DECISION NOTICE
FINDING OF NO SIGNIFICANT IMPACT

Mt. Emily II Fuels Reduction Project
Environmental Analysis

Forest Plan Amendment #35

USDA Forest Service
Wallowa-Whitman National Forest
La Grande Ranger District
Union County, Oregon

An Environmental Assessment (EA) that discusses the Mt. Emily II Fuels Reduction project within the Mt. Emily 7,295 acre analysis area on the La Grande Ranger District of the Wallowa-Whitman National Forest is available for review at the La Grande Ranger District Office in La Grande, Oregon and at the Forest Headquarters in Baker City, Oregon.

The Decision

Based on the analysis described in the EA, it is my decision to implement Alternative 2 as the method of treatment and management of these National Forest lands. This decision addresses the purpose and need to modify fuels and potential fire behavior, and to treat within fire adapted ecosystems, within or adjacent to a wildland urban interface (WUI) at risk. This project includes mechanical treatments along strategic ridgetop locations.

This project is an integral part of a collaborative effort to manage vegetation on private, state, and public lands adjacent to urban development to reduce fire hazard and improve defensible space. Treatments are designed to compliment ongoing fuel reduction efforts on public and private lands to create a community fuel break.

Alternative 2 has been designed to provide added protection of all resources and resource values while still meeting the purpose and need through design modifications related to lynx habitat and protection of visual quality.

This project will also modify the Wallowa-Whitman National Forest Plan through a non-significant Forest Plan amendment for fuel reduction treatments in Canada lynx habitat. The Wallowa-Whitman National Forest Plan was signed in 1990. Over the ensuing years, new information has come out of a variety of sources such as the Interior Columbia Basin Ecosystem Management Assessment, National Fire Plan, 10-year Comprehensive Strategy, and the Endangered Species Act, which have not been studied and integrated with the resource protection and objectives of the 16 year-old Forest plan. In order to integrate these resource needs (specific to Canada lynx habitat) with the fuels objectives and needs within and adjacent to a wildland urban interface (WUI), a non-significant forest plan amendment has been incorporated as part of this decision.

Alternative 2 addresses the following key issues: 1) Wildfire risk on National Forest Lands within the Mt. Emily WUI; and 2) Maintain Mt. Emily Scenic Quality.

Background

This project was originally part of the Mt. Emily Fuels Reduction project, the planning for which was completed in December 2004. In January 2005, that project was appealed. In a letter dated February 25, 2005, I made the decision to remove the treatment of 24 units (348 acres), which were in mapped lynx habitat, from the original Mt. Emily Fuels Reduction Project Decision Notice. The lynx habitat portion of the forest plan amendment for that project was also deferred. Twenty-two of those units have now been re-analyzed under the Mt. Emily II Fuels Reduction Project, which incorporates the appropriate LCAS recommended standards and guidelines specific to this project, as a project-specific non-significant forest plan amendment.

This project was planned under the Healthy Forests Restoration Act (HFRA). The Act directs that a predecisional administrative review process for projects authorized by HFRA takes place before the decision is made. This process encouraged early public participation and collaboration in project planning. The Mt. Emily II Fuels Reduction Project qualifies as an authorized hazardous fuels reduction project under HFRA because it is consistent with the Collaborative Approach Implementation Plan (May 2003), has an objective to protect communities, watersheds, threatened and endangered species, and natural resources by treating hazardous fuels, and is within or adjacent to an at-risk community covered by a Community Wildfire Protection Plan (Title I, Section 102-Authorized Hazardous Fuel Reduction Projects, Part (a)(1)). This project was completed under this authority and follows the processes outlined in the Act (P.L. 108-148). This act authorizes expedited vegetation management projects.

The original Mt. Emily Fuels Reduction Project (signed March 2005) and this follow-up project known as Mt. Emily II Fuels Reduction Project were also developed under the core goals and guiding principles listed in the 10 year comprehensive strategy of the National Fire Plan This plan assigned the highest priority for hazardous fuels reduction to communities at risk, readily accessible municipal watersheds, threatened and endangered species habitat, and other important local features, where conditions favor uncharacteristically intense fires The National Fire Plan process identified the rural community adjacent to Mt. Emily as “high risk” and a high priority for treatment due to the intermingling of homes and vegetation, potential fire behavior and existing fire protection capabilities.

Preferred Alternative Description

Alternative 2 was designed to address the purpose and need of reducing fuels and modifying potential fire behavior, with additional consideration given to wildlife, roadless and scenic resources.

The following is a description of the treatments and activities in Alternative 2.

1. Fuels Treatment Prescriptions/Objectives

The following describes the treatment objectives, methods and anticipated outcomes of the fuel treatments. The prescriptions target basal area ranges are based on plant associations, fire regimes, tree species selected for future management, and resource objectives.

In some situations the target basal areas are difficult or impossible to achieve due to: (1) high mortality levels; (2) the abundance of existing damaged and diseased trees; and (3) the abundance of trees greater than 21 inches in diameter. Where the stands are dominated by large trees which can not be removed, the basal areas will remain at a level above the targeted management zone, however, the understories will be treated for ladder fuels and surface fuels to ensure the integrity of the fuel management objectives.

In those stands where the management zones may be difficult to achieve due to mortality, damage or disease, the general goals will be to meet the fuels treatment needs by treating the surface, ladder, and crown fuels while accepting the best basal area level achievable based on current stand conditions, which may very well be lower than the initial target level.

The final prescription and the environmental consequences for each stand depends on existing stand conditions (refer to site specific stand diagnoses and specialist reports in the Analysis file).

A) Priority Areas:

The project area is a priority to treat due to its proximity to a community at risk and potential fire behavior from fuel conditions. Proposed fuel treatment priorities are based on their proximity to private property and strategic locations for fire suppression activities (see map in Appendix A).

Treatment priorities are as follows:

Priority Area Two is a corridor adjacent to forest roads 3120 (portion of) and 3120500. These roads provide access for fire suppression activities and are generally located on a main ridge system. A ¼ mile wide treatment corridor would also be established along forest roads 3120 (from the southern forest boundary to its junction with 3120500) and 3120500 (see map in appendix A). Treatments would include snag removal (to Forest Plan Guidelines), and removal of down and standing dead wood or predicted to be dead wood within the next 3 to 5 years. Small-suppressed trees that contribute to ladder fuels would be cut and removed, or piled and burned. Hazard trees would be removed to prevent them from blocking vehicle access in the event of wildfire suppression activities.

Those units with commercial removal will be treated to reduce tree densities and crown fuels targeting the mid to UMZ. Prescriptions include HTH, HFU, SPC, SCN, pile and pile burning. This will occur in units: 150, 235, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 248 and 252 for a total of 276 acres (Unit 150 will be treated with no harvest removal).

Six units within and adjacent to the Mt Emily IRA will be treated including hand or mechanical thinning of small diameter trees, HFU, SCN, pruning, piling, and pile/jackpot burning. No removal will occur. This will occur in units: 262, 264, 265, 267, 268 and 271 for a total of 52 acres.

Priority three includes two ridge systems west of forest road 3120. These ridges are logical strategic locations for fire suppression activities and are accessed by forest roads 3120600 and 3120450.

Treatments will emphasize an HFU prescription, including SCN, pile and pile burning. This will occur in unit 317 for 3 acres.

B) Surface and Near Surface Fuel Prescriptions:

Fuels Reduction (HFU) - Treatment of dead standing and down material and imminent mortality through removal, piling or slashbusting. Fuel Model 10 will be reduced to Fuel Models 8 or 9.

Pile Burning (RMP/RPB) – Burn piles resulting from hand piling or mechanical piling.

C) Crown Fuel Prescriptions:

Fuels Thin/Lower Management Zone (HTH/LMZ) – Thinning to reduce tree densities and crown fuels to a lower management zone (LMZ). This prescription targets multiple layers of trees while retaining large trees and fire-adapted species. LMZ provides the highest level of thinning treatment for reducing crown bulk densities (CBD) and future fuel loadings resulting from insect and disease mortality. Treatment will also raise Crown Base Height (CBH).

Fuels Thin/Upper Management Zone (HTH/UMZ) – Thinning to reduce tree densities and crown fuels to a range between the mid to upper management zone (UMZ). UMZ provides a lower level of treatment for reducing crown bulk densities compared to LMZ while managing to retain large

trees with a mix of fire adapted species and non-fire adapted species, while avoiding suppression mortality from overstocking. This prescription targets the lower tree layer to raise canopy base heights to greater than fifteen feet in height.

Fuels Thin and Clean (SPC/SCN) – Hand or mechanically thin and remove standing trees less than or equal to six inch diameter class; prune low live limbs of residual trees.

D) Removal Systems Summary:

Where treatments result in commercial products, they will be removed by ground based systems (262 acres). An estimated 69 acres will not require removal and will be treated by lop and scatter or pile and burn. Approximately 1,243 CCF (625 MBF) of saw and wood fiber is expected to be recovered from this project.

No new temporary or permanent road construction is proposed.

2. Mt. Emily Forest Plan Amendment #34

This decision will amend the Wallowa-Whitman National Forest Plan to include the changes as outlined below.

Treatment in Canada lynx habitat

The Mt. Emily analysis area provides potential habitat for the Canada lynx (Grande Ronde River/Hilgard Lynx Analysis Unit and Meacham Lynx Analysis Unit). There are over 7,000 acres of lynx habitat within the lynx analysis units (LAU) with denning and foraging habitat levels that exceed the minimum standard habitat requirements identified in the LCAS (Ruediger et al. 2000).

Alternative 2 will mechanically treat fuels and pile burn in lynx habitat and converts 331 suitable acres, of which 217 acres are denning habitat and 114 acres are forage habitat to unsuitable habitat.

Alternative 2 – Mechanical Treatments in Lynx Habitat		
Unit Numbers	**Habitat Type**	**Prescription**
150, 235, 240, 241, 244, 252, 317	Forage	Combination of all following treatments: HTH/HFU/SCN/RMP/RPB
237, 238, 239, 242, 243, 245, 246, 248, 262, 264, 265, 267, 268, 271	Denning	Combination of all following treatments: HTH/HFU/SCN/RMP/RPB

The Canada lynx was listed as a threatened species under the Endangered Species Act by the US Fish and Wildlife Service in March 2000. To protect lynx and lynx habitat, the Forest Plan is amended to adopt applicable recommended standards and guidelines from the Canada Lynx Conservation Assessment and Strategy (LCAS; Ruediger et al. 2000). The LCAS provides conservation measures intended to conserve the lynx and reduce or eliminate adverse effects from the spectrum of management activities on federal lands. The LCAS was developed to provide a consistent and effective approach to conserve Canada lynx on federal lands in the conterminous United States and represents the best available science for conservation of Canada Lynx.

The recommended standards and guidelines of the LCAS were designed to cover a wide variety of habitats spread over a range of thousands of miles, as well as a wide variety of management scenerios and circumstances. Therefore, not all of the recommended standards and guidelines in the LCAS were applicable to this project and the area. An analysis of the LCAS recommended standards and guidelines

applicable to this project area was completed (refer to the Wildlife Section of the Mt. Emily Analysis File) in order to determine which recommended standards and guidelines were appropriate for use in this project, and to adequately analyze the effects of their adoption on all natural, social, and economic resources related to the project area.

This project will adopt the recommended standards and guidelines specific to this project from the Canada Lynx Conservation Assessment and Strategy, August 2000, as a non-significant, project-specific Forest Plan amendment for the action alternative. This amendment modifies the Wallowa-Whitman Forest Plan for the Mt. Emily II Fuels Reduction Project area and will only apply to lynx habitat within the project area.

Recommended Standards and Guidelines applicable to this project area are as follows:

Programmatic

All Programs –Programmatic Planning Standards:

1. Conservation measures will generally apply only to lynx habitat on federal lands within LAUs.
2. Prepare a broadscale assessment of landscape patterns that compares historical and current ecological processes and vegetation patterns, such as age-class distributions and patch size characteristics. In the absence of guidance developed from such an assessment, limit disturbance within each LAU as follows: if more than 30 percent of lynx habitat within a LAU is currently in unsuitable condition, no further reduction of suitable conditions shall occur as a result of vegetation management activities by federal agencies.

Project Planning Standards:

1. Within a LAU, maintain denning habitat in patches generally larger than 5 acres, comprising at least 10 percent of lynx habitat. Where less than 10 percent denning habitat is currently present within a LAU, defer any management actions that would delay development of denning habitat structure.
2. Maintain habitat connectivity within and between LAUs.

Timber Management in Lynx Habitat

Project Planning Standards:

1. Management actions (e.g., timber sales, salvage sales) shall not change more than 15 percent of lynx habitat within a LAU toan unsuitable condition within a 10 year period.

Project Planning Guidelines:

1. In areas where recruitment of additional denning habitat is desired, or to extend the production of snowshoe hare foraging habitat where forage quality and quantity is declining due to plant succession, consider improvement harvests (pre-commercial thinning, selection, etc.). Improvement harvests should be designed to:
2. Retain and recruit the understory of small diameter conifers and shrubs preferred by hares;
3. Retain and recruit coarse woody debris, consistent with the likely availability of such material under natural disturbance regimes; and
4. Maintain or improve the juxtaposition of denning and foraging habitat.

5. Provide habitat conditions through time that support dense horizontal, understory cover, and high densities of snowshoe hares. For example, this includes mature, multistoried conifer vegetation in the west and patches of aspen with dense conifer understory in the east. Focus

vegetation management, including timber harvest and use of prescribed fire, in areas that have understories that have little value to snowshoe hares.

Land Ownership

Project Planning Standards:

1. Develop and implement specific management prescriptions to protect/enhance key linkage areas.

Summary of Lynx Amendment:

Alternative 2 will mechanically treat fuels and prescribe/jackpot burn in lynx habitat. It will convert 331 suitable acres of lynx habitat, of which 217 acres are denning habitat and 114 acres are forage habitat, to unsuitable habitat. This amendment modifies the Wallowa-Whitman Forest Plan for the Mt. Emily II Fuels Reduction Planning area and would only apply to lynx habitat within the project area.

3. Treatment in Inventoried Roadless Areas (IRA)

Alternative 2 will mechanically treat 30 acres within the Mt. Emily Inventoried Roadless Area (IRA), concentrating on generally small diameter trees due to the nature of the current conditions and the goals of the fuel reduction treatments. Treatment includes hand or mechanical commercial thinning (HTH) to between the lower and upper management zones followed by fuels reduction harvest (HFU), fuels thinning (SPC), cleaning (FCN) piling and pile/jackpot burning (RMP, RPB). Treatment is designed to protect or enhance roadless characteristics.

No trees greater than 21 inches in diameter will be cut. No removal of trees will occur. No roads will be constructed within the IRA, temporary or otherwise.

Roadless area management current direction for management is found in Interim Directive 1920–2006-1 which defaults to Forest Plan direction with the exception of certain decisions which were reserved to both the Chief and Regional Forester. As part of implementation of this directive, projects proposing activities in Inventoried Roadless Areas were to be reviewed by the Regional Office for consistency with the Interim Directive. A checkpoint letter was sent to the Forest Service Regional Office (Portland, OR) by the Wallowa-Whitman Forest Supervisor in April 2003. A copy of this letter resides in the analysis file. The letter follows direction from the Regional Office to submit for review projects planned within IRAs.

This letter discussed proposed activity within the IRAs, introduced what type of NEPA document is being prepared, and explained the rationale for treating vegetation within IRAs. A follow-up response letter from the Regional Office was sent to the Forest. The response letter also resides in the analysis file and concurred with the Forest's determination that "the authority and responsibility to approve process steps and sign decision documents related to the Mt. Emily II project remains with the Forest Supervisor of the Wallowa-Whitman National Forest."

The Interim Direction allows timber harvesting for clearly defined purposes where necessary to meet ecological needs. Treatment purposes for this project which match those defined in the Interim Directive are: "Timber harvest is generally small-diameter material (based on the site), and the removal of the timber is needed to maintain or restore the characteristics of ecosystem composition and structure, for example, to reduce the risk of uncharacteristic wildfire effects."

4. Riparian Habitat Conservation Areas (RHCAs)

Thirteen units in Alternative 2 include treatments within RHCAs for 21.9 acres, and will receive the modified prescriptions described below. Mechanical equipment will not operate in, nor will harvest removal occur in riparian areas in order to minimize ground disturbance and reduce the risk of sediment

transport to adjacent streams. Hand tools (chain saws) will be used to clean and thin small diameter trees (less than 7 inches). Slash will be hand piled and/or burned.

Treatment within RHCAs includes the following units: 237, 238, 240, 243, 244, 245, 248, 252, 262, 264, 265, 268, and 271. Small diameter trees less than seven inches will be thinned and cleaned. The following constraints and mitigations apply to these units:

1) No trees will be cut within 25 feet of any fish bearing and/or perennial stream (none have been identified within the project area).
2) No trees will be cut within 10 feet of any intermittent stream channel.
3) No live trees greater than seven inches dbh will be cut within RHCAs.
4) All trees within RHCAs will be cut by hand, no ground-based equipment will be used.
5) No mechanical treatment or mechanical removal will occur within RHCAs..

Riparian Management Objectives (RMO) will be met or improved in all RHCA s (see PACFISH for objectives). To assure attainment of RMOs, no-cut buffers will be implemented on both sides of class III and IV streams. Class III streams will receive a 25 foot buffer and class IV streams will receive a 10 foot buffer.

Prescribed burning (pile burning) will occur within the RHCAs units, however, ignition will not occur within PACFISH designated RHCA buffers.

5. Access and Travel Management

No new road construction or reconstruction will be part of this project.

6. Mitigations and Monitoring

Mitigation measures to be implemented consist of those Wallowa-Whitman National Forest Plan Standards and Guidelines that apply to Management Areas 3, 3A, and 15, except where modified by the non-significant Forest Plan amendment described earlier. Units 262, 264, 265, 267, 268 and 271 will be re-surveyed post project to ascertain soil disturbance levels and capitalize on the opportunity to survey any new explosed areas from equipment or burning. Post project jackpot burning in this area will be coordinated with the South Zone Archaeologist to ensure any new sites discovered during project activities are protected. The timber sale contract will contain a contract clause requiring protection of any newly detected sites. Other specific requirements that apply to this project are listed on pages 43-50 of the EA.

Monitoring of project activities will be accomplished as discussed on pages 46-48 of the EA.

The effects of implementing this alternative, including these modifications, were analyzed by resource specialists as disclosed in the EA and analysis file. The direct, indirect, and cumulative effects of the project as planned are within Forest Plan Standards and Guidelines, including those added/or modified in the forest plan amendment in this decision.

Alternatives

A brief summary of the alternatives considered in this analysis follows:

Alternative 1:

This alternative constitutes the “No Action” alternative, as required by NEPA. This alternative provides the baseline for comparison of the action alternatives. Fuel treatments, timber harvests and other management activities identified in the Mt. Emily II analysis would be deferred..

Alternative 2:

This is the proposed action and preferred alternative as described in the EA and under The Decision above.

Alternative Overview:

Alternative Elements	Alternative 1	Alternative 2
Commercial Thin Treatment Acres	0	331 acres
Fuels Reduction/Cleaning Treatment Acres	0	331 acres
Machine Pile/Burn Acres	0	331 acres
Priority 2 Acres Treated	0	328 acres
Priority 3 Acres Treated	0	3 acres
Units with RHCA treatments	0	13 units
Acres of RHCA treatments	0	21.9 acres
Acres Treated within the Mt. Emily IRA	0	30 acres
Road Reconstruction	0	2.5 miles
Saw/Chip Volume Recovered	0	1243 CCF 625 MBF

Scoping Process

Introduction – The scoping and extensive collaborative work from the original Mt. Emily Fuels Reduction Project (which incorporates the treatments called for in the Mt. Emily II project) was also used for this project and is described below. Scoping specific to the Mt. Emily II project and the lynx amendment is outlined under the Mt. Emily II Scoping Process.

Mt. Emily II Scoping Process

On June 24, 2005, a scoping letter and description of the proposed action for the Mt. Emily II Fuels Reduction Project was mailed to approximately 260 forest users, local landowners, and concerned publics, soliciting comments and concerns relating to this project. Four comment letters were received and reside in appendix D of this EA. This scoping period provided a pre-decisional opportunity for submission of specific written comments on this project, as required to participate in the administrative review (objection) process for HFRA projects (36 CFR Part 218.6(a)). This also allowed the public opportunities to review and comment on the project prior to completion of the analysis and documentation.

Scoping and consultation for the project was initiated and is ongoing with the CTUIR and ODF&W. Consultation with the CTUIR Archaeologist on February 13, 2006 and May 18, 2006.

This project was submitted to The State Historical Preservation Officer (SHPO) for review and has been approved.

The Biological Assessment for Canada lynx was submitted to the USF&W on August 25, 2004, and a Letter of

Concurrence was issued by USF&W on September 10, 2004. An addendum to the Biological Assessment for Canada lynx to adjust acres originally submitted for the original Mt. Emily project was submitted to the USF&W on August 5, 2005 and consultation was re-initiated. A Letter of Concurrence for the addendum was issued on August 25, 2005 concurring with the USFS finding for Canada lynx.

Between October 2003 and August 2005 members of the Mt. Emily Interdisciplinary Team served as a member of the planning committee or in an advisory capacity for the planning and development of the Community Wildfire Protection Plan for Union County (August 2005). This team was made up of a diverse group of collaborative partners including Federal, State, and local fire protection agencies, government officials, private citizens, Tribal members, forest industry representatives, members of the environmental community, and law enforcement officials. The Community Wildfire Protection Plan rates the Mt Emily WUI as the third highest priority (out of 16) for treatment on Federal, State, and private lands.

An analysis file for this project is available for public review at the La Grande Ranger District. The analysis file includes specialist's reports, data specific to the project, public notifications and their responses, meeting notes, and miscellaneous documentation.

On April 19, 2006 the start of the objection period for the Mt. Emily II EA was published in the Baker City Herald Newspaper. The objection period closed on May 19, 2006. One objection was filed on this project.

Previous scoping efforts for the original Mt. Emily Project include the following:

Public scoping for the original Mt Emily Fuels reduction project (signed March 2005) was initiated in the spring, 2002, Wallowa-Whitman Forest Schedule of Proposed Actions (SOPA), and has appeared in each quarterly SOPA since then. This mailing is distributed to over 150 individuals, organizations, and agencies. Five letters of interest were received.

Two public forums were held on February 25 and 26, 2003 to discuss the Mt. Emily project and accept public comments. The forums were conducted in cooperation with the Oregon Department of Forestry with hour long presentations by both agencies, followed by questions and answers. Local landowners and valley residents were encouraged to attend with over 150 notifications mailed and advertisement in the local newspaper. Approximately 25 people attended each meeting. Several verbal and written comments were offered and incorporated into the proposed action letter.

A description of the original Mt. Emily proposed action was mailed on March 21, 2003 (letter dated March 10, 2003) to approximately 280 forest users and concerned publics soliciting comments and concerns related to this project. Seven comment letters were received and reside in Appendix D of the original Mt. Emily Fuels Reduction EA.

On April 25, 2003, an overview of the original Mt. Emily project was presented to the Union County Community Forest Restoration Board. On July 11, 2003 the Forest Restoration Board was given a presentation in the field on the current status and alternatives being developed for the project.

On December 12, 2003, a summary presentation to the Union County Community Forestry Board discussed the projects preferred alternative and fire modeling results.

Several field trips to the Mt. Emily project area were organized to discuss proposed actions on the ground and incorporate feed back. On July 1, 2003 interdisciplinary team members and representatives from Hells Canyon Preservation Council (HCPC) toured portions of the project area. Field trips were organized for Forest Service officials from the Regional office in Portland and the Forest Supervisors office in Baker City, OR.

In April of 2003, an overview of the original Mt. Emily project was presented to the Level 1 Streamlining Consultation Team from the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife (USF&W). More site-specific project information was provided to the Level 1 Team in July of 2003. A draft of the Mt Emily Biological Assessment for Bull Trout, Steelhead and Spring Summer Chinook Salmon (part of the

Upper Grande Ronde Assessment Area Biological Assessment (BA), January 2004) was sent to the regulatory agencies in October 2003. A final BA was submitted in February 2004. A Biological Opinion was issued by NOAA Fisheries on April 20, 2004, and resides in the original Mt, Emily Fuels Reduction analysis file.

On May 14th the original Mt. Emily EA was published as available in The Observer Newspaper for a 30 day public comment period. The comment period closed on June 14th and three letters of comment were received and responded to (reference Appendix D of the original Mt. Emily EA, Public Comments to the Environmental Assessment). The ID Team met on July 19 and September 8th (in the field) with Hells Canyon Preservation Council at their request, to discuss and clarify their comments.

Public meetings were held on May 26-27, 2004 to present the preferred alternative for the original Mt. Emily project, and the effects of implementation analysis in the EA. Approximately 10-12 people attended the meetings.

The summer of 2004, James Connaughton, President' Bush's Chairman of the Council on Environmental Quality along with Federal, State, and local agencies, county officials, tribes and citizen organizatio ns visited the project area to discuss this project and the benefits to communities in the Blue Mountains.

On September 9 and November 23, 2004, the ID Team took the Forest Supervisor and staff to the project area to discuss the original Mt. Emily preferred alternative and public comments.

Reasons for Decision

I have chosen to implement Alternative 2 because it provides the best combination of treatments to respond to the purpose and need for change and the major issues and concerns. I concur with the following key issues that were developed based on resource analysis by interdisciplinary team members. The key issues and specific reasons for this decision are:

Key Issue	Key Indicators	Alt. 1	Alt. 2
Increased Fire Behavior Potential on NF lands within the Mt. Emily WUI	• Crown fire potential (active, passive or surface)	Passive	Surface
Maintain Fire Adapted Ecosystems within the Mt. Emily WUI	• Number of acres treated in condition class three (returned to condition class one)	0	177

Key Issue	Key Indicators	Alt. 1	Alt. 2
Maintaining Mt. Emily Scenic Quality	• Unnatural appearing impacts (disturbance) less than 10% of viewshed (goal is retention in foreground) Yes or No	Yes	Yes
	• Unnatural appearing impacts (disturbance) less than 14% of viewshed (goal is partial retention or retention in middleground) Yes or No	Yes	Yes

1. Increased Fire Behavior Potential on National Forest Lands within the Mt. Emily WUI

The fire occurrence rate for the Mt Emily area is 83% higher than the entire Wallowa-Whitman National Forest with approximately 63% percent of the fires usually occurring in July and August (hottest, driest time of the year). Most of the fires have historically been lightning caused and approximately 45% of the fires that occurred on the Forest occurred on days with multiple fire starts, which often means limited suppression resources or delayed initial attack times.

Approximately 100+ homes are located within the Mt. Emily Wildland Urban Interface (WUI) (as defined by the Healthy Forest Restoration Act for a WUI/Community-at-Risk) and are at risk to possible loss in the event of a wildfire in this area. The Mt. Emily Fuels Reduction project has been developed in a cooperative and coordinated effort with Oregon Department of Forestry, Umatilla National Forest, Rural Fire Protection Departments, Union County Community Forestry Board, interest groups, and adjacent private and industrial landowners in an effort to protect the Mt Emily community. It is part of the Union County Community Wildfire Protection Plan. Joint effort objectives include: 1) managing vegetation and fuels to modify potential fire behavior and create survivable and defensible space on federal, state, and private lands surrounding the community; and, 2) promoting "FIREWISE" communities through prevention and education measures.

Several land owners in the inter-face area are involved in fuel reduction and "FIREWISE" projects on their property and around their homes in an effort to pro-actively reduce fire hazard and improve defensible space within the community.

Alternative 1 is the no action alternative and would not treat any fuels mechanically or through the use of prescribed fire within the Mt. Emily II project area. Crown fire potential would be passive and/or active in all Modeling Groups under modeled conditions (ninety seventh percentile environmental conditions). Flame lengths range from 4-49 feet and would leave the homes and properties in the WUI at higher risk to possible loss in the event of a wildfire. Leaving the stands along this portion of the ridge untreated would break the continuity of the fuel reduction corridor planned for this ridgetop road. This would leave several miles vulnerable to a fire coming out of the Roadless area to the west or up the face of Mt. Emily to the east hindering suppression tactics and increasing the potential for the wildfire to breach this area and burn across the road threatening houses, firefighter safety, and natural resources.

