

Appendix G

Final Environmental Impact Statement

Tripod Fire Salvage Project

Invasive Plant Prevention Analysis for Tripod Fire Salvage Project

CHANGES BETWEEN DRAFT EIS AND FINAL EIS

Minor editorial changes to the text

PREVENTION ANALYSIS FOR TRIPOD FIRE SALVAGE PROJECT

The Mediated Agreement is a supplement to the *Final EIS, for the Management of Competing and Unwanted Vegetation* (USDA Forest Service 1988a). It is a written agreement detailing resolution on several points, including several compliance details on the part of the Forest Service regarding invasive plant prevention, detection and treatment.

Section C of Exhibit A to the Mediated Agreement requires that questions be addressed in the evaluation of the invasive plant prevention strategy. These are:

C.1.a (1). What is the nature and role of associated vegetation?

The project area supports approximately 85% or roughly 32,512 acres of the forested plant communities. Approximately 11% or roughly 4,190 acres of the project area is Dry Forest type, 46% or 17,524 acres is Mixed Conifer and 43% or 16,381 acres is Montane Forest. There is also a trace of Alpine Krummholtz habitat type within the project area. The most dominant (46%) is the forest type in the project area is mixed conifer. These are typically found mid slope and fires are of mixed severity. Mixed conifer forests include the cool dry to cool mesic Douglas-fir plant associations (Lillybridge *et al* 1995). Pinegrass is typically the dominant grass species. It is rhizomatous and well adapted to fire disturbance and typically sets seed after a fire disturbance. Shiny leaf spirea is also a prominent species in Mixed Conifer forests. It is highly resistant to fire due to its fibrous roots and rhizomes that are located below the mineral soil surface which provides extra insulation from fires' heat. At the cool mesic end of the Mixed Conifer forest habitats, huckleberry becomes the dominant understory shrub species. Along with pinegrass, both dwarf and low huckleberry are rhizomatous and will typically respond favorably by resprouting from underground roots after low and moderate severity burns. Douglas-fir, western larch and ponderosa pine are also adapted to survive fire and typically survive low to moderate severity fires (Referenced from Plant Community Fire Response Report. For more detailed information see Plant Community Fire Response Report). The Montane Forest Type (43%) also makes up a large portion of the project area. Montane habitats include the moister plant associations in the cool mesic Douglas-fir

and all the Subalpine fir plant associations. These associations are primarily found on cooler north aspects and at higher elevations. Fire return intervals are longer and burn severities are higher than Mixed Conifer forest types and stand replacing in nature. Post-fire recovery to pre-fire conditions will be the longest for the Montane Forest types. Lodgepole pine is the dominant early seral species on most sites except at the lower elevations and drier aspects where Douglas-fir, western larch and occasionally ponderosa pine are often early seral species. Lodgepole pine plays a key role in post disturbance succession in Montane Forest types. After the 1988 Yellowstone fires, lodgepole seed rain was sufficient to establish enough seedlings to replace the stands at even the highest elevations within 5 to 6 years. Huckleberry species are an important component in the Montane Forest plant associations. Grouse huckleberry is the most prominent species along with Big, and Dwarf huckleberries. All three have low to moderate resistance to fire and are thought to survive low to moderate severity fires. They are survivors which recover post burn via rhizome and axillary root buds. Their resistance to fire is a function of the depth of their rhizome. Therefore, some of the species may take longer to recover following high severity fires (Referenced from botany specialist report. For more detailed information see Botany Report).

Relative to noxious weeds, the role of associated vegetation is to stabilize soil, and utilize resources, including; water, and space, in order to deter invasion by opportunistic exotic plant species.

C.1.a.(2). Do conditions exist that favor the presence of competing and unwanted vegetation?

Post-fire increases in light availability and reduction of competition by native vegetation have enhanced establishment opportunities for invasives. However, native vegetation survived by the fire, may act as a barrier against most noxious weeds. With implementation of the action alternatives conditions will exist which will increase the risk of site exposure to noxious weed propagules and will also increase the ability of site factors to deter noxious weed infestation. Within the project area, ground disturbance may allow noxious weeds to establish. The Forest Plan has set standards and guidelines for levels of ground disturbance. These standards and guidelines will be met as implementation of the project takes place.

