

Klamath Falls Resource Area NEPA Document Routing Slip for Electronic Review

Project Name and Document Number: Hamaker 2 – Title II – Plantation / Young Stand Thinning & Biomass Treatment

Date Initiated: April 18, 2006 **Project Lead/Contact:** Mike Bechdolt

Resource or Staff Responsible	Review Priority	Preliminary Review Initials / Date	Comments Attached / Incorporated	Final Review Initials / Date
Manager: Don Hoffheins	Last	Dkh 7/3/06		Dkh 7/13/06
Branch Chief: Heather Bernier				
Branch Chief: Larry Brooks	X	LB 5/12/06		LB 6/26/2006
Planner/EC: Kathy Lindsey	X	Dkh 4/19/06		Dkh 7/3/06
Range: Bill Lindsey, Dana Eckard				
Wild Horses: Tonya Pinckney				
Fire/Air Quality: Eric Johnson	X	EJ 4/25/06	Incorporated	EJ 7/5/06
Silviculture: Bill Johnson	X	BJ 5/23/06	In text	BJ 7/10/06
Timber: Mike Bechdolt	Preparer	-----	-----	-----
Botany/ACEC/Noxious Weeds: Lou Whiteaker	X	LW 5/12/06	No special status plants. Noxious weeds on roadsides and other disturbed areas.	LW 7/6/06
Cultural: Tim Canaday, Michelle Durant	X	TC 4/20/2006	See comment below	TC 4/20/2006
Safety/HazMat: Tom Cottingham				
Lands/Realty: Linda Younger	X	LY 7/5/06		LY 7/5/06
Recreation/Visual/Wilderness: Scott Senter				
Hydrology/Riparian: Liz Berger	X	EB 4/27/06	Comments in text.	EB 06/22/06
Wildlife/T&E: Steve Hayner	X	SH 04/27/06	Comments in Text	SH 06/20/06
Wildlife/Fuels: Matt Broyles				
Fisheries/T&E: Andy Hamilton	X	ASH 4/26/06		ASH 7/12/06
W/S Rivers: Grant Weidenbach				
Engineering: Brian McCarty	X	BMC 4/20/06	None	BMC 4/20/06
Soils/Veg/SSS/S&M Surveys: Molly Juillerat	X	MOJ 4/19/06	Attach Soil BMPs, S&M compliance table.	MOJ 7/3/06
Minerals: Rebecca Lange				
Clearances/Surveys	Needed	Done/Attached	Each review period is proposed for two weeks. Please complete edits in "Track Changes" within two weeks of receiving an e-mail notice. Some resources are not marked for all projects. Other specialists are welcome to review the document even though they are not identified with an "X" or number.	
Cultural		TC 4/20/2006		
Botanical		LW 5/12/06		
T&E, BA & or Consultation	No 06/02/06			
Survey and Manage		SH – 05/24/06 Compliance Table Attached		
R-O-W Permits	No			

**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: Hamaker 2 – Title II – Plantation / Young Stand Thinning & Biomass Treatment

CX Log #: OR-014-CX-06-14

Location: Hamaker Mountain – T40S, R7W, Sections 15, 22, & 23

Plantation Areas:	Approximately 320 acres
Young, natural mixed conifer stands:	Approximately 280 acres
<u>Brushfields, openings, non-stocked areas:</u>	<u>Approximately 200 acres</u>
Total Project Area:	Approximately 800 acres

Section 23 is within two miles (See Map) of residential homes in the town of Keno and within one-half mile of the FAA towers on Hamaker Mountain.

BLM Office: Lakeview District, Klamath Falls Resource Area

County: Klamath County, Oregon

DESCRIPTION OF THE PROPOSED ACTION (INCLUDING PURPOSE AND NEED)

The project consists of thinning approximately 500-600 acres of scattered ponderosa pine plantations and young natural, mixed conifer stands (See attached Maps). It is in Fire Regime I, and is currently in Condition Class III. The proposed project is expected to improve the Condition Class by increasing the stands' fire resistance and resilience, and altering the coniferous species composition. The total project area is approximately 800 acres. Some of the area was slashbusted in 2005. Due to the density and size of the trees in the plantation area, much of the plantation was withdrawn from the slashbusting contract so an analysis could be done to determine the feasibility of thinning and utilizing the small diameter trees for clean chips, post/poles, or small diameter sawlogs. The proximity of the local post and pole mill in Worden, the need for clean chips at the Collins Product mill, and the use of small pine logs for veneer are potential uses for the small material. The plantation is approximately 30-40 years old with an average DBH of 8" (range of 3"-14" DBH). The young natural stands are 30-50 years old with an average DBH of 8-9" (range of 3"-14" DBH). The Gerber Stew Stewardship Contract will likely be used to implement the thinning of the stands. The value of the material, primarily small sawlogs, and/or chips will be used to offset the cost of the thinning.