Alternative 2 will modify fuels and potential fire behavior in order to protect private lands and property from fires originating on public lands, and also to protect public lands from fires originating on private lands. It focuses on treatments to modify fire behavior potential and has been designed to allow for future re-introduction of fire in fire-adapted ecosystems.

Flame lengths in Alternative 2 will be reduced to 1-7 feet on treated acres which will increase a hand crews' opportunity to fight fires directly when flame lengths do not exceed 4 feet, as opposed to Alternative 1 where

the flame lengths will exceed direct attack by both hand crews and mechanical equipment. Engines and dozers (where roads and terrain allow) can directly fight fires with 4-8 foot flame lengths. Having the opportunity to fight fires directly in Alternative 2 decreases the potential fire size, the risk to public and firefighter safety, and private property (including homes).

Treatment in the Priority two areas will modify potential fire behavior and intensity, maintain access, and increase suppression options in the event of a wildfire along strategic ridgetop systems. These fuel reduction corridor areas are considered anchor points for suppression tactics should a wildfire occur. Alternative 2 will treat approximately 331 acres and create a ¼ mile wide corridor along forest roads 3120 (from the southern forest boundary to it's junction with 3120500) and 3120500 in conjunction with logical topographical or vegetative breaks.

In Priority area three, treatment will increase suppression options in the event of a wildfire through treatments, which will modify fire behavior and intensity. These areas are considered alternative anchor points to the 3120 and 3120500 roads.

Wildfire Risk Rationale Summary – Alternative 2 reduces fuel loadings and crown fire potential by thinning from below followed by surface fuel treatments. These treatments effectively alter potential fire behavior by reducing crown bulk density, increasing crown base height, and changing species composition to lighter crowned and fire-adapted species (Graham, etal, PNW-GTR-463). These treatments provide a window of opportunity for effective fire suppression and protecting high-value areas (Pollet and Omi 2002).

Alternative 2 prescriptions target the lowest layer of trees needed to reduce ladder and crown fuels, leaving a mix of both fire dependent and non-dependent trees that are less susceptible to insects, diseases, and fire in both priority areas. This alternative reduces crown fire potential to surface in all Modeling Groups. Flame lengths are reduced to 2-7 feet in all Modeling Groups. The design of Alternative 2 also reduces overstocked stand conditions will also reduce the risk of insect and disease mortality over the next 10 to 20 years (future fuel loadings). It also provides added habitat protection for key resources in the area, providing an equitable balance of resources that are adjacent to the WUI.

Alternative 2 is an integral part of a collaborative effort to manage vegetation on private, state, and public lands adjacent to urban development to reduce fire hazard and improve defensible space. It provides for the best blend of risk reduction in conjunction with recognizing the biological needs of other natural resources such as old growth dependant species, fisheries, scenery, etc. in the Mt Emily area.

2. Maintain Fire Adapted Ecosystems within the Mt. Emily WUI

The analysis area lies within the Grande Ronde River/Hilgard Watershed which is ranked at high risk in terms of departure from historical fire return intervals. Alternative 1 does not meet the purpose and need of the project for restoring fire adapted ecosystems within a range of historic conditions. Fire exclusion would continue to extend the fire return interval, increase fuel loadings, change vegetation profiles, and increase the gap between historical conditions and current conditions. True fir establishment would continue in the absence of low intensity "thinning fires". Heavy concentrations of dead standing and down trees and multi-layered structure and tree densities continue to be at risk to intense, stand replacing fire events, which could result in the loss of late and old structure, wildlife habitat cover, and consumption of large woody material and structure in riparian areas. Maintaining soil productivity over the long term generally requires presence of soil organic material and fire effects characteristic of the natural fire regime. Movement towards historical conditions in disturbance patterns across the landscape would be delayed under alternative 1 for approximately 20 to 30 years, or until a stand replacement event occurs.

Alternative 2 meets the purpose and need of the project by moving fire regimes three and four towards more historic conditions on 7% of the acres that are outside historic conditions (stands in fire regimes three and four, in condition class 3 would be moved to condition class 1). Manipulating fuels through mechanical and hand treatments would help move existing vegetative conditions in terms of vegetation composition, structural stages, and disturbance patterns, towards more historical conditions. These treatments are expected to last for 10 to 20 years with light maintenance level treatments in 10 to 15 years. This will reduce the risk of

intense wildfire behavior to LOS, long-term wildlife habitat, and riparian structure, and areas managed for old growth habitat. Preservation of existing LOS is enhanced while promoting long-term LOS, wildlife diversity, and riparian function across the landscape towards more historical conditions.

3. Maintain Mt. Emily Scenic Quality

Mt. Emily is a highly valued visual feature on the landscape to the people living in and visiting the Grande Ronde Valley. On the face of Mt. Emily, the existing stand conditions threaten the sustainability of the scenic resources. In areas where no management has occurred, many of the stands are overstocked and full of dead and down material. Past timber harvest along the upper ridges of the project area have created unnatural appearing openings that detract from the scenery. Alternative 2 will improve the latter condition and have no negative cumulative effects to scenery resources.

The Visual Quality Objectives for this area are not being met in all areas under Alternative 1, the no action alternative, and the scenic integrity and ecological integrity are lower in some areas than they should be for this area. The no action alternative would allow the conditions and trends that currently exist to continue to pose a risk of losing positive attributes of the landscape character, but would not cause cumulative effects to the scenery resource.

Under Alternative 2, the scenic integrity will remain high on the face of Mt. Emily. The scenic sustainability in the upper ridges of the project area will remain the same. The unhealthy conditions that exist along the ridge east of Fiddlers Hell Creek will not be treated and will continue to keep the scenic integrity low to very low on the ridges. The actions proposed under Alternative 2 will affect the condition and trends that pose risks to the positive attributes of the landscape character. These effects to the condition and trends are minimal, but positive in nature. Alternative 2 treatments also provide the potential for arresting a fire before a large stand replacing event occurs, improving the potential for maintaining scenic sustainability.

Efforts occurring on private lands along the east boundary, and project efforts being proposed by the Umatilla National Forest in addition to this project would not create negative effects that would degrade the scenic resources. The type of treatments proposed in these areas in addition to those on public lands would improve scenic integrity as described in the Valued Landscape Character description. The cumulative efforts would increase defensibility in the event of fire thus improving scenic sustainability in an artificial manner.

Summary - The actions proposed in Alternative 2 are designed to alter the existing conditions in a manner that increases the defensibility of the private properties adjacent to the Forest boundary. The actions proposed are designed in a manner that will not create unnatural or uncharacteristic impacts from a middleground or background view. The impacts visible from a foreground view will include the following: stumps less than 6" in height, some areas of soil disturbance, and evidence of tree removal. The impacts to foreground views will not be concentrated enough to degrade scenic resources.

Other Issues:

I further considered the environmental consequences disclosed in the EA for other issues. In review of these consequences, I conclude that Alternative 2 best meets the purpose and need by mitigating impacts to soils and site productivity, water quality and fisheries, threatened and endangered species, cultural resources, noxious weeds, other wildlife, old growth, inventoried roadless areas, recreation, treaty rights, and public safety while meeting Forest Plan direction. In those areas where new science is in conflict with current Forest Plan direction, the Forest Plan has been amended for this project area to integrate the purpose and need of the project, meet the legal requirements of NFMA, and protect resources within the project area.

Roadless area management current direction for management is found in Interim Directive 1920–2006-1 which defaults to Forest Plan direction with the exception of certain decisions which were reserved to both the Chief and Regional Forester. The Regional Forester has concurred with the Forest's determination that "the authority and responsibility to approve process steps and sign decision documents related to the Mt. Emily II project remains with the Forest Supervisor of the Wallowa-Whitman National Forest."

In general, the portion of the roadless area affected by this project is very small and due to its location relative to the remainder of the Roadless area and the high level of motorized use the adjacent Indian Rock area receives, the opportunities for experiencing roadless values are very restricted. Motorized recreation in all forms is very prevalent in this area. Project design protects high quality or undisturbed soil, water and air, maintains the diversity of plant and animal communities, provides habitat for PETS species and ensures retention of reference landscapes and high scenic quality. The only special features of this area are the scenic views into the remainder of the Roadless area when you get out to the far edges of the flat ridgetop and can look off into the steep Mt. Emily Creek and Five Points drainages. There may be short term effects to some of these roadless characteristics, but over all they are minimal and the unroaded nature of the area will be maintained under Alternative 2. Alternative 2 meets the Interim Directive.

Alternative 2 meets the standards identified in the Lynx Conservation Assessment and Strategy and provides contiguous lynx habitat adjacent to the Mt. Emily roadless area with a large block of connective habitat within the project area to the adjacent lynx habitat in the Mt Emily IRA . The Forest Plan will be amended by adopting recommended standards and guides from the LCAS which are appropriate for this project area in order to mechanically treat and burn within lynx habitat. The direct and indirect effects of this site-specific Forest Plan amendment will provide greater protection for lynx and lynx habitat than currently provided in the Plan. This site-specific amendment to include applicable standards and guidelines for Alternative 2 provides a specific design for protecting and developing lynx habitat that is not currently in the Forest Plan.

Public concerns were expressed about the potential for increased motorized use along Forest Road 3120500 as a result of the vegetative treatments. Of particular concern is the potential for increased snowmobile use and resultant effects within lynx habitat. To address this concern the District Ranger will monitor both summer and winter motorized use within this area to determine if there is any expansion of use or areas of use. Management strategies can be developed if it is determined there are unacceptable impacts. These management strategies could include restrictive measures that may require additional NEPA analysis prior to implementation.

In summary, I have selected Alternative 2 for the following reasons:

- Alternative 2 establishes effective contiguous fuel treatment areas in Priority areas two and three in the Mt. Emily WUI which will provide fire management officials with safer options for suppression activities, to keep fires from escaping to or from private and public lands.

- Alternative 2 partners with the collaborative efforts on adjacent private and public lands within the WUI, and substantially contributes to increasing the effectiveness of the work being done on all lands throughout the WUI to protect homes, property, and resources.

- Alternative 2 treats areas classified as having a high risk of potential loss in the event of a wildfire by lowering fuel loadings and reducing the potential for severe fire intensity and subsequent mortality. Alternative 2 is designed to complete the restoration work needed within the next 2-5 years and then retain its effectiveness for the next 10-20 years.

- Alternative 2 provides opportunities to maintain fire adapted ecosystems which are outside of their historic range having missed several fire return intervals.

- Alternative 2 ensures no net loss of old growth, valuable wildlife habitat attributes, and offers protection measures for old growth attributes in the future.

- Alternative 2 conserves lynx habitat in the long term through the adoption and use of the lynx conservation strategy standards and guidelines for the project area.

- Alternative 2 protects soils and water through project design and use of appropriate mitigation measures.

From the results of site-specific analysis documented in the EA I conclude that:

1. The silvicultural harvest methods will meet the objectives and requirements of the Land and Resource Management Plan for the Wallowa-Whitman National Forest.

2. No timber will be sold from lands not suited for timber production - 36 CFR 219.27 (c). Management prescriptions proposed for the harvesting of timber within appropriate management areas, as amended in this decision comply with requirements found at 36 CFR 219.27 (b) for manipulating tree cover.

3. All manipulation of vegetation in this project will comply with the seven requirements of 36 CFR 219.27(b) and meet the constraints and conditions of the Wallowa-Whitman Integrated Weed Management Plan.

4. This action is consistent with the Wallowa-Whitman National Forest Land and Resource Management Plan, as amended, with the exception of the areas being amended to reflect treatment in lynx habitat. A non-significant amendment of the Forest Plan is part of this decision to reflect these treatments.

Finding of Non-Significance for Forest Plan Amendment

Alternative 2 of the Mt Emily II Fuels Reduction Project amends the Forest Plan as described on pages 4-6 of this Decision Notice. In determining the significance or non-significance of this amendment, I considered the following factors:

Timing: The amendment will begin implementation in 2006 which is 16 years after the signing of the ROD for the Forest Plan (April 1990). In general, the Forest Plans should be updated every 10-15 years. The Wallowa-Whitman Forest Plan has just begun its revision cycle (in year 14). Since 2000, emphasis on protection of Wildland Urban Interface (WUI) areas has been growing in national importance and emphasis. Forest Plans did not address this issue in 1990 and this has been recognized as an area that will be addressed in the upcoming Forest Plan revision. In order to provide for private and public land protection within the Mt. Emily WUI and function as an integral part of the collaborative efforts currently being implemented in the area to manage vegetation on private, state, and public lands, the Mt. Emily project needs to occur now in conjunction with these efforts to reduce fire hazard and improve defensible space adjacent to urban development.

Location and Size: Alternative 2 will treat 331 acres of lynx habitat. The Mt. Emily project area is approximately 7,295 acres in size of which there are approximately 2,000 acres of lynx habitat. The total administrative area of the Wallowa-Whitman National Forest is 2.3 million acres. Therefore, the affected area comprises less than 0.00001 of the administrative area of the Forest.

Goals, Objectives, and Outputs: The amendment does not alter relationships between goods and services projected by the Forest Plan. Lynx habitat is protected under the adoption of the site-specfic recommended standards and guidelines from the Lynx Conservation Strategy; however, lynx habitat is above the minimum levels called for in the LCAS which allows for treatment such as those being prescribed in this project. In general, due to the small nature of the materials and the type of prescriptions being used, the materials being removed to treat fuels within these areas produce a minuscule increase in outputs over the totals projected by the Forest Plan. However, in comparison to the totals, the increase is imperceptible.

Management Prescription: The amendment does not change the allocation of any of the lands within the Mt. Emily project area, it merely permits treatment within these 331 acres to meet the fuels reduction purpose and need for the life of the project. Lynx habitat within the project area will be protected and meet the intent of the lynx conservation strategy for lynx. The scale of the change of each of these sections is imperceptible when compared to the total goods and services estimated for the Forest Plan.

I find that the action of fuels reduction activities within lynx habitat in the Mt. Emily II project area is not a

significant departure from the National Forest Management Act (NFMA) planning requirements or the Forest Plan with respect to (1) timing; (2) location and size; (3) goals, objectives, and outputs; and (4) management prescription. I further find that the action is non-significant with respect to the implementation regulations of the NFMA Title 36, Part 219.10 (e) and (f); the Forest Service Manual at Chapter 1922.51 and 1922.52; and the Forest Service Handbook 1909.12 at Chapter 5.32. Therefore, I find that the action constitutes a non-significant amendment to the Forest Plan.

Finding of No Significant Impact (FONSI)

The selected alternative, with the specified management requirements, constraints, and mitigation measures, provides the best combination of physical, biological, social, and economic benefits.

Based on the site-specific environmental analysis documented in the Environmental Analysis, I have found that this is not a major Federal action, individually or cumulatively, and will not significantly affect the quality of the human environment. Therefore, an environmental impact statement is not needed. This finding is based on the following factors:

1. Public health and safety will only be minimally affected over a short term by the proposed project. Short-term safety hazards such as log truck traffic and falling trees near roads will be mitigated through contract safety provisions (EA, p.101, 104). Both the short and long term fire-fighter and public safety relative to reducing potential for high intensity fast moving crown fires would be improved (EA, pp. 50-55).

2. This project proposal does not affect any unique geographical characteristics such as parklands, prime farmlands, wild and scenic rivers, or ecologically critical areas (EA, p.104-105).

3. Based on public participation, the effects on the quality of the human environment are not likely to be highly controversial. During the scoping public meetings for the original Mt. Emily project, the public attending these meetings generally indicated that they were in favor of the actions proposed in this project or suggested that the Forest Service should consider doing more to reduce fuels in the project area. Of the four letters received in response to the Mt. Emily II Proposed Action, two were in favor (of which one indicated we should be treating more acres for fuels reduction, we should include larger trees and thin to higher levels, we should include more utilization through logging as a tool as opposed to piling and burning, and we should avoid more delays). All four were in favor of fuels reduction, but not in favor of doing it with logging as a tool. Two were concerned about the collaboration process described in HFRA, and also requested that the forest implement a forest-wide approach to lynx habitat, as opposed to project specific amendment (this was determined to be outside the scope of this project). There were concerns expressed that we disclose effects to soils, connectivity and snag levels from logging activities. These have all been addressed in the EA (pp. 73-77, 77-83).

   Given the very low level of public response and the generally supportive nature of their participation in public meetings, this project does not appear to be of a controversial nature. (EA, Appendix C)

4. There are no known effects on the human environment that are highly uncertain or involve unique or unknown risks associated with this project. Tree felling and removal, burning, and temporary road construction are common practices and the effects are well known. The EA effectively addresses and analyzes issues and environmental impacts associated with the project (EA, Chapter 3).

5. These actions pose no disproportionately high or adverse human health or environmental effects, including social and economic effects, on minority or low-income populations. This project has shared in the federal government's overall trust responsibility to Indian tribes where treaty or other legally defined rights apply to National Forest System lands. Consultation has incorporated opportunities for tribal comments and contributions to the proposed action. Comments that were received during meetings were incorporated into the design of the project and through mitigations and monitoring. (DN, pages 8-10, and EA pages 18, 30-31, 38-48, 106)

6. These actions do not set a precedent for other projects that may be implemented to meet the goals and objectives of the Wallowa-Whitman National Forest Land and Resource Management Plan. The Forest Plan, as amended has set a goal of managing vegetation in a manner consistent with res ource objectives. Alternative 2 is consistent with management direction for these objectives with the exception of the areas being amended to ref lect treatment in lynx habitat (refer to description in Alternative 2 above). A non-significant amendment of the Forest Plan for the Mt. Emily area only is part of this decision to reflect these treatments and does not set precedent for o ther projects or other project areas. (EA, Chapter 3 and DN page 4-6, 14-16)

7. There are no known significant adverse, cumulative, or secondary effects between this project and other projects (completed, active, or planned) adjacent to the affected area. Effects to the basic resource values of soil, water, vegetation, air, or fish and wildlife were estimated and determined to be localized and limited (EA, chapter 3). This determination is based on the results of cumulative effects analyses discussed in the EA that considered past, existing, and proposed activities.

8. Based on a cultural resource inventory and report mitigation and protection measures, there are no know n cultural, scientific, or historical resource affected by the project. Field studies hav e been completed for cultural and historic resources (Heritage Report, analysis file). Prior to project activities units 262, 264, 265, 267, 268 and 271 will be surveyed again to determine if weather or animal activity over the winter has exposed any new sites. A certified heritage technician will be on site for the reconstruction of 3210500 road to study areas where soils will be disturbed outside of the roadbed in case new sites are found. The timber sale contract will contain a contract clause requiring protection of any newly detected sites.

9. A biological evaluation for wildlife PETS species indicates that this project received a “no effect" determination for the “threatened” northern bald eagle and “endangered” Gray Wolf. A “no effect” determination was also made for “sensitive” Peregrine Falcon. This project may impact individual spotted bats and California wolverine or their habitat but will not likely contribute to a trend toward Federal listing or cause a loss of viability to the population.

   The biological assessment for Canada lynx determined that the implementation of the project is not likely to adversely affect Canada lynx. USF&WS concurred with this d etermination (Letter of Concurrence 9/10/04, Mt. Emily Analysis File). An addendum to the Biological Assessment for Canada lynx to adjust acres originally submitted for the original Mt. Emily project was submitted to the USF&W on August 5, 2005 and consultation was re-initiated. A Letter of Concurrence for the addendum was issued on August 25, 2005 concurring with the USFS finding for Canada lynx.

   The biological evaluation for “sensitive” redband trout revealed that this project may effect but is not likely to adversely affect this species due to the design of this project, and the measures incorporated into it for maintaining or improving water quality.

   The biological assessment for the “threatened” spring-summer Chinook salmon, summer steelhead indicates that this project may effect, but is not likely to adversely affect these species. (Mt Emily Analysis file). NMFS concurred with this determination (Biological Opinion 4/20/2004, Mt. Emily Analysis File).

   The biological assessment for the “threatened” bull trout and its potentially critical habitat indicates that this project may effec t, but is not likely to adversely affect these species and USFWS concurred with this determination (Biological Opinion 9/10/04, Mt. Emily Analysis File).

   A no effect determination was made by the District Botanist for all PETS species and their habitat located within the project area. Only one Sensitive species was documented to occur within the project area and there will be no impact from projects activities on this or any sensitive plant species. A biological evaluation for plant Proposed, Endangere d, Threatened, or Sensitive (PETS) plant species within the project area is located in the Mt. Emily Analysis File.

10. The actions described for this project in the EA do not threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

11. Wetlands and floodplains near the planned actions are not affected. Wetlands and floodplains associated with streams and springs will be protected using mitigation measures and design criteria listed on pages 38-41, 105 of the EA.

12. There are no known significant irreversible resource commitments or irretrievable loss of resources beyond the scope of the Forest Plan (EA p. 105).

Predecisional Administrative Project Review

As provided by HFRA and the Predecisional Administrative Review process under 36 CFR 218 for authorized Fuel Reduction Projects, legal notice of the objection process was published in the Baker City Herald on April 19, 2006. The 30-day objection period ended on May 19, 2006. One objection was received and the Deputy Regional Forester issued a Response to the objections on June 15, 2006, as required under 36 CFR 218.10(b)(1) and affirmed the Mt. Emily II project as planned. As directed under 36 CFR 218.10(b)(2), there shall be no further review from any other Forest Service or USDA official of the Reviewing Officer's written response and the Responsible Official may now issue this Decision Notice 35 CFR 218.11(a).

Implementation

This project may be implemented immediately upon publication of this Decision in the Baker City Herald (36 CFR 215.9 (c)(1)).

For further information, contact Cindy Whitlock, Project Analyst, at the La Grande District, 3502 Highway 30, La Grande, Oregon 97850, or telephone (541) 962-8501.

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STEVEN A. ELLIS Date
Forest Supervisor
Wallowa-Whitman National Forest

Mt. Emily II Fuels Reduction

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APPENDICES:

Post-Objection Period Changes to EA:

Page 1 – Introduction – Clarification on the use of the Original Mt. Emily Fuels Reduction Project Analysis File for analysis related to this project.
Page 3 – Incorporated specifics from the Union County Community Wildfire Protection Plan into the Introduction.
Page 5 – Removed 3120500 road reconstruction description as this was covered previously under the Original Mt. Emily Fuels Reduction Decision (2005) and added size classes of material to be removed during fuel reduction activities.
Page 8 – Management Direction – Incorporation by reference of the Original Mt. Emily Fuels Reduction Project EA and Analysis File into this EA.
Page 8 – Key Issues – Clarified coverage of issues raised during scoping.
Page 30 – Added an Introduction to the Summary of Scoping Process, clarified the number of scoping letters mailed for Mt. Emily II, and added a description of the Community Wildfire Protection Plan of Union County to the list of Scoping activities.
Page 30 – Added dates of consultation with CTUIR and corrected typo on Canada Lynx BO to Letter of Concurrence (LOC). Added Lynx BA Addendum dates.
Page 32 – Clarified the range of alternatives considered in the Mt. Emily II project.
Page 33 – Provided tree diameters to be removed during fuel reduction activities.
Page 35 – Removed description of road 3120500 reconstruction covered under the Original Mt. Emily Fuels Reduction Decision (2005).
Page 53 – Added clarification/discussion on direct and indirect effects of Alternative 2 on Fire Behavior.
Page 67 – Added clarification that there are no 303(d) listed streams in the project area.
Page 70 – Added explanation for no effect to 303(d) listed streams outside of the project area.
Page 106 and 107 – Consultation for Mt. Emily II was clarified and added dates of consultation with CTUIR and Lynx BA Addendum completion.

Mt. Emily II Fuels Reduction
ENVIRONMENTAL ASSESSMENT

La Grande Ranger District
Wallowa-Whitman National Forest

Chapter I - Purpose of and Need for Action

A. Introduction

The purpose of this Environmental Assessment (EA) is to evaluate the environme ntal impacts of proposed activities designed to reduce fuels and associated fire behavior in stands of timber within and adjacent to the wildland urban interface on Mt. Emily.

This project was originally part of the Mt. Emily Fuels Reduction project, the planning for which was completed in December 2004. In January 2005, that project was appealed. The original project contained a Forest Plan amendment to the Wallowa-Whitman Forest Plan (WWFP) for fuels reduction activities in Late Old Structure, allocate d old growth, and lynx habitat. Prior to the review of the appeal for that project, procedural direction was received that indicated the District needed to list in the Environmental Assessment the recommended standards and guidelines from the Lynx Conser vation and Assessment Strategy (LCAS) that were applicable to the project, to incorporate into the WWFP as a site-specific amendment to the Forest Plan.

In a letter dated February 25, 2005, Forest Supervisor Steve Ellis made the decision to remove the tre atment of 24 units (348 acres), which are in mapped lynx habitat, from the original Mt. Emily Fuels Reduction Project Decision Notice. The lynx habitat portion of the forest plan amendment for the project was also deferred. The 24 units would be re-analyzed in a new environmental assessment (This Mt. Emily II Fuels Reduction Project) which would display in full the appropriate LCAS recommended standards and guidelines specific to this project, and adopted into the Forest Plan through the Forest Plan amend ment process. The remainder of the original project proceeded successfully through the appeal review process, and the Forest Supervisor's decision was affirmed by the Appeal Deciding Officer on March 17, 2005.

The analysis for this project was completed under the Original Mt. Emily Fuels Reduction Project (located in the Original Mt. Emily Fuels Reduction Project Analysis File) which was incorporated into Chapter 3 for the Mt. Emily II project to display the effects related to implementation of the action s proposed of this project. No new analysis was completed for the Mt. Emily II project.

This project is being planned under the Healthy Forests Restoration Act (HFRA), as described below.

Healthy Forests Restoration Act of 2003 (HFRA)

On December 3, 2003, President Bush sighed into law the Healthy Forests Restoration Act of 2003 (HFRA). The act directs that a special predecisional administrative review process for projects authorized by HFRA takes place before the decision is made. This process encour ages early public participation and collaboration in project planning. In June 2005, a scoping letter and description of the proposed action for the Mt. Emily II Fuels Reduction Project was mailed to interested parties. This scoping period provided a pre-decisional opportunity for submission of specific written comments on this project, as required to participate in the administrative review (objection) process (36 CFR Part 218.6(a)). This also allowed the public opportunities to review and comment on the project prior to completion of the analysis and documentation.

The Mt. Emily II Fuels Reduction Project qualifies as an authorized hazardous fuels reduction project under HFRA because it is consistent with the collaborative approach Implementation Plan (May 2003), has an

objective to protect communities, watersheds, threatened and endangered species, and natural resources by treating hazardous fuels, and is within or adjacent to an at-risk community covered by a Community Wildfire Protection Plan (Title I, Section 102-Authorized Hazardous Fuel Reduction Projects, Part (a)(1)). This project will be completed under this authority and will follow the processes outlined in the Act (P.L. 108-148). This act authorizes expedited vegetation management projects.

National Fire Plan, 10-year Comprehensive Strategy, and Healthy Forest Initiative

In April 1999, the General Accounting Office (GAO) published a report entitled, "Western National Forests: A Cohesive Strategy is needed to Address Catastrophic Wildfire Threats" (GAO/RCED-99-65). In this report, the GAO asserts, "The most extensive and serious problem related to the health of national forests in the Interior West is the over-accumulation of vegetation." In August 2000, the President directed the Secretaries of Agriculture and the Interior to develop a report of recommendations to respond to severe ongoing fire activity, reduce fire impacts on rural communities and the environment, and ensure effective firefighting capacity in the future. This report assigned highest priority for hazardous fuels reduction to communities at risk, readily accessible municipal watersheds, threatened and endangered species habitat, and other important local features, where conditions favor uncharacteristically intense fires. It resulted in what is known as the National Fire Plan, which Congress later supported through appropriations language in 2001. The National Fire Plan laid the foundation for a long-term program of work to reduce fire risk and restore healthy fire-adapted ecosystems.