C.1.a.(3). If conditions exist that favor the presence of competing and unwanted vegetation, have past management actions exacerbated the situation?

Past activities management practices such as roading, grazing, timber harvest and other soil disturbance activities have provided; environments for noxious weeds establishment, vectors for noxious weed dispersal, and infestations to provide propagule source material. Documented weed sites are located primarily along roads where disturbance has occurred. Past road building activity has allowed vehicles access into the project area. The disturbed ground along roads provides a seed bed for weeds to get established. Noxious weeds generally invade disturbed sites and will tend to interrupt the successional stages of site development (Forcella and Harvey 1983) (Powell 1996).

C.1.a.(4). Do natural controls exist on the site?

Where undisturbed vegetation currently exists on the project site, there are some natural controls that exist. Through the utilization of resources including; nutrients, water, and

space, existing vegetation would be expected to deter (although not entirely exclude) invasion by noxious weeds. However, where the Tripod fire has consumed much of the vegetation, large expanses of soil will be exposed, at least until the plant communities' regenerate.

C.1.a.(5). Can management actions be taken that either encourage natural controls or help avoid the conditions that favor the presence of competing and unwanted vegetation?

There are many actions that may be taken that can both encourage natural controls or help avoid conditions that favor the invasion and establishment of noxious weeds. The actions and measures, which have been determined to be feasible, are defined in the "Invasive Plants Mitigation Measures" in Chapter 2 of this EIS.

C.1.a.(6). Is it feasible to undertake the management actions, and if not, why? If undertaken, are impacts on other Forest Service objectives and goals acceptable?

Management actions are feasible and have been designed into this project.

C.1.b. In considering prevention at the planning stage of site-specific projects, the analysis of the strategy as described above is to be made at the earliest reasonable time.

The need for prevention was identified as a need early in the project and addressed the Tripod Salvage Project Environmental Impact Statement as a design criteria and mitigation measure (Chapter 2, Tripod Mitigation Measures and Design Criteria Common to All Alternatives Mitigation Measures 62-72)

C.1.c. Although not considered a substitute for prevention, early treatment methods should be seriously considered where prevention alone is not sufficient.

Refer to the Tripod Salvage Project Environmental Impact Statement Chapter 3.7.

C.1.d. Site-specific analysis is to take place in conjunction with and part of the environmental review of the project under the National Environmental Policy Act.

Site-specific analysis is included as part of the Tripod Salvage Project Environmental Impact Statement.

C.2.a. In planning for, and before proceeding with site-specific projects to treat competing or unwanted vegetation, another requirement is to analyze the proposed strategy. The following elements are basic to the analysis.

C.2.a.(1). An understanding of the resource management goals and objectives for the site.

The Forest Plan gives direction to control noxious weeds and guidelines for Management Areas (MA's). Forest Plan Management Areas (MA) within Tripod Salvage Project are: Methow MA 4, 5, 8, 12, 14, 17, 25, 26. Proposed Action on Tonasket RD is

in MA 25. The objective of the strategies is to control and eradicate new invader species, prevent potential invaders from establishing, reduce established invaders, and emphasis control of noxious weed to prevent infestations, especially into unroaded areas and wilderness. If this objective can be achieved the site will be better able to fulfill the guidelines for the MA's.

C.2.a.(2). Required mitigation measures and anticipated resource outputs.

Required mitigation measures are specified in Chapter 2 (Mitigation Measures 62-72) of the Environmental Impact Statement.

With control of noxious weeds other desirable species can grow to produce forage for wildlife and livestock. Native and desired species of plants can reclaim infested sites. Harvest units can be stocked with trees within five years following harvest.

C.2.a.(3). Potential risk of adverse human health effects, for both workers and the public.

Potential risks to human health are discussed in the R6 Vegetation Management FEIS pages IV 113-160 and in the appendix "Characterization and Management of Risk". Job hazards for workers for all methods can be found in the "Job Hazard Analysis and Hazard Evaluation Guide" filed at the Tonasket and Methow Ranger District office. Potential health risks are expected to be comparable (or less) than those discussed in the USDA Forest Service Region 6 Vegetation Management FEIS.

