Klamath Falls Resource Area NEPA Document Routing Slip for Internal Review

Project Name: Tunnel DDR Fuels Reduction And Aspen Restoration (CX-06-04)
Date Initiated: 10/25/05 **Project Lead/Contact:** Matt Broyles

Resource or Staff Responsible	Review Priority	Preliminary Review Initials / Date	Comments Attached / Incorporated	Final Review Initials / Date
Manager: Jon Raby	Last	JR 1/23/06		JR 1/23/06
Branch Chief: Heather Bernier	Second to Last	HAB 8/16/05	Comments in Red	HAB 1/13/06
Branch Chief: Larry Brooks	Second to Last	LB 8/16/05	Comments in Green	LB 1/12/06
Planner/EC: Don Hoffheins, Kathy Lindsey	Third from Last	DKH 8/12/05	Revised Document	DKH 11/21/05
Range: Bill Lindsey, Dana Eckard	9	BL 6/14	Fencing Info is Good	BL 6/14
Wild Horses: Tonya Pinckney				
Fire/Air Quality: Eric Johnson	5	Ej 7/22/05	Comments included	EJ 12/1/05
Silviculture: Bill Johnson	6	BJ 7/20/05	none	BJ 1-9-06
Timber: Mike Bechdolt	7	MB 6/13/05	Comments included on 12/16/05	MB 12/16/05
Botany/ACEC/Noxious Weeds: Lou Whiteaker	4	LW 6/2/05	Incorporated and/or covered by project design	LW 1/10/06
Cultural: Tim Canaday, Michelle Durant	3	TC 6/2/2005	All surveys complete, no sites	TC 6/2/2005 TC 12/05/2005
Safety/HazMat: Tom Cottingham				
Lands/Realty/Minerals: Linda Younger				
Recreation/Visual/Wilderness: Scott Senter				
Hydrology/Riparian: Liz Berger	1	EB 7/20/05	Comments included	EB 12/07/05
Wildlife/T&E: Steve Hayner	10	SH 7/23/05	Comments included	SH 12/06/2005
Wildlife/Fuels: Matt Broyles				
Fisheries/T&E: Andy Hamilton	2	AH 5/25		ASH 1/9/2006
W/S Rivers: Grant Weidenbach				
Engineering: Brian McCarty				
Soils/Veg/SSS/S&M Surveys: Molly Juillerat Amber Knoll	8	MOJ 7/25	Please attach soil PDFs	MJ 11/22/05
Wood River Wetlands:				

Clearances/Surveys	Needed ?	Done/Attached
Cultural		TC 6/2/2005
Botanical		LW 6/2/05
T&E, BA & or Consultation		SH 7/23/05
Survey and Manage		MOJ 2/27/06
R-O-W Permits	Not Needed	

***This document will not sit on your desk for more than 8 hours.** Please check on calendar to make sure that the next person will be available to review the document.

**Some resource areas may not apply for all projects. If so, just mark "N/A" in "Review Priority" column.

Decision Memorandum on Action and for Application of:
Categorical Exclusion 516 DM2, Appendix 1, 1.12 – Hazardous Fuel Reduction
(PLAN CONFORMANCE AND CATEGORICAL EXCLUSION DETERMINATION)
Bureau of Land Management (BLM)

Project Name: TUNNEL DDR FUELS REDUCTION AND ASPEN RESTORATION
Log #: OR-014-CX-06-04

Project Location: T.38S., R.5E., Section 23

BLM Office: Lakeview District, Klamath Falls Resource Area **County:** Klamath County, Oregon

DESCRIPTION OF THE ACTION (Including Purpose and Need)

The primary focus of this project is to reduce hazardous fuels that threaten the large tree component of the Tunnel Creek District Designated Reserve (DDR) and associated buffer (DDRB). This project also includes removal of competing conifers and burning in a 15 acre aspen patch adjacent to the upland portion of the DDR/DDRB. The project is 123 acres in size including the aspen patch. Because the project meets the project design criteria for the Klamath Falls Resource Area fuels programmatic consultation, the project is covered by the programmatic letter of concurrence from the US fish and Wildlife Service (L.O.C. # 1-10-02-I-098).

The DDR and DDRB consist of two basic stand types; approximately 239 acres of upland, mature, conifer stands dominated by white fir, and a 15 acre patch of aspen that is being replaced by encroaching conifers. Approximately 108 acres of the mixed conifer and all 15 acres of aspen would be treated as part of this project. Some of the material to be removed has a commercial value and would be sold as a commercial product. It is highly likely that this project, or portions of it, would be implemented through an existing stewardship contract. In that case, the value of merchantable material removed would be used to partially offset the costs of the treatment. Approximately 50-100 thousand board feet of merchantable timber (mostly small white fir, but including some lodgepole and other pine species) would be removed from the project area (see Appendix A for the prescription cut/leave tables). The sale of commercial size material is permissible under the fuels CX authority as long as the primary intent of the project is fuels reduction (Health Forest Initiative and Healthy Forest Restoration Act Interim Field Guide, Feb. 2004) and utilization of material generated by fuels reduction work is encouraged by national policy (BLM coordinated Biomass Strategy, M.O.U. on Woody Biomass Utilization U.S. Department of Agriculture, U.S. Department of Energy, U.S. Department of Interior, June 2003).

The other approximately 117 acres of the same DDRB are identified for commercial thinning under the planned Buck Again timber sale. The status of the Buck Again sale is uncertain at this time. The Tunnel Creek DDR/DDRB fuels reduction project does not include any activity in the planned Buck Again sale units.

There is a wetland within the upland portion of the project area. The riparian hardwoods (willow and alder) are being encroached upon and shaded out by small and medium sized conifers. This riparian area, and associated riparian buffer areas would be treated by hand only, with fuels reduction for riparian habitat protection as the primary objective. The intent in this wetland area is to cut some of the encroaching, flammable, conifers and favor the riparian hardwood vegetation. No commercial sized material would be removed from the wetland, and no machinery would operate in the wetland. Cut material would be hand piled and burned. Piles would be made on dry ground above the high water line. The KFRA hydrologist will assist in designating suitable locations for hand piles.

The Tunnel DDR is fenced on three sides and the fourth side is bounded by a wide, deep, irrigation ditch that

also is the property line in this area. It is believed that cattle can not cross the ditch and that the ditch essentially acts as a fence. The intent of the fencing is to keep cattle out of the DDR and an adjacent Special Botanical Area. Until improvements were made prior to the 2005 grazing season, the effectiveness of the fence/ditch arrangement to keep cattle out of the stand was questionable. Cattle were seen and removed from inside the fence in August 2004. Portions of the existing fencing are "laydown" fence and it is possible that cattle were fenced into the DDR when the lay down portions were put up in the early part of the 2004 grazing season. The fence improvements have been effective. No cattle were found inside the exclosure during numerous checks throughout the 2005 grazing season.

IMPLEMENTATION DATE

This project is expected to be implemented starting in winter of 2006.

PLAN CONFORMANCE

The proposed project has been reviewed and found to be in conformance with one or more of the following BLM plans, programmatic environmental analyses or policies:

Klamath Falls Resource Area Plans

- Klamath Falls Resource Area Record of Decision and Resource Management Plan (1995), as amended (1999). The Klamath Falls Resource Area (KFRA) interdisciplinary team has reviewed this project and refined it to meet the many objectives and direction contained in the Klamath Falls Resource Area Resource Management Plan (RMP), Spencer Creek Watershed Analysis (1995), Upper Spencer Creek EA (EA No. OR 014-03-03), and the recently approved Klamath Falls Resource Area Late Successional Reserve Assessment (LSRA).

- Integrated Weed Control Plan (IWCP) and Environmental Assessment (EA) OR-014-93-09

District and Regional Plans

- National Fire Plan (A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan) (2001)
- Northwest Forest Plan (1994),
- Survey and Manage EIS and Record of Decision (2001)* See comment below
- Wilderness Interim Management Policy (1995)
- Klamath Interstate Habitat Management Plan (1982)
- Western Oregon Transportation Management Plan (1996; Updated 2002)
- Vegetation Treatment on BLM Lands in Thirteen Western States FEIS and ROD (1991)
- Supplement to the Northwest Area Noxious Weed Control Program FEIS and ROD (1987)
- Lakeview District Fire Management Plan – Phase 1 (1998)
- Wildland and Prescribed Fire Management Policy (1998)
- Rangeland Reform '94 FEIS and ROD (1995)
- Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington (1997)
- Standards for Land Health for Lands Administered by the Bureau of Land Management in the States of Oregon and Washington (1998)

* The Klamath Falls Resource Area is aware of the August 1, 2005, U.S. District Court order in Northwest Ecosystem Alliance et al. v. Rey et al. which found portions of the *Final Supplemental Environmental Impact Statement to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines* (January, 2004) (EIS) inadequate. The Klamath Falls Resource Area is also aware of the recent January 9, 2006, Court order which:

- Set aside the 2004 Record of Decision To Remove or Modify the Survey and Manage Mitigation

Measure Standards and Guidelines in Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern spotted Owl (March, 2004) (2004 ROD) and

- Reinstated the 2001 Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measure Standards and Guidelines (January, 2001) (2001 ROD), including any amendments or modifications in effect as of March 21, 2004.
- The order further directs "Defendants shall not authorize, allow, or permit to continue any logging or other ground-disturbing activities....unless such activities are in compliance with the provisions of the 2001 ROD (as amended or modified as of March 21, 2004)".