What followed was a 10-year comprehensive strategy plan developed to implement the National Fire Plan through reducing the risk of wildland fire to communities and the environment. The goals and guiding principles of the strategy include:

Goals:

1) Improve fire prevention and suppression
2) Reduce hazardous fuels
3) Restore fire-adapted ecosystems
4) Promote community assistance

Guiding principles:

1) Priority setting that emphasizes the protection of communities and other high-priority watersheds at risk
2) Collaboration among governments and broadly representative stakeholders
3) Accountability through performance measures and monitoring for results

The National Fire Plan process identified the rural community adjacent to Mt. Emily as "high risk" and a high priority for treatment due to the intermingling of homes and vegetation, potential fire behavior and existing fire protection capabilities. The Mt. Emily II Fuels Reduction Project focuses on the first three goals and all three guiding principles, by reducing hazardous fuels within the project area through a combination of timber removal and fuel reduction projects. The goals are to modify potential fire behavior, thereby improving firefighting opportunities to directly and indirectly attack wildfires from strategic locations, and improving firefighter and public safety. It proposes to manage vegetation and fuels in strategic locations to protect private lands from fires originating on public lands, and vice-versa. It creates survivable and defensible spaces from which to fight fires on federal lands. It also promotes "FIREWISE" communities through prevention and education measures, and compliments fuel reduction activities on private lands.

The original Mt. Emily Fuels Reduction Project (signed March 2005) and this follow-up project known as Mt. Emily II Fuels Reduction Project were developed under the core goals and guiding principles in the 10 year comprehensive strategy, as listed above. The La Grande District is coordinating with Oregon Department of Forestry, Umatilla National Forest, Rural Fire Protection Departments, Union County Community Forest Restoration Board, interest groups, and adjacent private and industrial landowners to collaborate efforts toward protecting the community.

This project is within the Mt. Emily Wildland Urban Interface (WUI) Area, as identified and described in the collaborative Union County Community Wildfire Protection Plan (August, 2005). The Mt. Emily WUI is rated as having the third highest risk for loss in the event of a wildfire within Union County, however it ranks as second highest in Wildfire Hazard (fire occurrence combined with vegetation and topography), overall fire protection combined with structural vulnerability, and is tied for first related to the values at risk within the area and the opportunities for fuel reduction partnerships and projects such as those described in this EA. The plan is available for review at http://www.odf.state.or.us/areas/eastern/northeast/uccwppsections.htm. The intent of the plan is to reduce the potential for wildfires that threaten people, structures, infrastructure and values in Union County.

B. Purpose and Need

The purpose of this project is to respond to fire risks in the areas deferred from the original Mt. Emily Fuels Reduction project within mapped lynx habitat, by modifying fuels and potential fire behavior on public lands. The need for the project is due to urban development adjacent to public lands (protection of life and property), and hazardous fuels build-up (reduce fuels).

Surface fuel loadings, ladder fuels, and canopy bulk density have all increased within the project area. Past management actions (limited vegetation management and aggressive wildfire suppression) combined with an active insect infestation in the subalpine fir stands (balsam woolly adelgid) have changed vegetative conditions within the project area and influenced existing fuel conditions. Fuel build-up is accumulating in the form of dead and down trees, small diameter trees growing into the overstory, and dense crown conditions. The transition from a surface fire to a crown fire is dependent on all of these factors, and contributes to the potential for more severe fire behavior to occur. High intensity crown fires are more difficult to contain and control, and present hazards to firefighters and the public. They can also cause significant resource damage, including the loss of wildlife habitat and impacts to soils and air quality, as compared to lower intensity surface fires.

The fire occurrence rate for the Mt. Emily area is high compared to the rest of the forest (83% higher). The majority of the fires occur in July and August (the hottest and driest time of the year), and are caused by lightning (ignition cause not preventable). Almost half occur on days with multiple fire starts, where the potential exists for limited suppression resources or delayed initial attack times. These risks, combined with the existing fuel conditions, increase the potential for more large fires to occur in this area.

To address these needs, fuel reduction work under the original Mt. Emily project (signed March 2005) began in the summer of 2005. The Mt. Emily II Fuels Reduction Project is needed to compliment those projects by providing for a strategically located area of reduced fuels in the event of wildfire from the east or west. This combination of treated stands, natural openings and roads, and treated fuel corridors would give firefighters critical locations from which to safely fight fire.

Purpose and Need to Modify Potential Fire Behavior

The purpose of the project is to modify fire behavior potential on public lands to improve firefighting opportunities to direct and indirect attack wildfire, and improve firefighter and public safety. The need for the project is due to urban development adjacent to public lands (protection of life and property), hazardous fuels build-up (active management to reduce fuels), and firefighter safety.

Surface fuel loadings in the Mt. Emily Project are high due to the amount of fallen trees from mortality cause from insects and diseases. This is partly due to the change in plant community; growing conditions support higher tree densities than pine/fir types on the lower slopes of Mt. Emily.

Ladder fuels are intermediate shrubs, bushes, and trees that bridge the vegetation gap between surface fuels and tree crowns; thus the term ladder fuels. The presence of ladder fuels is another measure to help

determine a surface fire's potential to spread into crowns. Crown fires can be more difficult to control. Canopy base height is the average height of the base of the tree crowns from the surface and would be used as a tool to measure ladder fuels. Flame length (related to surface fuels) and canopy base height can be used to estimate whether fire can travel into the crowns.

Canopy bulk density has increased in the project area. Canopy bulk density is key for determining if a fire reaching into the canopy has sufficient fuel to support a crown fire. Neither crown nor canopy bulk density can be directly measured. Instead they are mathematically estimated based on individual tree characteristics such as tree height and crown ratio. Overstocked conditions can be an indication of high canopy bulk density.

Surface fuel loading, canopy base height, and canopy bulk density contribute to fire behavior. The transition to a crown fire is dependent on surface fire intensity and flame lengths and canopy base height (see definition below for canopy base height).

There is a need to actively manage crown densities, ladder fuels, and surface fuels to provide a strategic and safe area for fire suppression activities. The Priority areas two and three (refer to priority area descriptions under Proposed Action) fuel reduction work begun in the original Mt Emily project and added to in this one, provide for a strategically located area of reduced fuel in the event a wildfire should come from the west or east. The combination of treated stands, natural openings, and roads would give firefighters a critical location from which to safely fight fire.

Thinning would alter stand canopy characteristics. Canopy bulk density would be reduced, providing separation between tree crowns. Thinning would remove ladder fuels that could carry ground fire into the crowns of trees. Without treatment, ladder fuels would increase, providing fuel for ground fires to reach crowns and the opportunity to use the ridge for safe firefighting activities could be lost.

There is a need to manage surface fuels to acceptable and safe levels. At managed levels, surface fuels would contribute to fewer crown fires and would allow a foothold for suppression activities. Mechanical removal or hand pile and burning would reduce surface fuels to manageable and safe levels. Reduced fuel loading combined with the reduction of ladder and crown fuels, would reduce flame heights as well as spotting and crown fire potential.

There is a need to provide defensible space for fire-fighting crews to safely approach a wildfire. Modifying fire behavior would provide fire suppression resources an opportunity to direct and indirect attack a wildfire. Often, a reduction of surface and ladder fuels combined with ridgetop locations, or near ridgetop roads, provide an area that can alter fire behavior of an oncoming wildfire and provide a strategic location to safely anchor suppression activities. Mechanical removal and/or burning to reduce fuel loadings would provide options to fire suppression managers during wildfire operations.

Without mechanical removal or burning of fuels, flame heights would be higher with increased probability of ground fires moving into crowns. Without mechanical removal or burning of fuels there would be fewer firefighting options for safely attacking a wildfire.

C. Proposed Action

The original Mt. Emily Fuels Reduction Project (signed March 2005) divided the area into 3 priority treatment areas based on the adjacent resources and ownerships they would provide protection for. Priority one included the face of Mt. Emily bordering private lands and the Mt. Emily Electronic site (electronic towers, buildings, and microwave dishes). Priority two was a ¼ mile corridor adjacent to forest roads 3120 (portion of) and 3120500 to provide access and fuel breaks for fire suppression activities. The 3120500 road is along a logical ridgetop for suppression operations in the event of a wildfire. Priority three included two ridge systems west of forest road 3120. These ridges are logical locations for fire suppression and are accessed by forest roads 3120600 and 3120450.

The original Mt. Emily Fuels Reduction Project retained treatments within the priority one and priority three areas as identified above. This proposed project, the Mt. Emily II Fuels Reduction Project, includes 22 units (331 acres) of the 24 units previously deferred within lynx habitat, which were withdrawn from the original project. (2 units were dropped from further analysis due to mapping errors or resource concerns - units 309 and 207). All 22 remaining units are located within priority two, except 1 unit (317), which is in priority area three. Units include: 150, 235, 237, 238, 239,240, 241, 242, 243, 244, 245, 246, 248, 252, 262, 264, 265, 267, 268, 271, and 317 (see map in Appendix A). No specified or temporary road construction is required for treatment of these units. Treatments would be accomplished through both stewardship and service contracts, in conjunction with the original Mt. Emily Fuels Reduction Project.

In both Priority Areas below, mechanical removal for fuels reduction work will focus on live trees between 4 to 20 inches dbh (with the majority of the material to be removed in the 10" dbh size class) and 5 to 24 inches dbh (average diameter removed approximately 10" dbh) of dead material.

Priority Area Two: Approximately 276 acres would be treated through commercial thinning and harvest removal, non-commercial thinning, stand cleaning, pruning, hand and machine piling, and pile burning (units 150, 235, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 248, and 252). Both hand and machine treatments would occur (Unit 150 would have no harvest removal). Prescriptions would target the lowest layer of trees to reduce surface and ladder fuels. Treatment objectives are to treat fuels to modify potential fire behavior and intensity, maintain access, and increase suppression options in the event of wildfire. The 52 acres in units 262, 264, 265, 267, 268, and 271 which are located within or adjacent to (on the very eastern edge) the Mt. Emily Inventoried Roadless Area (IRA), would also be treated (30 acres actually within the IRA), but only hand treatments would be used, with no commercial removal.

Road Corridor Treatments: The 3120 road from the junction with 3120500 to the northern forest boundary is a main access route. Fire suppression vehicles would rely on this road for quick access to the top of Mt. Emily. The concern is that burning snags adjacent to the road would create a safety hazard should they fall across the road, possibly blocking the road or striking fire suppression equipment or personnel. Therefore, a ¼ mile wide treatment corridor would be established along forest roads 3120 (from the southern forest boundary to its junction with 3120500) and 3120500 (see map in Appendix A). Approximately 1/8 mile wide treatments on either side of these roads would occur, varying slightly in location should a more logical topographical or vegetative break dictate a narrower or wider strip. Treatments would include snag removal, and removal of down and standing dead wood or predicted to be dead wood within the next 3 to 5 years. Small-suppressed trees that contribute to ladder fuels would be cut and removed, or piled and burned. Hazard trees would be removed to prevent them from blocking vehicle access in the event of wildfire suppression activities. The objective of these treatments is to create a safe travel corridor in the event wildfire burns through the area. These treated fuel corridors would also be considered anchor points for suppression tactics should a wildfire occur.

Priority Area Three: In general, the objectives for priority area three (creation of anchor points for suppression efforts along the 3120450, 500, and 600 roads) will be accomplished in the original Mt. Emily Fuels Reduction Project. The treatment of the 3 acres in unit 317 under Mt. Emily II would include removal of down and standing dead wood and removal of hazard trees along the roadside to tie into the corridor established under the original Mt. Emily Fuels Reduction Project. Fuel tonnages would be reduced to 20-25 tons per acre.

Common Activities to Priority Treatment Areas

Removal methods: Ground-based removal of trees would occur in all units where removal is prescribed. (Unit 246 may require helicopter removal due to steep slopes).

Road Construction and Reconstruction: The Mt. Emily II Fuels Reduction project does not propose any new permanent or temporary road construction, any reconstruction, or any road closures.

Riparian areas: Riparian areas within units would not receive harvest removal. Cleaning and non-commercial thinning of small diameter trees (less than 7 inches) would occur, but only if riparian management objectives (RMOs) for shading and future log recruitment were retained. Cleaning and thinning would be done by hand using chain saws, with no ground-based equipment allowed inside the riparian areas. Slash would be lopped and scattered, or piled and burned. 13 units include treatments within RHCAs for 21.9 acres (units with RHCA treatments include: 237, 238, 240, 243, 244, 245, 248, 252, 262, 264, 265, 268 and 271).

Lynx Amendment: The entire Mt. Emily II Project is located within areas designated as potential habitat for the Canada lynx (Grande Ronde River/Hilgard Lynx Analysis Unit and Meacham Lynx Analysis Unit). The Canada lynx was listed as a threatened species under the Endangered Species Act by the US Fish and Wildlife Service in March 2000. To protect lynx and lynx habitat, the Canada Lynx Conservation Assessment and Strategy (LCAS; Ruediger et al. 2000) was developed and is considered the best science for species and habitat protection. This project w ould adopt the recommended standards and guidelines from the LCAS (Ruediger et al. 2000) that are applicable to this project. In order to integrate these resource needs (specific to Canada lynx habitat) with the fuels objectives and needs within and adjac ent to a wildland urban interface (WUI), a non-significant forest plan amendment would be needed as part of this decision.

The LCAS standards and guidelines applicable to this project area are listed in Chapter 2 of this document, under the Description of Alternative 2.

D. Desired Condition

The desired condition includes a range of structural stages that approximates the historical range of structural stages by biophysical group. These ranges are reflected in the direction from the Forest Plan, Regional Forester's Amendment #2.

The desired future fuel conditions along the ridges to the west and above the Mt. Emily urban community (priority areas two and three) are those that reduce potential flame lengths to four feet or less, reduce spotting and crown fire potential, and improve fire fighter safety, access, and options for suppression actions along these strategic ridges. Desired levels of surface fuel loadings are from 20 to 25 tons per acre with five tons or less in material three inches or less in diameter (desired fuel models are 8 and 9). Desired crown base heights are between 10–20 feet high.

Summary of Desired Fuel and Fire Conditions

- Crown Base heights > 10 feet
- Crown Bulk Densities < 0.037 kg/m3
- Fuel loading < 3" diameter in size at < 5 tons per acre
- Total fuel loading for priority areas between 20– 25 tons per acre
- Fuel Model 10 acres converted to Fuel Model 8
- Return or maintain fire regimes 3 and 4 to condition class 1
- Flame lengths < 4 feet
- Torching and crowning indices < 20 mph
- Potential mortality in trees greater than 12 inches diameter breast height (DBH) < 10%
- Potential spotting distance < .25 miles

Preferred fuel loadings are based on retaining adequate duff and coarse woody debris (CWD) as required to minimize soil exposure and maintain a healthy soil profile.

It is also desired to maintain tree stocking at acceptable levels and species composition within the historic ranges that are sustainable. Sustainability suggests stocking levels and species composition less prone to high intensity fires, epidemic insect and disease outbreaks.

The desired future condition within fire regimes 3 and 4 within the Mt. Emily II project area is condition class 1 (see fire/fuels report in the analysis file). Historical fire events within the analysis area were primarily of low and mixed severity, and played an important role in shaping and maintaining the vegetative communities and wildlife habitat. Maintaining these low and mixed severity fire regimes over time would minimize the loss of wildlife habitat for the vast majority of species that evolved within the historic fire regimes.

In fire regime 3, it is desired to maintain vegetation conditions that provide mixed severity effects, with low to moderate severity dominating. Maintaining these low to moderate severity fire events would minimize fuel accumulation, limit tree regeneration, and promote fire tolerant species such as ponderosa pine, larch, and some Douglas-fir.

It is desired to maintain water quality to a degree that provides for stable and productive riparian and aquatic ecosystems. Riparian management objectives and properly functioning conditions help determine the degree to which high water quality and riparian habitat is maintained.

E. Decisions to be Made

The Forest Supervisor of the Wallowa-Whitman National Forest is the official responsible for deciding the type and extent of management activities in the Mt. Emily II analysis area. The responsible official can decide on several courses of action ranging from no action, to one of many possible combinations for treating the area, while deferring treatment of others.

The responsible official would decide on whether or not to amend the Wallowa-Whitman Forest Plan. This project proposes a site-specific non-significant Forest Plan amendment under the action alternative. It relates to mechanical harvesting/removal and prescribed/jackpot burning treatment in lynx habitat. Amendment specifics are provided in Chapter 2, Elements of the Action Alternative.

The decision will also determine if the proposed action would cause significant effects requiring analysis in an Environmental Impact Statement.

F. Project Area Description

The Mt. Emily analysis area is in the geographical province of the Blue Mountains, including sections within T.1 and 2S, R. 37, and 38E, Willamette Meridian (see map in Appendix A). The planning area includes three watersheds; primarily in the Grande Ronde River - Hilgard watershed 87 (sub-watershed 87C) and Phillips-Willow Creeks watershed 84 (subwatersheds 84G and 84H), with a smaller portion resting in Grande Ronde River – Imbler watershed 17 (subwatershed 17E). Major drainages in the area include Lyons Canyon, Frizzel Creek and Bull Canyon. The Mt. Emily II project only enters subwatersheds 17E and 87C.

The 7,295 acre analysis area is part of a larger analysis area (approximately 40,360 acres) which includes both the Wallowa-Whitman and Umatilla National Forests, private, and state lands. The analysis area includes the original Mt. Emily Fuels Reduction Project (signed March 2005). The Mt. Emily II project only enters 331 acres of this analysis area, along the 3120 and 3120500 roads.

The Mt. Emily II project area lies approximately 8 miles North of La Grande, Oregon and is adjacent to approximately 15,760 acres of private and industrial land, including 209 homes. The elevation is approximately 6,000 feet along Forest Roads 3120 and 3120500.

The project area also enters approximately 30 acres on the very eastern edge of the Mt. Emily Inventoried Roadless Area (IRA), in T.1S, R.38E, Sections 18 and 19. The Mt. Emily IRA is approximately 8,822 acres and lies entirely on the La Grande Ranger District (see map in Appendix C).

The Mt. Emily II Fuels Reduction Project is being coordinated with fuel reduction and "FIREWISE" projects and education efforts occurring on adjoining private and state lands, and the Umatilla National Forest.

G. Management Direction

This EA tiers to the Environmental Impact Statement for the Wallowa-Whitman Land and Resource Management Plan (Forest Plan) and its amendments including, 1) The Regional Forester's Eastside Forest Plans Amendment Number 2 which incorporates interim ecosystem and wildlife standards, and 2) The Regional Forester's Eastside Forest Plans Amendment Number 3 which incorporates PACFISH and provides interim strategies for managing anadromous fish-producing watersheds.

The analysis area is allocated under the Forest Plan and its Final Environmental Impact Statement to Management areas (MA) 3A (Big Game Summer Range); MA 3 (Big Game Winter Range); and MA 15 (Allocated Old Growth). Treatments under the Mt. Emily II proposed action would occur only in MA 3A. Management direction specific to this management area includes:

> MA-3/3A – Similar to MA 1, this management area provide a broad array of Forest uses and outputs with emphasis on timber production. However, timber management is designed to provide near-optimum cover and forage conditions on big game winter ranges (MA 3) and selected summer ranges (MA 3A).

This EA also incorporates by reference the original Mt. Emily Fuels Reduction Project Environmental Assessment (2005) and the contents of the original Mt. Emily Fuels Reduction Project Analysis File. As stated on page 1 of this EA, the analysis for this project was completed under the original Mt. Emily Fuels Reduction Project which was incorporated into Chapter 3 for the Mt. Emily II project to display the effects related to implementation of the actions proposed in the Mt. Emily II Project. No new analysis was completed for the Mt. Emily II project. The original Mt. Emily Fuels Reduction Project describes a fuels reduction process for the entire Mt. Emily WUI project area, including the purpose and need, issues, alternatives for meeting the purpose and need and resolving the issues, and the effects of implementing the action and no action alternatives on all resource areas. The original Mt. Emily Fuels Reduction Project analysis includes the effects of implementing the fuel reduction treatments called for in this EA (Mt. Emily II EA) in addition to the other approximately 1,400 acres of mechanical treatment and 1,600 acres of prescribed burning within the Mt. Emily WUI.

H. Key Issues

This section identifies the key issues associated with the proposed action. In addition, concerns related to the proposed decision are also discussed. The Interdisciplinary team of Forest Service resource specialists developed this list of issues with input from public scoping. All issues raised during the life of this project are addressed in this EA. The issues and concerns are the basis for subsequent steps of the analysis in formulating alternatives or developing constraints and mitigation measures.

The following section describes the key issues identified for this analysis and the key indicators used to evaluate each key issue. In all cases, other measurable aspects may be tracked throughout the analysis, however, they are supportive in nature and not considered key to the decision making process.

The following list of key issues has been identified in relation to the proposed action:

1. Fuel loadings in the Mt. Emily wildland/urban interface (WUI) are increasing and contributing to increases in fire behavior potential, causing both firefighter and public safety concerns.

2. Fire adapted ecosystems in the Mt. Emily WUI are out of balance, and may burn more intensely, cause more resource damage, and provide more control problems if wildfires occur.

3. In the Mt. Emily area, visual quality objectives (VQO's) for the area are currently not being met in all areas, and the scenic integrity is lower than it should be in some areas. Fuel and harvest activities/treatments may negatively affect the scenic quality of the Mt. Emily area, and scenic requirements of retention and partial retention may not be met.

Key Issue 1: Increased Fire Behavior Potential

Fire behavior potential was analyzed by considering hazardous fuel conditions, which is of concern due to the high fire occurrence rate in the area, the adjacency of an urban interface, and the intrinsic value of the resources within the area.

The fire occurrence rate in the Mt. Emily area is high. Recently documented fire records show 24 fire starts within this area over a 30 year period (1970-2000). This equates to approximately .11 fires per 1,000 acres per year. This exceeds the Wallowa-Whitman National Forest occurrence rate of .06 fires per 1,000 acres per year by 83% (see table 1).

Of the total 24 fires occurring within the Mt. Emily area, 63% were lightning caused and 37% human-caused. The human caused fire risk within the Mt. Emily area exists due to its proximity to private land and homes, and the high level of use from hunters, berry pickers, hikers, horseback riders, and other recreationists.

99% of these fires were contained within the first 24 hours at less than .25 acres, with only 1 fire exceeding 100 acres (Frizzell fire, 250 acres, 1986). However, there have been nine fires greater than 100 acres within 10 air miles of the project boundary (reference fire history map). Within the Mt. Emily area, the last large fire occurred around 1900.

Table 1: Fire Occurrence Rates

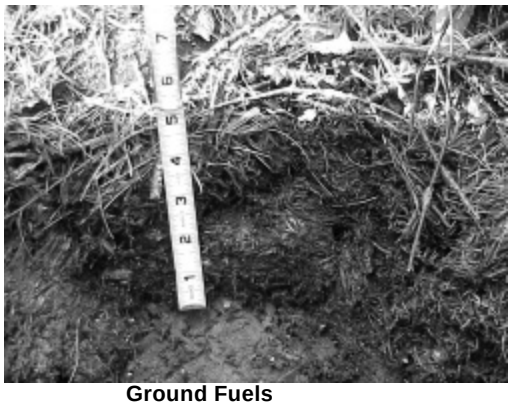
	Total Fires 1970 – 2000 (31 Years)	Average Annual Fire Frequency (1 Year)	Total Fires per Decade (10 Years)	Fire Occurrence Rate per Thousand Acres Per Year
Wallowa-Whitman NF (2,521,280 acres)	4,793	154.61	1,598	.06
Upper Grande Ronde Watershed (472,268 acres)	688	22.19	229	.05
Mt. Emily Modeling Area (40,360 acres)	129	4.16	43	.10
Mt. Emily Project Area (7,295 acres)	24	.77	8	.11

Hazardous Fuel Conditions

Fuel loadings in the area have increased over the years, and present risks to both firefighters and the adjacent WUI. Vegetative conditions for this analysis are expressed as: a. surface fuels, b. ladder fuels, and c. crown fuels (crown bulk density).

a. Surface Fuels:

Surface fuel loadings in the Mt. Emily II Project area are high, and have increased due to the accumulation of dead and down fuels from years of fire suppression and insect outbreaks. The fuel loadings in the area range from 15-80 tons per acre, with areas of heavy dead and down material (30-60 tons per acre). These high fuel loadings cause potential flame lengths to be longer (greater than 4 feet) and wildfires to burn more intensely, presenting more control and safety problems for firefighters. Surface fuels include grasses, shrubs, fallen limbs and trees, and are measured in tons/acre called surface fuel loading. The following pictures are examples of ground and surface fuel loadings within the Mt. Emily project area.



Ground Fuels

Surface Fuels

b. Ladder Fuels:

Ladder fuels within the project area have increased due to the high fuel buildups, the undergrowth growing into the overstory, and the low canopy base height. The presence of ladder fuels increases a surface fire's potential for torching and crowning, which may cause control problems for firefighters. Ladder fuels allow surface fires to climb and spread into tree crowns, setting up dangerous crown fire conditions, which may lead to high intensity stand-replacing fires. Ladder fuels include intermediate shrubs, bushes, and trees that bridge the vegetation gap between surface fuels and tree crowns. Canopy base height is the average height of the base of the tree crowns from the surface and would be used as a tool to measure ladder fuels. The following pictures are examples of crown fuel conditions within the Mt. Emily project area.

Ladder Fuels

c. Canopy Bulk Density:

The canopy bulk density in the area has increased within the project area with overstocked stands, heavy undergrowth, and regeneration growing into the crowns of the existing stand. Canopy bulk density is key for determining if a fire reaching into the canopy has sufficient fuel to support a crown fire. Crown fires are faster spreading and harder to control directly with handcrews and engines. Canopy bulk density cannot be directly measured, but is mathematically estimated based on individual tree characteristics such as tree height and crown ratio. (Fire and Fuels Analysis to Support Project Planning, Langowski, May 2002).

(The discussion of surface and crown fuels was obtained from "Assessing Crown Fire Potential by Linking Models of Surface and Crown Fire Behavior "(Scott and Reinhardt, 2001); and, "Fire and Fuels Analysis to Support Project Planning "(Langowski et al. 2002)).

Summary: The high fire occurrence rate for the area, combined with the higher than normal fuel loadings, makes the area a high risk for wildfires. Surface fires have the potential to spread into the crowns of the trees, causing crown fires, which are more difficult to control. Most crown fires cannot be directly attacked with handcrews or engines. This increases the concerns for firefighter and public safety, and puts the adjacent wildland/urban interface at risk.

The **key indicator** used to measure the fire behavior potential is:

- Measured by the crown fire potential and flame lengths (crown fire potential is active, passive, or surface)

Key Issue 2: Maintaining Fire Adapted Ecosystems

The combination of fire suppression, insects, and disease has led to changes in species composition and structure in stands within the project area, and to an increase in fuel loadings. The increased ecological risk associated with this change is measured by both: 1) shifts in the fire regimes in the area, and 2) changes in the condition class of those fire regimes.

(The Forest determined and ranked all fire regimes based on the current ecological condition in terms of departure from the historic fire regime based on "Protecting People and Sustaining Resources in Fire-Adapted Ecosystems; A Cohesive Strategy; The Forest Service Management Response to The General Accounting Office Report GAO/RCED-99-65, October 13, 2000", and the local expertise of the Forest Ecologist, Silviculturist, and Fuels Specialist).

1) Fire Regime

The project area has not experienced natural fire for the past half-century or more due to suppression activities. The last large fire occurred around 1900 (over 100 years ago). Fires historically associated with the fire regimes in this area resulted in a mixture of fire effects, but the majority of effects were associated with low to moderate severity. As stand compositions have changed due to fire suppression, fire regimes also shifted. This shift, due to missed fire return intervals, has increased the potential for large stand-replacing fires to occur in stands which historically burned with low to moderate intensity fires. The proposed project units are in fire regimes 3 and 4. Historically in fire regime 3, fuel accumulations and regeneration were maintained at lower levels with low to moderately severe fires every 35-100 years. The mid to higher elevation stands in fire regime 4 also have a fire return interval of 35-100 years, but tend to burn as stand replacing fires (fire regime describes the fire intensity and frequency of an ecosystem in terms of severity and fire return interval. Table 2 describes the fire regime groups found in the Mt. Emily II project.

The Mt. Emily II Project units consists of:

- 52 acres of fire regime 3
- 279 acres of fire regime 4

Table 2: Fire Regime Groups in Mt. Emily II

Fire Regime Group	Vegetation Types	Historical Frequency (Fire Return Interval)	Historical Severity
3	Consists of Forest Plant associations found at mid elevation, more mesic sites than fire regime 1	35 – 100+ years	Mixed Severity
4	Forested species found at mid to high elevation – Lodgepole, subalpine fir, spruce	35 – 100+ years	Stand replacing

2) Condition Class

Each fire regime has three condition classes (1-3 described in Table 3 below) that have been developed to categorize the current ecological condition as defined in terms of departure from the historic fire regime. As the condition class number increases, a greater deviation is indicated, with an associated risk of loss of biological elements found within the system. The Mt. Emily II Fuels Reduction Project includes 177 acres in a condition class 3 (52 acres in fire regime 3, and 125 acres in fire regime 4) the remainder of the acres are within or near their historical ranges (condition class 1) for fire regime 4. For those acres in condition class 3, field review indicates that the condition of these stands has been altered over the years, and future wildfires could be more severe than they normally would have been, if the fire return interval had been maintained.