C.2.a.(4). Risk of environmental damage.

Potential risk of environmental damage is discussed in Chapter IV of the USDA Forest Service Region 6 Vegetation Management FEIS. More information is in the ONF IWM EA. A summary of effects is listed below.

SPECIES DIVERSITY: The proposed activities would not eradicate any desired vegetation species. The activities would alter the successional stages. Seeding with grass may displace some native species where it is sown, but the grass is not near as likely to spread as noxious weeds. Some plants of native species, including conifers, may be killed or damaged in the process of controlling weeds.

All mitigation measures stated in the Region 6 FEIS for Competing and Unwanted Vegetation and the Pacific Northwest Region Invasive Plant Program Preventing and Managing Invasive Plants Final Environmental Impact Statement Record of Decision (R6 Invasive Plant ROD) signed in October of 2005, would be incorporated. Given these mitigation measures, effects on diversity and integrity of natural ecosystems are expected to be minimal.

THREATENED, ENDANGERED, AND SENSITIVE SPECIES: The potential impact to all T, E and S species is covered in the Region 6 FEIS for Competing and Unwanted Vegetation and the Pacific Northwest Region Invasive Plant Program Preventing and Managing Invasive Plants Final Environmental Impact Statement Record of Decision (R6 Invasive Plant ROD) signed in October of 2005. With mitigation no known species would be adversely impacted.

FISH: Manual methods such as hand pulling or hoeing would create little disturbance and therefore little if any sedimentation into fish bearing streams. Grass seeding would use species of low attractiveness to livestock near streams, and should have little or no impact on fish. Consultation with U. S. Fish and Wildlife Service has occurred. The determination of effects from noxious weed treatment for listed species is documented as follows: steelhead; no effect. Spring chinook salmon; No impact. Bull trout; No impact.

WILDLIFE: Vegetation management activities for noxious weeds would have an impact on wildlife habitat. Vegetation treatment methods could either directly affect animals, or indirectly affect them through changes in habitat. Impacts would vary depending on the method used and wildlife species involved.

GEOLOGY: Proposed vegetation management would have no impact to geology.

CLIMATE: Proposed vegetation management activities are not expected to have substantial or cumulative effects on climate.

SOIL: Very little impact to the soil.

AIR QUALITY: *Manual methods*: No impacts are expected

Biological methods: No impacts are expected

WATER/RIPARIAN: Mitigation measures and Best Management Practices (BMP) for the Integrated Resource Project would be used to minimize impacts to water quality and riparian areas.

Grass seeding would use species of low attractiveness to livestock near streams, and would thus cause little if any indirect impact from livestock.

C.2.a.(5). Project feasibility with regard to logistic considerations, including timing of the project, availability of people, time, equipment and funding.

The proposed projects are scheduled to occur in conjunction with or after completion of salvage activities, and may occur over a period of years. The funding for the treatments would be through the appropriated funds for noxious weed treatments. Noxious weed management is not significantly restricted and can occur throughout the season when most effective and economic. Employees are available and present during the most suitable time of the year for integrated weed treatment. The equipment required to complete this assignment is available and on-hand.

C.2.a.(6). Potential for development of preventative strategies through post-habitat modifications or the complementing of natural ecosystems and processes.

An objective of the Tripod Salvage Project proposal is to reforest salvage units. This would promote long-term ecosystem sustainability and naturally functioning plant communities that are healthy, vigorous, display a high degree of biological diversity, resistant to noxious weed invasion and are sustainable over time.

Pertinent Standards for Invasive Species

From: *The Pacific Northwest Region Invasive Plant Program Final Environmental Impact Statement, Record of Decision, October 2005.*

Standard #1: Prevention of invasive plant introduction, establishment and spread will be addressed in watershed analysis; roads analysis; fire and fuel management plans, Burned Area Emergency Recovery Plans; emergency wildland fire situation analysis; wildland fire implantation plans; grazing allotment management plans, recreation management plans, vegetation management plans, and other land management assessments.