The litigation over the amendment that eliminated the Survey & Manage mitigation measure from the Northwest Forest Plan does not affect the Tunnel Creek DDR Fuels Reduction and Aspen Restoration project. This is because biological surveys for Survey & Manage species were completed prior to the 2004 ROD and meet the 2001 protocol (2001 ROD as amended or modified as of March 21, 2004).

Attached here is the documentation of the wildlife and botany compliance reviews undertaken by this office with my concurrence and signature. The Klamath Falls Resource Area completed pre-disturbance surveys and site management as required by protocol standards that comply with the 2001 ROD. Based on the survey results there were two known sites of Greening Goats Foot (*Albatrellus ellisii*) a Category B species. Both sites were buffered and will be managed as known sites. Therefore, based on the preceding information regarding the status of surveys for Survey & Manage wildlife and botany species and the results of those surveys, it is my determination that the Tunnel Creek Fuels Reduction and Aspen Restoration project complies with the provisions of the 2001 ROD, as amended or modified as of March 21, 2004. For the foregoing reasons, this decision is in compliance with the 2001 ROD as stated in Point (3) on page 14 of the January 9, 2006, Court order.

Refer to Appendix G for Tunnel Creek 2001 ROD Compliance Review: Survey & Manage Wildlife and Botany Species.

LIMITATIONS

There are a number of limitations on the use of this hazardous fuels reduction CX. The project:

a) shall not exceed 1,000 acres for mechanical methods (crushing, piling, thinning, pruning, cutting, chipping, mulching, and mowing) and shall not exceed 4,500 acres for prescribed fire,
b) shall be conducted in wildland-urban interface or in Condition Classes 2 or 3 in Fire Regime Groups I, II, or III outside the wildland-urban interface.
c) shall be identified through a collaborative framework as described in A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan,
d) shall be conducted in accordance with BLM and DOI procedures and applicable land/resource management plans (refer to Plan Conformance section above),
e) shall not be conducted in wilderness areas or where it would impair the suitability of WSA's for preservation as wilderness,
f) shall not include the use of herbicides or pesticides,
g) shall not involve the construction of new permanent roads or other new permanent infrastructure,
h) may include the sale of vegetative materials if the primary purpose is hazardous fuels reduction.

COMPLIANCE WITH THE NATIONAL ENVIRONMENTAL POLICY ACT

The proposed action is categorically excluded from further analysis or documentation under the National Environmental Policy Act (NEPA) in accordance with 516 DM2, Appendix 1, 1.12 (Mechanical Treatment/Prescribed Fire) if it does not meet any of the following Exceptions (listed in 516 DM 2, Appendix 2; IM No. OR-2002-130).

Will the proposed action meet the following Exceptions?

Exception	Yes No
1. Have significant adverse effects on public health or safety?	( ) (X)
2. Have adverse effects on such unique geographic characteristics or features, or on special designation areas such as historic or cultural resources; park, recreation, or refuge lands; wilderness areas; wild or scenic rivers; sole or principal drinking water aquifers; prime farmlands; or ecologically significant or critical areas, including those listed on the National Register of Natural Landmarks. This also includes significant caves, ACECs, National Monuments, WSAs, RNAs.	( ) (X)
3. Have highly controversial environmental effects (40 CFR 1508.14)?	( ) (X)
4. Have highly uncertain and potentially significant environmental effects or unique or unknown environmental risks?	( ) (X)
5. Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?	( ) (X)
6. Be directly related to other actions with individually insignificant, but significant cumulative environmental effects? This includes connected actions on private lands (40 CFR 1508.7 and 1508.25(a)).	( ) (X)
7. Have adverse effects on properties listed or eligible for listing on the National Register of Historic Places? This includes Native American religious or cultural sites, archaeological sites, or historic properties.	( ) (X)
8. Have adverse effects on species listed or proposed to be listed as Federally Endangered or Threatened Species, or have adverse effects on designated critical habitat for these species? This includes impacts on BLM-designated sensitive species or their habitat. When a Federally listed species or its habitat is encountered, a Biological Evaluation (BE) shall document the effect on the species. The responsible official may proceed with the proposed action without preparing a NEPA document when the BE demonstrates either 1) a "no effect" determination or 2) a "may effect, not likely to adversely effect" determination.	( ) (X)
9. Fail to comply with Executive Order 11988 (Floodplain Management), Executive Order 11990 (Protection of Wetlands), or the Fish and Wildlife Coordination Act (water resource development projects only)?	( ) (X)
10. Violate a Federal, State, Local, or Tribal law, regulation or policy imposed for the protection of the environment, where non-Federal requirements are consistent with Federal requirements?	( ) (X)
11. Involve unresolved conflicts concerning alternative uses of available resources (NEPA section 102(2)(E)) not already decided in an approved land use plan?	( ) (X)
12. Have a disproportionate significant adverse impacts on low income or minority populations; Executive Order 12898 (Environmental Justice)?	( ) (X)
13. Restrict access to, and ceremonial use of, Indian sacred sites by Indian religious practitioners or adversely affect the physical integrity of such sacred sites; Executive Order 13007 (Indian Sacred Sites)?	( ) (X)
14. Have significant adverse effect on Indian Trust Resources?	( ) (X)
15. Contribute to the introduction, existence, or spread of: Federally listed noxious weeds (Federal Noxious Weed Control Act); or invasive non-native species; Executive Order 13112 (Invasive Species)?	( ) (X)
16. Have a direct or indirect adverse impact on energy development, production, supply, and/or distribution; Executive Order 13212 (Actions to Expedite Energy-Related Projects)?	( ) (X)

The proposed action would not create adverse environmental effects or meet any of the above exceptions.

DOCUMENTATION OF RECOMMENDED MITIGATION

Note: although none of the conditions for the above exceptions are met, some resources discussed above are potentially affected. Mitigation measures and Project Design Features below are applied to prevent the adverse conditions discussed in the exceptions:

Exception No.	Can Be Mitigated	Cannot Be Mitigated	Mitigation Measures and/or Project Design Features
8	X		Portions of the project area are currently suitable Nesting-Roosting-Foraging (NRF) habitat for Northern Spotted Owl, though there are no known spotted owl sites within or close to the project. The closest active spotted owl territory is approximately 2.5 miles away. The project falls within designated Spotted Owl Critical Habitat Unit OR-37. Retain 60+ percent canopy closure in areas currently suitable spotted owl NRF habitat (except for the aspen area). Retain some larger conifers in the aspen area. The treatment prescription is designed to reduce understory stand density, reduce fire hazard, rejuvenate an aspen stand, and increase residual tree vigor while having minimal effects on the immediate, post treatment functionality of the DDR/DDRB for spotted owls. Because the proposed treatment could degrade the quality of (but not remove) 15 acres of spotted owl foraging habitat, the project is a "*may affect, not likely to adversely affect*" project with regard to Designated Critical Habitat within CHU OR-37. It is also a "*may affect, not likely to adversely affect*" project with regard to Spotted owls. See appendix A for a discussion of effects of this project on spotted owls, and spotted owl critical habitat.
15	X		See weed mitigation measures in Appendix C.

Additional Mitigation Measures and Project Design Features

The Project Design Features / Best Management Practices described in Appendix B of the Upper Spencer Creek EA (Log # OR-014-03-03) will be implemented, along with the Best Management Practices in the Klamath Falls RMP.

The Green-flowered Ginger sites will be protected by a requirement that all ground based mechanical equipment use will occur over snow (20 inch depth minimum). These sites will be monitored during and after treatments to document any effects of the treatments. Pre-treatment data has already been collected.

In order to protect *Albatrellus ellisii* fungi sites, a 60 foot no harvest, no equipment buffer was designed and implemented around each known site. These buffers are intended to maintain current canopy closure, minimize soil compaction, and to maintain host trees and the fungi's mycelial network. Botanists on the KFRA have indicated that low to moderate intensity prescribed fire is acceptable within these buffers because it is not expected to result in mortality of the fungus. The buffers will not be lined.

In order to maintain spotted owl habitat values, a KFRA wildlife biologist will assist in the silvicultural prescription development and be present during the marking. The intent of the prescription will be to reduce stand density, reduce fire hazard, and increase residual tree vigor while having minimal effects, on the immediate, post treatment functionality of the habitat for spotted owls. See attachment for cut/leave tables for both the aspen and non-aspen portions of the project area.