The condition class has been defined in the Cohesive Strategy as the number of missed fire return intervals (or deviation from historic fire free period); the current structure and composition; and the relative risk of fire-caused losses of key components that define the group. Table 3 describes each condition class.

Table 3: Condition Classes

Condition Class	Description
1	Fire regimes are within or near historical ranges, and the risk of losing key ecosystem components is low. Vegetation conditions in terms of species composition and structural stage are intact and functioning within the historical range.
2	Fire regimes have been moderately altered from their historical range. The risk of losing key ecosystem components is moderate. Fire frequencies have departed from historical frequencies by one or more return intervals (increased or decreased). This results in moderate changes to one or more of the following: • Fire size • Fire Intensity and Severity, and • Landscape patterns • Vegetation conditions in terms of species composition and structural stage have been moderately altered from historical conditions.

Condition Class	Description
3	Fire regimes have significantly altered from their historical range. The risk of losing key ecosystem components is high. Fire frequencies have departed from historical frequencies by multiple return intervals. This results in dramatic changes to one or more of the following: • Fire size • Fire Intensity and Severity, and • Landscape patterns • Vegetation conditions in terms of species composition and structural stage have been significantly altered from historical conditions.

Table 4: Condition Class by Fire Regime for the Mt. Emily II Project Area

Fire Regime	Acres Of Condition Class 3	Acres Of Condition Class 2	Acres Of Condition Class 1	Total Acres by Fire Regime
3	52	0	0	52
4	125	0	154	279
TOTAL	**177**	**0**	**154**	**331**

The following picture is an example of a stand in a condition class 3 within the project area.

Condition Class 3

Summary: The fire regimes in a small portion of the Emily II project area are shifting due to the changes in the vegetative conditions. The condition classes are increasing, indicating a higher risk of stand replacing fires and firefighting hazards. The stands are at a higher risk of loss from wildfire due to these changes.

The **Key Indicator** used to measure the ecological risk is:

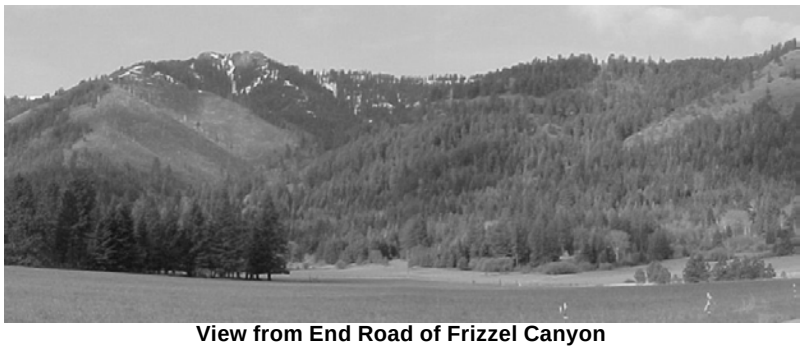
- Measured by the number of acres treated within the fire regimes that are in a condition class 3 (brought back to condition class 1).

Key Issue 3: <u>Maintaining Mt. Emily Scenic Quality</u>

The Valued Landscape Character of Mt. Emily

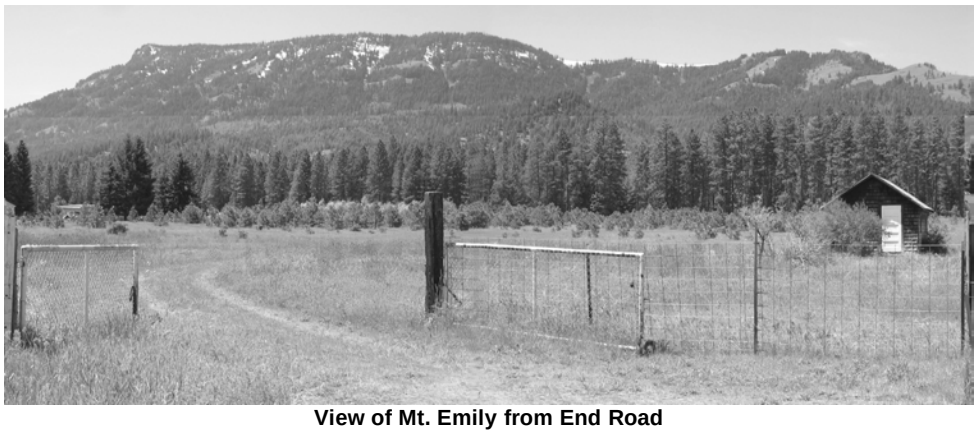
The valued landscape character is a description of the attributes and qualities that the area provides to people. The Mt. Emily area is a landscape that provides many benefits to the residents of the Grande Ronde Valley. The area encompasses the face of Mt. Emily and the mountain plateau landscape west of the rim. The steep sloped face of Mt. Emily, with its prominent rock outcrops on the rim provides a readily recognized Grande Ronde Valley landmark. The vertical face is a dramatic backdrop that compliments the rural valley landscape with a natural forest landscape. The face is a composition of steep grassy open mid slopes, and stringers of timber. The lower slopes are contiguously covered with timber, creating a strong edge to the valley floor. This contiguous cover provides habitat for many

wildlife species that cohabitate with people at the edge of the rural landscape. Small streams with pools and riffles add the soothing sound of water and opportunity to experience the riparian vegetation and inhabitants. This forested edge also provides a sheltered landscape adjacent to the rural farmland. It is a peaceful, quiet retreat near but separated from the populated areas of the valley.



View from End Road of Frizzel Canyon

The upper slope is a visual mosaic of timber and pockets of grass escarpments and rock scabs and outcrops. Small fire openings are visible on the slope but do not dominate the background or middleground views. The rim of Mt. Emily is the western horizon of the Grande Ronde Valley. The sunset is seen at the rim of Mt. Emily, and the first rays of the sun hit the Mt. Emily rim and slide down its face to the valley floor.



View of Mt. Emily from End Road

The Mt. Emily II project area is primarily on top of the rim of Mt. Emily and to the west. This area is a Grande Ronde forest playground. The 3120 RD provides access to this area for many residents pursuing many different activities. In the spring, mushroom hunters are found scouring the area. Summer brings out the huckleberry pickers and day use and dispersed campers, and in the fall big game hunters come here. The winter months are reserved for snowmobilers, cross-country skiers and snowshoers. Many users enjoy this landscape in every season.

The scenic resource of the entire Mt. Emily analysis area (original Mt. Emily project area) is experienced in a number of ways. The experience from five differing perspectives is summarized in the scenery resources existing condition report, in the analysis file. The five perspectives include adjacent forest landowners, residents of the Grande Ronde Valley, travelers who are passing through the valley, forest users who go into the area to recreate and off-site persons who do not physically experience the scenic

resource. The five perspectives are a summary of the comments and concerns made by constituents throughout the scoping process.

Forest Direction for Managing Scenic Resources

Currently there is direction to use two systems of scenery management. The Visual Management System that was used in the Land and Resource Management Plan for the Wallowa-Whitman N.F. and the Scenery Management System which is currently the newest system for scenery resources. The project area will be analyzed using both systems.

A. Visual Management System

The Visual Management System establishes acceptable levels of alteration from the natural appearing landscape based of the importance of aesthetics. The degree of alteration is measured in terms of visual contrast with the surrounding natural landscape. The system evaluates the scenic resource from viewpoints and travel corridors that are most heavily used by constituents.

Much of the face of Mt. Emily is a background view (4 miles +) seen from Hwy 82 and has a visual quality objective of retention. The retention objective requires that management activities are not visually evident from the distance the area is classified. Classified as a background distance zone, any management activity that has or will occur in this area should not be visible from a distance of four miles away. Currently, the scenic resources of the face of Mt. Emily meet the retention objective.

There are areas with VQO's of partial retention and modification to the west of the 3120 RD. (See map) Partial retention requires that management activities remain visually subordinate to the naturally appearing landscape. Currently, there are areas along the 3120 RD that are not meeting the partial retention VQO. There are areas where blowdown occurrences have increased the visible impact of shelterwood treatments, leaving areas where management activities are visibly dominant. The lack of any middlestory vegetation in these units creates an unnatural appearance. The edges of these units are very apparent because the vegetation at the edges creates a thick wall surrounding the open unit. The combination of lack of middlestory vegetation and the wall surrounding the unit make the treatment dominate the natural appearing landscape. There are units of previous treatment along the 500 RD that are currently not meeting a VQO of partial retention or retention.

View looking south on the 3120 RD

Modification allows for management activities in the foreground and middleground to be dominant but appear natural. Currently, the VQO of modification is being met.

B. Scenery Management System

The new scenery management system… ***"encourages integration throughout the entire systematic approach from inventory, analysis, planning, design and implementation to monitoring."*** Through the integration of physical, biological, and cultural/social information in an interdisciplinary atmosphere we strive to better understand ecological principles and their relationships (such as landscape pattern

with components, structures, functions and processes of our ecosystem), to prescribe management which promotes sustainability." (Agricultural Handbook Number 701, Landscape Aesthetics, A Handbook for Scenery Management, 1995, pg. 23.)

Evaluation of the Mt. Emily scenic resource is based on the existing condition of the valued landscape character (see valued landscape character above). The valued landscape character is the sum of all the valued attributes of the area measured against the negative attributes that detract from the valued landscape character. There are two scales of measure that address the existing condition: 1) the measure of scenic integrity that indicates the degree of visual deviation from the valued landscape character; and, 2) the measure of ecological integrity that indicates the condition of resources that make up and perpetuate the scenic qualities or valued attributes of the area.

Existing Scenic Integrity

The existing scenic integrity for the face of Mt. Emily is *high*. The visual resource is intact with no negative attributes detracting from the landscape character and in general the Mt. Emily II project will not in and of itself affect the face of Mt. Emily.

The existing scenic integrity for the area on top of the rim and to the west, which does incorporate the Mt. Emily II project, is *low to very low.* The occurrence of previous harvest and windthrow has left an excessive accumulation of dead down woody material that detracts from the l andscape character. Past harvest treatments are evident. In areas where shelterwood treatments were done, many of the trees have been lost to blowdown occurrences, which makes the units more evident, detracting from the valued forest attributes. Much of this area is viewed from a foreground to middle ground distance from the 3120 RD and the 500 RD. The viewshed from these roads is 70 to 80 % impacted by these conditions.

View from along 3120 Road

Existing Ecological Integrity

The existing ecological integrity for the face of Mt. Emily is *low to moderate*. There is a concern regarding the sustainability of visual resources due to the high number of lightening strikes in this area and the stand conditions that exist. The exclusion of fire has heighte ned the hazard of experiencing a large stand replacement fire across the face of Mt. Emily. If this were to occur, many of the valued attributes that make up the desired landscape character of Mt. Emily would be lost. In areas where there are accumulatio ns of dead, down woody debris, duff and litter, ladder fuels, dense canopy cover and/or understory brush, the integrity is low. In other areas, the hazard is less because the understory is more open with less fuel for fire to consume. There are also area s that are heavily infested with mistletoe and balsam wooly adelgid. These are stands that are decadent and are beginning to fall apart. Without the presence of frequent fire running through this landscape, the conditions are continuing to deteriorate. For further discussion, see the fuels and silvicultural reports.

The area on top of the ridge and to the west has large areas of blowdown that can contribute to a high hazard of stand replacement fires. This area is rated at *low* existing ecological integrity.

View of area SW of Wagoner Lane

Summary: The scenery resources for the Mt. Emily project area show some need for concern. The Visual Quality Objectives (VQOs) for this area are not being met in all areas. The scenic integrity and ecological integrity are lower in some areas than they should be for this area.

In areas where retention is being met, such as the face of Mt. Emily, there are ecological issues that threaten the sustainability of the scenic resources. Where past treatments have addr essed the ecological issues, the negative impacts to scenic integrity are very apparent and in some cases are visually dominant. In the area of Mt. Emily II, the scenic integrity is primarily low to very low in combination with an ecological integrity of low as well due to insect infestations and fire suppression and the VQOs are not being met.

The following **Key Indicators** will be used to compare the alternatives, as to how they address the issue of Scenic Quality.

- Has retention/foreground been met? – Measured by Yes or No (i.e. – Are unnatural appearing impacts (disturbance) less than 10% of viewshed?)
- Has partial retention and retention middleground been met? – Measured by Yes or No (i.e. – Are unnatural appearing impacts (disturbance) less than 14% of viewshed?)

I. Other Issues

Some issues, concerns, and opportunities raised during the scoping process were not considered to be significant as a comparison of alternatives. They are, however, considered importa nt in achieving the goals and objectives of the proposed action, and in meeting the intent of its purpose and need.

Unless otherwise noted in the following narratives, the issues, concerns, and opportunities outlined below will be addressed in Chapter 2, under Management Direction Common to the Action Alternative, Management Requirements, Constraints, and Mitigation Measures, and/or in management direction for the action alternative. Potential environmental consequences will be disclosed in Chapter 3.

1) Indian Treaty Rights and Trust Responsibilities

The Forest Service manages ceded tribal lands under trust responsibilities as described in tribal treaties. Forest Service policy includes the establishment and maintenance of government-to-government relationships with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) for the purpose of building stable, long-term relationships, which result in positive, mutually understood, and beneficial solutions to common situations.

The CTUIR maintains usual and accustomed fishing grounds in the Upper Grande Ronde River. Treaties provide that Native Americans continue to have the right to erect suitable buildings for fish curing, privileges of hunting, gathering roots and berries, and pasturing stock on un-claimed lands.

The Nez Perce Tribe maintains usual and accustomed fishing rights for fish in the Lower Grande Ronde River. However, they have the right to take fish, which are destined for the Upper Grande Ronde River.

Consultation between the La Grande Ranger District and the CTUIR for this project is ongoing, and designed to maintain the trust responsibilities established through public law and treaties and provide for mutual understanding of resource management objectives.

2) Inventoried Roadless Area (IRA)

The project area contains portions of two IRAs: The North Mt. Emily IRA and the Mt. Emily IRA (W-W Forest Plan, Appendix C). The majority of the 5,400 acre North Mt. Emily IRA lies on the adjacent Umatilla National Forest. The 772 acres on the Wallowa-Whitman are within the original Mt. Emily analysis area, but would not be entered under the Mt. Emily II Fuels Reduction Project and will not be discussed further in this document.

The project area enters approximately 30 acres immediately adjacent to the road of the 8,822 acre Mt. Emily IRA, which lies entirely on the La Grande Ranger District. The Hell Hole IRA lies NW of the project area and is adjacent to the project area and the N. Mt. Emily and Mt. Emily IRAs (See map in appendix C). The Emily II treatment stands are approximately one mile away from the North Mt. Emily IRA and on the other side of the major road in the area. The Mt. Emily II project would have no affect on the North Mt. Emily IRA and will therefore not be discussed further in this section. Reference the analysis file for a updated review of the Mt. Emily and North Mt. Emily Roadless Areas.

Current direction for management of IRAs is found in Interim Directive 1920–2006-1 which defaults to Forest Plan direction with the exception of certain decisions which were reserved to both the Chief and Regional Forester. As part of implementation of this directive, projects proposing activities in Inventoried

Roadless Areas were to be reviewed by the Regional Office for consistency with the Interim Directive. A checkpoint letter was sent to the Forest Service Regional Office (Portland, OR) by the Wallowa-Whitman Forest Supervisor in April 2003. A copy of this letter resides in the analysis file. The letter follows direction from the Regional Office to submit for review projects planned within IRAs.

This letter discussed proposed activity within the IRAs, introduced what type of NEPA document is being prepared, and explained the rationale for treating vegetation within IRAs. A follow-up response letter from the Regional Office was sent to the Forest. The response letter also resides in the analysis file and concurred with the Forest's determination that "the authority and responsibility to approve process steps and sign decision documents related to the Mt. Emily Fuels Reduction Project remains with the Forest Supervisor of the Wallowa-Whitman National Forest."

The Wallowa-Whitman Forest Plan identifies the Mt. Emily IRA as managed roadless areas (i.e. – allows for management), FEIS, IV page 59, appendix C-5. The portion of the IRA within the project area boundary affected by Mt. Emily II Project is allocated to Wildlife –summer range (MA 3A). The IRA would be managed according to the standards and guidelines provided for MA 3A under the Forest Plan.

Roadless characteristics should be maintained/enhanced by management activities within the IRA.

3) Water Quality, Fisheries, and Riparian Habitat

The primary streams within the project area include Conley Creek, Slide Creek, and Frizzel Creek. Dry drainages include Indian Trail Canyon, Bull Canyon, Lyons Canyon, and Rail Canyon.

The analysis area lies within the following Watersheds of the Upper Grande Ronde River Section 7 Major Drainage: Grande Ronde River - Imbler (17060104-17), Phillips-Willow Creeks (17060104-84), and Grande Ronde River – Hilgard (17060104-87). An additional 6 acres of the project area is located in the Meacham Creek Watershed (17070103-89) of the Umatilla River Drainage. The specific subwatersheds are Wright Slough (17E), South Fork Willow Creek (84G), Upper Willow Creek (84H), Upper Five Points Creek (87C), and Pot Creek (89H). Treatments proposed under the Mt. Emily II project are all within subwatersheds 17E and 87C.

Table 5: Watersheds (WS) and Subwatersheds (SWS) which include the Mt. Emily II projects, managed by the Forest Service (FS) or other entity (* = Data unavailable).

SWS/WS	Acres			
	FS	Other	Total	Project Acres
17E	659	20,465	21,124	17
87C	2,831	11,683	14,514	314
WS 17	659	*	*	17
WS 87	56,972	35,876	92,848	314

Water Quality – No streams within the project area boundary are included on the Oregon 303(d) List as water quality limited.

Fisheries - There are no listed fish species within the project area. Federally listed Snake River summer steelhead (*Oncorhynchus mykiss*) Snake River spring/summer chinook salmon (*O. tshawytscha*) and bull trout (*Salvelinus confluentes*) listed fish species, and USDA Forest Service Regional Forester's (Region 6) candidate 2 sensitive species redband trout (*O. mykiss gibbsi*) are found on the La Grande Ranger District. Little is known of the distribution and life history of redband trout within these subwatersheds, however their distribution is estimated to be similar to that of steelhead as spawning times are similar.

All species utilize the Grande Ronde River in Watersheds 17, 84 and 87, downstream of the Mt. Emily project area, for rearing and migration, respectfully.

Riparian Habitat – All reaches of the above-named streams are in good riparian condition (including instream condition). The existing frequencies of pools/mile meet the PACFISH RMO of 96. Existing levels of large woody debris meet the PACFISH RMO for pieces of large woody debris per mile (see Fisheries and Water existing condition report for additional information, located in the analysis file).

Overall Fish and Watershed Condition - The overall condition of fisheries and water resources within the Mt. Emily project area is good. All primary streams contain sufficient instream habitat. Total road densities are at or below desired levels in all subwatersheds although there are roads within RHCAs.

Erosion and Sedimentation - Roads provide a substantial source of sediment and a mechanism for delivering sediment to the stream systems. No new road construction is planned under Mt. Emily II.

Road Density and Location - There are approximately 67 miles of roads within subwatersheds17E and 87C, which are included in the Mt. Emily II project area. Approximately 23 miles of Forest Service roads are currently open to vehicle travel, and 14 miles are closed. Tables 6 and 7 display the existing miles of open and closed roads, total road density, and miles of roads within RHCA's for the subwatersheds on Forest Service (FS) and non-FS lands included in the Mt. Emily II project area.

Table 6: Drainage area, existing miles of open and closed roads, and total road density by Mt. Emily II subwatersheds, on FS and non-FS lands.

SWS	FS & NON-FS Area (mi^2)	FS Existing Open Road Miles	FS Existing Closed Road Miles	NON-FS Existing Road Miles*	FS & NON-FS Total Road Density (mi/mi^2)
17E	32.5	2.0	0.7	26.4	**1.2**
87C	22.7	21.5	13.4	3.2	**2.1**

* All Non-FS roads are considered open

Table 7: Existing miles of all roads (open and closed) within RHCAs by stream class per subwatershed on FS and non-FS lands.

SWS	Miles of Road in Class I RHCAs*	Miles of Road in Class III RHCAs	Miles of Road in Class IV RHCAs	Total Miles in RHCAs
17E	0.0	3.7	1.8	**5.5**
87C	0.0	1.4	1.8	**3.2**

* La Grande Ranger District considers all fish bearing streams Class I streams.

Both subwatersheds have total (open and closed) road densities of near or less than 2.0 miles per square mile but do contain roads within RHCAs (Tables 6 and 7).

Stream Crossings and Fish Passage – There are no fish bearing stream road crossings within the project area.

Streamflow Regime - Streamflow discharges in subwatersheds 17E and 87C are characteristic of a snowmelt hydrograph, with late spring and fall rains contributing to the annual average flows. Peak flows usually occur in March and April with flows gradually decreasing to minimum discharges in August and September.

Equivalent Clearcut Acres (ECA) - ECA was calculated for subwatersheds 17E and 87C and is reported in Table 8. These ECA values are at or below the La Grande Ranger District management range of 28% to 32%. These ECA values do not include adjacent private land harvests. ECA will be used only as an indicator of overall disturbance in the Mt. Emily Analysis Area, and will not be used to describe hydrologic response.

Table 8: Percent of forested acres in Equivalent Clearcut Acres (ECA) for each FS subwatershed in Mt. Emily II project area.

SWS	Existing ECA %
17E	22.1 %
87C	5.9 %

Past Timber Harvest - Approximately 15% of subwatersheds 17E and 87C have been logged with timber harvest projects utilizing the following prescriptions (Table 9):

- HCC = Clearcut
- HPR = Partial Cut (First cut of an even aged mature stand)
- HSH = Shelterwood Cut (Second cut of an even aged stand)
- HSV = Salvage Cut

Table 9: Summary of Timber Harvest Activities by subwatershed and prescription in the Mt. Emily II project area from 1976 to 1997.

SWS	Prescription	Acres
17E	HCC	8.2
17E	HPR	0.0
17E	HSH	84.3
17E	HSV	4.1
87C	HCC	103.3
87C	HPR	0.0
87C	HSH	540.2
87C	HSV	188.6
17E	Other	96.6
87C	Other	832.1
Total Treated Acres		**1857.4**

4) Soil Quality and Productivity

Soil management efforts in the Mt. Emily II project area would concentrate on controlling erosion (surface erosion and mass movement), minimizing damage to the soil (compaction, displacement, puddling, severe burning), and minimizing road building and other developments, which remove land from the productive base.

In order to determine the status of proposed treatment units in relation to Forest Plan standards and guidelines for detrimental soil conditions, field visits were conducted according to the soils assessment protocol (USDA 2002). Soil surveys were conducted in units where mechanical treatments (ground-based harvest and grapple piling) are proposed and contain higher levels of previous soil disturbance. Table 5 of the soils existing condition report summarizes soil conditions in all units where mechanical treatments are proposed (see analysis file). All units are well below the 20% detrimental soil condition standard set by the Forest Plan. All proposed treatment units are estimated to be below 5% detrimental condition (page 25, soils existing condition report).

Soil information was gathered from the Forest Service EUI (Ecological Unit Inventory) within the analysis area. The soils within the analysis area can be placed into five groups: cold and cool basalt, cool granitic, cold soft clay producing tuffs, and basalt rock outcrops. Cold and cool upland soils developed from basalt are the dominant type within the analysis area. The existing condition soils report classifies soils of all areas proposed for management activity in this project (located in the analysis file).

5) Wildlife Resources

Wildlife resources to be protected within the Mt. Emily project area include Management Indicator Species (MIS), Proposed, Endangered, Threatened and Endangered Species (PETS), and Neotropical Migratory Bird Species (NTMBS).

A. Management Indicator Species (MIS)

Management indicator species (MIS) serve as indicators of the effects of management activities by representing a broad range of other indigenous wildlife species. The management indicator species that may be affected by this project include: pileated woodpecker, northern goshawk, American marten, primary cavity excavators, and elk.

Old Growth Wildlife Species and Habitat: The Mt. Emily analysis area provides unique wildlife habitat that supports old growth associated species including pileated woodpecker, Northern goshawk and American marten. These are the management indicator species (MIS) for old growth habitat. Habitat features important to these species include old growth, high canopy closure, snags and down wood. These habitat features, combined with the low road densities on the face of Mt. Emily, provide unique wildlife habitat that support high wildlife species diversity and species associated with old growth that are not commonly found in the Blue Mountains. The Mt. Emily II project will not enter designated old growth habitat (MA15), but will enter 221 acres of MSLT.

Pileated Woodpeckers - Optimum habitat for pileated woodpeckers is typically multi-strata large trees in cool, dry-wet grand fir plant communities (biogroup 4, referred to as G4). At least 20% of the Mt. Emily analysis area provides this optimum habitat. Pileated woodpeckers represent species dependent on large diameter snags and down trees in older-aged forests, and have an average home range size of 900 acres (Bull and Holthausen 1993). Pileated woodpeckers use these snags for nesting, roosting and foraging. Mt. Emily analysis area provides pileated woodpeckers with at least 1,058 acres suitable habitat based on the quantity of stands with large trees within grand fir and mixed conifer plant communities (MSLT G4-G6). The Mt. Emily II project will enter 19 acres in the MSLT G4 stands (no stands entered in warm Douglas-fir, G5-G6).

Northern Goshawk – Northern goshawks are associated with mature and old growth forests. Goshawks use large diameter trees for nest sites and down logs as places to pluck their prey before carrying it to the nest. Mt. Emily provides Northern goshawks with suitable habitat based on the abundance of large structure stands; however, stands with dense understories may reduce hunting efficiency (Marshall 1992; Reynolds and Meslow 1984). Preliminary goshawk surveys were conducted in the analysis area during 2002; although no nests were located, suitable habitat is available. Based on professional judgment, MSLT in biogroups G1 through G6 (subalpine fir, grand fir, Douglas fir) provide goshawks with at least 1,743 acres of habitat within the Mt. Emily analysis area. The Mt. Emily II project will enter 221 acres in G1(subalpine fir) and G4 (cool grand fir) MSLT stand.

American marten –American marten are an uncommon species in northeast Oregon because their biological requirements are poorly met on managed landscapes. Marten have large home ranges (approximately 2,000 acres for females and 5,000 to 7,000 acres for males; information from Beaver Creek study conducted by E. Bull, pers. commun., 1998) and their biological needs are best met by contiguous forest cover, abundant down wood and old growth stands for security, denning, and

foraging. Winter track surveys, within the Mt. Emily analysis area, were conducted along the 3120 road from 1991 through 1993 and located the presence of marten. The Mt. Emily analysis area does not provide contiguous cover; approximately 25% is open grassland plant communities that naturally fragment the area and are avoided by American marten. These naturally occurring openings reduce the overall habitat suitability for marten in the Mt. Emily area. The Mt. Emily analysis area provides American marten with 1,748 acres of optimal habitat (MSLT, G1-5; subalpine fir, grand fir). The Mt. Emily project will enter 202 acres in G1 MSLT (subalpine fir). The Mt. Emily II project will enter stands along the 3120 road and 30 acres of the Mt. Emily IRA.

Primary Cavity Excavators, Snag and Log Habitat: Primary Cavity Excavators are species that rely heavily on decadent trees, snags and down logs. Snags and down wood are not distributed uniformly throughout the Mt. Emily analysis area. Insect events, root rot and blow down have created snags and down wood in a clumped distribution. Heavy woodcutting activity in the roaded portion of the Mt. Emily analysis area has reduced both western larch and ponderosa pine snags and down wood. Sub-alpine fir community types are prevalent on the southeast portion of the Mt. Emily II project area and these types generally provide poor cavity nesting and foraging habitat for woodpecker species. The Mt. Emily II project will reduce snags and down wood on 331 acres in this area.