The purpose of the proposed action is to

- Reduce hazardous fuel loading through tree density reduction and removal of the material.
- Increase fire suppression effectiveness by increasing crown spacing.
- Thin young overstocked plantations and natural stands to increase growth and resiliency of remaining trees.
- Utilize small diameter material from existing plantations and young stands to facilitate the local economy by providing products.

The specific proposals would involve:

1. Standard logging equipment including a mechanical harvester, skidder, delimeter, and possibly a chipper/grinder will be used to process the trees.
2. All operations are expected to be implemented during the standard summer operating season from May 15 to November 1 depending upon soil conditions.
3. Anticipated implementation is expected to occur during the summers of 2006 & 2007.
4. Operations will be limited to periods when the soil moisture is less than 20% at 6 inches in depth as defined in the Klamath Falls Resource Area Resource Management Plan (RMP). Snow logging will be

allowed using the standard winter logging criteria; at least twenty (20) inches of snow must be present at all times.

5. Trees will be thinned to an average 20 x 20 foot spacing. Up to 20% of the area will be reserved from cutting for wildlife clumps and variable density objectives. Variable density thinning would involve varying the spacing throughout the plantation from no thinning, up to 40 x 40 foot spacing. A portion of Section 11 has been pruned. Pruned trees have priority as leave trees.
6. Retain a percentage (up to 5%) of white fir trees for species diversity and snag recruitment potential. Also, retain a percentage (up to 2 %) of potential wildlife trees; forked tops, broken tops, dead tops, cull trees. Retain the largest, tallest, and best formed ponderosa pine and Douglas-fir trees at the specified spacing.
7. All snags will be reserved with the exception of those that are required to be felled per OSHA safety laws. Best Management Practices as described in Appendix E of the RMP will apply.
8. No known bald eagles are within ¼ mile or ½ mile line-of-sight of the proposed action. The closest nest (>1/4 mile away) is within the Bear Valley Refuge. If a bald eagle nest is found within ¼ mile or ½ mile line-of-sight of the project a seasonal restriction on activities would be implemented. No activities would be allowed from January 1 to August 15th unless waived because of lack of nesting eagles.
9. Riparian Management BMPs will be implemented including;
 - Avoid placement of skid trails and landings in areas with potential to collect and divert surface runoff such as the bottom of draws and ephemeral drainages.
 - Skid trail crossings shall be located at right angles to the drainage. Locate crossings of drainages on flattest slopes. Crossings should be at least 150 feet apart or greater. Stream crossings will be selected at stable, naturally armored locations or will be armored with slash before being used as a corridor.
 - Locate landings, where feasible, so that yarding occurs away from the drainages. This should minimize the number of drainage passes and crossings.
 - Rehabilitate skid trails using techniques such as covering with slash, installing waterbars or drainage dips, or seeding.
10. Soil BMPs will be implemented. See BMPs at end of document.

IMPLEMENTATION DATE

This project is expected to be implemented in the Summer of 2006 & 2007.

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)
- Klamath Falls Resource Area Fire Management EA (OR-014-94-09; 1994)
- Integrated Weed Control Plan (IWCP) and Environmental Assessment (EA) OR-014-93-09

District and Regional Plans

- Healthy Forest Restoration Initiative and Healthy Forests Restoration Act (February 2004)
- 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)
- 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)
- Interior Columbia Basin Strategy (2003)
- Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (S&M ROD, 2001)

LIMITATIONS

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

- 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,
- 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,
- 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,
- Shall be conducted in accordance with BLM and DOI procedures and applicable land/resource management plans (refer to Plan Conformance section above),
- Shall not be conducted in wilderness areas or where it would impair the suitability of WSA's for preservation as wilderness,
- Shall not include the use of herbicides or pesticides,
- Shall not involve the construction of new permanent roads or other new permanent infrastructure,
- 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)
17. Have a significant adverse effect on Migratory Landbirds (Executive Order 13186).	() (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, the resources discussed 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
7	Yes		No sites are known to exist within the project boundaries. However, portions of the project are scheduled for post-project inspection due to intense vegetation coverage obscuring the ground surface.
8	Yes		No known bald eagles are within ¼ mile or ½ mile line-of-sight of the proposed action. The closest nest (>1/4 mile away) is within the Bear Valley Refuge. If a bald eagle nest is found within ¼ mile or ½ mile line-of-sight of the project a seasonal restriction on activities would be implemented. No activities would be allowed from January 1 to August 15th unless waived because of lack of nesting eagles.
15	Yes		Surveys done in 1998. No special status species, but small patches of diffuse knapweed, a noxious weed, were found on roadsides and other disturbed sites. All equipment will be washed prior to entering into the treatment area.