In order to help meet aspen regeneration goals, burning within the aspen patch will not occur until the

existing fencing system to exclude livestock from the DDR/DDRB has been demonstrated to be effective.

In order to protect riparian vegetation, soils, and hydrologic integrity, within the spring/seep channel complexes in units 2 and 4, no mechanical equipment will be permitted within these small wetlands. Treatment of these areas will be accomplished by hand crews only. The KFRA hydrologist will work with the layout crew to determine boundaries for mechanical equipment use in these areas. This protection measure will apply to any other small seeps/springs located in the project area if identified in the future. The treatment in the riparian reserve areas will be designed so as to maintain or improve riparian habitat values, and be consistent with ACS objectives.

In order to insure that resource management objectives are met (by the precise, controlled, application of prescribed fire to the project area) supervision of the burn and the actual ignition operations will be conducted by BLM, US Forest Service, or other federal agency personnel. In addition, a Resource Adviser from the KFRA and familiar with the treatment objectives shall be present during ignition and mop-up. Contractors may be used for holding and mop-up functions. All burning would be performed in accordance with an approved, site specific, burn plan meeting current BLM standards.

SURVEYS AND CONSULTATION

Required surveys for cultural resources are completed. No cultural resources were located.

All required surveys for wildlife and botanical resources, including Special Status and Survey and Manage Species, have been completed with the following results:
Portions of the DDR/DDRB are currently suitable NRF habitat for Northern Spotted Owl (108 acres are NRF habitat, 15 acres are dispersal habitat). The DDR and DDRB fall within designated Spotted Owl Critical Habitat Unit OR-37 (see Appendix A for a discussion of effects on spotted owls and their habitat).
Surveys detected several sites of green-flowered ginger (*Asarum wagneri)*, a Bureau Sensitive Species.
Surveys detected several sites of a special status fungi (*Albatrellus ellisii*), a Bureau Tracking Species.
Standardized, systematic mollusk surveys resulted in no detections of special status mollusk species.
Spotted Frogs (*Rana pretiosa*) are known to occur along the ditch at the northern edge of the aspen patch.
Surveys were conducted for Goshawks and Great Gray owls, all without detections.

Surveys:	1) are completed	2) will be completed	3) are not needed
SS Plants	___ LW 6/2/05 ___	_____	_____
SS Animals	___ SH 7/23/05___	_____	_____
Cultural Resources	___TC 6/2/2005__	_____	_____
S&M Surveys	___MJ 1/24/06___	_____	_____

Consultation:	1) is completed	2) will be completed	3) is not needed
SS Animal Consultation	___ SH 7/23/05___	_____	_____
Botanical Consultation	_____	_____	____ LW 6/2/05__
Cultural Consultation	___ TC 6/2/2005___	_____	_____ __

(SS = Special Status)

Remarks:
1. Survey and Manage
   - For the foregoing reasons, this contract is in compliance with the 2001 ROD as stated in Poing (3) on page 14 of the January 9, 2006, Court order in Northwest Ecosystem Alliance et al. v. Rey et al."
   - Tunnel Creek was surveyed for Survey and Manage mollusk species according to Survey and Manage Terrestrial Mollusk Protocol. No fungi species on the Klamath Falls Resource Area had pre-disturbance surveys required but Survey and Manage species were documented and entered into the ISMS database as known sites.
   - Two sites of *Albatrellus ellissi* (Greening Goats Foot) were found in the project area. Both were buffered and excluded from mechanical treatment.

2. Monitoring:
   - The Green-flowered Ginger sites will be protected by a requirement that all ground based mechanical equipment use will occur over snow (20 inch depth minimum). These sites will be monitored during and after treatments to document any effects of the treatments. Pre-treatment data has been collected. Additional monitoring includes 10 monitoring plots established using U.S. National Park Service F.H.M. protocol. Parameters measured include: tree mortality/survival, dead and down wood amounts, and vegetation cover by species. The plots have been established and pre-treatment data has been collected.
   - The two *Albatrellus ellisii* known sites will be monitored to assure that buffers are maintained.

PERSONS AND AGENCIES CONSULTED

This project is covered by the Klamath Falls Resource Area programmatic fuels consultation letter of concurrence from the US Fish and Wildlife Service (L.O.C. # 1-10-02-I-098).

SUMMARY OF FINDINGS and CX DETERMINATION

The proposed action would not create adverse environmental impacts or require the preparation of an environmental assessment (EA) or environmental impact statement (EIS). The proposed action has been reviewed against the criteria for an Exception to a categorical exclusion (listed above) as identified in 516 DM 2, Appendix 2, and does not meet any Exception. The application of this categorical exclusion is appropriate, as there are no extra ordinary circumstances potentially having effects that may significantly affect the environment. The proposed action is, therefore, categorically excluded from additional NEPA documentation.

Prepared by: Matt Broyles, Fuels and Fire program wildlife biologist

Reviewed by: Klamath Falls Resource Area Interdisciplinary Team

Approved By: (Signature)	Name: Jon Raby	Title: Resource Area Manager	Date: 2/28/06

ADMINISTRATIVE REVIEW OPPORTUNITY

Protest

The Notice of Decision published in the *Herald & News*, constitutes the decision document for purposes of protests under 43 CFR Subpart 5003-Administrative Remedies. Protests of this decision must be filed within fifteen (15) days after publication of Notice of Decision. The regulations do not authorize the acceptance of protests in any form other than a signed, written hard copy that is delivered to the physical address of the advertising BLM office. Protests should be sent to:

Manager
Klamath Falls Resource Area
2795 Anderson Avenue, Building 25
Klamath Falls, OR 97603

Protests should contain a written statement of reasons for protesting the decision. To be considered complete, a protest must contain, at a minimum:

a) The name, mailing address, telephone number, and interest of the person filing the protest,
b) A statement of the issue or issues being protested,
c) A statement of the specific parts of the analysis being protested by referencing specific pages, paragraphs, sections, tables, maps, etc. included in the document,
d) A copy of all documents addressing the issue or issues that you submitted during the planning process or a reference to the date the issue or issues were discussed by you for the record,
e) A concise statement explaining why the Field Manager's decision is believed to be incorrect.

Document all relevant facts. Reference or cite the planning documents, environmental analysis documents, and/or available planning records.

A protest that merely expresses disagreement with the Field Manager's proposed decision, without any supporting data/information, will be dismissed.

CONTACT PERSON

For additional information concerning this project, contact:
Matt Broyles, Klamath Falls Resource Area, 2795 Anderson Avenue, Building 25, Klamath Falls, Oregon 97603 or telephone: 541-883-6916.

Appendix A
Project Proposal and Assessment of the Spotted Owl Habitat Values Within the Tunnel DDR and DDRB With Regard to Designated Spotted Owl Critical Habitat.

Specifically, this project will result in:

Conifer stand treatments -
Hand cutting (with chain saws) and piling of most sub-merchantable conifers within the non-aspen portion of the DDR/DDRB.
Cutting and yarding (over snow) of some merchantable conifers based on a light understory thinning prescription for forest health purposes. Some of this material may be sold or exchanged for services as part of a stewardship contract.
Underburning of the thinned areas (exclusive of the wetland area, but including the aspen patch). See appendix F for a discussion of acceptable levels of burn induced tree mortality.

Aspen stand treatments -
Hand cutting (with chain saws), hand scattering or piling, and burning, of essentially all sub-merchantable conifers within the 15 acre aspen patch.
Hand cutting and mechanical yarding (over snow) of most merchantable conifers within the 15 acre aspen patch. Some of this material may be sold or exchanged for services as part of a stewardship contract.
Pull back of all woody fuels from around the bases of all aspen stems greater than 8" diameter and all "leave" conifers within the aspen stand (see cut/leave tables in appendix A*).*
Underburning of the aspen patch. See appendix F for a discussion of acceptable levels of burn induced tree mortality.

Back ground

Both the Tunnel District Designated Reserve (DDR) and its associated Buffer (DDRB) fall within spotted owl Critical Habitat Unit OR-37 (CHU OR-37). The proposed project covers portions of both the DDR and DDRB. The discussion of spotted owl critical habitat in the Western Cascades in general, and CHU OR-37 in specific, provided by the U.S. Fish and Wildlife Service (Tweten 1992, pgs. 18-20 and 28) indicate that CHU OR-37 was established in order to provide connectivity by essentially anchoring the east end of the habitat bridge that spans the gap between the coastal mountain ranges and the Southern Cascades. Accordingly, connectivity of dispersal habitat, and to a lesser degree, nesting-roosting-foraging (NRF) habitat across CHU OR-37 is key to its successful management for spotted owl objectives. While it is essential that dispersing owls be supported with dispersal quality habitat (relatively low quality habitat, easy to retain/develop) within CHU-OR-37, it is also essential that some breeding habitat (intact late successional forest) remains functional within the CHU. Due to the size of the CHUs, the size of the gaps between them, and the spotted owl's normal dispersal patterns, achieving genetic flow through OR-37 is not likely to be accomplished by individual dispersing owls starting at one edge of the CHU and traversing the entire CHU, and the gap between CHUs, to end up in another CHU. More likely is a scenario where an owl disperses into the CHU, sets up a breeding territory within it, and this owl's descendants disperse within and eventually out of CHU OR-37 into another CHU, thus transferring the genetic material across the landscape over time.