Elk Security Habitat: The ridge tops and the areas along the 3120 road are heavily used by recreational OHV users and fuelwood gatherers. The limiting factor in the Mt. Emily big game summer range is this disturbance caused by motorized vehicles. These are the areas that would be entered in the Mt. Emily II project. The Mt. Emily analysis area, as a whole, provides quality elk habitat due to high cover quantity and quality, and high security habitat along the face (winter range) of Mt. Emily due to the limited motorized access. An analysis of elk habitat, Habitat Effectiveness Index (HEI) was conducted for the analysis area using a model developed by Thomas et al. 1988. Table 10 is a summary of the HEI results. HEI calculations are only meaningful when completed on analysis areas of an appropriate size; therefore, the entire project area was analyzed as opposed to only those acres affected by the Mt. Emily II project.

Table 10: HEI Results

Habitat Effectiveness Variable	Habitat Effectiveness Value
HE cover	0.78
HE size and spacing	0.80
HE roads (roads open to full sized vehicles, using density)	0.54
HE forage	0.50
HE total	0.64

The 0.64 HEI is below the 0.74 HEI identified in the Forest Plan, however, due to the absence of actual forage quality data, the occurrence of motorized access on closed roads and cross country, and the unavailability of cover quality data, the utility of the model is limited. The overall HEI would likely be below 0.64 if the roads variable considered the actual amount of motorized access that occurs in the Mt. Emily ridge top area.

Cover:Forage Ratio - The optimal ratio of cover to forage is 40:60 for summer range (Thomas 1979). The existing cover:forage ratio in the analysis area is 42:58, indicating a near optimal ratio. The effectiveness of cover is compromised in the ridge top portion of the analysis area due to unrestricted motorized use on closed roads and cross country.

Cover Quality - Forested stands with relatively closed canopies function as thermal and security cover, providing a visual barrier from predators and reducing the difference between an animal's body temperature and ambient air temperature. Cover exists on 35% of the analysis area, 34%

satisfactory and 24% marginal, resulting in a cover quality value of 0.78. The HEc value only reflects the amount of satisfactory cover relative to marginal cover, and does not relate to abundance of cover across the landscape.

The Wallowa-Whitman LRMP establishes a minimum standard for big game thermal cover (marginal and satisfactory combined). At least 30% of the forested land should be maintained in a thermal cover condition, which is currently being exceeded (approximately 90%) in the Mt. Emily analysis area. Note that the cover:forage ratio considers the total amount of cover and forage in an analysis area, whereas the LRMP standard of 30% cover only considers those forested acres that have the potential to provide cover.

Size and Spacing of Cover - A mosaic of forage and cover patches is desirable on elk ranges. Size and spacing of cover is optimal (HEI value of 1.0) when all satisfactory cover is within 600 feet of forage, and all forage areas are within 600 feet of satisfactory cover. An HE size and spacing value of 0.80 indicates a high degree of cover and forage interspersion.

Road Densities - Excessive open road densities have deleterious effects on habitat effectiveness by taking land out of production (1 mile = 4 acres of land), reducing the effectiveness of cover and increasing disturbance to elk. The HE roads value is 0.54. The HE roads value was calculated using open road densities within the analysis area. Unregulated use of off highway vehicles continues to have a deleterious effect on elk distribution. Impacts of off highway vehicle use on closed roads and cross-country travel are not considered in the HEI analysis. As a result, the HE road variable cannot be considered an accurate measure of habitat effectiveness for elk. An analysis of road densities by subwatershed is located in the Engineering section of the analy sis file.

Total Habitat Effectiveness - The total HEI is currently 0.64. This HEI value was calculated using a forage quality value of 0.50 since actual forage quality data does not exist. This HEI model is intended to monitor long-term trends in elk habitat quality on a landscape scale. A total HEI of 0.64 represents marginal habitat conditions. The limiting factor for big game habitat in the Mt. Emily II project area is motorized access and security habitat in summer range habitat (MA -3A).

B. Wildlife PETS

Federally Listed Species

The following are Federal listed endangered and threatened wildlife species. They were selected for discussion because they are known to, or suspected to, exist within the Mt. Emily analysis area, have population viability concerns, or have potential habitat. Federally listed species are addressed in the biological evaluations and assessments for this project.

Lynx - The Canada lynx is listed as endangered under the Endangered Species Act. The analysis area provides potential habitat for the Canada lynx (Grande Ronde River/Hilgard Lynx Analysis Unit). Of the over 7,000 acres of potential lynx habitat, approximately 86% is in suitable habitat which exceeds the 70% standard, and 47% is denning habitat. The Mt. Emily II project will enter 331 acres of suitable lynx habitat (217 acres of denning habitat and 114 acres of forage habitat). This species is addressed in a Biological Assessment Addendum for this project and the effects determination is based on the Lynx Conservation Assessment and Strategy (Ruediger et al. 2000).

The Lynx Conservation Assessment and Strategy was developed developed from information in the 1999 publication “Ecology and Conversation of Lynx in the United States” by Ruggiero et al. These publications represent the most credible and applicable science concerning the ecology and management of lynx and lynx habitat in the contiguous United States. All mapping and management recommendations regarding lynx are based on these documents.

Plant associations represent key criteria in defining the potential of an area to function as lynx habitat. The subalpine fir, mountain hemlock (rare in NE Oregon), and the cold/dry lodgepole pine associations comprise "primary" vegetation that contributes to lynx habitat. "Secondary" vegetation comprised of the grand fir and cool/moist lodgepole pine plant associations, where it is "immediately adjacent to or intermingled with" primary vegetation may also contribute to lynx habitat (LCAS 2000).

The first iteration of lynx maps (late 1999, early 2000) did not differentiate between "primary" and "secondary" vegetation types; critical criteria that form the basis for subsequent mapping decisions. The important point involving primary and secondary vegetation is that secondary vegetation types cannot be considered lynx habitat unless spatially associated with primary vegetation types. This spatial relationship was not considered in the first iteration of maps and many areas containing only secondary vegetation were depicted as containing lynx habitat, when in fact none existed due to the absence of primary vegetation. This first version of lynx maps contained relatively large areas of secondary vegetation types and erroneously identified them as lynx habitat.

The Lynx Steering Committee prepared a letter dated August 22, 2000 for the Forest Service Regional Foresters and Forest Supervisors responsible for managing lynx habitat in the contiguous United States. The letter documented criteria for mapping lynx habitat and clarified some points from an earlier letter that originally outlined mapping criteria.

Lynx habitat was mapped according to the criteria and recommendations in the August 22, 2000 letter and was subsequently (November 6&7, 2000) accepted by Mark Robertson, United States Fish and Wildlife Service (USFWS) level I consultation contact.

The Mt. Emily project area was analyzed for lynx using the lynx habitat map (2000) accepted by the USFWS. Field verification during project design (summer of 2003) confirmed the accuracy of the mapping according to the criteria of the LCAS 2000.

Bald Eagle - The bald eagle is classified as threatened under the Endangered Species Act. The existing condition report for this analysis area did identify potential Northern bald eagle winter feeding and roosting habitat, and low quality nesting habitat. However, once the analysis area boundary was finalized, no potential habitat for bald eagles remained within or immediately adjacent to the analysis area. All identified bald eagle habitat exists several miles to the west, in the lower Five Points Creek drainage.

Gray Wolf – The gray wolf is listed as *endangered* under the Endangered Species Act. Gray wolves are not believed to exist in Oregon with the exception of an occasional stray from the experimental population in Idaho. No populations currently occupy these forests; no denning or rendezvous sites have been identified or are known to exist on the Wallowa-Whitman National Forest (USFWS Reference #1-7-04-SP-0098).

Sensitive Species

The following are the Regional Forester's sensitive species that occur or have potential habitat within the Mt. Emily analysis area. They were selected for discussion because they are known to, or suspected to, exist within the Mt. Emily analysis area, have population viability concerns, or have potential habitat. Federally listed species are addressed in the biological evaluations and assessments for this project.

American Peregrine Falcon - There are several rims and cliffs that provide suitable nesting habitat and an active eyrie lies adjacent to the analysis area, south of Mt. Emily. This eyrie has been active for more than ten years and consistently fledges falcons each year. The Mt. Emily II project will not enter this area.

Spotted Bat - Surveys have not been conducted specifically for this species on La Grande Ranger District. However, no spotted bats were captured during general mist netting efforts to sample bat populations in the early 1990's.

It is difficult to determine whether habitat exists in the project area since so little is known about habitat use by this species. The mention of ponderosa pine forests, rock features and permanent water indicate that potential habitat exists in small quantities in this project area.

California Wolverine - The wolverine may periodically pass through portions of this analysis area, but the area likely does not support a breeding population. The rationale for addressing wolverine in regard to this project is the contiguousness of this analysis area with the Meachum Creek area, Tollgate, and the Weneha-Tucannon Wilderness to the north. These areas contain several relatively large, unroaded areas that experience little human intrusion.

C. Neotropical Migratory Bird Species (NTMBS)

Neotropical migratory birds are those that breed in the United States, and winter primarily south of the United States-Mexico border. They include a large group of species, including many hawks, shorebirds, warblers, and other song birds, with diverse habitat needs spanning nearly all successional stages of most plant community types. Of the 225 migratory birds that are known to occur in the western hemisphere, about 102 are known to breed in Oregon. Nationwide declines in population trends for neotropical migrants have developed into an international concern. Habitat loss is considered the primary factor in decline of neotropical migratory birds.

6) Plant PETS

There are no known occurrences or habitat for any of the Threatened, Endangered, or Proposed plant species (*Mirabilis macfarlanei, Silene spaldingii* or *Botrychium lineare)* that may possibly occur on the Wallowa-Whitman National Forest, within or in close proximity to the Mt. Emily II project area.

There are no documented, currently-listed R-6 Sensitive plant species (from the U.S. Forest Service Region-6 Sensitive Plant List of May 1999) within the perimeter of the project area.
However, there are two occurrences for the R-6 Sensitive plant species *Trifolium douglassii* (approximately 12 acres) known to exist within an adjacent subwatershed (87B), which is within the logical resource unit used for the Botanical analysis. These sites are approximately two miles to the west, at the far south end, but outside of the project area.

Plant surveys have been completed within the project area (reference Plants Biological Evaluation, p. 4). No threatened, endangered, proposed, or candidate plant species were discovered during these surveys. No additional sites for any currently listed Region 6 Sensitive species were discovered. No areas were identified as potential habitat or needing follow-up surveys.

7) Forest Health / Ecological Integrity

There are several factors in the analysis area that affect overall ecological integrity as described by the Wallowa-Whitman's Watershed Restoration and Prioritization Process (WRAPPS - 2002). Stressors include fire, insects and disease, noxious weeds, and roads. The risks of uncharacteristic wildfire, insect outbreaks and tree diseases are major silvicultural concerns to implementing the Wallowa-Whitman Forest Plan and ecosystem management.

Tree densities exceed recommended levels on many acres across all biophysical groups in the analysis area. Overstocking can lead to an increase in crown differentiation and suppressed trees. This can predispose stands to increases in beetle populations, reduced stand health, decreased growth of both the overstory and understory, and alter stand structures and composition. This can also lead to fuel

loadings that are higher than what occurred under historic conditions. In many instances, drought stress is compounded by overstocking (Fiddler, et al., 1995). This stress can lead to losses in tree growth and increases in insect and disease caused mortality. Appropriate stocking levels would increase tree growth and vigor, which could lead to healthier stands (Lambert, 1994). The number of acres of stands treated would roughly measure the effectiveness of each alternative towards reducing overstocking and associated stand problems.

The Forest Service is attempting to manage many stands within a range of tree densities to meet specific resource objectives. The lower range or lower level of the management zone (LMZ), generally based on tree basal area, would maintain stocking at a point where a significant portion of the site resources are still captured in tree growth. The LMZ is set at 67% of the upper management zone (UMZ). The upper range of density or (UMZ) prevents the establishment of a suppressed crown class. Stands near or above the UMZ are more likely to be stressed, less vigorous, and subject to increased mortality. An important factor in some stands is that thinning from below to the LMZ will not be possible due to the predominance of greater than 21 inch diameter trees.

Blow down risk – The potential for blow down in treatment areas was evaluated for the project area. The potential for blow down is higher in stands that are adjacent to previous clear cuts from the Fiddler and Big Valley Timber Sales. Units affected are located in the south half of the project area primarily in priority treatment areas two and three. This determination is based on field observations and documented in a memo to the analysis file under silviculture.

The blow down potential is based on exposure to winds (including observations that Mt. Emily is prone to high wind events), occurrence of Englemann Spruce (a shallow rooted species), evidence of tomentosa root and butt rot in Englemann Spruce, and Sub-Alpine fir mortality due primarily to Balsam Woolley Adelgid (an aphid).

Potential risk of blow down from project activities is displayed by alternative in Chapter 3.

8) Range and Livestock Management

There is one livestock grazing allotment within the analysis area – Tie Creek Cattle Allotment. The allotment is currently active. Tie Creek Allotment includes approximately 200 acres of the Upper Five Points Creek Subwatershed (87C) within the project area.

Activities from the Mt. Emily II project that may damage existing range improvements such as fences, gates, and water developments, need protection measures, which maintain their integrity throughout project implementation (see mitigation measures in chapter 2). Improvements and trails must be restored to their original condition to facilitate movement of livestock within the pastures.

9) Noxious Weeds

The introduction and proliferation of noxious weeds through project activities is a concern. The analysis for vegetation management is conducted in accordance with the 1990 Forest Plan Standards and Guidelines, and the Integrated Noxious Weed Management Plan - Wallowa Whitman National Forest (INWMP, 1992). Management activities will give consideration and evaluation of prevention strategies during the planning process (INWMP, Chapter V. Prevention Strategies, Section B). In addition, this EIS is tiered to a broader scale analysis (the Pacific Northwest Region Final Environmental Impact Statement for the Invasive Plant Program, 2005, hereby referred to as the R-6 2005 FEIS). The Forest Plan is amended by this decision (Regional Forester's Amendment #5).

There are known noxious weed locations within the analysis area, primarily along roadways, but not within the Mt. Emily II project area. Diffuse knapweed is found in scattered patches along roadways in T1S, R38E, sections 8, 17, 20, and 29 and T2S, R38E, section 5 (refer to the GIS Noxious Weed layer for locations and the noxious weed existing condition report in the analysis file). Experience has proven that motor vehicles have been a vector for seed dispersal; therefore, noxious weed spread is more

concentrated along roads and trail ways. In addition to diffuse knapweed, sulfur cinquefoil is beginning to be established on National Forest lands near the southern part of the project area boundary (T2S R38E, sections 5 and 6) in areas adjacent to private lands. While there is a concern that both of these weed types could continue to spread with project activities, they are currently along roads and within areas that will not be used or accessed by the Mt. Emily II project.

Known sites are also located south and east of the project area boundary, on private lands. Treatments of these sites are under the jurisdiction of the Union County Weed Master. Cooperation by local landowners to treat sites would help reduce potential of noxious weed spread.

Diffuse knapweed and sulfur cinquefoil are rated as high priority weeds because they are invasive, persistent, and prolific reproducers. They displace desirable vegetation, and pres ently occur in infestations at scales that are feasible to treat. If any populations are found during project implementation in the Emily II area, appropriate preventive measures should be taken to ensure that the populations are not spread to new areas.

10) Recreation

Local residents use portions of the analysis area heavily year-round for a wide variety of recreational pursuits. Firewood cutting, huckleberry and mushroom picking, wildlife viewing, dispersed camping, sightseeing, bow hunting and rifle hunting are all examples of common recreational pursuits in the area. Recreation opportunities need to be maintained within the project area.

11) Cultural Resources

Public law requires federal agencies to identify and protect natural, cultural, his torical, and archeological resources and sites, and to consult with interested parties on the potential effect of proposed actions.

Cultural sites located within and adjacent to the analysis area need to be protected throughout project implementation to prevent damage to these resources.

12) Access and Travel Management (A&TM) and Roads Analysis

The La Grande District has a District Access and Travel Management Plan (A&TM) which is a reflection of previous decisions focused on reducing forest road densi ties to within Forest Plan guidelines and meeting desired condition for road management (a desired condition statement is provided in the Mt. Emily Roads Analysis, 2003).

To update ongoing A&TM management in the project area, and to follow recent direction, a roads analysis (September 25, 2003) was conducted by the Interdisciplinary team (ID team) for the original Mt. Emily analysis area. The results are documented in the analysis file. In summary, the analysis recommended some changes in maintenance l evels, resulting in proposals for some road decommissioning and/or closures. Currently road densities within the four subwatersheds affected by the project are within or very near Forest Plan guidelines. The need to decommission and/or close the few roads proposed was viewed by the team as outside the scope of this project. The team chose to keep the focus of the project on fuels reduction and activities directly associated with that purpose and need.

Transportation system management is important becaus e in addition to big game disturbance, roads can be a source of sediment, intercept groundwater flow, increase the drainage network, reduce large shade-producing trees, and confine stream channels preventing lateral stream movement. The roads analysis determined the 3120500 road to be in extremely poor maintenance, and not up to standard that a level two maintenance road should be. Portions of the 500 road are in poor condition, and runoff is channeled down the road, leading to severe erosion, rutting, and deposition of sediment into stream channels. The decision to correct the drainage problems along this road was made in the original Mt. Emily Fuels

Reduction project and will be accomplished during implementation of the original project and Mt. Emily II project as the Mt. Emily II project is planning to use the 500 road for fuels reduction activity.

The following table shows open road densities in the two subwatersheds affected by the Mt. Emily II project.

Table 11: Road Densities by Subwatershed in Mt. Emily II on Forest Service Lands

Subwatershed	Management Area(s)	Acres	Open Road Density (mi./sq. mi.)	Forest Plan Road Density Guideline
17E	3/3A	809	1.58	1.5
87C	1	1,493	1.25	2.5
	3/3A	11,376	1.04	1.5

13) Air Quality and Smoke Management

The analysis area is located 8 miles north of the city of La Grande. The City of La Grande is monitored by the Oregon Department of Environmental Quality for federal air quality standard compliance. The Eagle Cap Wilderness is 15 miles east of the project area. The concern is to maintain air quality standards for this type I wilderness and the City of La Grande.

Other sensitive areas located in or near the analysis area include: I-84, Highways 82, 203, 204, and 237, forest roads 3100 and 3120 and the Grande Ronde Valley Communities of Elgin, Union, Cove, Imbler and Summerville.

The analysis area has a high risk of affecting air quality because of its location. Prescribed burning (pile burning in Mt. Emily II) should be carefully coordinated with the Department of Environmental Quality to prevent smoke related problems.

14) Safety

Standing dead trees near areas of concentrated public use, such as recreation sites or main traveled roads, represent a public safety hazard. Standing dead trees near the main travel route of 3120 present a safety problem to fire suppression efforts in the event of a wildfire that would burn through the area, causing burning snags to fall across the road. The areas along the 3120 and 3120500 roads will be entered and treated with the Mt. Emily II project.

Log haul on high recreation use roads could create conflicts with public users and a potential safety hazard.

15) Water Rights

The Wallowa-Whitman National Forest has reserved water rights within the Mt. Emily analysis area with a priority date of 1906. Concerns relating to water rights include how much water can be used during project implementation for uses such as road construction and reconstruction and at what time of year can the water resources be used.

J. Summary of Scoping Process

Introduction – The scoping and extensive collaborative work from the original Mt. Emily Fuels Reduction Project (which incorporates the treatments called for in the Mt. Emily II project) was also used for this project and is described below. Scoping specific to the Mt. Emily II project and the lynx amendment is outlined under the Mt. Emily II Scoping Process.

Mt. Emily II Scoping Process

On June 24, 2005, a scoping letter and description of the proposed action for the Mt. Emily II Fuels Reduction Project was mailed to approximately 260 forest users, local landowners, and concerned publics, soliciting comments and concerns relating to this project. Four comment letters were received and reside in appendix D of this EA. This scoping period provided a pre-decisional opportunity for submission of specific written comments on this project, as required to participate in the administrative review (objection) process for HFRA projects (36 CFR Part 218.6(a)). This also allowed the public opportunities to review and comment on the project prior to completion of the analysis and documentation.

Scoping and consultation for the project was initiated and is ongoing with the CTUIR and ODF&W. Consultation with the CTUIR Archaeologist on February 13, 2006 and May 18, 2006.

This project was submitted to The State Historical Preservation Officer (SHPO) for review and has been approved.

The Biological Assessment for Canada lynx was submitted to the USF&W on August 25, 2004, and a Letter of Concurrence was issued by USF&W on September 10, 2004. An addendum to the Biological Assessment for Canada lynx to adjust acres originally submitted for the original Mt. Emily project was submitted to the USF&W on August 5, 2005 and consultation was re-initiated. A Letter of Concurrence for the addendum was issued on August 25, 2005 concurring with the USFS finding for Canada lynx.

Between October 2003 and August 2005 members of the Mt. Emily Interdisciplinary Team served as a member of the planning committee or in an advisory capacity for the planning and development of the Community Wildfire Protection Plan for Union County (August 2005). This team was made up of a diverse group of collaborative partners including Federal, State, and local fire protection agencies, government officials, private citizens, Tribal members, forest industry representatives, members of the environmental community, and law enforcement officials. The Community Wildfire Protection Plan rates the Mt Emily WUI as the third highest priority (out of 16) for treatment on Federal, State, and private lands.

Previous scoping efforts for the original Mt. Emily Project include the following:

Public scoping for the original Mt Emily Fuels reduction project (signed March 2005) was initiated in the spring, 2002, Wallowa-Whitman Forest Schedule of Proposed Actions (SOPA), and has appeared in each quarterly SOPA since then. This mailing is distributed to over 150 individuals, organizations, and agencies. Five letters of interest were received.

Two public forums were held on February 25 and 26, 2003 to discuss the Mt. Emily project and accept public comments. The forums were conducted in cooperation with the Oregon Department of Forestry with hour long presentations by both agencies, followed by questions and answers. Local landowners and valley residents were encouraged to attend with over 150 notifications mailed and advertisement in the local newspaper. Approximately 25 people attended each meeting. Several verbal and written comments were offered and incorporated into the proposed action letter.

A description of the original Mt. Emily proposed action was mailed on March 21, 2003 (letter dated March

10, 2003) to approximately 280 forest users and concerned publics soliciting comments and con cerns related to this project. Seven comment letters were received and reside in Appendix D of the original Mt. Emily Fuels Reduction EA.

On April 25, 2003, an overview of the original Mt. Emily project was presented to the Union County Community Forest Restoration Board. On July 11, 2003 the Forest Restoration Board was given a presentation in the field on the current status and alternatives being developed for the project.

On December 12, 2003, a summary presentation to the Union County Community Fore stry Board discussed the projects preferred alternative and fire modeling results.

Several field trips to the Mt. Emily project area were organized to discuss proposed actions on the ground and incorporate feed back. On July 1, 2003 interdisciplinary tea m members and representatives from Hells Canyon Preservation Council (HCPC) toured portions of the project area. Field trips were organized for Forest Service officials from the Regional office in Portland and the Forest Supervisors office in Baker City, OR.

In April of 2003, an overview of the original Mt. Emily project was presented to the Level 1 Streamlining Consultation Team from the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife (USF&W). More site-specific project information w as provided to the Level 1 Team in July of 2003. A draft of the Mt Emily Biological Assessment for Bull Trout, Steelhead and Spring Summer Chinook Salmon (part of the Upper Grande Ronde Assessment Area Biological Assessment (BA), January 2004) was sent to the regulatory agencies in October 2003. A final BA was submitted in February 2004. A Biological Opinion was issued by NOAA Fisheries on April 20, 2004, and resides in the original Mt, Emily Fuels Reduction analysis file.

On May 14th the original Mt. Emily EA was published as available in The Observer Newspaper for a 30 day public comment period. The comment period closed on June 14th and three letters of comment were received and responded to (reference Appendix D of the original Mt. Emily EA, Public Comments to the Environmental Assessment). The ID Team met on July 19 and September 8th (in the field) with Hells Canyon Preservation Council at their request, to discuss and clarify their comments.

Public meetings were held on May 26-27, 2004 to present the preferred alternative for the original Mt. Emily project, and the effects of implementation analysis in the EA. Approximately 10-12 people attended the meetings.

On September 9 and November 23, 2004, the ID Team took the Forest Supervisor and staff to the project area to discuss the original Mt. Emily preferred alternative and public comments.

K. Availability and Location of the Analysis File

An analysis file for this project is available for public review at the La Grande Ranger District. The analysis file includes specialist's reports, data specific to the project, public notifications and their responses, meeting notes, and miscellaneous documentation.

Chapter II: Alternatives, Including the Proposed Action

A. Introduction

This section describes the alternatives, how they address the purpose and need for action, and how they respond to the issues.

B. Alternative Development Process

The National Environmental Policy Act (NEPA) directs the Forest Service to use an interdisciplinary approach which will ensure the integrated use of natural and social sciences and the environmental design arts [NEPA, section 102(2)(A)].

As previously stated in the Purpose and Need (Chapter 1), the Mt. Emily II Fuels Reduction Project qualifies as an authorized hazardous fuels reduction project under the Healthy Forest Restoration Act of 2003 (HFRA). This project is being completed under this authority and follows the processes outlined in the Act (P.L. 108-148).

The act describes the alternative development process for qualifying projects, including the scope of alternatives required to be developed and analyzed. Under this act, "the Secretary (of agriculture) is not required to study, develop, or describe any alternative to the proposed agency action in the environmental assessment…" (Sec.104 (d)(1-3)) for qualifying projects. No additional action alternatives were proposed for the Mt. Emily II project during scoping or the collaborative process that met the purpose and need. Therefore, only one action alternative (the proposed action) has been developed and analyzed in this EA.

An ID team developed this alternative based on the purpose and need of the project and the key issues and other concerns identified in Chapter 1 of this assessment. Forest Service management objectives are incorporated into alternatives by following standards and guidelines of the Wallowa-Whitman National Forest Plan as amended.

C. Alternatives Considered, but Eliminated from Detailed Study

Other alternatives were considered (but not in detail) under the original Mt. Emily Fuels Reduction project which has been incorporated by reference into this EA (Chapter 1, page 8), including a No Removal alternative. In general these other alternatives did not meet the purpose and need of the project and it was determined by the ID team for the Mt. Emily II project that because of the limited scale of this project it was not appropriate to create or consider additional alternatives beyond those already considered under the original Mt. Emily analysis and those described in the following section. Also, as stated above in section B, under HFRA authority, no additional alternatives are required to be analyzed unless a site-specific viable alternative that meets the purpose and need is suggested by the commenting public; no other alternatives were suggested, therefore no other action alternatives were developed or considered for this project.

D. Alternatives Considered in Detail

Alternative 1 - No Action

This alternative constitutes the "No Action" required by NEPA. No actions would occur, and fuel

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D. Alternatives Considered in Detail

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reduction needs (activities) identified in the proposed action would be deferred. This alternative forms the baseline for comparison of the action alternative.

Alternative 2 – The Proposed Action

This alternative is the proposed action as described in chapter 1 of this EA, and is the preferred alternative (Refer to map and data tables in Appendix A)

Alternative theme

Alternative 2 is designed to address the purpose and need of reducing fuels, modifying potential fire behavior and providing a safe, strategic area for firefighters to fight fire from in this area, with further consideration given to wildlife, roadless and scenic resources in priority areas two and three.

A ¼ mile wide treatment corridor would be established along forest roads 3120 (from the southern forest boundary to its junction with 3120500) and 3120500 (see map in appendix A). Approximately 1/8 mile wide treatments on either side of these roads would occur (approximately 200-300 feet), varying slightly in location should a more logical topographical or vegetative break dictate a narrower or wider strip. Treatments would include snag removal (to Forest Plan Guidelines), and removal of down and standing dead wood or predicted to be dead wood within the next 3 to 5 years. Small-suppressed trees that contribute to ladder fuels would be cut and removed, or piled and burned. Hazard trees would be removed to prevent them from blocking vehicle access in the event of wildfire suppression activities. The objective of these treatments is to create a safe travel corridor in the event wildfire burns through the area. These treated fuel corridors would also be considered anchor points for suppression tactics should a wildfire occur.

Alternative 2 is driven by the key issues and lynx habitat concerns. Key Issues include: 1) Increased Fire Behavior Potential, 2) Maintaining Fire Adapted Ecosystems, and 3) Maintaining Mt. Emily Scenic Quality. Treatments would be accomplished with a combination of both stewardship and service contracts, in conjunction with the original Mt. Emily Fuels Reduction Project (signed March 2005).

