ft. radius around well head
118/1 + 290	118/1 +440	Well	Hand Cutting Methods only, no Herbicides allowed within buffer	100 ft. radius around well head

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.

Chief Joseph – Monroe No. 1 (See attached maps for locations)

Span		Threatened or Endangered Plant or Animal Species	Method/mitigation measures
To	From		
81/7 + 250	86/2 + 580	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.
83/2 + 340	83/2 + 1490	Anadromous Fish & Bull Trout – Tye River	For T&E streams within a 400-foot buffer (on each side of the stream) **no herbicides** are to be used. No mechanical treatment within the buffer except along access roads and around structures. Exception may be made on slopes less than 20%, with high concentration of tall growing brush (tree) to reduce fuel loading. The primary objective is to maintain a low growing plant community including tall shrubs and low growing trees such as Vine Maple and Willow to provide shade along the stream. When cutting large CT's or DT's along the edges of the ROW, they will be evaluated for their potential as large woody debris (LWD).
84/2 + 100	98/1	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.
84/2 + 815	84/2 + 1550	Anadromous Fish & Bull Trout – Nooksack River	For T&E streams within a 400-foot buffer (on each side of the stream) **no herbicides** are to be used. No mechanical treatment within the buffer except along access roads and around structures. Exception may be made on slopes less than 20%, with high concentration of tall growing brush (tree) to reduce fuel loading. The primary objective is to maintain a low growing plant community including tall shrubs and low growing trees such as Vine Maple and Willow to provide shade along the stream. When cutting large CT's or DT's along the edges of the ROW, they will be evaluated for their potential as large woody debris (LWD).

Span		Threatened or Endangered Plant or Animal Species	Method/mitigation measures
To	From		
85/4 + 330	85/4 + 1100	Anadromous Fish & Bull Trout – Deception Creek	For T&E streams within a 400-foot buffer (on each side of the stream) **no herbicides** are to be used. No mechanical treatment within the buffer except along access roads and around structures. Exception may be made on slopes less than 20%, with high concentration of tall growing brush (tree) to reduce fuel loading. The primary objective is to maintain a low growing plant community including tall shrubs and low growing trees such as Vine Maple and Willow to provide shade along the stream. When cutting large CT's or DT's along the edges of the ROW, they will be evaluated for their potential as large woody debris (LWD).
87/2 + 890	87/4 + 1030	Anadromous Fish & Bull Trout – Tye River	For T&E streams within a 400-foot buffer (on each side of the stream) **no herbicides** are to be used. No mechanical treatment within the buffer except along access roads and around structures. Exception may be made on slopes less than 20%, with high concentration of tall growing brush (tree) to reduce fuel loading. The primary objective is to maintain a low growing plant community including tall shrubs and low growing trees such as Vine Maple and Willow to provide shade along the stream. When cutting large CT's or DT's along the edges of the ROW, they will be evaluated for their potential as large woody debris (LWD).
89/1 + 100	89/1 + 860	Anadromous Fish & Bull Trout – Tye River	For T&E streams within a 400-foot buffer (on each side of the stream) **no herbicides** are to be used. No mechanical treatment within the buffer except along access roads and around structures. Exception may be made on slopes less than 20%, with high concentration of tall growing brush (tree) to reduce fuel loading. The primary objective is to maintain a low growing plant community including tall shrubs and low growing trees such as Vine Maple and Willow to provide shade along the stream. When cutting large CT's or DT's along the edges of the ROW, they will be evaluated for their potential as large woody debris (LWD).
91/4 + 00	91/4 + 850	Anadromous Fish & Bull Trout – Beckler River	For T&E streams within a 400-foot buffer (on each side of the stream) **no herbicides** are to be used. No mechanical treatment within the buffer except along access roads and around structures. Exception may be made on slopes less than 20%, with high concentration of tall growing brush (tree) to reduce fuel loading. The primary objective is to maintain a low growing plant community including tall shrubs and low growing trees such as Vine Maple and Willow to provide shade along the stream. When cutting large CT's or DT's along the edges of the ROW, they will be evaluated for their potential as large woody debris (LWD).