The project area consists of two basic stand types; approximately 108 acres of upland, mature conifer stands dominated by white fir, and a 15 acre patch of aspen that is being replaced by encroaching conifers. The aspen area currently may function as foraging habitat and certainly is functional for spotted owl dispersal. The habitat conditions within the aspen stand, and the effects of proposed treatments within the aspen area have been described in greater detail in the section below titled, "Proposal For Treatment Of 15 Acres Of Aspen In Tunnel DDR".

The remainder of the DDR and DDRB are considered to be NRF habitat. There is essentially no Douglas fir or Douglas fir dwarf mistletoe in the DDR or DDRB. There are very few large broken top trees that are typically used by spotted owls for nesting in the absence of mistletoe brooms. The lack of mistletoe brooms and the very low density of large, broken top trees in the area make it extremely unlikely that spotted owls would nest in the DDR or DDRB at this time or in the near future. Portions of the DDR and DDRB have been treated with a sanitation/salvage type harvest at least once in the late 1970's. These entries have opened the canopy, and removed many of the largest trees from the stand, thus somewhat degrading the quality of the habitat for spotted owls. Also resulting from these early harvest entries is a cohort of young white fir growing up in openings created when large trees were removed and along the edges of skid roads. These young trees and saplings represent a fuel hazard (ladder fuels) and compete for moisture and nutrients with each other and adjacent larger trees.

Proposal For Treating 108 Acres Of Mature Upland Mixed Conifer

The proposal is to pre-treat the stands with pre-commercial and commercial thinning in preparation for a prescribed underburn, and then conduct the burning over a several year period. The pre-burn treatment (especially the precommercial thinning) is deemed necessary in order to reduce fuels and more precisely control the effects of the underburn and so achieve very low mortality of the residual overstory trees as a result of burning. Low burn-induced mortality of residual trees is essential to maintenance of spotted owl habitat values.

There are two overarching objectives for treating this stand with understory thinning and fire: 1) Remove fine fuels on the forest floor and ladder fuels, both of which threaten overstory trees, 2) Reduce resource competition for residual trees in the stand and thus increase growth and survival of those large residual trees. In stands with a high percentage of white fir such as this, spotted owls typically nest in the very tops of very large, broken off, white fir snags, or "barber chaired" large trees. They will also nest in cavities created by large limb loss and subsequent bole rot in pines. The development of these specific habitat features is obviously dependant on development of large, live, white fir and pine trees. This project is designed to increase growth and survival of such trees. The Late Successional Reserve Assessment states that portions of the DDR/DDRB are currently carrying 260 square feet of basal area. A reduction in basal area in these dense patches, and in particular around large trees, would improve growth, vigor, and survival of the residual large trees. The proposed treatment of this area could be accomplished under the stewardship contract, with the value of the commercial logs being used to partially offset the costs of cutting and piling the smaller material.

Thinning of sub-merchantable material (ladder fuels) would be accomplished by hand with chainsaws. Commercial timber to be harvested would be marked by wildlife biologists based on a prescription developed in conjunction with the KFRA silviculture staff (See the cut/leave table below for specific details) All commercial logging would be done over snow (20 inches of snow minimum). All burning would be directly managed by BLM fire/fuels staff and the lighting would be done by BLM and possibly Forest Service or other federal agency fire/fuels personnel.

The pre-burn treatment would:
Selectively thin out the understory and enhance species diversity by favoring the retention of western white pine, ponderosa pine, and Douglas fir where they occur.
Remove understory and some midstory trees from around dominant overstory trees, thus reducing ladder fuels and competition for nutrients.
Retain pockets or islands of thick, untreated, habitat as laid out by wildlife biologists.
Retain a stand level canopy closure of at least 60%, where it currently exists, as measured with a spherical densiometer.
Favor the retention of "defective" or "character" trees with uncommon growth forms or structural damage such as broken tops, split tops, "barber chairs" and cavities. These trees would be in addition to the levels of trees retained in order to meet canopy closure targets.

The underburn would:
Enhance nutrient release and cycling.
Kill white fir seedlings and saplings, thus favoring a more diverse species mix in the developing understory.
Decrease the thickness of the duff layer, and consequently the risk to large trees in the event of a wildfire.
Retain pockets of pre-existing large down wood, and some especially large individual pieces of wood as selected and marked by wildlife biologists.
Retain some patches of unburned, un-thinned habitat as laid out by wildlife biologists.

As part of the informal Endangered Species Act consultation, field visits to the area included a trip with Doug Laye of the US Fish and Wildlife Service. Table 1 (cut/leave table for mixed conifer stands) was developed after discussions in the field with Mr. Laye. He is of the opinion that the proposed treatment is within the scope of the Programmatic Fuels Reduction Consultation Letter of Concurrence from the USFWS (# 1-10-02-I-098).

The project area is designated as Critical Habitat for the Spotted Owl, but given the type and intensity of the treatment proposed, Mr. Laye feels that we should be able to implement the project in such a way as to satisfy any concerns about Critical Habitat. He is in support of manipulating the stand in order to reduce understory and mid-story white fir stocking and to protect and develop large trees with wildlife habitat structure. The following cut/leave table was developed after discussions in the field with Mr. Laye.

Table 1 - Cut/Leave Table For 108 Acres of Mixed Conifer Stands In The Tunnel DDR and DDRB (excludes Buck Again sale units).

<table>
<tr><th>Species</th><th>0-16 Inches</th><th>16-20 Inches</th><th>20-32 Inches *</th><th>32+ Inches **</th></tr>
<tr><td>Western white pine</td><td colspan="3">Leave all, unless infected w/ blister rust</td><td rowspan="6">Leave all.</td></tr>
<tr><td>Lodgepole pine</td><td>Thin to 16’X16’ average bole spacing</td><td>Leave all</td><td>Leave all</td></tr>
<tr><td>White fir</td><td>Thin to 16’X16’ average bole spacing</td><td>Thin to 20’X20’ average bole spacing</td><td>Leave all</td></tr>
<tr><td>Ponderosa Pine</td><td colspan="3">Leave all</td></tr>
<tr><td>Douglas fir***</td><td colspan="3">Leave all</td></tr>
<tr><td>Aspen or other hardwood trees/shrubs</td><td colspan="3">Leave all</td></tr>
<tr><td colspan="5">Comments
* Cut all understory trees under the drip line plus 10 feet or a radius of 25 feet whichever is greater. Leave 1 structure tree (preferably 12” diameter breast height (dbh) or less).
** When clearing under the drip lines, keep to the diameter restrictions, (e.g., if a tree under the drip line of a 32”+ tree is in the “thin to X by X average spacing” size class, take it. If it is in the “leave all” size class, leave it.
*** Flag and retain all Douglas fir stems regardless of size with designated color flagging in order to re-find and protect during burning operations.</td></tr>
</table>

Proposal For Treatment of 15 Acres Of Aspen In Tunnel DDR

Aspen is a very limited resource/habitat type on the KFRA. This stand is one of the largest in extent, and contains some of the largest aspen trees on the resource area. The larger aspen stems are approaching 18” dbh. Some scattered aspen reproduction is present in the form of sprouts less than three feet tall which appear to be kept at that height by browsing by large ungulates including cattle. There are essentially no stems in the middle size classes. Some of the mature aspen stems are dying and falling. The aspen stand is being impacted by encroaching conifers including lodgepole pine, western white pine, and white fir. The

encroaching conifers range in size from seedlings up to and including commercial sized timber which is starting to over top even the large aspen stems.

The proposed treatment of this area could be accomplished under the stewardship contract, with the value of the commercial logs being used to offset some of the costs of cutting and manipulating the smaller material and the pre-existing fuels. The proposal is to eventually underburn the area in order to remove the slash, remove conifer seedlings and saplings, and to stimulate sprouting and growth of the aspen.

Pre-commercial thinning, lop and scatter of the slash, and fuels pull-back from mature aspen stems would be accomplished by hand crews. Commercial timber to be harvested would be marked by wildlife biologists based on a prescription developed in conjunction with the KFRA silviculture staff. All commercial logging would be done over snow. All burning would be directly managed by BLM fire/fuels staff and the lighting would be done by BLM and possibly Forest Service or other federal agency fire/fuels personnel.

Field visits to the area included a trip with Doug Laye of the US Fish and Wildlife Service for the purposes of informal Endangered Species Act consultation. The following cut/leave table was developed after discussions in the field with Mr. Laye. He is of the opinion that the proposed treatment is within the scope of the existing Programmatic Fuels Reduction Consultation.