1) Fuels Reduction Treatment Prescriptions/Objectives

The following describes the treatment objectives, methods and anticipated outcomes of the fuel treatments. The prescriptions target basal area ranges based on plant associations, fire regimes, tree species selected for future management, and resource objectives.

In some situations the target basal areas are difficult or impossible to achieve due to: (1) high mortality levels; (2) the abundance of damaged and diseased trees; and (3) the abundance of trees greater than 21 inches in diameter. Where the stands are dominated by large trees which can not be removed, the basal areas will remain at a level above the targeted management zone, however, the understories will be treated for ladder fuels and surface fuels to ensure the integrity of the fuel management objectives.

In those stands where the management zones may be difficult to achieve due to mortality, damage or disease, the general goals will be to meet the fuels treatment needs by treating the surface, ladder, and crown fuels while accepting the best basal area level achievable based on current stand conditions, which may very well be lower than the initial target level.

Mechanical removal for fuels reduction work will focus on live trees between 4 to 20 inches dbh (with the majority of the material to be removed in the 10" dbh size class) and 5 to 24 inches dbh (average diameter removed approximately 10" dbh) of dead material.

The final prescription and the environmental consequences for each stand depends on existing stand conditions (refer to site specific stand diagnoses, final silvicultural and burning prescriptions,

and specialist reports in the Analysis file).

a) Surface and Near Surface Fuel Prescriptions:

Fuels Reduction (HFU) – Treat dead standing and down material and imminent mortality through removal, piling or slashbusting. Fuel Model 10 w ould be reduced to Fuel Models 8 or 9.

Fuels Thin and Clean (SPC/SCN) – Hand or mechanically thin and remove standing trees less than or equal to six inches dbh; prune low live limbs of residual trees less than six inches.

b) Crown Fuel Prescriptions :

Fuels Thin/Lower Management Zone (HTH/LMZ) – Thinning to reduce tree densities and crown fuels to a lower management level (LMZ). This prescription targets multiple layers of trees while retaining large trees and fire-adapted species. LMZ provides the highest level of treatment for reducing crown bulk densities (CBD) and future fuel loadings resulting from insect and disease mortality. Treatment would also raise Crown Base Height (CBH).

Fuels Thin/Upper Management Zone (HTH/UMZ) – Thinning to reduce tree densities and crown fuels to a range between the mid to upper management zone (UMZ). UMZ provides a lower level of treatment for reducing crown bulk densities compared to LMZ while managing to retain large trees with a mix of fire adapted species and non-fire adapted species, while avoiding suppression mortality from overstocking. This prescription targets the lower tree layer to raise canopy base heights to greater than fifteen feet in height.

c) Prescribed Burning:

Pile Burning (RPB) – Burn piles resulting from hand piling or mechanical piling. For burning prescriptions and guidelines, see constraints and mitigation section.

Summary of Mechanical Fuel Reduction Treatments:

Priority Area Two Specifics:

The prescription strategy for Priority Two Area is as follows:

Those units with commercial removal will be treated to reduce tree densities and crown fuels targeting the mid to UMZ. Prescriptions also include HFU, SCN, pile and pile burning. This will occur in units: 235, 237–246, and 248, 252 for a total of 259 acres.

Those units within the Mt Emily IRA will be mechanically treated including thinning small diameter trees, HFU, SCN, pruning, piling, and pile burning. No removal will occur. Treatment would include cutting of dead standing and down material to <25 tons per acre by piling or slashbusting. Live trees less than seven inches diameter would be hand or mechanically thinned, cleaned, piled, lopped, scattered, crushed or burned. This will occur in units: 262, 264, 265, 267, 268 and 271 for a total of 52 acres.

Mt Emily electronic site: Mechanical slashbusting to reduce tree densities and crown fuels will occur around the electronic site to target the UMZ with no harvest removal. Treatment would include HFU, SCN, pile and pile burning. This will occur in unit: 150 for a total of 17 acres.

Priority Area Three Specifics:

The strategy for the units was to treat to the mid to UMZ, however poor stand conditions make this unobtainable. Therefore treatments will emphasize an HFU prescription, including SCN, pile and pile burning. This will occur in unit: 317 for a total of 3 acres.

Removal Systems Summary

Where treatments result in commercial products, they would be removed by tractor or ground based systems (279 acres), except unit 246, which may require helicopter removal. Approximate 1243 CCF (625 MBF) of wood fiber products are expected to be recovered with the proposed action.

Road Work

No new temporary or permanent road construction is proposed under the Mt. Emily II Fuels Reduction Project.

2) Mt. Emily Forest Plan Amendment

As a part of the Mt. Emily decision, the Wallowa-Whitman National Forest Plan would be amended to include changes as outlined below.

The Canada lynx was listed as a threatened species under the Endangered Species Act by the US Fish and Wildlife Service in March 2000. To engage a strategy for lynx and lynx habitat protection, the Forest turned to the Canada Lynx Conservation Assessment and Strategy (LCAS), August 2000.

The Mt. Emily analysis area provides potential habitat for the Canada lynx (Grande Ronde River/Hilgard Lynx Analysis Unit and Meacham Lynx Analysis Unit). There are over 7,000 acres of lynx habitat within the lynx analysis units (LAU) with denning and foraging habitat levels which exceed the minimum standard habitat requirements identified in the LCAS (Table 25; Ruediger et al. 2000).

This project would adopt the conservation strategies applicable to the project area and the purpose and need for this project from the Canada Lynx Conservation Assessment and Strategy, August 2000, as a non-significant, project-specific Forest Plan amendment. The LCAS was developed to provide a consistent and effective approach to conserve Canada lynx on federal lands in the conterminous United States and represents the best available science for conservation of Canada Lynx. The overall goals of the LCAS were to develop recommended lynx conservation measures, provide a basis for reviewing the adequacy of Forest Service land and resource management plans with regard to lynx conservation, and to facilitate Section 7 conferencing and consultation at the programmatic and project levels.

The conservation measures of the LCAS were designed to cover a wide variety of habitats spread over a range of thousands of miles, as well as a wide variety of management scenerios and circumstances. Therefore, not all of the conservations measures will be applicable to this project and the area. An analysis of the LCAS conservation measures applicable to this project area was completed (refer to the Wildlife Section of the Mt. Emily Analysis File) to determine proposed standards and guidelines appropriate for use in this project and to adequately analyze the effects of their adoption on all natural, social, and economic resources related to the project area.

Recommended LCAS Standards and Guidelines applicable to this project area are as follows:

Programmatic

All Programs –Programmatic Planning Standards:

1. Conservation measures will generally apply only to lynx habitat on federal lands within LAUs.
2. Prepare a broadscale assessment of landscape patterns that compares historical and current ecological processes and vegetation patterns, such as age-class distributions and patch size characteristics. In the absence of guidance developed from such an assessment, limit disturbance within each LAU as follows: if more than 30 percent of lynx habitat within a LAU is currently in unsuitable condition, no further reduction of suitable conditions shall occur as a result of vegetation management activities by federal agencies.

Project Planning Standards:

1. Within a LAU, maintain denning habitat in patches generally larger than 5 acres, comprising at least 10 percent of lynx habitat. Where less than 10 percent denning habitat is currently present within a LAU, defer any management actions that would delay development of denning habitat structure.
2. Maintain habitat connectivity within and between LAUs.

Timber Management in Lynx Habitat

Project Planning Standards:

1. Management actions (e.g., timber sales, salvage sales) shall not change more than 15 percent of lynx habitat within a LAU to an unsuitable condition within a 10 year period.

Project Planning Guidelines:

1. In areas where recruitment of additional denning habitat is desired, or to extend the production of snowshoe hare foraging habitat where forage quality and quantity is declining due to plant succession, consider improvement harvests (pre-commercial thinning, selection, etc.). Improvement harvests should be designed to:
2. Retain and recruit the understory of small diameter conifers and shrubs preferred by hares;
3. Retain and recruit coarse woody debris, consistent with the likely availability of such material under natural disturbance regimes; and
4. Maintain or improve the juxtaposition of denning and foraging habitat.

5. Provide habitat conditions through time that support dense horizontal, understory cover, and high densities of snowshoe hares. For example, this includes mature, multistoried conifer vegetation in the west and patches of aspen with dense conifer understory in the east. Focus vegetation management, including timber harvest and use of prescribed fire, in areas that have understories that have little value to snowshoe hares.

Summary of Lynx Amendment:

Alternative 2 proposes to mechanically treat fuels and prescribe/jackpot burn in lynx habitat. It proposes to convert 331 suitable acres of lynx habitat, of which 217 acres are denning habitat and 114 acres are forage habitat (see table 12). This amendment modifies the Wallowa-Whitman Forest Plan for the Mt. Emily II Fuels Reduction Planning area and would only apply to lynx habitat within the project area.

Table 12: Acres of Lynx Habitat Treated in Alternative 2

Unit Numbers	Habitat Type	Prescription
150, 235, 240, 241, 244, 252, 317	Forage	Combination of all following treatments: HTH/HFU/SCN/RMP/RPB
237, 238, 239, 242, 243, 245, 246, 248, 262, 264, 265, 267, 268, 271	Denning	Combination of all following treatments: HTH/HFU/SCN/RMP/RPB

3) Treatment in Inventoried Roadless Areas (IRA)

Treatment is proposed within the Mt. Emily Inventoried Roadless Area (IRA). Treatment is designed to protect or enhance the roadless characteristics. The most recent definitions of roadless characteristics are provided in The Roadless Area Conservation Rule (currently enjoined by the District court in Wyoming). Following the injunction, Forest direction concerning roadless areas was to follow the Forest Plan(s) for guidelines on managing IRAs. The Wallowa-Whitman Forest Plan defines the Mt. Emily IRA as a managed roadless area (i.e. – allows for management), FEIS, IV page 59, appendix C-5. The IRA is allocated to Wildlife – winter and summer range (MA3/3a). The IRA would be managed according to the standards and guidelines provided for MA3/3a.

Should the injunction on the Roadless Area Conservation Rule be lifted prior to the decision signing of this project, the Roadless Rule direction would be followed. The Roadless Area Conservation Final Rule (January 12, 2001) allows timber harvesting for clearly defined purposes where necessary to meet ecological needs. Treatment purposes for this project, as defined in the Roadless Rule are: "To maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period."

Alternative 2 would mechanically treat 30 acres within, and 22 acres adjacent to, the Mt. Emily IRA, concentrating on smaller diameter trees due to the nature of the current conditions and the goals of the fuel reduction treatments. Treatment includes commercial thinning (HTH) to the mid range between lower and upper management zones followed by fuels reduction harvest (HFU), fuels thinning (SPC), cleaning (FCN) and piling and burning (RMP, RPB). No timber removal would occur in these stands. Affected units include 262, 264, 265, 267, 268 and 271. Surface and near surface fuels treatments would include removal of dead standing and down material to <25 tons per acre by piling. Live trees less than seven inches diameter would be hand or mechanically thinned and piled, lopped, scattered, crushed or burned.

Commercially thinned trees from all mechanical fuels reduction units would be hand-felled (chainsaw) or cut by low impact ground based equipment. No trees greater than 21 inches in diameter would be cut. No removal of trees from these areas would occur. No roads would be constructed in the IRA, temporary or otherwise. Treatment is being proposed in order to provide continuity of fuel reduction corridors in the Mt. Emily WUI.

4) Connective Corridor Treatments

The face of Mt. Emily provides old growth habitat connected by riparian areas, primarily east to west. Old growth on the ridge is extensive and, therefore, provides a large block of connected old growth habitat. Fragmentation exists on the ridge due to past timber harvest; however, connectivity is provided from the ridge west to old growth patches in the Mt. Emily Inventoried Roadless area through several routes that cross over the 3120500 and 3120 roads.

An analysis of connectivity between patches of old growth was conducted. Project design and the nature of the prescriptions in the action alternative will maintain wildlife connectivity qualities and meet the minimum levels as described in the Regional Forester's Forest Plan Amendment #2 (minimum widths of

four hundred feet and canopy closures within the top one-third of site potential) except in stands where tree mortality is currently affecting canopy closure.

5) Riparian Habitat Conservation Areas (RHCAs)

13 units in Alternative 2 include treatments within RHCAs for 21.9 acres, and would receive the modified prescriptions described below. Mechanical equipment would not operate in, nor would harvest removal occur in, riparian areas, in order to minimize ground disturbance and reduce the risk of sediment transport to adjacent streams. Small diameter trees less than seven inches would be thinned and cleaned using hand tools (chain saws). Slash would be hand piled and/or burned.

Units containing RHCA treatments include: 237, 238, 240, 243, 244, 245, 248, 252, 262, 264, 265, 268 and 271. The following constraints and mitigations apply to these units:

1. No trees will be cut within 25 feet of any fish bearing and/or perennial stream (none have been identified within the project area).
2. No trees will be cut within 10 feet of any intermittent stream channel.
3. No live trees greater than seven inches dbh will be cut within RHCAs.
4. All trees within RHCAs will be cut by hand, no ground-based equipment will be used.
5. No mechanical treatment or mechanical removal will occur within RHCAs..

Riparian Management Objectives (RMO) would be met or improved in all RHCAs (see PACFISH for objectives). To assure attainment of RMOs, no-cut buffers would be implemented on both sides of class III and IV streams. Class III streams would receive a 25 foot buffer, and class IV streams would receive a 10 foot buffer (see constraints and mitigation measures).

Prescribed burning (pile burning) would occur within the units in the RHCAs. Ignition would not occur within PACFISH designated RHCA buffers (see constraints and mitigation measures).

E. Management Requirements, Constraints and Mitigation Measures

The following items are included in the action alternative and provide the measures necessary to keep project impacts at acceptable levels. These items would be applied to the proposal as it is implemented on the ground

1) Soil Quality

Mass stability will be maintained (Forest Plan Soils S&G #1; FSM 2521.03.1.b R6 Supplement 2500-98-1), including stability of any existing landslides.

Soil productivity will be maintained by complying with Regional standards and guidelines in FSM 2521.03, R6 Supplement 2500-98-1. The standard is to "leave at least 80% of an activity area in acceptable soil quality condition." Specific standards are defined for soil compaction, puddling, displacement, burning, surface erosion and mass wasting. Guidelines are defined for organic matter and soil moisture regime.

Compliance with soil quality standards in FSM 2521.03, R6 Supplement 2500-98-1, will be determined through use of protocols described in "Interim Protocol for Assessment and Management of Soil Quality Conditions," Wallowa-Whitman National Forest, Version 3.3, September 2001 or subsequent version. Burn conditions will be monitored using "fire severity" (burn intensity) and "severity burn" (burn area) concepts in Fire's Effects on Ecosystems, by DeBano, Neary & Folliott, 1998, p. 63, as required by the current BAER manual, or appropriate modifications thereof to address thresholds in soil standards or

hydrologic models.

The following soil guidelines from the Wallowa-Whitman National Forest publication, *Watershed Management Practices - Guide for Achieving Soil and Water Objectives* (BMP's) are applicable to this project:

> **Existing infrastructure:** Existing landings and skid trails will be used as much as reasonable and practical.
>
> **Soil Moisture**: Under saturated soil conditions no off-trail skidding or machine falling is allowed. Skidding on designated trails may be allowed as long as such use does not cause deep rutting or high erosion potential. Allowing skidding under these conditions makes mitigation by subsoiling less effective and should be avoided both on and off trails. Existing skid trails will be used as much as reasonable and practical. (Sale Design H3)
>
> **Subsoiling:** Evaluate activity areas for the need for subsoiling following use by the sale. (Site Preparation and Watershed Restoration E1)

Approved skid trails, maximizing use of existing skid trails and landings, logging over snow or frozen ground, or some equivalent system for limiting the impact and aerial extent of skid trails and landings will be used to limit cumulative increases from multiple entries in tractor logging areas.

Recommended tons per acre of coarse woody material for long-term soil productivity are listed with Wildlife constraints under “Snags and Down Woody Material” for wildlife and soils.

To minimize accelerated erosion and to provide for long-term soil productivity, 85-100% ground cover will be maintained in forestlands and 65-85% ground cover will be maintained in rangelands, except for short-term reductions associated with management activities, or where natural potential is different. Standards for minimum percent effective ground cover during the first and second years following major disturbance are described in FSM 2521.03, R6 Supplement 2500-98-1. Erosion control methods are listed under the Water Quality and the Logging and Sale Design sections.

Generally, ground-based yarding will not occur on ground steeper than 35%. Ground-based yarding on slopes over 35% and greater than 200 feet distance will be identified during pre-project activity (layout and marking) and approved by the Forest Service Representative/Sale Administrator and district hydrologist/fisheries biologist.

Short, steep areas in tractor ground (up to 200 feet and 50% slope) should require winch lines on all skidding equipment operating on those slopes or use of forwarders which provide full suspension of logs during skidding/yarding.

Designated skid trails will be pre-approved in advance of felling operations by the Forest Service Representative or Sale Administrator to minimize detrimental soil impacts. A unit-by-unit evaluation of detrimental soil conditions will be made in sensitive units upon completion of logging activities. Where detrimental soil impacts exceed twenty percent (20%) of the total acreage within the project area, including landings and system roads, restoration treatments will be considered. Detrimental soil conditions include compaction, puddling, displacement, and severe burning, surface erosion and mass wasting.

Recommended average minimum skid trail spacing for ground-based equipment is 60 feet, center to center for mechanized harvesting, and 80-100 feet for conventional hand felled trees. Require directional felling to minimize soil disturbance during skidding operations (see Soil Quality section).

2) Water Quality

a. Water Quality Standards

All management activities on federal lands managed by the USDA Forest Service in the UGRS must follow standards and guidelines (S&Gs) as listed in LRMP, as amended by PACFISH (USFS 1995), Best Management Practices (BMPs) as defined in various Federal and State laws such as the Implementation Plan for 208 (Water Pollution Control Act, PL 92-500, as amended), and Specific Stand Management Unit (SMU) Constraints and Mitigation Measures identified in the Wallowa Whitman NF Watershed Management Handbook.

Meet (or show progress toward meeting) water quality standards for Waters of the State of Oregon (Oregon Administrative Rules, Chapter 340-41) through project design, application and monitoring of best management practices (BMPs) as defined in the Code of Federal Regulations [40CFR 130.2(m)]. BMPs are used for various situations encountered during layout and administration of the project contract and other activities. BMPs are listed in several sections of these constraints, including the "Logging and Sale Design" section, and in other documents, including the Wallowa-Whitman Watershed Management Practices Handbook, which is on file at the La Grande Ranger District.

Skid trails will not be located in ephemeral drainage bottoms and will not cross ephemeral draws on an average of more than once every 200 feet of linear distance.

b. Erosion Control Methods

Highly disturbed areas (which may include: skid trails, roads, skyline corridors, landings, road cuts and fills, etc.) will be seeded. Use native plant materials for revegetation and restoration as first choice. Non-native and non-invasive plnats may be used in an emergency, as an interim measure, if natives are not available, or in permanently altered plant communities. Seed application rates will be adjusted, as needed, to compensate for the broadcast method of application, and to generate vegetation densities adequate to provide a deterrent to noxious weed invasion.

Seed will be certified weed free, per the Wallowa-Whitman Integrated Noxious Weed Management Plan protocol.

Erosion control measures will be taken on all skid trails and temporary roads as needed. Spacing of waterbars will be determined by on the ground conditions and guidelines stated in the Sale Administration Handbook. Slash and soil material may be left in the trail to divert water, or the subsoiling can be done to provide lead-off drainage from the trails.

To prevent road damage and maintain water quality, road use will be restricted to dry or frozen conditions. The normal operating season for the project area is July 1 to October 31. If road use is approved outside the normal operating season, drainage structures (waterbars, Utah dips) will be kept in a functional condition, and daily operations will be managed to minimize sediment transport from roads. Operations will cease when roads turn muddy and/or rutting occurs, resulting in sediment transportation. Reference the district forest roads and erosion control document in analysis file, transportation section.

Drainage structures will be installed and maintained on all open roads within RHCAs, using spacing guides listed in the Watershed Management Practices Handbook.

Road maintenance will maintain existing drainage features. Post-haul maintenance will protect the road surfaces during future periods of inactivity and may require construction of additional drainage features. Cross drains will not discharge onto erodible slopes or directly into stream channels, including ephemeral drainages.

3) Riparian Habitat and Fisheries

RHCAs were delineated along all riparian corridors, wetlands, intermittent streams, and other areas that help maintain the integrity of aquatic ecosystems. RHCAs: 1) influence the delivery of sediment, organic matter, and woody debris to streams, 2) provide root strength for bank and channel stability, 3) shade the stream, and 4) protect floodplains and water quality.

The RHCA widths described below are minimum widths to be applied in all treatment units with the exception of site-specific RHCA modifications described under the alternative description:

a) Fish Bearing Streams – No harvest 300 feet on either side of the flood plain.
b) Permanently Flowing Non-Fish Bearing Streams – No harvest 150 feet on either side of the flood plain
c) Ponds, Lakes, Reservoirs, and Wetlands greater than 1 acre – No harvest 150 feet from the edge of the wet area
d) Seasonally Flowing or Intermittent Streams, Wetlands less than 1 acre, landslide, and landslide-prone area – No harvest 100 feet on either side of the flood plain, no harvest within the extent of landslides and landslide-prone areas.

In ephemeral draws, trees will be left at a minimum of two large trees per 100 feet of draw bottom for future down woody material recruitment. All bank stabilizing, hardwood, and non-merchantable trees will be left.

This project will be designed in such a way that there will be a very low probability that there will be an adverse effect on TES fish located down stream of the project area. There must not be a measurable increase in stream sediment delivery in this watershed and efforts should be made to reduce the existing sources of non-natural sediment. Large woody material must not be removed from stream channels. . Existing protection measures should protect other instream habitat needs such as stream cover, bank stability, and water temperature.

Pile burning will not occur within 150 feet of any perennial and/or fish bearing stream (none identified) and within 100 feet of any intermittent stream, unless otherwise defined for specific projects through the NEPA and consultation process.

The use of hand constructed fireline (up to 12 inch wide down to mineral soil) if needed during pile burning will be allowed within 150 feet of any perennial and/or fish bearing stream and within 100 feet of any intermittent stream where wet line is not a viable option to secure control lines where fire has a risk of escaping defined unit boundaries due to vegetation moisture or type, presence of heavy concentrations of down fuels, topography, or weather conditions.

All hand-constructed fireline within RHCAs will have waterbars installed at appropriate spacing determined by slope. Mineral soil will be restored to pre-disturbance contours and available woody material will be placed on rehabilitated fireline.

If pickup fuel tanks in trucks are used they are contained in the bed of the truck and secured.

If fuel trucks are used the trucks are parked in designated industrial sites located at least 150 feet from a stream channel or flood prone area, or as far as possible from water bodies where local site conditions do not allow a 150-foot setback. This will minimize the potential for a fuel spill to reach a fish-bearing stream.

A Fuel Spill Prevention Plan will be required for each commercial operation. This is incorporated into all project contracts.

Layout and marking of treatment units will be done in conjunction with the watershed specialist identified for the project.

4) Project Design

The project area boundary is described under Project Area Description, in Chapter 1 of this EA, and identified on alternative maps in appendix A.

All work prescribed would be done through a combination of both stewardship and service contracts, in conjunction with the original Mt. Emily Fuels Reduction Project.

All units with ponderosa pine listed as one of the principal conifer species shall be cut between July 1st and December 1st.

Trees selected for retention under the Tree Improvement Program will be protected during all project activities.

5) Wildlife

a. Snags and Down Woody Material (for wildlife and soils)

A District policy for the management of snags has been adopted that is consistent with Forest Plan guidelines and based on work done at the Interior Columbia Basin Ecosystem Management Project. Snag retention is based on plant association groupings and is summarized as follows:

Dry biophysical environments – retain 2 snags per acre of largest available.
Moist biophysical environments – retain 4-6 snags per acre of largest available.
Cold biophysical environments – retain 6-8 snags per acre of largest available.

Further discussion of snag distribution, size, species priority, type, and biophysical environments is provided in the analysis file (Policy for the Management of Snags).

Pieces per acre are the minimums required by the Forest Plan for wildlife and would be used in the appropriate contract provision:

Table 13: Minimum Levels for Down Woody Material.

SPECIES	PIECES PER AC	PIECE LENGTH AND DIAMETER SMALL END Diameter | MinLength	TOTAL LINEAL LENGTH	Approximate TONS PER ACRE
Ponderosa Pine	3-6	12" | 6ft	20-40 ft	0.2 - 0.4
Mixed Conifer	15-20	12" | 6ft	100-140 ft	1.0 – 1.5
Lodgepole pine	15-20	8" | 6ft	120-160 ft	0.5 – 0.8

It is also desirable to meet the following tons/acre of coarse woody material for soil productivity after harvest/burn operations. Coarse woody material includes all diameter classes. The large (>12") snags and logs should be protected during any prescribed burning.

Table 14: Soil Productivity Levels for Coarse Woody Material

TONS PER ACRE	PLANT ASSOCIATION
5-10	Douglas-fir/spirea, Douglas-fir/elk sedge, Douglas-fir/pinegrass, Grand fir/pinegrass, Ponderosa pine/pinegrass, ponderosa pine/elk sedge, ponderosa pine/snowberry
7-15	Grand fir/twinflower, grand fir/huckleberry, grand fir/spirea, sub-alpine fir, and lodgepole pine

b. Sensitive Habitats

Plant communities adjacent to sensitive/unique habitats will be protected by maintaining vegetative structure characteristic of the edge inherent to these areas. These areas include cliffs, caves, talus, natural openings, and meadows. Wildlife values will be protected in these transition zones by either retaining or developing adequate vegetation.

Buffer widths for sensitive habitats will be at least 100 feet, possibly more on some habitats. The degree of activity allowed within these buffers will vary depending on the type of sensitive habitat. Natural openings will generally not receive a buffer but will have prescription modifications to the upper management zone to maintain the integrity of the inherent edge for these areas.
Grassy scabs and meadows will not be used as locations for landings or skid trails unless no other location is practical. In those situations where landings are necessary, using the edge of these openings is preferred.

c. Peregrine Falcons

A seasonal restriction from February 1 through August 15 should apply to potentially disturbing activities within a mile of a known eyrie. This restriction may be waived if nesting has not occurred or has failed by June 15 (see Wildlife Biologist).

6) Fuels and Smoke Management

Pile burning would occur when weather and fuel conditions are appropriate to meet the objectives and prescriptions for each unit.

Control lines, if needed, could include roads, natural barriers, brush removal and bare mineral soil line construction where needed. All treatment units calling for the use of prescribed fire would not permit direct ignition within 150' of any Class I and III stream channels and 100' of Class IV stream channels

Project Generated Slash:

Trees (5-7 inch DBH) that are dead, diseased, damaged, or not required for future stand structure will be felled and removed, or piled and burned, to reduce heavy fuel loadings, fire risk, and stocking densities.

Landing slash will be pile burned in landing areas or scattered when amounts do not warrant piling.

Road Reconstruction Slash – Disposal of any created slash is based on "least cost" method. Where a road traverses through a harvest unit the fuel treatment should closely correspond to the treatment of slash in the unit.

Smoke Management:

A voluntary Smoke Protection Zone has been established around the City of La Grande. Northeast Oregon Inter-agency Dispatch Center (NOIDC) will be contacted prior to any prescribed burning on National Forest Lands. Prescribed burning activities are coordinated with the Oregon Department of Environmental Quality by NOIDC to assure that burning conditions will meet with air quality standards for personal health in the City of La Grande. Visual quality standards will be protected in the Eagle Cap Wilderness area during the peak recreational use period of July 1 through September 15.

Water Sources:

Water sources needed during fire operations will consist of temporary sumps. Sites, to be identified at a later date, will be constrained by the following:

- Seed any disturbed ground, following operations, with a mix recommended by the District Diverse Species Coordinator if appropriate.
- Locate site to minimize washout and erosion potential.
- Avoid springs and elk wallows.
- Avoid potential habitat of PETS plant species.

7) Range

Allotment boundary fences and other improvements damaged during the grazing season must be repaired to their functional condition immediately, and damage occurring outside the grazing season must be repaired at least two weeks prior to permitted livestock entry. Any damage occurring to existing range improvements should be reported to the District range manager and/or private landowner. All range improvements will be protected during prescribed burning activities. If damaged they will be repaired as discussed above.