Standard #2: Actions conducted or authorized by written permit by the Forest Service that will operate outside the road prism (including public works and service contracts), require the cleaning of **all heavy equipment** (bulldozers, skidders, graders, backhoes, dump trucks, etc.) prior to entering National Forest System Lands. This standard does not apply to initial attack of wildland fires, and other emergency situations where cleaning would delay response time.

Standard #3: Use weed-free straw and mulch for all projects, conducted or authorized by the Forest Service, on National Forest System Lands. If State certified straw and/or mulch is not available, individual Forests should require sources certified to be weed free using the North American Weed Free Forage Program standards, or a similar certification process.

Standard #6: Use administrative mechanisms to incorporate invasive plant prevention practices into rangeland management. Examples of administrative mechanisms include, but are not limited to, providing annual operating instructions and adaptive management. Plan and implement practices in corporation with the grazing permit holder.

Standard #7: Inspect active gravel, fill, sand stockpiles, quarry sites, and borrow material for invasive plants before use and transport.
Treat or require treatment of infested sources before any use of pit material.
Use only gravel, fill, sand, and rock that is justified to be weed free by District or Forest weed specialists.

Standard #8: Conduct road blading, brushing and ditch cleaning in areas with high concentrations of invasive plants in consultation with District or Forest-level invasive plant specialists, incorporate invasive plant prevention practices as appropriate.

Standard #13: Native plant materials are the first choice in revegetation for restoration and rehabilitation where timely regeneration of the native plant community is not likely to occur.

Invasive Plants Crosswalk between the Old Direction and the New Direction

The following table provides a crosswalk between the new direction provided by the Pacific Northwest Region Invasive Plant Program Preventing and Managing Invasive Plants Final Environmental Impact Statement Record of Decision (R6 Invasive Plant ROD) signed in October of 2005 and the old direction provided by the Vegetation Management EIS and ROD (1988), the associated Mediated Agreement, the Okanogan-Wenatchee National Forest Weed Management and Prevention Strategy and Best Management Practices (Oka-Wen Prevention Strategy) (2001), the Guide to Noxious Weed Prevention Practices (2001) supporting the February 3, 1999 Executive Order on Invasive Species, the National Prevention Strategy (2001), Pesticide-Use Management and Coordination Handbook (FSH 2109.14).

The construction of this crosswalk is necessitated by the appeal filed in January of 2006 on the R6 Invasive Plant ROD. With a decision pending on this appeal and potential court involvement, interim environmental documents will have a better chance of success if these address invasive plants under the umbrella of both the old and new direction, provided no conflict exists between the two. Where a conflict exists, the direction of the 2005 EIS and ROD will take precedence.

This crosswalk table illustrates the fact that the majority of the new direction provided by the R6 Invasive Plant ROD is covered by various elements of old direction. When the direction is the same in both the 'old' and the 'new', it is only stated in the 'new direction' column and the 'old direction' column simply provides references. The standards are abbreviated here for convenience. For full text of the standards, go to the R6 Invasive Plant ROD, pp. 10-32. When the old direction is different from the new, the new direction is in bold lettering.

Figure G-1: Crosswalk Table

New direction (R6 Invasive Plant ROD)	Old direction
Standard 1. Prevention of invasive plant introduction will be addressed in...watershed analysis...management plans...	Mediated Agreement: A. Clarifying Management Direction 1. Prevention – defined as separate from treatment. C. Site Specific Analysis 1a. the 6 prevention analysis questions. Oka-Wen Prevention Strategy Appendix B Form B-2. (BMPs I-4.2)
Standard 2. Cleaning of equipment...	Oka-Wen Prevention Strategy Appendix C Contract & Permit Provisions
Standard 3. Use weed-free straw and mulch for all projects...	Oka-Wen Prevention Strategy BMPs I-4.5/I-4.8
Standard 4. Use only pelletized or certified weed free feed on all NFS lands...	Oka-Wen Prevention Strategy Recreation/Wilderness/Roadless Areas 11.2 Wilderness only
Standard 6. Use available administrative mechanisms to incorporate invasive plant prevention practices into rangeland	Oka-Wen Prevention Strategy Range 17-20