The entire project area is designated as Critical Habitat for the Spotted Owl, but the aspen portion is marginal NRF habitat. It is probably only functional as foraging habitat. Mr. Laye feels that we should be able to design the project in such a way as to satisfy any concerns about Critical Habitat. He is in support of manipulating the stand fairly aggressively, as proposed, in order to maintain and enhance the aspen resource/habitat.

The proposed aspen restoration treatment is within spotted owl Critical Habitat Unit OR-37 (CHU OR-37). The habitat within the aspen patch is essentially devoid of large conifer trees with structural defects that would make suitable nesting substrate for spotted owls. Average canopy closure and mature conifer stem densities are lower in this area than in the surrounding conifer dominated portions of the DDR and the DDRB. This may be due to a relatively high water table in the aspen area. The aspen area is currently classified as spotted owl foraging habitat and certainly is functional for dispersal. The proposed treatment could reduce the quality of the 15 acre aspen area for spotted owl foraging due to reduced conifer canopy closure and conversion to a more hardwood dominated stand type. However, the post treatment stand should still function for spotted owl foraging and dispersal. Because the proposed treatment could degrade the quality of (but not remove) 15 acres of spotted owl foraging habitat, the project is a "*may affect, not likely to adversely affect*" project with regard to Designated Critical Habitat within CHU OR-37. It is also a "*may affect, not likely to adversely affect*" project with regard to Spotted owls.

Table 2 - Cut/Leave Table For 15 Acres Of Aspen In Tunnel DDR.

Species	1-8" dbh	8-16" dbh	16" + dbh
Pine species	Cut all	Cut all	Leave all
White fir	Cut all		
Aspen or other hardwood trees/shrubs	Leave all		
Comments: Lop and scatter all severed material 6" or less in diameter (including tops and limbs of larger felled trees). No slash should be placed within 25' of any aspen over 8" dbh. All trees cut are to be directionally felled away from mature aspen stems. No piles are to be made. Concentrations of pre-existing natural fuels are to be pulled back at least 25 feet from around the boles of aspen over 16" dbh. Do not physically damage or remove the bark of mature aspen during felling, logging/skidding or burning.			

Appendix B
Applicable Wildlife Project Design Features (PDF's) From the Fuels Programmatic Consultation

Steps that will trigger re-initiation or further discussions with USFWS:
If an eagle nest is occupied, then spring burning will not be allowed until site-specific discussions/consultations are completed with FWS.
Emergency situations that go outside planned operations (e.g. escaped fire in eagle or owl areas, retardant spill near riparian zones, newly discovered nest sites near or in burn units).
If the level or rate of habitat modification or disturbance exceeds any of the levels described in the BA and associated BO.
Projects that do not meet the criteria discussed in the BA or are beyond the scope of the PDF's.

Appendix C
Weed Mitigation Measures

All vehicles and equipment will be cleaned off prior to operating on BLM lands. Removal of all dirt, grease, and plant parts that may carry noxious weed seeds or vegetative parts is required and may be accomplished with a pressure hose.

High concentrations of noxious weeds in the immediate area of mechanical operations shall be mowed to ground level prior to the start of project activities.

All equipment and vehicles operating off of main roads shall be cleaned off prior to leaving the job site when the job site includes noxious weed populations. Removal of all dirt, grease, and plant parts that may carry noxious weed seeds or vegetative parts is required and may be accomplished with a pressure hose.

Appendix D
Soils Quality PDFs and BMPs

Soil Quality PDFs and BMPs (BMPs are from KFRA RMP Page D-11)
Limit detrimental soil conditions to less than 20 percent of the total acreage within the activity area. Use current soil quality indicators to monitor soil impacts. Sites where the 20 percent standard is exceeded will require treatment, such as ripping, backblading or seeding.
Retain and establish adequate vegetative cover in accordance with RMP BMP's to reduce erosion.
Retain enough small woody (dead and down) material to sustain soil nutrients. See RMP BMP's for specifications. In ponderosa pine forest land, nine tons per acre of duff and litter (approximately ½ inch deep).
Seed and/or mulch exposed and disturbed soil surfaces with native seed when seed is available.
Recommend placement of residual slash on trail upon completion of mechanical treatments.
Limit mechanical operations to soil moistures below 20 percent at a six inch depth. Even lower soil moisture levels are preferable on fragile soils. On the Tunnel project mechanical operations will occur over 20 inches or more of snow.
Cable yarding and restricted use of mechanized equipment is required on slopes that are greater than 35 percent.
Construct fireline by hand on slopes greater than 35 percent.
Hand pile and burn within 100 feet of Riparian Reserves.

Appendix E
Water and Fish Mitigation

Project Design Features (PDFs) for Fuels Treatments within Riparian Reserves with No Listed Fish Species

The purpose of this appendix is to provide guidance to fuels management personnel for designing fuels projects that include treatments within Riparian Reserves. These PDFs should be used for units adjacent to or containing riparian areas and/or fish habitats. Objectives of fuels treatments within riparian reserves (RRs) are: protection of vegetation and soils from catastrophic fire, (including overhead canopy for stream shading); restoration of riparian areas to the potential natural community for the site; increased productive vigor vegetation within the riparian areas; and retention and protection of coarse woody debris (CWD) and overhead cover for stream function and aquatic habitats.

The following information is from the Klamath Falls Resource Area Resource Management Plan:

Riparian Reserves are lands along streams and unstable and potentially unstable areas where special standards and guidelines direct land use."

Riparian areas, for the purposes of these PDFs, are defined as lands adjacent to perennial and intermittent streams, springs, lakeshores, wetlands, and reservoirs. Riparian areas have vegetation and soils with physical characteristics showing permanent surface or subsurface water influence.

Streams covered under these PDFs include perennial streams, (streams that generally flow year round) and intermittent streams (streams that generally run for at least 30 days per year, and have a definable channel and evidence of annual scour or deposition.)

Wetlands are areas that are inundated by surface or ground water for a sufficient frequency and duration to support vegetation adapted to saturated soil conditions.

There should be an opportunity on a case-by-case basis to assess the effect of the buffer width on riparian areas and aquatic species and habitats.

Riparian Reserve Types And Widths For The Klamath Falls Resource Area	
Riparian Reserve Type	Reserve Width (for each side of streams/wetlands)
Fish-bearing streams	At a minimum, the reserve width will include: ▪ Slope distance equal to the height of two site potential trees (240 feet); or, ▪ The stream channel and the area extending to the top of the inner gorge; or, ▪ The area extending to the outer edges of riparian vegetation; or, ▪ The 100-year floodplain; or, ▪ The extent of unstable or potentially unstable areas, whichever is greatest.
Perennial non-fish-bearing streams and Intermittent (seasonal) non-fish-bearing streams and constructed ponds and reservoirs and wetlands greater than one acre	At a minimum, the reserve width will include: ▪ Slope distance equal to the height of one site potential tree (120 feet); or, ▪ The stream channel (or waterbody/wetland) and the area extending to the top of the inner gorge; or, ▪ The area extending to the outer edges of riparian vegetation; or, ▪ The 100-year floodplain (for streams) or the extent of seasonally saturated soil (for waterbodies and wetlands); or, ▪ The extent of unstable or potentially unstable areas, whichever is greatest.
Wetlands less than one acre and unstable or potentially unstable areas	At a minimum, the reserve width will include: ▪ The wetland and the extent of seasonally saturated soil; or, ▪ The area extending to the outer edges of riparian vegetation; or, ▪ The extent of stable or potentially unstable areas, whichever is greatest.

Lakes and natural ponds	At a minimum, the reserve width will include: ▪ Slope distance equal to the height of two site potential trees (240 feet); and, ▪ The body of water or wetland and the area to the edges of riparian vegetation; ▪ The extent of seasonally saturated soil; ▪ The extent of unstable or potentially unstable areas; whichever is greatest.
Springs	Reserve widths vary according to the size of the associated wetland (see above).

Mechanical fuels treatments in riparian reserves:
Treatments methods that would disturb the least amount of soil (yarding over snow or frozen ground, limiting activities to the dry season, pulling line to each tree, and minimizing skid trails) would be used in the RRs.

No ripping, piling, or mechanical site preparation (except for designated skid trails crossings, roads, or yarding corridors) would occur in RRs. Avoid landings in riparian reserves. For slopes along streams that are > 30%, a no mechanical entry would occur from the natural topographic break to the edge of the riparian area within the riparian reserve. In areas where a topographic break is not evident, the following guidelines would be implemented:
Perennial, intermittent, and/or fish bearing streams
Slopes < 20% – 25 foot no entry buffer would be established from the edge of the riparian area.
Slopes > 20% – 50 foot no entry buffer would be established from the edge of the riparian area.
Wetlands - 50 foot no entry buffer would be established from the edge of the riparian area.
Lakes, constructed ponds, and reservoirs – 25 foot no entry buffer would be established from the edge of the riparian area or the high water mark, whichever slope distance is greatest.