Span		Threatened or Endangered Plant or Animal Species	Method/mitigation measures
To	**From**		
100/2 + 350	100/5 + 550	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.
100/5 + 680	101/1 + 450	Anadromous Fish & Bull Trout – South Fork Skykomish River	For T&E streams within a 400-foot buffer (on each side of the stream) **no herbicides** are to be used. No mechanical treatment within the buffer except along access roads and around structures. Exception may be made on slopes less than 20%, with high concentration of tall growing brush (tree) to reduce fuel loading. The primary objective is to maintain a low growing plant community including tall shrubs and low growing trees such as Vine Maple and Willow to provide shade along the stream. When cutting large CT's or DT's along the edges of the ROW, they will be evaluated for their potential as large woody debris (LWD).
104/2 + 270	104/2 + 2540	Anadromous Fish & Bull Trout – South Fork Skykomish River	For T&E streams within a 400-foot buffer (on each side of the stream) **no herbicides** are to be used. No mechanical treatment within the buffer except along access roads and around structures. Exception may be made on slopes less than 20%, with high concentration of tall growing brush (tree) to reduce fuel loading. The primary objective is to maintain a low growing plant community including tall shrubs and low growing trees such as Vine Maple and Willow to provide shade along the stream. When cutting large CT's or DT's along the edges of the ROW, they will be evaluated for their potential as large woody debris (LWD).
105/2 + 90	105/3 + 720	Anadromous Fish & Bull Trout – Skykomish River	For T&E streams within a 400-foot buffer (on each side of the stream) **no herbicides** are to be used. No mechanical treatment within the buffer except along access roads and around structures. Exception may be made on slopes less than 20%, with high concentration of tall growing brush (tree) to reduce fuel loading. The primary objective is to maintain a low growing plant community including tall shrubs and low growing trees such as Vine Maple and Willow to provide shade along the stream. When cutting large CT's or DT's along the edges of the ROW, they will be evaluated for their potential as large woody debris (LWD).

Span		Threatened or Endangered Plant or Animal Species	Method/mitigation measures
To	From		
106/3	111/1	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.
109/3 + 450	109/5 + 170	Anadromous Fish & Bull Trout – East Fork Hay Creek	For T&E streams within a 400-foot buffer (on each side of the stream) **no herbicides** are to be used. No mechanical treatment within the buffer except along access roads and around structures. Exception may be made on slopes less than 20%, with high concentration of tall growing brush (tree) to reduce fuel loading. The primary objective is to maintain a low growing plant community including tall shrubs and low growing trees such as Vine Maple and Willow to provide shade along the stream. When cutting large CT's or DT's along the edges of the ROW, they will be evaluated for their potential as large woody debris (LWD).
110/6 + 420	110/6 + 1150	Anadromous Fish & Bull Trout – Wallace River	For T&E streams within a 400-foot buffer (on each side of the stream) **no herbicides** are to be used. No mechanical treatment within the buffer except along access roads and around structures. Exception may be made on slopes less than 20%, with high concentration of tall growing brush (tree) to reduce fuel loading. The primary objective is to maintain a low growing plant community including tall shrubs and low growing trees such as Vine Maple and Willow to provide shade along the stream. When cutting large CT's or DT's along the edges of the ROW, they will be evaluated for their potential as large woody debris (LWD).
112/2	113/4 + 450	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.

Span		Threatened or Endangered Plant or Animal Species	Method/mitigation measures
To	From		
113/2 + 410	113/2 + 1560	Anadromous Fish & Bull Trout – Olney Creek	For T&E streams within a 400-foot buffer (on each side of the stream) **no herbicides** are to be used. No mechanical treatment within the buffer except along access roads and around structures. Exception may be made on slopes less than 20%, with high concentration of tall growing brush (tree) to reduce fuel loading. The primary objective is to maintain a low growing plant community including tall shrubs and low growing trees such as Vine Maple and Willow to provide shade along the stream. When cutting large CT's or DT's along the edges of the ROW, they will be evaluated for their potential as large woody debris (LWD).
118/4 + 240	118/4 + 1020	Anadromous Fish & Bull Trout – Sultan River	For T&E streams within a 400-foot buffer (on each side of the stream) **no herbicides** are to be used. No mechanical treatment within the buffer except along access roads and around structures. Exception may be made on slopes less than 20%, with high concentration of tall growing brush (tree) to reduce fuel loading. The primary objective is to maintain a low growing plant community including tall shrubs and low growing trees such as Vine Maple and Willow to provide shade along the stream. When cutting large CT's or DT's along the edges of the ROW, they will be evaluated for their potential as large woody debris (LWD).
120/6 + 600	121/1 + 560	Anadromous Fish & Bull Trout – Woods Creek	For T&E streams within a 400-foot buffer (on each side of the stream) **no herbicides** are to be used. No mechanical treatment within the buffer except along access roads and around structures. Exception may be made on slopes less than 20%, with high concentration of tall growing brush (tree) to reduce fuel loading. The primary objective is to maintain a low growing plant community including tall shrubs and low growing trees such as Vine Maple and Willow to provide shade along the stream. When cutting large CT's or DT's along the edges of the ROW, they will be evaluated for their potential as large woody debris (LWD).

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.

The project is located within the I-90 corridor, which has a variety of objectives: partial retention, scenic, general forest, late success ional reserve. All the methods identified in section 1.1 above are appropriate for controlling vegetation in visually sensitive areas.

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 NO known Cultural Resources within the right-of-way. Letters have been sent to the following Tribes:

- Coville
- Sauk – Suiattle
- Stillaguamish
- Swinimish
- Tulalip
- Yakima

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.