New direction (R6 Invasive Plant ROD)	Old direction
management.	
Standard 7. Inspect active gravel, fill, sand stockpiles, quarry sites, and borrow material for invasive plants before use and transport...	Oka-Wen Prevention Strategy BMPs I-5.3-5.5 Engineering/Roads 5.1
Standard 8. Conduct road blading, brushing and ditch cleaning in areas with high concentrations of invasive plants in consultation....	Oka-Wen Prevention Strategy Engineering/Roads/maintenance 7.1-7.6
Standard 11. Prioritize infestations of invasive plants for treatment...	Vegetation Management FEIS II p. 71-72 (1988); A Guide to Conducting Vegetation Management Projects in PNW Region Chapter 1 Site Specific Analysis pp. 1-15 (1992). Wenatchee NF Weed EA pp. 17-19 (1998). Okanogan NF Weed EA pp. 8,61 (1997) Noxious weed module p. 56 Wenatchee NF LSR/MLSA Assessment modules Appendix 1.
Standard 12. Develop a long-term site strategy for restoring/revegetating invasive plant sites prior to treatment.	National Prevention Strategy (2001) Element 4. Rehabilitation and Restoration. Forest Service Manual 2080.
Standard 13. Native plant materials are the first choice in revegetation...	Oka-Wen Prevention Strategy BMPs I-4.3-4.6
Standard 14. Use only APHIS and State-approved biological control agents...	Okanogan NF Noxious Weed EA p. 21, 66 (1997). Wenatchee NF Weed EA pp. 25, 39, 40 (1998).
Standard 15. Application of any herbicides to treat invasive plants will be performed or directly supervised by a State or Federally licensed applicator...	Pesticide-Use Management and Coordination Handbook (FSH 2109.14) Chapter 30 training and Chapter 40 transportation. Okanogan NF Noxious Weed EA p. 22 (1997), Okanogan NF Noxious Weed EA p. 5 (2000)
Standard 16. Select from herbicide formulations containing one or more of the following 10 active ingredients:... All herbicide application methods are allowed including wicking, wiping,...broadcast and aerial, as permitted by product label.	Limited to 13 active ingredients by Mediated Agreement, p.12. Wenatchee NF Weed EA (1998), 4 active ingredients: glyphosate, trichopyr, dicamba, picloram. No aerial or broadcast applications allowed. Okanogan NF Noxious Weed EA p.9 (1997) No aerial allowed. Broadcast allowed only where monocultures occur.
Standard 18. Use only adjuvants (e.g. surfactants, dyes) and inert ingredients reviewed in Forest Service hazard and risk assessment documents such as	Wenatchee NF Weed EA – only LI 700 is allowed as surfactant.

New direction (R6 Invasive Plant ROD)	Old direction
SERA, 1997a, 1997b; Bakke, 2003.	
Standard 19. To minimize or eliminate direct or indirect negative effects to non-target plants, terrestrial animals, water quality.....use site specific soil characteristics...	Vegetation Management EIS and ROD (1988) and Wenatchee NF Noxious Weed EA (1998) call for site specific analysis. Soils specifically addressed in Wenatchee NF Weed EA Noxious Weed Site Inventory, Analysis and Treatment form. Okanogan NF Weed EA. Use buffers, spot spraying to target species. (1997)
Standard 20. Design invasive plant treatments to minimize or eliminate adverse effects to species and critical habitats proposed and/or listed under the Endangered Species Act.	Endangered Species Act 50 CFR 402
Standard 21. Provide a minimum buffer of 300 feet for aerial application of herbicides near developed campgrounds...	No aerial spraying
Standard 22. Prohibit aerial application of herbicides within legally designated municipal watersheds.	No aerial spraying.
Standard 23. Prior to implementation of herbicide treatment projects, National Forest system staff will ensure timely public notification...	Mediated agreement. Okanogan NF Noxious Weed EA p. 25 (2000). Wenatchee NF Weed EA p. 27 (1998)