8) Proposed, Endangered, Threatened, and Sensitive (PETS) Plant Species

Surveys have been completed within the project area for PETS plant species (reference Biological Evaluation for plants in the analysis file). No proposed, endangered, or threatened, candidate species were discovered during these surveys. No additional sites for any currently listed Region 6 Sensitive species were discovered. No areas were identified as potential habitat or needing follow-up surveys. Since there are no PETS plants species within the project area; no special mitigation measures are necessary.

Contract provisions will be included to provide for the protection of areas where PETS occur and for those which may be discovered in the area during the contract period.

9) Managing Competing and Unwanted Vegetation

A site assessment report is available at the La Grande district. Noxious weed locations appear on project maps in the analysis file. Forest roads 1400123 and 1400130 have scattered populations of diffuse knapweed. These roads will not be used for Mt. Emily II project activity. Two other sites identified in the noxious weed inventory are on roads or trails also not planned for project use. If new noxious weed infestations are located within the project area, a noxious weed inventory and site assessment will be completed.

In response to the INWMP, an analysis was prepared which considered prevention, correction, or maintenance measures.

The following standards will be implemented to reduce new establishment or spread of noxious weeds and responds to the non-key issue of noxious weeds (Final Environmental Impact Statement for the Invasive Plant Program 2005; Record of Decision 2005):

Site Identification:
Noxious weeds sites discovered during any phase of project implementation will be designated as "Areas to Protect" (no decking, skidding or equipment) and included in the contract package for use by the contract administrator.

Clean Equipment:
All equipment to be operated on the project area will be cleaned in a manner sufficient to prevent

noxious weeds from being carried on to the project area. This requirement does not apply to passenger vehicles or other equipment used exclusively on roads. Cleaning, if needed, will occur off of National Forest System lands. Cleaning will be inspected and approved by the Forest Officer in charge of administering the project.

Avoid Contaminated Materials:

All hay or straw used for mulching, erosion control, or other rehabilitation purposes will be weed free (per the Wallowa-Whitman INWMP protocol). Sand, gravel, and rock sources for road re-construction will be inspected for noxious weeds prior to their use. If inventory reveals the material source is infested with high priority noxious weed propagules, the source will not be utilized until appropriate mitigations are coordinated with the district noxious weed coordinator.

10) Water and Material Sources

Water and Material sources, if needed, will be existing sources. No expansion of sources is anticipated. All work will stay within existing source boundaries. No rock pits have been identified for project use.

11) Forest Health/Ecological Integrity

Seasonal operational restrictions may be applied to reduce risk of *Ips* beetle population numbers in warm grand fir/Douglas-fir groups with ponderosa pine.
Borax will be applied to recently cut stumps of grand fir in stands where grand fir will still be a major component to reduce the risk of *fomes annosus* spread.

12) Cultural Resource Protection

No cultural sites were discovered during surveys in proposed activity areas for this project. However, should any sites be discovered during project activities, the Heritage Technician for this project will be notified immediately and appropriate protection measure employed.

13) Recreation

Maintain the character of dispersed camping sites by cleaning up project-created slash. Maintain access to dispersed sites on roads to be left open. Leave adequate space for camping at the point where roads are closed.

Mt. Emily II Fuels Reduction – Summary of Alternatives at a Glance

Table 15: Alternative Comparison

Alternative Elements	Alternative 1	Alternative 2
Commercial Thin Treatment Acres	0	331 acres
Fuels Reduction/Cleaning Treatment Acres	0	331 acres
Machine Pile/Burn Acres	0	331 acres
Priority 2 Acres Treated	0	328 acres
Priority 3 Acres Treated	0	3 acres
Units with RHCA treatments	0	13 units
Acres of RHCA treatments	0	21.9 acres
Acres Treated within the Mt. Emily IRA	0	30 acres
Saw/Chip Volume Recovered	0	1243 CCF (625 MBF)

F. Comparison of How the Alternatives Respond to the Key Issues

Table 16: Alternative Comparison by Key Issue

Key Issue	Key Indicators	Alt. 1	Alt. 2
Increased Fire Behavior Potential on NF lands within the Mt. Emily WUI	• Crown fire potential (active, passive or surface)	Passive	Surface
Maintain Fire Adapted Ecosystems within the Mt. Emily WUI	• Number of acres treated in condition class three (returned to condition class one)	0	177
Maintaining Mt. Emily Scenic Quality	• Unnatural appearing impacts (disturbance) less than 10% of viewshed (goal is retention in foreground) Yes or No	Yes	Yes
	• Unnatural appearing impacts (disturbance) less than 14% of viewshed (goal is partial retention or retention in middleground) Yes or No	Yes	Yes

G. Monitoring Plan

Monitoring specific to project activities, and not in conjunction with research studies, would be accomplished to assure that activities conform to objectives of the Forest Plan. Project level monitoring is a component of Forest Plan monitoring. The following types of monitoring will be accomplished:

1. Implementation Monitoring - Are mitigation measures and BMPs being implemented as planned?

For example, monitoring of project activities will occur to assure proper application of all identified constraints and mitigation measures. Monitoring will also consist of project contract administration to ensure that all required mitigation measures are properly implemented and are effective. Included in the monitoring activities is compliance monitoring of Proposed, Endangered, Threatened, and Sensitive species (PETS). If PETS are discovered in the area during project activity, they will be protected in accordance with appropriate contract provisions. Additional site monitoring by the district fisheries and watershed staff during road reconstruction, project layout and marking, and fuels removal will be undertaken to assure compliance with water quality standards, hydrology, and soil parameters.

2. Effectiveness Monitoring - Did mitigation and protection measures result in desired effects?
A walk-through survey of the project area during implementation and after project closure will be conducted to qualitatively monitor on-site and downstream effects of project implementation.
If monitoring shows that mitigation measures of BMP's are not being implemented as planned or are

not being effective in meeting resource objectives, activities will cease or be modified to correct problems. Monitoring in areas where PACFISH RHCA widths are modified and burned by direct ignition will be undertaken at five-year intervals to determine vegetative responses.

3. Prescribed Burning Monitoring - Fire Management will conduct monitoring of the prescribed burned acres as outlined in the Forest Prescribed Burn Monitoring Plan.

4. Noxious Weeds - The following elements will be monitored and documented (for a listing of the responsible person for each element, refer to the Noxious Weed Report in the analysis file):

1) Effectiveness of treatments.
2) Cost of the project (direct and indirect)
3) Analysis of unintended effects.
4) Impacts to human health
5) Analysis of the degree of success.
6) Effectiveness and adherence to the mitigation measures.

5. Fisheries and Watershed - The following is a list of monitoring activities for fisheries and watershed resources, which have been or will be implemented prior to and following the Mt. Emily Fuels Reduction project. These activities will provide information on evaluation of the sale and for future planning of projects in the area.

1) Pre-project monitoring for each Forest Management project includes on the ground survey of the project area, and the proposed treatment units. Monitoring of the proposed treatment units includes survey of any stream channels, slope stability, general riparian vegetation characteristics, assessment of proposed roads for project use (surfacing, drainage, culverts, and locations), and general watershed conditions;
2) Monitor the project to ensure that all Standard and Guidelines in the LRMP are met through implementation of protection measures as identified by the interdisciplinary team; this monitoring is conducted with the Timber Sale Administrator (TSA) or the Fuels Specialist as the project is being implemented;
3) Stream channel and riparian surveys, downstream and within each of the project areas, will be conducted within five to ten years of project completion (or as funding allows). Additional surveys will be conducted after channel changing events if funding allows. These surveys will evaluate fish habitat as well as channel and riparian habitat conditions, and relative to the treatment prescribed in the selected Alternatives.
4) Monitoring of the implementation of project designs and protection measures will take place throughout the life of the project by the TSA and Watershed Specialist. For example, if an intense thunderstorm caused overland flow and subsequent excessive soil displacement or sediment production, harvest operations would cease until the soil moisture decreased or protection measures were complete. Potential effects from log haul on roads which parallel RHCAs will be monitored throughout the life of the project by the TSA and Watershed Specialist. Timber harvest operations will be halted if adverse impacts are observed at any point during the operating.

6. Soils - Monitoring will be undertaken

1) To ensure that best management practices and mitigating measures incorporated into the sale are being followed.
2) To determine if these practices and measures are adequate to meet the intent of management directives.

Monitoring of sale layout and contract administration will be undertaken to ensure proper application of all identified constraints and mitigating measures. Ground-based harvest units will be monitored to ensure adequate spacing between skid trails, restriction of equipment to skid trails, prevention of

wet weather yarding, and effective subsoiling of compacted skid trails and landings.

Post-harvest activities will be monitored to ensure that guidelines to minimize soil disturbance are being followed. Subsoiling will be monitored to ensure additional soil damage related to project implementation is negligible.

7. Wildlife – The following table displays the wildlife monitoring that will occur.

Table 17: Wildlife Monitoring

What	Type	When	Who	Why
Snags, logs Sample of units	Implementation	During logging, one year after logging	TS administrator & wildlife personnel	To determine if prescribed material was retained

Chapter III: Environmental Consequences

A. Introduction

This chapter discloses the environmental consequences (effects) of implementing the alternatives (including the proposed action) described in Chapter 2. The effects analysis forms the basis of comparison of the alternatives through evaluation of the key issues and select non-key issues.

Direct, indirect, and cumulative effects will be discussed. The duration of direct, indirect, and cumulative effects varies, and is addressed by each resource and subject area to follow. Key indicators will be used to measure alternatives for each key issue. The effects will be discussed by resource or subject area, and key issues and indicators will be addressed under the appropriate area. The scale of analysis of effects is on the project area level, including those portions of the subwatersheds identified in Chapter 1, unless otherwise identified.

Detailed analyses, literature citations, and supporting information are contained in each individual resource specialists' reports in the project analysis file at the La Grande Ranger District Office.

The cumulative effects analysis includes effects from past, present and reasonably foreseeable future activities within or adjacent to the Mt. Emily project area. Th ese include the following activities:

La Grande District – Wallowa-Whitman National Forest

Mt. Emily Fuels Reduction Project: The original Mt. Emily Fuels Reduction Project (signed March 2005) includes fuel reduction treatments including commercial and precommercial thinning, cleaning, pruning, slashbusting, piling and burning of slash, on 978 acres in priority areas one and three of the Mt. Emily project area. It also includes 1559 acres of prescribed underburning over the next 5 years. It includes 1.0 mile of temporary road construction (will be fully obliterated after use), and 3.57 miles of road closures. Implementation began in the summer of 2005, and is ongoing.

Tie Creek Allotment: This is the only grazing allotment (cattle or sheep) on the Wallowa-Whitman National Forest within the analysis boundary (located in priority area two). It is 198 acres and is currently active. Tie Creek Allotment includes approximately 200 acres of the Upper Five Points Creek Subwatershed (87C), with the majority of the grazing activity occurring on private land lying south of the project area. The acres of the allotment that are located in the Mt. Emily project area are normally grazed later in the year, when the intermittent streams have gone dry.

Spring Mountain Sheep Allotment: This allotment is within the Mt. Emily IRA (far western boundary) and has been in non-use status for the past 5 years.

Dispersed Recreation: There are no developed recreation facilities within the project area. Recreation in the area is primarily focused on day trip activities, such as OHV riding, firewood gathering, and huckleberry and mushroom picking during the summer months. The highest use in this area is experienced during the big game hunting seasons when hunters occupy many of the dispersed campsites within the area. There is one known recreation trail in the area.

Water Rights - Water rights in the project area need to be identified and protected. The National Forest System has reserved water rights on certain portions of their proclaimed lands. A map showing proclaimed and acquired lands is available at the La Grande Ranger District office.

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Walla Walla District – Umatilla National Forest

Boundary Fuels Reduction Project: The Walla Walla Ranger District proposes to treat fuels in 2 areas that fall within the fire/fuels resource area cumulative effects analysis boundary. These 2

projects are located between the District boundaries (La Grande and Walla Walla District boundary north of Mt. Emily) and Ruckle Junction. A total of approximately 900 acres of treatment fall within the cumulative effects analysis boundary. The treatment areas are located within a ¼ mile of the east boundary of the Umatilla Forest, immediately adjacent to private lands and within the Mt. Emily WUI, and along Forest Road 31 to Ruckle Junction. Treatment methods include hand thinning of trees less than six inches diameter, pruning, hand piling, and pile burning of created slash.

The design of the project is to compliment fuels reduction work that is being done by private landowners and the Oregon Department of Forestry along the east flank of Mt. Emily north to the forest boundary near County Road 22 (Forest Road 32) and the La Grande Ranger District.

There is no prescribed burning proposed in the Walla Walla District fuel reduction projects, except for pile burning. This would result in no overlap of grazing and prescribed burning within the analysis boundary.

North End Sheep and Goat (S&G) Allotment: This allotment is within the North Mt. Emily Inventoried Roadless Area (IRA), and is administered by the Walla Walla Ranger District on the Umatilla National Forest.

Industrial Lands - Boise Cascade (Boise Building Solutions) and Forest Capital Partners

Recently, there have been approximately 435 acres of timber sale activities on industrial lands within the analysis boundary that have reduced surface, ladder, and crown fuels. Boise Building Solutions has an additional 164 acres of small diameter thinning planned along the face of Mt . Emily near homes, and along the 3120 road to reduce surface, ladder, and crown fuels.

Private Land

Currently there are 50 land owners that have planned or implemented fuel reduction projects on approximately 1,800 acres between Hunter Road and the National Forest boundary. Treatments include small diameter thinning, brush reduction, and slash treatments. Treatment levels vary between land owners and are scattered in block sizes from 1 to 400 acres. 365 acres of timber sale operations were completed on private land adjacent to Hunter lane. Approximately 2,500 acres of treatment are programmed in total within this area over the next 5 years.

B. Alternative Evaluation as They Respond to the Key Issues

KEY ISSUE – Increased Fire Behavior Potential

Introduction

Overview - The purpose of this project is to modify fuels and potential fire behavior, thereby improving firefighting opportunities to directly and indirectly attack wildfires from strategic locations, and improve firefighter and public safety. Reducing fuel loadings and managing vegetation to decrease the susceptibility of widespread insect and disease episodes would also decrease the potential for intense fire behavior adjacent to homes and private property. This project is part of a collaborative effort to manage vegetation on private, state, and public lands adjacent to urban development to reduce fire hazard and improve defensible space. This project is being coordinated with the Oregon Department of Forestry, Union County, Rural Fire Protection Departments, and the Wallowa-Whitman and Umatilla National Forests.

Fire Behavior Modeling - Each of the stands within the analysis area are categorized into seven broad fire behavior Modeling Groups based on fire regime, condition class, ecoclass, and field inventory. Modeling Groups 1 through 4 have crown fire characteristics, while groups 5 through 7 consist of surface fuels only

(grass, shrub, and/or small trees) (see fire and fuels report in the analysis file). The following table displays the Modeling groups for the Mt. Emily II project.

Table 18: Acres by Modeling Group treated in Mt. Emily II

Modeling Group	Acres treated in Mt. Emily II	Fire Regime	Plant Association
2	52	3	Grand fir / Big Huckleberry
4	279	4	Sub alpine / Lodgepole (> 5,000 feet elevation)

Emphasis for reducing crown fire potential is on groups 1 through 4. The Forest Vegetation Simulator and Fire and Fuels Extension (FVS-FFE) model was used to make fire behavior predictions and compare sustainability of stands over time to resist insects and disease following treatments. A ninety seventh percentile fire danger day (only 3% of weather and environmental conditions are worse) was used for the wildfire predictions.

A number of factors including crown bulk density, crown base heights, torching indices, crowning indices, crown fire potential, spotting potential, and flame lengths were analyzed in determining differences between alternatives (reference detailed modeling results in the analysis file). Crown fire potential and flame length were selected as the best measurements. Many of the other factors listed above are functions of crown fire potential. Fire managers are interested in flame lengths and crown fire potential because they determine how and where to fight a wildfire. Reducing crown fire potential to surface fires, and flame lengths that allow direct attack of wildfires (1-8 ft) would meet the purpose and need of the project.

For the purpose of this analysis mechanical treatments include tree removal, small diameter thinning, stand cleaning, pruning, and grapple and hand piling. These are all methods of mechanically pre-treating areas that are overstocked, have a ladder fuel component, and/or have heavy concentrations of standing dead and down fuels. Slash pile burning would follow mechanical treatments.

Alternative 2 proposes treatments in modeling groups 2 and 4. Crown Fire Potential and Flame Length outputs were used to compare the *relative difference* between the alternatives and not the actual fire behavior of a wildfire. The following table displays the differences in crown fire potential and flame lengths for the Modeling Groups in Mt. Emily II by alternative.

Table 19: Crown Fire Potential and Flame Length by Modeling Group

Modeling Group	Crown Fire Potential		Flame Length (Feet)	
	Alt 1	Alt 2	Alt 1	Alt 2
2	P / A	S	4-49	2-5
4	P	S	5-6	2-3

(A) Active Crown Fire - surface, ladder, and crown fuels are involved in a continuous crown fire.
(P) Passive Crown Fire – Individual trees, small or large groups of trees are involved in crown fire and can range to nearly an active crown fire.
(S) Surface Fire – fire burning in surface fuels.

The cumulative effects analysis boundary for this resource includes approximately 40,360 acres of private, state, and public lands.

Direct and Indirect Effects on Fire Behavior Potential

Alternative 1 – No Action

Alternative 1 is the no action alternative and would not treat any fuels mechanically or through the use of prescribed fire. Crown fire potential would be passive and/or active in Modeling Groups 2 and 4 under modeled conditions (ninety seventh percentile environmental conditions). Flame lengths would range from 4-49 feet. .

Direct and Indirect Effects Common to all Priority Areas

Within the analysis area, multi layered structures, tree densities and live vegetation continue to grow and dead wood continues to accumulate, creating conditions that allow fire to move vertically from the ground level to the forest crown. Overstocked stand conditions continue to increase the susceptibility of the stands to insects and disease (reference Silvicultural Effects) resulting in increased surface and crown fuel loadings and associated fire behavior potential. These conditions continue to limit fire fighting opportunities, increase risk to private property, firefighter and public safety, and increase the risk of damaging impacts to natural resources and visuals along the face of Mt. Emily.

Under this alternative, predicted flame lengths within Modeling Group 2 exceeds direct attack capabilities with hand crews, engines and dozers (reference table 19).

Alternative 1 does not meet the purpose and need of the project because crown fire potential would remain as passive or active. Flame lengths exceed direct attack with hand crews and equipment in most instances.

Priority Area Two

The direct effects of Alternative 1 are a continuation of heavy surface and crown fuel loadings that have passive (spotting) and/or active crown fire potential, increasing the potential of a fire to spread across the ridge. This increases the risk of fires that originate to the west of the ridge to then spot across the ridge, and spread towards the community near Mt. Emily. This also increases the risk of a fire to spread from the east across the ridge and into a roadless area that has heavy accumulations of fuels, limited access, and steep terrain. Initial attack of fires within the roadless area is by handcrews hiking in or from aerially delivered resources. Access for handcrews to hike to a fire in this area is primarily from the 3120 road system. Response time for the nearest helicopter with rapellers is approximately 30 minutes. Response times for the nearest smoke jumpers are 45 to 60 minutes. Response time for retardant is approximately 10 to 15 minutes. The effectiveness of retardant depends on how soon firefighters arrive on scene following the drops. All aerially delivered resource response times are dependent on availability.

Not treating the area would decrease the opportunities to use this main ridge and road system as a control line during fire suppression operations and increases the potential for a large, high intensity wildfire. Flame lengths that exceed 4-8 feet limit the opportunities for ground resources to direct attack a fire with handtools and/or engines safely. This forces firefighters to back off to safer locations, which may require the use of more heavy equipment, which can cause more damage to vegetation, soils, and watersheds.

Priority Area Three

This area also has heavy accumulations of dead standing and down trees. The direct effects of not treating these areas include increased potential for crown fire and flame lengths to exceed direct attack capabilities and decreased opportunities to use these ridge systems as control lines. There is the potential for damaging impacts to natural resources from severe burning conditions in these heavy accumulations of dead material.

Alternative 2 – The Proposed Action

Direct and Indirect Effects Common to all Priority Areas

The intent of the treatments called for in this alternative is to focus on leaving overstory trees (provide shading) while raising canopy base heights to between 10 and 20 feet high, leaving a larger gap between brush, small trees, and overstory trees. Prescriptions are designed to leave more trees where possible. The nature of these treatments will reduce the potential for increased light reaching surface fuels and drying them out. Minor amounts of drying near roads or openings may occur, but this is not expected to be measurably increased due to the actions proposed in this project.

Existing and project generated surface fuels will be treated and maintained over time. Fine fuel loadings (3 inch minus size classes) in fuel reduction units are expected to experience a short-term increase immediately following mechanical activities. In general, these fuel loadings are expected to range in the 15-20 tons per acre which are slightly above the desired ranges for fuels reduction activities and the minimum levels required for site productivity. In all of these stands, post harvest piling and burning is planned. Fire hazards immediately following harvest activities are not severely elevated due to the green nature of the slash. Depending on the weather, the slash could cure rapidly and present a short-term (several months) elevated hazard risk in the late summer before fall rains/snows arrive. A curing period is required to achieve desired fuel consumption when prescribed burning. Fuel loadings generally are crushed closer to the ground by winter snows (reducing the potential for the fire to get up into the reserve tree crowns) and after a period of drying in the late spring/early summer they are generally ready for prescribed burning.

Therefore, if the prescribed burning takes place in the fall of the year following harvest as planned, there is a short term (3 months) period of elevated potential for high intensity burning conditions in the event of a wildfire during this period. This occurrence depends largely on weather conditions and the relatively low potential for a lightning strike in that exact same area. This risk would be immediately removed following the completion of the piling and burning activities. Should burning be delayed – this risk would remain in place for the hottest four months each summer for a 2 year period after which the fine fuels will be on the ground and decomposed to the point that they are no longer a flash fire hazard.

Properly implemented and maintained fuel-treatments that include burning will result in reduced fire intensity and severity within the treated stands (reference literature cited/reviewed, Mt Emily Fire/Fuels Effects, specialist report and Management Treatments and their effects on Fire Behavior: Thinning, Fuels Treatment and Fire Behavior, Briefing Paper, 2003, Reaves, Conard, and Cleaves).

Alternative 2 treats 331 acres in modeling groups 2 and 4 through removals, stand cleaning, pruning, piling, and pile burning. Prescriptions target the lowest layer of trees needed to reduce ladder and crown fuels, leaving a mix of both fire dependent and non-dependent trees that are less susceptible to insects, diseases, and fire. Reducing overstocked conditions would also reduce the risk of insect and disease mortality over the next 10 to 20 years (future fuel loading).

Crown fire potential would be reduced from passive and/or active crown fire potential to surface (on acres treated) in both modeling groups. Treatment effectiveness is expected to last for 10 – 20 years in terms of recommended stocking levels (ladder and crown fuels) and associated crown fire potential.

Flame lengths would be reduced to 2-5 feet on treated acres (reference table 19). Handcrews can fight fires directly when flame lengths do not exceed 4 feet. Engines and dozers (where roads and terrain allow) can directly fight fires with 4-8 foot flame lengths. Having the opportunity to fight fire directly, decreases the potential fire size, the risk to firefighter and public safety, and the risk to private property (including homes).

The proposed action to reduce fuel loadings and crown fire potential was developed and supported through fire modeling and professional experience. Thinning from below followed by surface fuel treatments can effectively alter fire behavior by reducing crown bulk density, increasing crown base height, and changing species composition to lighter crowned and fire-adapted species (Graham, etal, PNW-GTR-463). Treatments provide a window of opportunity for effective fire suppression and protection of high-value areas (Pollet and Omi 2002). A list of literature reviewed and/or referenced for this effects section can be found in the appendix of the Fire and Fuels Management Effects document.

Alternative 2 meets the purpose and need for the project for 10 to 20 years. Within that time period another mechanical pretreatment may be necessary within the priority areas to maintain the desired fuel profiles by reducing surface, ladder, and crown fuels resulting from regrowth, overstocked stand conditions and/or insect and disease mortality. Treatments would maintain surface fire characteristics and flame lengths that meet the purpose and need of the project.

Priority Area Two

Approximately 328 of the 331 acres proposed for mechanical treatment are located in priority area two (52 acres in modeling group 2 and 276 acres in modeling group 4). Fuel corridor treatments would also occur along roads 3120 and 3120500. Small diameter thinning, removal, or piling and burning would reduce ladder and crown fuels and dead standing and down trees.

Direct effects of implementing Alternative 2 include fuel treatments along the last main ridge that separates the Mt. Emily Wildland Urban Interface area (to the east) from National Forest lands that are designated as roadless and have heavy fuel loadings (to the west). Within the corridor, surface and crown fuel loadings would be reduced. Crown fire potential would be reduced and the potential for a fire spreading from the west to the east or vice versa would be reduced. Long range spotting potential is reduced with lower crown fire potential and flame lengths. Opportunities to safely access the area and use the ridge as a control line during fire suppression are increased. The potential for large fires to occur would be decreased.

Priority Area Three

Approximately 3 of the 331 acres proposed for mechanical treatment are located in priority area three (3 acres in modeling group 4). Small diameter thinning, removal, or piling and burning would reduce ladder and crown fuels and dead standing and down trees, and maximize managing towards large trees that are resistant to insects, disease, and fire.

The direct effects of treating priority three ridges include additional ridgetop fuel treatments to conduct fire suppression actions from. Surface and crown fuel loadings are decreased, crown fire potential is decreased, fire fighter safety is increased, and potential damaging impacts to natural resources from severe burning conditions is decreased.

Cumulative Effects on Fire Behavior Potential

Currently, vegetation and fuel treatments are being planned and implemented on public, private and industrial forest lands. Oregon Department of Forestry, Boise Cascade, private land owners, and the Wallowa-Whitman and Umatilla National Forests are coordinating fuel reduction efforts to tie in to treatment areas along the face of Mt. Emily and along the main ridge w here the 3120 and 3120500 roads are located. Completed treatments have reduced fuel loadings to varied levels through thinning, removal, piling, pile burning, and underburning. Light levels of treatment on dense crown fuels would require additional entries within 5 to 10 years to maintain effectiveness. Treatments that reduce basal area and dense crown fuels will last 20 to 30 years, requiring only light maintenance treatments to maintain effectiveness

Alternative 1 – No Action

The analysis area has a high occurrence of both lightning and human caused fires that are scattered across all ownership boundaries. This risk combined with heavy accumulations of surface, ladder, and crown fuels increases the potential for a large, high intensity wildfire to occur and spread across ownership boundaries.

Not treating the heavy surface, ladder, and crown fuels on the Wallowa-Whitman National Forest along the 3120 and 3120500 roads (last main ridge between valley and roadless area) increases the risk of wildfires originating on forest lands and spreading across these boundaries. Diurnal winds are down canyon and down slope. The Frizzel fire of 1986 is a good example of a fire that originated on National Forest lands and spread downhill towards private lands.

The fire growth model FARSITE modeled fires originating in the Emily Creek drainage spotting east across the 3120, 3120500 roads and onto private lands.

Limited vegetation management, aggressive wildfire suppression, and insects and disease mortality would continue the trend of fuel loadings accumulating in the form of dead and down trees, small diameter trees growing into the overstory, and dense crown conditions in these stands. These conditions would continue to increase the potential for a ground fire to transition into a crown fire. Heavy accumulations of surface fuels and/or crown fires would continue to increase the potential for spotting to occur.

These conditions would continue to limit fire fighting opportunities, increase risk to private property and homes, firefighter and public safety, and increase the risk of damaging impacts to natural resources. These vegetation conditions and associated risks would continue to escalate until action is taken to reverse the trend, or a stand replacement fire event occurs.

Alternative 2 – The Proposed Action

The combined and continued fuel reduction efforts of all ownerships would reduce the potential for a large, high intensity wildfire to spread through the area. Fuel reduction efforts would reduce potential crown fire and flame lengths, and improve opportunities to direct attack a wildfire safely.

Implementing Alternative 2 would reduce the potential for large, high intensity wildfires to spread from the Wallowa-Whitman National Forest onto private and industrial lands by providing fuel breaks along the 3120 and 3120500 roads. Managing fuels on all ownerships within the analysis area would reduce flame lengths, crown fire and spotting potential. This would result in fewer long term risks to private property, homes, firefighter and public safety, and damaging impacts to natural resources, including visuals.