Stream crossings:
Cross streams only at designated crossings. Select locations that are stable and naturally armored. If naturally armored sites for crossings are not present, temporarily stabilize crossings (i.e. logs, rock.)
Cross stream at right angles.
Minimize number and width of crossings.
Locate crossings in areas with minimum relative slope. Crossings should not occur on slopes > 30%.
Minimize number of passes.
Rehabilitate (ruts, disturbed soils, etc.)
Hand treatments would be recommended within the no-mechanical-entry zones to meet fuels management objectives.

Ignitions within the riparian reserves:
Ignition of broadcast fires should not occur within a minimum of 50 feet from the stream channel within the riparian reserves. (The specific distance for lighting fires within the RR will depend on topography, habitat, ignition methods, and fuel moisture.)
Ignition line location nearest the stream should be based on topography and ignition methods and should be sufficient to protect water quality, CWD, and stream overhead vegetative cover. No ignition of CWD directly touching the high water mark of the stream, or of CWD that may be affected by high flows should occur. Where there is thick vegetative cover that extends out from the stream, ignition lines should be located in the forest stand, away from the stream.
Mobile ignition methods, i.e. ping-pong ball ignition, ignition distance from the stream
50 feet on slopes of 35 percent or less.
100 feet on slopes greater than 35 percent.
Ignition lines near large open meadows, associated with the stream channels should be located at the toeslope above the meadow elevation as much as possible to protect meadow vegetation.
When igniting fuels on the lower end of the window of moisture content, increased ignition spacing from stream would be recommended to further protect CWD and overhead cover components.
In the Tunnel project cut material would be hand piled and burned. Piles would be made on dry ground above the high water line. The KFRA hydrologist will assist in designating suitable locations for hand piles.

Roads and temporary fire trail access in riparian reserves:
No new roads will be constructed within the RR unless they replace an existing road that is causing more resource damage. If possible, use new technology construction methods for building temporary roads into treatment units (including but not limited to wood chip constructed roads.)
Use of existing roads and landings within the RR will be reviewed and approved by the resource advisor. Minimal or no grading of the existing roads will be done to maintain the existing ground cover and vegetation and to decrease sediment movement.

Chemical fire retardants in riparian reserves:
No use of chemical retardants would occur within the full width of the riparian zone (per KFRA RMP.)
In cases of escaped or wildfire control, soap based retardants may be applied to within 50 feet of a stream that contains water.

Streamside pumping sites:
Pumping on small streams should not reduce the downstream flow of the stream by more than half the flow.
If possible, avoid the construction of temporary pump chances. When necessary use temporary plastic dams to create chances and remove these dams when not actively pumping.
All pumping located on fish bearing streams must have a screen over the intake to avoid entrainment of small fish.
The pump intake should be suspended near the thalweg (deepest/highest quantity of flow) of the stream.
Avoid placing pump intakes on the substrate or edges of the stream channel.

Post-fuels treatments for access roads and temporary fire trails:
Install drainage dips, or water bars, in accordance with RMP BMPs to reduce surface run-off.
A layer of duff (average of ½ inch after final burn) will be retained to protect soil from erosion during the wet season.
Mulch and seeding or other methods of soil stabilization should be applied to any exposed soil surfaces prior to the wet season to reduce surface erosion.
Surface roads in accordance with RMP BMPs *(Roads C-1-8)* for all naturally surfaced roads not proposed for decommissioning or closure.
Design blockages (close or decommission) upon completion of treatments to minimize non-authorized use of roads and trails within treatment areas.
Placement of residual slash on trails upon completion of mechanical treatments should occur.

Appendix F
Acceptable Levels of Prescribed Fire Induced Tree Mortality

Some tree mortality resulting from the application of prescribed fire is to be expected. However, at some point the level of mortality becomes so high that resource objectives are compromised. In order to provide useful information to the burn plan development process, acceptable levels of tree mortality are developed in an interdisciplinary manner. These levels are expressed as a target (what we want to see happen, and plan to achieve), and a range (what is acceptable, and what we would still consider a success). These targets and ranges are expressed as a percentage of the pre-burn live trees in the stand.

Within the upland portion of the project area acceptable and target RX fire induced tree mortality numbers are as follows.

	0-8" DBH	8-16" DBH	16-30" DBH	30+" DBH
White fir	Fire effects modeling predicts very high mortality in this size class. Some patches of reproduction will be left intentionally unburned. Some trees at the upper end of this class will survive outside patches	Target: <10% Range: 0-20%	Target: <8% Range: 0-15%	Target: <6% Range: 0-5%
Douglas fir		Target: <5% Range: 0-10%	Target: <2% Range: <0-8%	Target: <1% Range: 1-5%
Ponderosa pine		Target: <5% Range: 0-10%	Target: <2% Range: 0-8%	Target: <1% Range: 0-5%
Western white pine		Target: <5% Range: 0-10%	Target: <2% Range: 0-8%	Target: <1% Range: 0-5%
Lodgepole pine		Target: <10% Range: 0-20%	Target: <8% Range: 0-15%	Target: <6% Range: 0-5%

Within the aspen portion (15 acres) of the project area it is expected that the cutting operations will remove all of the merchantable white fir and all of the pine species less than 16" dbh, as well as all of the unmerchantable conifers greater than 1inch in diameter. The burn operations will remove almost all of the remaining small conifers down to the seedlings size class. The intent is to cleanse the aspen stand of almost all conifers. Burn objectives for aspen stems are shown in table 2 below.

	0-8" DBH	8-16" DBH	>16" DBH
Aspen	Kill by burning	Try not to kill by burning.	Take proactive pre-treatment steps to protect from fire kill.

Appendix G
Tunnel Creek 2001 ROD Compliance Review: Survey & Manage Wildlife and Botany Species

Categorical Exclusion File
Lakeview District BLM – Klamath Falls Field Office

Project Name: Tunnel Creek DDR **Prepared By: Molly Juillerat**
Project Type: Fuels Reduction and Aspen Restoration **Date: February 24, 2006**
Location: T38S R5E Sx23 **S&M List Date: Dec. 29, 2003**

Table A. Survey & Manage Wildlife and Botany Species. Species listed below were compiled from the 2003 Annual Species Review (IM 2004-034) and include those vertebrate and non vertebrate wildlife and non vascular and vascular botanical species whose known or suspected range includes the Klamath Falls Resource Area according to the protocols listed below. There are no known sites for Category B, D, E, and F species.

- *Survey Protocols for Survey and Manage Strategy 2 Vascular Plants Version 2.0 (December 1998)*
- *Management Recommendations for Survey and Manage Lichens Version 2.0 (*March 2000),
- *Natural History and Management Considerations for the Northwest Forest Plan Survey and Manage Lichens Based on Information as of the Year 2000* (USDA Forest Service R6-NR-S&M-TP-03-03 2003). *Survey Protocols for Survey and Manage Category A & C Lichens in the Northwest Forest Plan Area Version 2.1* (2003),
- *2003 Amendment to the Survey Protocol for Survey and Manage Category A and C Lichens Version 2.1* (2003),
- *Survey Protocols for Survey and Manage Component 2 Bryophytes Version 2.0* (1997),
- *Survey and Manage Protocols Protection Buffer Bryophytes 2.0* (1999),
- *Handbook to Strategy 1 Fungal Species in the Northwest Forest Plan (*PNW-GTR-476 October 1999), and *Handbook to Additional Fungal Species of Special Concern in the Northwest Forest Plan* (PNW-GTR-572 January 2003).
- *Survey Protocol for the Great Gray Owl within the Range of the Northwest Forest Plan v3.0* (Jan. 2004),
- *Survey Protocol Aquatic Mollusk Species From the Northwest Forest Plan Version 2.0* (Oct. 1997),
- *Draft Survey Protocol for Terrestrial Mollusk Species From the Northwest Forest Plan Version 2.0* (1997), and the
- *Survey Protocol for S&M Terrestrial Mollusk Species v3.0* (Feb. 2003).