SURVEYS AND CONSULTATION

Surveys and/or consultation may be needed for special status plants and animals, for cultural resources, and other resources as necessary (appropriate fields are Initialed and Dated in the following table by responsible resource specialist):

Surveys	Are Completed	Will Be Completed	Are Not Needed
SS Animals*			SH 06/20/06
SS Plants*	LW 7/6/06		
Cultural Resources	TC 6/27/2006		
Survey and Manage			SH 06/20/06
Consultation	Is Completed	Will Be Completed	Is Not Needed
SS Animal Consultation*			SH 06/20/06
Botanical Consultation			LW 7/6/06
Cultural Consultation	TC 6/27/2006		
*(SS = Special Status)			

Remarks:

A road use agreement will need to be executed between Timber Resources, LLC and the Stewardship Contractor for road uses in Section 32 of T.39S., R.7E.

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: Mike Bechdolt

Reviewed by: Klamath Falls Interdisciplinary Team

Approved By: (Signature)	Name: <i>Don Hoffheins</i> D.K.Hoffheins	Title: Acting Field Manager	Date: 7/13/06
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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:

- The name, mailing address, telephone number, and interest of the person filing the protest,
- A statement of the issue or issues being protested,
- A statement of the specific parts of the analysis being protested by referencing specific pages, paragraphs, sections, tables, maps, etc. included in the document,
- 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,
- 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:

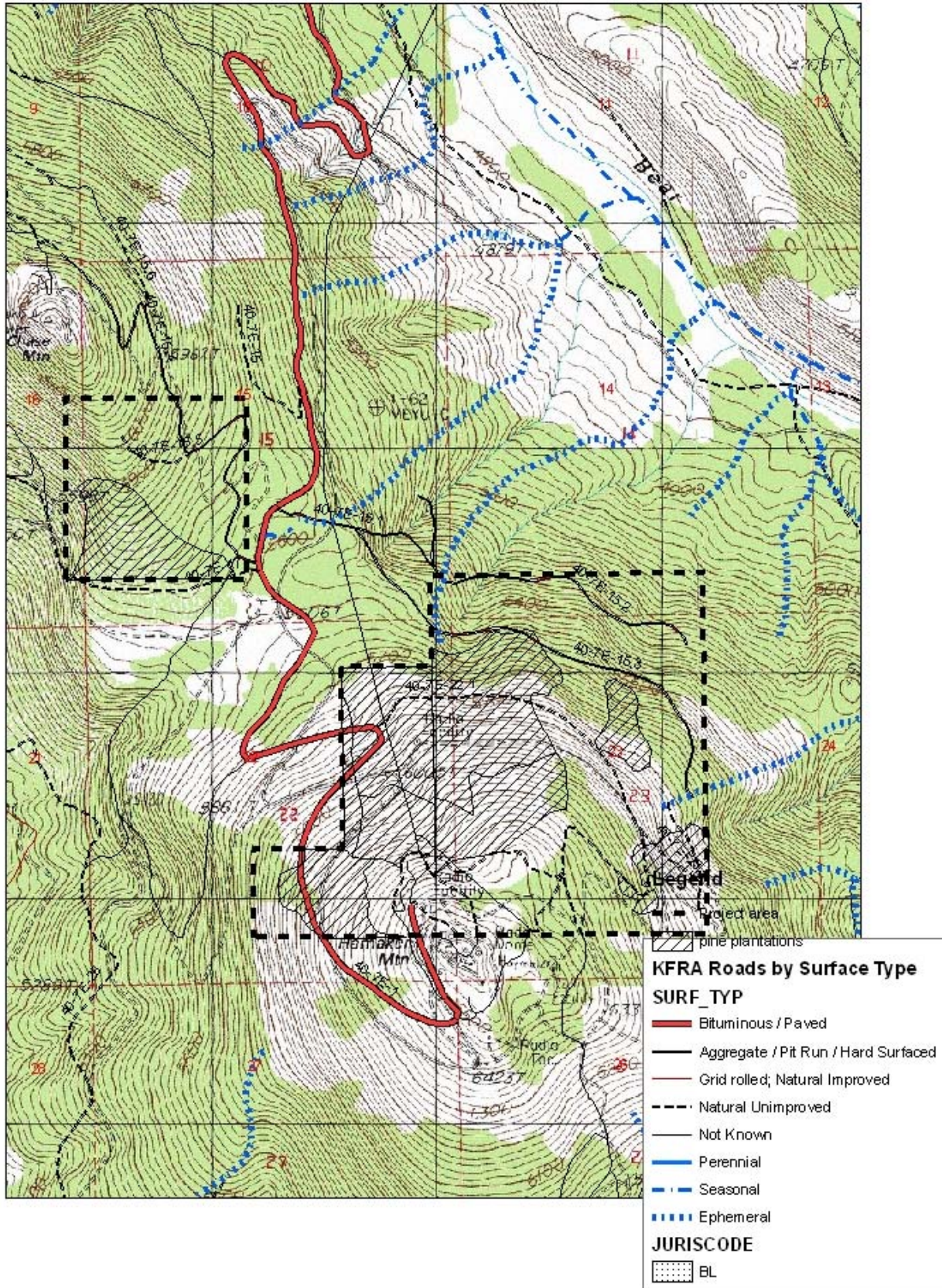
Mike Bechdolt, Klamath Falls Resource Area
2795 Anderson Avenue, Building 25
Klamath Falls, Oregon 97603 or telephone: 541-884-2907.