Chief Joseph – Monroe No. 1 (See attached maps for locations)

Span		Describe sensitivity	Method/mitigation measures
From	To		
80/1 + 190	80/3 + 380	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Forest Service lands no herbicides to be used.
80/3 + 1050	80/4 + 270	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Forest Service lands no herbicides to be used.
80/4 + 2770	81/2 + 340	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Forest Service lands no herbicides to be used.
81/3 + 00	81/3 + 290	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Forest Service lands no herbicides to be used.
81/3 + 720	81/6 + 624	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Forest Service lands no herbicides to be used.
82/3 + 00	87/1 + 440	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Forest Service lands no herbicides to be used.
88/4 + 1180	88/5 + 630	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA's Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.
89/1 + 400	89/5 + 440	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Forest Service lands no herbicides to be used.
89/5 + 1240	91/3 + 870	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Forest Service lands no herbicides to be used.
91/3 + 1530	91/3 + 1570	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA's Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.

Span		Describe sensitivity	Method/mitigation measures
From	**To**		
91/4 + 320	91/4 + 370	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA's Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.
91/4 + 1510	99/1 + 1549	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Forest Service lands no herbicides to be used.
100/1 + 00	100/5 + 350	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Forest Service lands no herbicides to be used.
101/2 + 815	101/2 + 1180	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Forest Service lands no herbicides to be used.
101/3 + 1050	107/2 + 340	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Forest Service lands no herbicides to be used.
107/3 + 00	108/3 + 450	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA's Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.
110/5 + 430	110/6 + 1400	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA's Vegetation Management EIS: Cut Stump or Basal
111/1 + 800	117/4 + 825	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA's Vegetation Management EIS: Cut Stump or Basal
118/1 + 90	118/1 + 500	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA's Vegetation Management EIS: Cut Stump or Basal
118/1 + 1140	118/1 + 1340	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA's Vegetation Management EIS: Cut Stump or Basal
118/3 + 00	118/3 + 1170	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA's Vegetation Management EIS: Cut Stump or Basal
118/4 + 130	119/1 + 950	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA's Vegetation Management EIS: Cut Stump or Basal
119/2 + 850	119/2 + 1302	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA's Vegetation Management EIS: Cut Stump or Basal, except within riparian buffer.

Chief Joseph – Snohomish No. 3 & 4 (See attached maps for locations)

Span		Describe sensitivity	Method/mitigation measures
From	**To**		
80/3 + 00	80/3 + 340	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA's Vegetation Management EIS: Cut Stump or Basal
80/3 + 3140	81/1 + 860	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA's Vegetation Management EIS: Cut Stump or Basal
100/3 + 00	101/1 + 150	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA's Vegetation Management EIS: Cut Stump or Basal
101/1 + 710	101/4 + 375	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA's Vegetation Management EIS: Cut Stump or Basal
101/4 + 780	104/8 + 1248	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4 or other herbicides approved in BPA's Vegetation Management EIS: Cut Stump or Basal

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

See Handbook – **Spanned Canyons** for requirements.

Chief Joseph – Monroe No. 1 (See attached maps for locations)

Span		Describe sensitivity	Method/mitigation measures
From	**To**		
80/3 + 380	80/3 + 1050	Spanned Canyon	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.
80/4 + 270	80/4 + 2770	Spanned Canyon	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.
81/3 + 290	81/3 + 720	Spanned Canyon	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.
113/3 + 700	113/3 + 1115	Spanned Canyon	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.

Chief Joseph – Snohomish No. 3 & 4 (See attached maps for locations)

Span		Describe sensitivity	Method/mitigation measures
From	To		
80/3 + 340	80/3 + 3140	Spanned Canyon	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.
101/1 + 150	101/1 + 710	Spanned Canyon	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.
101/4 + 375	101/4 + 780	Spanned Canyon	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 treatment prescribed for the project area is spot stump treatment, localized basal treatment and /or localized foliar treatments. If we are unable to treat the stumps during this project, they will be treated the next growing season using a localized foliar treatment. In areas where the tress are greater than 6 feet tall the trees will either be re-cut and stump treated or basal treated. 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 reseeding 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. On National Forest System lands, if soil disturbance occurs, the area will be reseeded using the Mt. Baker-Snoqualmie Forest desirable non-native seed mixes appropriate to the site conditions and elevation.

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

Native seed will be considered in all mixes, except as directed for National Forest System lands. Introduced species may be more competitive against invading tree species, noxious weeds, 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.

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

Forest Service staff review of all pertinent analysis documents and proposed activities resulted in specific mitigation measures and modifications of methods proposed where appropriate for National Forest System lands. The additional mitigation measures and modifications have been adapted in to the appropriate documents. The Mt. Baker-Snoqualmie National Forest will write a letter of concurrence, which will accept the BPA NEPA requirements.