Species	S&M Category	Survey Triggers			Survey Results			Site Management
Species	S&M Category	Survey Triggers			Survey Results			Site Management
		Within Range of the Species?	Project Contains Suitable habitat?	Project may negatively affect species/habitat?	Surveys Required?	Survey Date	Sites Known or Found?	
Vertebrates								
Great Gray Owl (*Strix nebulosa*)[1]	A	Yes	Yes	Yes	Yes	March, April and June 1999 and March-June 2000	0	NA
Mollusks								
Siskiyou Sideband (*Monadenia chaceana*)[2]	B[4]	Yes	Yes	Yes	Yes	June, July and October 2002	0	NA
Crater Lake Tightcoil (*Pristiloma arcticum crateris*)[3]	A	Yes	Yes	Yes	Yes	June, July and October 2002	0	NA
Evening Fieldslug (*Deroceras hesperium*)[4]	B[4]	Yes	Yes	Yes	Yes	June, July and October 2002	0	NA
Fluminicola no. 3 [5]	A	Yes	Yes	Yes	Yes	June, July and October 2002	0	NA
Fluminicola no. 16 [5]	A	Yes	Yes	Yes	Yes	June, July and October 2002	0	NA
Vascular Plants								
Cypripedium fasciculatum	C	**Yes**	Yes	Yes	Yes	August 2003	0	NA
Cypripediium montanum	C	**Yes**	Yes	Yes	Yes	August 2003	0	NA
Fungi								
Albatrellus ellisii[6] Greening Goat's Foot	B	**Yes**	Yes	Yes	No	June, July and October 2002	2	60 foot radius no entry buffers
Bryophytes								
Tritormaria exsectiformis	B	**Yes**	Yes	Yes	Yes[7]	September 1997		

[1] Pre-disturbance surveys for great gray owls are required since there is suitable nesting habitat within the project area. The required habitat characteristics of suitable habitat include: (1) large diameter nest trees, (2) forest for roosting cover, and (3) proximity [within 200m] to openings that could be used as foraging areas (*Survey Protocol for the Great Gray Owl within the range of the Northwest Forest Plan v3.0*, January 12, 2004). Surveys for the great gray owl were conducted in 1999 and 2000 using the 1995 protocol designed to meet Survey and Manage standards including the 2001 Survey and Manage Standards and Guidelines. No great gray owls were located.

[2] Equivalent-effort pre-disturbance surveys are required for the Siskiyou Sideband (IM-OR-2004-034). (*Survey Protocol for S&M Terrestrial Mollusk Species v3.0*, 2003). Timber harvest that results in an average 40% canopy is usually considered detrimental to local populations (pg 11 Conservation Assessment for *M. chaceana* 2005). The planned action would maintain canopy closure at greater than 40% in potential habitat for *M. chaceana*. High priority habitat for *M.chaceana* on the KFRA are rocky outcrops, riparian and seepy areas. (Nancy Duncan per.comm 2005) Protocol mollusk surveys were completed in 2002 and no Siskiyou sidebands were found.

[3] Suitable habitat for the Crater Lake tightcoil is "perennially wet situations in mature conifer forests, among rushes, mosses and other surface vegetation or under rocks and woody debris within 10 meters of open water in wetlands, springs, seeps and riparian areas..." (pg. 43, *Survey Protocol for S&M Terrestrial Mollusk Species v3.0*, 2003). Within the project, suitable habitat is confined to the stream-side areas that are contained within Riparian Reserves. Protocol mollusk surveys were completed 2002 and no Crater Lake tightcoil sites were discovered.

[4] The evening field slug's range was extended to include the KFRA in March 2003 (pg 2 and 3 2002 Annual Species Review and Appendix A pg32., *Survey Protocol for S&M Terrestrial Mollusk Species v3.0*, 2003). Surveyors in 2002 were familiar with *Deroceras hesparium* and could identify the genus in the field. Any and all mollusk species seen during surveys were recorded on the survey sheet and hence surveys completed in 2002 also covered this species. No Evening Field Slug sites were found.

[5] *Fluminicola sp no. 3 and no. 16* (pebblesnails) are found in cold seeps and springs (*Aquatic Mollusk Survey Protocol Version 2.0 October 1997*). Protocol surveys were completed in 2002 and no pebblesnails were found

[6] Greening Goat's Foot (*Albatrellus ellisii*) is a Category B fungi species (no pre-disturbance necessary, manage all known sites). Two sites were discovered during purposive surveys in June and October 2002. They were flagged and UTMs were recorded with a GPS. No entry buffers were flagged at a 60 foot radius around the site in February of 2006. These sites will be revisited during and after project implementation to insure they are protected. See the CX for a more detailed description.

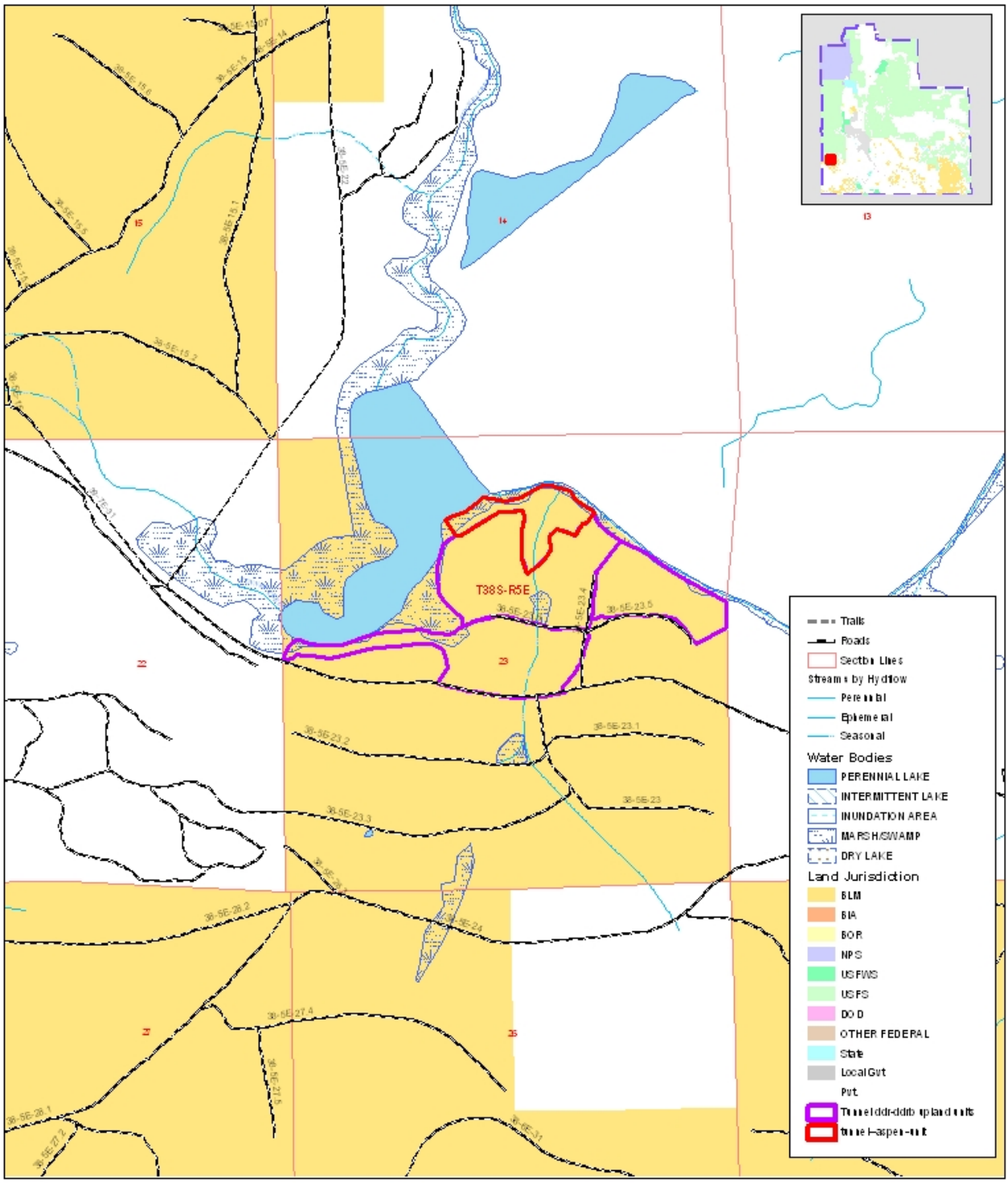
[7] *Tritomaria exsectiformis* is a Category B bryophyte species that is suspected on the Klamath Falls Resource Area. It is associated with low gradient seeps and springs in old growth habitat. Surveys for non-vascular bryophytes and lichens were completed in September 1997. A full inventory of all species recorded is listed in the Tunnel Creek project file. No sites of Tritomaria exsectiformis or any other Survey and Manage bryophytes or lichens were found.

Statement of Compliance. Pre-disturbance surveys and management of known sites required by protocol standards to comply with the *2001 Record of Decision and Standard and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measure Standards and Guidelines* (as the 2001 ROD was amended or modified as of March 21, 2004) were completed for Tunnel Creek DDR Fuels Reduction and Aspen Restoration. The Tunnel Creek DDR Fuels Reduction and Aspen Restoration also complies with any site management for any Category B, D, and E species as identified in the 2001 ROD (as modified): Two sites of the Category B species *Albatrellus ellsii* were found in the planning area and had 60 foot radius no mechanical entry buffers installed to meet management recommendations.