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, 9 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.
- 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 A – Project Maps

Proposed Hamaker Title II FY 2007 T40S R7E Sections 15, 22 and 23



Appendix B

2001 ROD Compliance Review: Survey & Manage Wildlife and Botany Species

Environmental Analysis File
Lakeview District BLM – Klamath Falls Field Office

Project Name: Hamaker 2 Title II Treatments

Prepared By: Molly Juillerat and Steve Hayner

Project Type: Plantation/Young stand thinning and biomass treatment **Date:** July 3, 2006

Location: T40S, R7W, Sections 15, 22, 23 **S&M List Date:** Dec. 29, 2003

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. (Refer to Table A – Survey & Manage Wildlife and Botany 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)
- Survey Protocol for S&M Terrestrial Mollusk Species v3.0 (Feb. 2003).

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 not required for terrestrial or aquatic mollusks, Great Gray Owls, or nonvascular plants. Required surveys for vascular plants were completed and none were found therefore in the Hamaker 2 Title II Plantation/Young Stand Thinning and Biomass Treatment. The Hamaker 2 Title II Plantation/Young Stand Thinning and Biomass Treatment also complies with any site management for any Category B, D, and E species as identified in the 2001 ROD (as modified): no sites of any of these species (B, D, E) is present in the planning area.

Based on the survey results and lack of suitable habitat, 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 Hamaker 2 Title II Plantation/Young Stand Thinning and Biomass Treatment 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.

D.K.Hoffheins
 Don Hoffheins, Acting Field Manager
 Klamath Falls Field Office

07/03/06
 Date

Table A – Survey & Manage Wildlife and Botany Species

Species	S&M Category	Survey Triggers			Survey Results			Site Management
Species	S&M Category	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 (<i>Strix nebulosa</i>) ¹	A	Yes	No	No	No	N/A	0	N/A
Mollusks								
Siskiyou Sideband (<i>Monadenia chaceana</i>) ²	B	Yes	No	No	No	N/A	0	N/A
Crater Lake Tightcoil (<i>Pristiloma arcticum crateris</i>) ³	A	Yes	No	No	No	N/A	0	N/A
Evening Fieldslug (<i>Deroceras hesperium</i>) ⁴	B ⁴	Yes	No	No	No	N/A	0	N/A
<i>Fluminicola</i> no. 3 ⁵	A	Yes	No	No	No	N/A	0	N/A
<i>Fluminicola</i> no. 16 ⁵	A	Yes	No	No	No	N/A	0	N/A
Vascular Plants								
<i>Cypridium fasciculatum</i>	C	Yes	Yes	Yes	Yes	July 1998	0	No
<i>Cypridium montanum</i>	C	Yes	Yes	Yes	Yes	July 1998	0	No

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).

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 personal communication, 2005) No surveys were required in the Hamaker Thinning area.

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). There is no suitable habitat in the Hamaker Thinning project area.

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 hesperium* and could identify the genus in the field. There is no suitable habitat in the Hamaker Thinning project area.

⁵ *Fluminicola* sp no. 3 and no. 16 are found in cold seeps and springs (Aquatic Mollusk Survey Protocol Version 2.0 October 1997). No suitable habitat exists in the Hamaker Thinning project area.