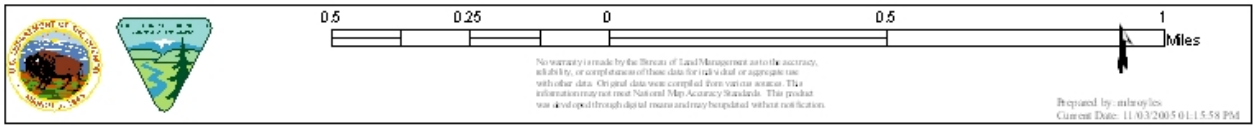
Based on the survey results, there are currently no known sites of Survey & Manage species that require management within the project area. Therefore, based on the preceding information (refer to Table A above) regarding the status of surveys for Survey & Manage wildlife species and the results of those surveys, it is my determination that Tunnel Creek DDR Fuel Reduction and Aspen Restoration complies with the provisions of the *2001 Record of Decision and Standard and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measure Standards and Guidelines* (as the 2001 ROD was amended or modified as of March 21, 2004). For the foregoing reasons, this contract is in compliance with the 2001 ROD as stated in Point (3) on page 14 of the January 9, 2006, Court order in Northwest Ecosystem Alliance et al. v. Rey et al.

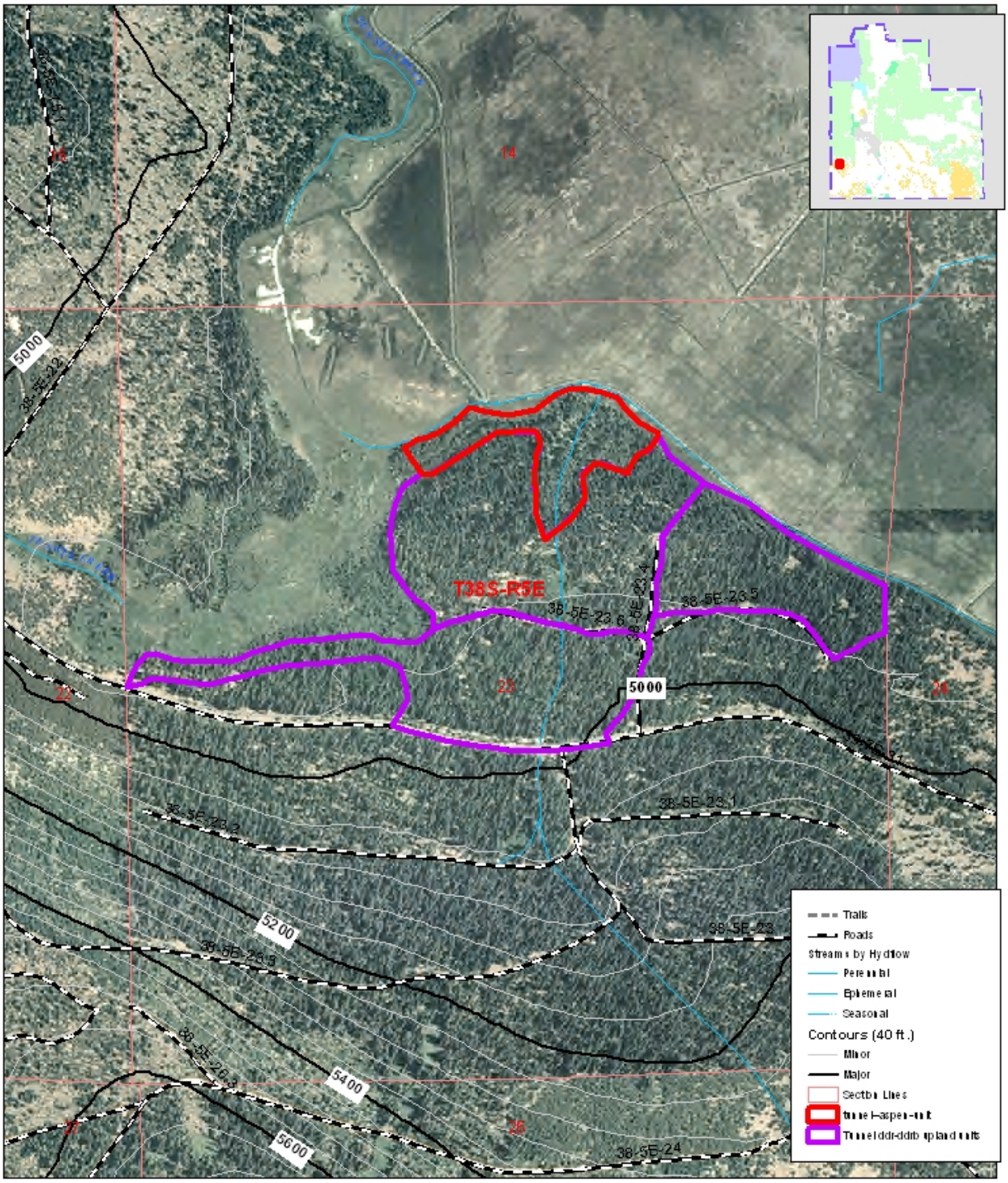
Jon Raby, Manager
Klamath Falls Field Office

Date 2/28/06



TUNNEL DDR/DDRB FUELS REDUCTION-123 ACRES

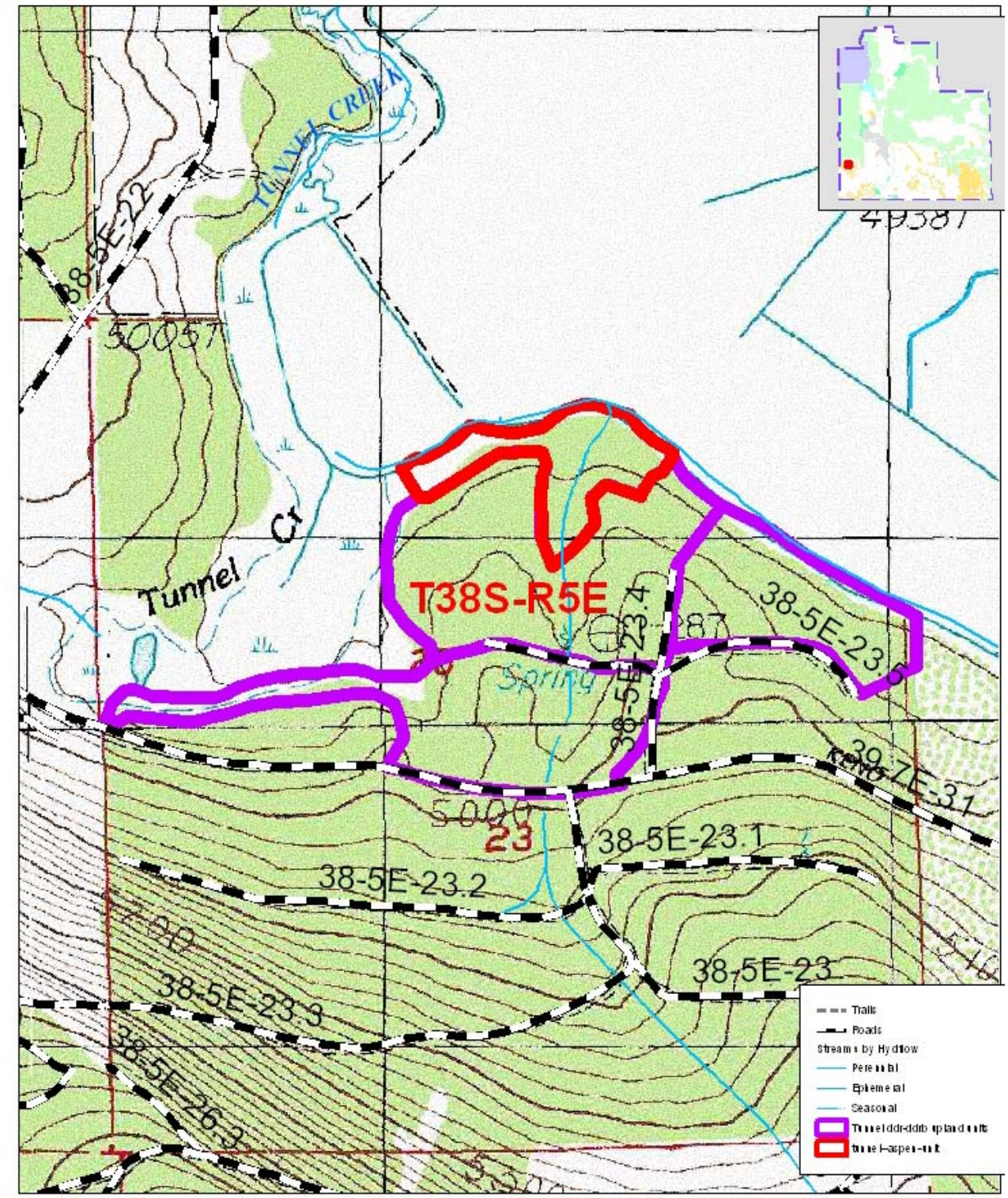




TUNNEL DDR/DDRB FUELS REDUCTION-123 ACRES

0.25 0.125 0 0.25 Miles

Prepared by: mlroyles
Current Date: 11/03/2005 12:58:08 PM



TUNNEL DDR/DDRB FUELS REDUCTION-123 ACRES

0.5 0.25 0 0.5 Miles