KEY ISSUE – Maintain Fire Adapted Ecosystems

Introduction

Vegetation conditions have evolved to a density and complexity outside the historical range in fire regimes within the treatment area.

Direct and Indirect Effects on Fire Regime Departure

Alternative 1 – No Action

This alternative would not treat any acres within fire regimes that are in a condition class three. The direct effects of not mechanically pre-treating acres with heavy fuel loadings (i.e., ladder fuels, overstocked stands, and heavy concentrations of standing and down dead) in these fire adapted ecosystems is to limit the re-introduction and maintenance of low intensity fires in the future because of potential extreme fire behavior.

Agency fire suppression efforts would continue under fuel conditions that are hazardous. Alternative 1 would not reduce risks or increase success rates of wildfire suppres sion in the Wildland/Urban Interface.

Alternative 1 does not meet the purpose and need of the project for restoring fire adapted ecosystems within a range of historic conditions. Fire exclusion would continue to extend the fire return interval, increase fuel loadings, change vegetation profiles, and increase the gap between historical conditions and current conditions. True fir establishment would continue in the absence of low intensity "thinning fires." These vegetative conditions have placed Late and Old structure, wildlife habitat, and riparian areas at risk to severe wildfire impacts.

Alternative 2 – The Proposed Action

In Alternative 2, 279 acres of the 4,577 acres (7%) of fire regimes three and four that are in a condition class three in the analysis area would receive mechanical and hand treatments including harvest removal, small diameter thinning, stand cleaning prescriptions, and piling to reduce surface, ladder, and crown fuels. Pile burning would follow the treatments. These acres would move to a condition class one following treatments.

Treatment prescriptions in Alternative 2 are expected to last for 10 to 20 years before stand conditions become overstocked and the encroachment of other species for these fire regimes again begins to trend away from historical vegetation conditions.

Alternative 2 meets the purpose and need of the project by moving fire regimes three and four towards more historic conditions on acres that are currently outside of historic ranges. This would reduce the risk of intense wildfire behavior to LOS, long-term wildlife habitat and riparian structure. Preservation of existing LOS is enhanced while promoting long-term LOS, wildlife diversity, and riparian function across the landscape towards more historic al conditions.

Cumulative Effects on Fire Regime Departure

Alternative 1 – No Action

Acres identified as being in a condition class two would convert to a condition class three over the next 20 to 30 years. Acres identified as being in a condition class three would continue to be at high risk.

The analysis area lies within the Grande Ronde River/Hilgard Watershed which is ranked at high risk in terms of departure from historical fire return intervals. Movement towards historical conditions in disturbance patterns across the landscape would be delayed for approximately 20 to 30 years, or until a stand replacement event occurs.

Heavy concentrations of dead standing and down trees and multi-layered structure and tree densities continue to be at risk to intense, stand replacing fire events, which could result in the loss

of late and old structure, wildlife habitat cover, and consumption of large woody material and structure in riparian areas. Maintaining soil productivity over the long term generally requires presence of soil organic material and fire effects characteristic of the natural fire regime.

Alternative 2 – The Proposed Action

Manipulating fuels through mechanical and hand treatments would help move existing vegetative conditions in terms of vegetation composition, structural stages, and disturbance patterns, towards more historical conditions. Stands in fire regimes three and four, in condition class 3 would be moved to condition class 1.

Currently, vegetation and fuel treatments are being planned and implemented on public, private and industrial forest lands. Oregon Department of Forestry, Boise Cascade, private land owners, and the Wallowa-Whitman and Umatilla National Forests are coordinating fuel reduction efforts to tie in to treatment areas along the face of Mt. Emily and along the main ridge where the 3120 and 3120500 roads are located. Completed treatments have reduced fuel loadings to varied levels and affected condition classes through thinning, removal, piling, pile burning, and underburning. This project would complement those other projects, and help return the area back to historic fire regime levels.

KEY ISSUE – Maintain Mt. Emily Scenic Quality

Introduction

The scenery resources of the Mt. Emily area are fully described in the Valued Landscape Character Description. (See Chapter 1).

Two main factors affect the condition and sustainability of the scenery resources. This analysis will evaluate the following factors and how each alternative affects those factors:

- Impacts that appear unnatural and out of character with the surrounding landscape patterns
- Impacts, trends or conditions that pose a risk to the sustainability of valued positive attributes of the landscape character.

The Visual Management System establishes Visual Quality Objectives (VQO's) within the Mt. Emily Project Area. These VQO's are Forest Plan objectives. The Scenery Management System establishes Scenic Integrity Objectives and considers sustainability of the landscape character attributes. This effects analysis will rate the outcome of each alternative in terms of Visual Quality Levels, Scenic Integrity Levels and Ecological Integrity Levels.

Unnatural Appearing Impacts - The unnatural appearing impacts commonly affecting scenery from a background, middleground or foreground view are those impacts that are caused by management efforts that create openings of geometric shapes, those with edges that are clearly delineated by an uninterrupted wall of trees or openings of such size that they appear out of character with the surrounding landscape. From the foreground, impacts such as numerous high cut stumps, remaining slash, and soil disturbance caused by logging equipment affect the scenery resource.

Trends, or Conditions that Pose Risk to Positive attributes - The trends or conditions that pose risk to the positive attributes to the landscape character include those that present hazards of large, severe intensity, stand replacement fire, and insect and disease epidemics. Conditions such as these reduce the sustainability of the scenic resources.

The key indicators used to compare the alternatives as they relate to scenery management include:

1. Unnatural appearing Impacts:
   a. Disturbance <10% of the viewshed (Retention Foreground)
   b. Disturbance <14% of the viewshed (Partial Retention and Retention Middleground)
2. Trends or conditions that pose risk of loss of positive attributes of the landscape character.

Direct and Indirect Effects on Scenery Resources

Alternative 1 – No Action

Alternative 1 would not change the existing conditions, nor would it alter the existing trends or conditions that may pose risk to the positive attributes of the landscape character.

Alternative 1 would not change the visual quality level or the scenic integrity level of the area. However, no action would allow the existing condition to continue and the trend of increasingly dense stands in a fire prone area to endanger the scenic resources in the Mt. Emily viewshed. The no action alternative would allow the scenic sustainability to decrease from low/moderate to very low/low in a period of 10 to 20 yrs.

Summary: No visual impacts would occur, however the conditions would continue to endanger the sustainability of the scenery resources.

Alternative 2 – The Proposed Action

Overview - The actions proposed in Alternative 2 are designed to alter the existing conditions along a corridor of the 3120 and 3120500 roads. These actions are designed in a manner that would not create unnatural or uncharacteristic impacts from a middleground or background view. The impacts visible from a foreground view would include the following: stumps less than 6" in height, some areas of soil disturbance, and evidences of tree removal. The impacts to foreground views would not be concentrated enough to degrade scenic resources. In some areas the slash removal and pile burning would decrease the amount of unnatural appearing impacts.

The actions proposed would affect the condition and trends that pose risks to the positive attributes of the landscape character. These effects to the condition and trends are minimal, but positive in nature.

Treatments that provide the potential for arresting a fire before a large stand replacing event occurs, improve the potential for maintaining scenic sustainability by artificial means. Therefore the scenic sustainability rating would not improve to a greater level, but remain as it is currently rated.

Commercial Thinning (HTH), fuels reduction harvest (HFU) and fuels thinning (SCN) - These treatments would reduce tree densities, opening up the understory and letting in more light to the forest floor. Treatments to remove dead standing and down trees would enhance the landscape character through increased prominence of valued scenery attributes such as large tree character and a decrease of dense thickets of small stunted trees and dead wood. The removal of dead standing and down material would be a "cleaning" effect to the aesthetic appearance of the forested areas in foreground views. The understory views would be improved and have a more healthy appearance.

Thinning to reduce tree densities and crown fuels would not be visibly apparent to the average viewer from a middleground or background distance. Close scrutiny of the stands from this distance would discern a less dense but continuous canopy. In areas where there are currently clusters of dead standing timber, there may be created openings where the material is removed. These

openings would be small (less than a 1/2 acre) and have a natural appearance that would not detract from the existing scene.

These treatments would improve the ability to sustain the existing landscape character attributes by producing stands that are more defensible. By reducing ladder fuels, raising crown base height and crow n density, this area would be more defensible in the event of a fire.

Pile burning (RMP) - Pile burning may create scorched and blackened underbrush, saplings, bark, grasses and forbs in areas. These effects would continue for a period of 1 to 5 yrs. Af ter the following growing season, the majority of these effects would no longer be visible. New growth of forbs and shrubs would quickly sprout and flourish. The positive effects of this treatment would be the cleaning up of slash and dead material in the project area that creates an unhealthy appearance. A decrease in this material lessens the fuel load for fires that could threaten landscape character attributes.

The foreground views along the 3120 road would also be affected by Alternative 2. The v iews from this travel corridor would be "cleaned up" and the appearance of the understory would be more open with less clutter. Low stumps would be visible from this corridor. The effects would not be apparent from a middleground or background view.

Summary - The scenic integrity would remain high on the face of Mt. Emily. The scenic sustainability would not improve. However, the treatments would enable fire fighters to contain most wildfires thus improving the long-term sustainability of the scenery resources by artificial means. The scenic integrity on top of Mt. Emily along the ridges would improve from moderate/low to low. The scenic sustainability would not be improved by this alternative and would remain at low. The visual quality objectives would be met by all actions of Alternative 2.

Cumulative Effects for Scenery Resources

The project lies in an area that has obvious effects caused by previous timber sales. Past clearcuts have created unnatural appearing openings that detract from the sc enery on the ridges in this area. In areas where no management has occurred, many of the stands are overstocked and full of dead and down material. Projects occurring in this area include the original Mt. Emily Fuels Reduction Project (signed March 2005), ongoing projects on private lands along the east boundary, and project efforts being proposed by the Umatilla National Forest.

Alternative 1 – No Action

The no action alternative would allow the conditions and trends that currently exist to continu e to pose a risk of losing positive attributes of the landscape character, but would not cause cumulative effects to the scenery resource.

Alternative 2 – The Proposed Action

The combination of ongoing projects with this proposed project would create n o negative cumulative effects that would degrade the scenic resources. This determination is based on the type of activity and prescriptions being implemented. Activities includes thinning from below, reducing ground fuels, cleaning small diameter understory trees and pile burning. These types of treatments would not adversely affect the scenic integrity as described in the Valued Landscape Character description. The cumulative efforts would increase defensibility in the event of fire, thus improving sc enic sustainability in an artificial manner.

C. Alternative Evaluation as They Respond to the Other Issues

ISSUE – Inventoried Roadless Areas (IRAs)

Introduction

Alternative 2 proposes fuel reduction treatments in the Mt. Emily IRA. No road construction (temporary or otherwise) is proposed within the IRA. The Emily II treatment stands are approximately one mile away from the North Mt. Emily IRA and on the other side of the major road in the area. The Mt. Emily II project would have no affect on the North Mt. Emily IRA and will therefore not be discussed further in this section. Reference the analysis file for a updated review of the Mt. Emily and North Mt. Emily Roadless Areas.

The interdisciplinary team used direction from Interim Directive 1920-2006-1, the Wallowa-Whitman Forest Plan, and roadless characteristics as defined in the Roadless Rule, January 2001, to determine which characteristics applied to this particular IRA (see effects document for total list of roadless characteristics).

The rationale for roadless characteristics not analyzed for effects include:

Sources of Public Drinking Water – A public source of drinking water is not found in the IRA.

Habitat for PETS species and species dependent on large undisturbed areas of land - Lynx habitat is found in the Mt. Emily IRA. The project proposes treatment on 30 acres of the Mt. Emily IRA that is also within Lynx Habitat. The lynx analysis of effects is more meaningfully analyzed using lynx analysis units (LAUs) and will be covered under the wildlife portion of the Environmental Assessment. The lynx analysis will not be covered any further in this section.

Other Locally Identified Unique Characteristics - The Forest Plan does not cite any unique characteristics in the Mt. Emily IRA.

The roadless characteristics addressed by this analysis include:

1) High quality or undisturbed soil, water, air
2) Diversity of plant and animal communities
3) Reference landscapes
4) Natural appearing landscapes with high scenic quality

The management concerns and issues associated with roadless areas include:

1) Maintain and preserve roadless characteristics
2) Provide continuity of fuels reduction treatments across IRA to meet project purpose and need

Direct and Indirect Effects on Roadless Characteristics

Alternative 1 – No Action

No activity would occur in the Mt. Emily IRA with this alternative; therefore, no direct effects would occur to any of the roadless characteristics.

Existing fuel levels would increase in the roadless area over the next few decades with continued success of fire suppression. Results of fire suppression are overstocked forests. Overstocked forests result in tree stress and increased risk of ensuing tree mortality from insects and disease. Fire danger and risk of unwanted resource damage would increase as fuel levels go up.

The majority of the roadless area within the project area is in condition class 3 (see discussion of condition classes in fire inventory and effects documents in the analysis file). Much of the area historically adapted under frequent fire return intervals, but now is changing in density, stand structure, and tree species composition. As fire return intervals are lengthened over time due to fire suppression, the risks increase that eventually a fire will escape early suppression and, due to weather, topography and heavy fuel loadings, become a large stand replacing wildfire. In areas that developed with frequent fire return intervals, a large stand replacing wildfire would be outside the range of variability that would be expected to occur under historic natural disturbance regimes. Therefore, an indirect effect of Alternative 1 is the development of roadless areas that are outside of historic disturbance regimes. This effect could last for five to 100 years, or until a large disturbance occurs.

Air, soil and water quality - Indirect effects from fuel accumulations and increasing risk of large stand replacing wildfire would impact roadless characteristics. Air, soil and water quality may be impacted for a short duration (0-3 years) in the event of a stand replacing wildfire. Water quality could decrease in streams adjacent to high-intensity burns that consume riparian vegetation. Re-growth from stand replacing wildfires can take up to three years to establish vegetation adequate enough to reduce soil erosion and sediment flow into adjacent streams. Water quality would diminish with an increase of sediment during these three years.

A high intensity fire may also burn hot enough to cause detrimental soil conditions. This would likely occur in isolated small patches (less than one acre) where fuel concentrations are heavy and result in a long duration of high-intensity burn (Reference soil effects). Because of slope and fuel distribution, the probability of small patches of detrimental soil conditions is high in the Mt. Emily IRA.

Huff, Ottmar, et al (1995) found PM10 smoke production was twice as high for wildfires as for prescribed fire. Alternative 1 would result in a higher risk of wildfire smoke emissions, which would be more difficult to manage. Under a wildfire scenario, impacts to air quality would be of short duration to roadless area users (0-3 months, depending on fire severity).

Diversity of plant and animal communities – Alternative 1 may result in large uncontrolled wildfires. Many plant species, especially those in the warmer, drier biophysical groups are fire resistant and may regenerate quickly following wildfire. Effects to plant diversity would depend on the plant community affected. Cool, moist biophysical groups tend to support a greater number of species with more complex effects from wildfire.

Reference Landscapes - Alternative 1 would have no direct or indirect effect on reference landscapes. Reference landscapes of relatively undisturbed areas serve as a barometer to measure the effects of development on other parts of the landscape (Federal Register, 36CFR part 294, Roadless Area Conservation; Final Rule, p 3245). Even in the event of a stand replacing wildfire, both roadless areas would continue to serve as reference landscapes, as wildfire is recognized as a natural disturbance event in the ecosystem, and should not hinder studies to compare ecosystems.

Traditional Cultural Properties and Sacred Sites – The Mt. Emily IRA contains cultural properties such as old railroad logging in the Five Points Drainage and is immediately adjacent (but outside the IRA boundaries) to the Indian Rock Overlook. These sites will remain undisturbed under Alternative 1, however, could be affected in the event of a large wildfire.

Natural Appearing Landscapes with High Scenic Quality - The indirect effects of Alternative 1 on the roadless characteristic natural appearing landscapes with high scenic quality **,** are subjective to the viewer's perspective. For the viewer that believes natural wildfire should be tolerated to within reason, even a large burned roadless landscape would not detract from the viewer's experience. To this viewer, the appearance may seem altered, albeit, in the context of an acceptable natural occurrence (i.e. - the burned area may be viewed as a young emerging forest following a natural disturbance versus what was a middle to old age forest ripe for a disturbance).

Another viewer may experience a high intensity fire in the roadless landscape as preventable. This viewer may argue that should a stand replacement wildfire burn in an area that historically was maintained by ground fires, the natural appearance of the roadless area would be altered. This viewer may believe that the natural appearance has already been altered due to fire suppression, but may also hold the belief that fire suppression is necessary. This viewer would likely believe fire is beneficial but would accept the beneficial results only under controlled, man aged conditions. Both viewers may come to agree on the value of roadless characteristics, but not on how best to maintain these values over time.

Univentoried Roadless Areas – Under manual direction in Chapter 7 of FSM 1909.12, unroaded areas of less than 5,000 acres which are contiguous to existing roadless areas should be evaluated for potential addition to the wilderness system. This analysis is based on Capability, Availability, and Need. Alternative one would not affect this area nor preclude it's consideration for addition to the wilderness system in the future.

Alternative 2 – The Proposed Action

Alternative 2 would treat 30 acres within the Mt. Emily IRA and 22 acres in units adjacent to the IRA. Units 262, 264, 265, 267, 268 and 271 would be treated for surface and near surface fuels, with commercial and non-commercial thinning. Treatment would include removal of dead standing and down material to <25 tons per acre by piling and burning. Live trees less than seven inches diameter would be hand or mechanically thinned, cleaned, piled, lopped, scattered, crushed or burned.

Surface and near surface fuels reduction treatment would include the use of mechanical ground-based equipment. Non-commercial thinned trees from all mechanical fuels reduction units would be hand-felled (chainsaw) or cut by low impact ground based equipment

Fuels reduction objectives are the same within the IRA as they are outside the IRA - to modify fuels affecting potential fire behavior and to restore fire adapted ecosystems. The need to modify potential fire behavior and reduce crown fire potential is to create defensible spaces and allow direct attack by hand crews during fire suppression activities (see fire effects). The benefits are two-fold by reducing fuels in the IRA: The area would be more ecologically in balance by returning to condition class one and the area would be more resistant to large stand replacing fires that could diminish roadless characteristics.

The ecological argument is analyzed in Appendix A of the Roadless Effects Document, as it addresses maintaining fire return intervals closer to historic levels in fire regimes one and three within the IRA. 100 percent (30 acres) of the treated acres are in fire regime three and would be treated under this alternative within the IRA to help maintain these areas in condition class one.

While only a very small percentage (0.03%) of the Mt. Emily IRA is being treated to reduce fuel loadings (30 acres of 8822 acres) this IRA has been recognized for having higher fuel loadings within a large inaccessible area (no road access). Direct attack fire suppression would be improved from the adjacent road due to fuel reduction activities in the event of an active fire moving into or out of the IRA.

Water quality – There are no intermittent or perennial streams within the project boundary portion of the IRA. Spring runoff from the nearest intermittent streams feed into Five Points Creek which contains spawning and rearing habitat for listed steelhead, making high water quality desirable in its tributaries.

This alternative includes riparian habitat conservation areas (RHCA) treatments in 5 units for 9 acres (units 262, 264, 265, 268 and 271) within or adjacent to the Mt. Emily IRA. RHCA treatments include cleaning and non-commercial thinning of small diameter trees (less than seven inches). The slight

increase of ground disturbance from fallen trees would be negligible. Long-term water quality would be maintained or improved.

No ground based equipment would operate within RHCAs. Sediment delivery rates to stream channels are not expected to increase due to logging impacts because of the implementation of buffers and distance to the nearest intermittent stream. Grass/forb cover throughout the buffers and sufficient down woody material reduces the potential of sediment to reach streams and affect water quality. (Burroughs and King – 1985 & 1989 and elsewhere – Trimble and Sartz 1957, Packer 1967, Swift 1986 – concluded that non-channelized sediment flow rarely travels more than 300 feet and 200-300 foot riparian "filter strips" are generally effective at protecting streams from sediment from non-channelized flow; PACFISH, C-8).

Soil Quality - Publications have provided information on appropriate levels of coarse wood required to protect long-term soil productivity (Agee 1994, Harvey et al. 1994, Graham et al. 1994). The suggested tons/acre of coarse wood to leave on site for desired soil productivity would be incorporated into project design and are listed in the constraints and mitigation section. This suggests long-term soil productivity would be maintained within treatment units in the IRA.

Other mitigation measures for this alternative include designated skid trails at no less than 60 foot spacing and directional felling techniques to minimize soil disturbance. (Restoration of detrimental soil conditions, primarily by subsoiling, that exceed 20 percent over pre-activity levels would occur.) Detrimental soil conditions (DSCs) include compaction, puddling, displacement, and severe burning. Soil quality, in terms of detrimental conditions, would decrease on these acres within the IRA until natural compaction mitigation processes reverse the trend (5-20 years). Natural compaction mitigation processes (frost heave, root penetration by grasses and sedges, rodent activity) acting over a period of 5 to 20 years would be effective to a depth of about 4 inches.

Due to the very limited potential for soil compaction within the project area and in comparison to the total area of the IRA, the magnitude of the potential impacts is very low. Overall, negligible impacts on soil quality in the roadless area would occur.

Air Quality - Alternative 2 would impact the IRA from smoke produced through pile burning both within and adjacent to the IRA. Depending on wind direction, smoke emissions may or may not impact the entire IRA. Smoke emissions could be managed to stay under the 15,000 tons PM10 per year agreed to under the Memorandum of Understanding (October 27, 1994). In comparison, Alternative 1 would result in a higher risk of wildfire smoke emissions, which would be more difficult to manage.

The greatest impact to air quality would occur within the first few days after ignition; beyond that, smoke from smoldering piles would cause light drift smoke. Smoke emissions under this alternative would have a 2-6 week duration depending on weather conditions. During this period, IRA users would be directly impacted on 30 acres and indirectly impacted over the remaining IRA by pile burning activities, and may choose to avoid the area until smoke clears. Overall, the effects to air quality would be short-term duration with effects to roadless area users causing a slight delay in use. Given that the roadless area receives low to moderate use during spring and moderate use during fall, prescribed burning would impact a limited amount of people.

Diversity of Plant and Animal Communities – Plant communities under this alternative would likely remain in the same seral condition post-treatment. However, because thinning would open stand canopies up, allowing more sunlight to reach the ground plants that flourish under more sunlight would increase in coverage and there may be loss of some of those species which require more shaded conditions. The effects are summarized in Appendix B of the Roadless Effects Document.

No threatened, endangered or sensitive plant species would be impacted, as none occur in the treated acres.

Mechanical treatments may disturb vegetation and expose soil creating potential seedbeds, should invasive plant seed be introduced. The potential for noxious weeds and the introduction of invasive plants is greatest on these acres. Introduction of invasive plants would reduce the diversity of native plant species. The risk of invasive plant species introduction from mechanized equipment is low considering mitigation measures that require contract vehicle equipment to be washed prior to entering National Forest lands.

Animal communities would continue to exist on treated acres under this alternative. Some raptors that prefer open stands to closed stand conditions would utilize the treated areas slightly more, while other birds of prey that prefer closed canopies would not. Utilization may change slightly in the treated areas for some species; however, animal diversity is not expected to diminish, as habitat would not be dramatically altered.

Reference Landscapes - Alternative 2 would modify the landscape of the treated acres by reducing stand densities and removing ground and ladder fuels. Mechanical treatment of the 30 acres proposed within the IRA would have the most potential of altering these acres and changing the reference landscape. It would move these areas out of the unmanaged classification. Whether they could be considered "relatively undisturbed" is arguable. At best, they would be considered disturbed and slightly modified from a reference condition.

Traditional Cultural Properties and Sacred Sites – The Mt. Emily IRA contains cultural properties such as old railroad logging in the Five Points Drainage and is immediately adjacent (but outside the IRA boundaries) to the Indian Rock Overlook which is considered an area of interest for the tribes. However, the project does not propose activity in the cultural sites identified in this project area and due to avoidance constraints, would have no effect on these sites. No sacred sites have been identified in the IRA.

Natural Appearing Landscapes with High Scenic Quality - The impacts to foreground views would not be concentrated enough to degrade scenic resources. Less than one percent of the total IRA acres (30 of 8,822 acres) would be affected under this alternative.

Created stumps along the 3120 road would reduce the natural appearing landscape and high scenic quality. The remainder of the Mt. Emily IRA would not be affected under this alternative. The degree to which the natural appearing landscape is diminished by the creation of stumps is subjective to the individual. The natural appearance of these adjacent lands to this road is currently altered already by the break in vegetation and presence of the road. Most users would look farther than lands adjacent to a roadside for natural appearing landscapes with high scenic quality.

Univentoried Roadless Areas – In general the treatments prescribed within the Mt. Emily II project are immediately adjacent to or surround roads making nearly all of the treatment units within 300-600 feet of the road. Scattered small pieces of the units proposed for treatment (approximately 10 acres total) could possibly affect the uninventoried roadless area depending on where the boundary for that area was drawn. In priority area two, treatments are all along the roaded flat ridge top, which receives primarily roaded recreation and administrative use (access to the Mt. Emily tower sites). When this area opens up in the summer it is used season long by woodcutters, mushroom hunters, hunters, OHVs, and those out for a drive to view the stunning vistas from the view points along the ridge tops. True roadless recreational uses are primarily found and experienced where the landscape drops over the edge and onto the steep face of Mt. Emily. This project would only potentially affect a few of those acres (<5 acres).

The analysis for the potential addition of this uninventoried roadless area as Wilderness is located within Appendix A of the Roadless Effects within the analysis file. While this area is not being recommended for Wilderness designation, the activities proposed in Mt. Emily II Fuels Reduction project would not preclude it's potential for Wilderness consideration at some time in the future.

Cumulative Effects on Roadless Characteristics

The logical resource area for cumulative effects on roadless areas is the combined boundaries of the North Mt. Emily and Mt. Emily IRAs. Cumulative effects on roadless characteristics under this alternative include the effects of no action listed above plus the effects of past, present, and foreseeable future activities that overlap with either roadless area.

These overlapping activities include the Mt. Emily Fuels Reduction Project (signed March 2005), the Boundary Fuels Reduction project and the North End Sheep and Goat (S&G) Allotment (Walla Walla Ranger District, Umatilla National Forest) within the North Mt. Emily IRA. They also include a small portion of the Spring Mt. Sheep Allotment within the Mt. Emily IRA. Activities in both IRAs also include dispersed recreation and limited firewood cutting.

Alternative 1 – No Action

There are no cumulative effects of the No Action alternative that are not covered above under direct and indirect effects. This is because this alternative proposes no overlapping activities with any of the above past, present, or foreseeable activities.

Alternative 2 – The Proposed Action

The activities analyzed for cumulative effects under Alternative 2 in the Mt. Emily IRA include past, present, foreseeable future activities. The Spring Mt. Sheep Allotment has been in non-use status for the past five years. The allotment is currently in NEPA for re-issuance and is proposed for non-use. This allotment falls within the guidelines of the Umatilla Forest Plan PAFISH implementation team standard, and is administered by the Umatilla National Forest (personal communication, Tom Thompson). Should livestock grazing continue within the 263 acres of the IRA, there would be no overlapping acres grazed within any of the proposed Mt. Emily II Fuel reduction treatments. The portion of the allotment within the IRA is on the far western boundary of the Mt. Emily IRA. Alternative 2 proposed activities are on the far eastern boundary of the Mt. Emily IRA. Over 2 miles separate the two activities.

Dispersed recreation is limited to very few hunting camps and one known recreation trail. The impacts from these sites are of such limited and constrained nature that they would have an immeasurable or no effect on roadless characteristics.

Since there are no other ongoing or proposed projects within the Mt. Emily IRA, cumulative effects of Alternative 2 would include those effects proposed under Alternative 2 of the Mt. Emily II Fuels Reduction project, and livestock grazing on the Spring Mt. Sheep Allotment, should grazing be re-introduced.

The proposed activities would not affect the Mt. Emily IRA potential to become wilderness in the future. The limited context and area of work (30 acres) on the edge of the roadless area should maintain the roadless characteristics. The stand treatments are to be designed as permanent features, such as recurring thinning for fuel breaks, thus precluding these 30 acres from wilderness consideration.

Water quality - As measured by increase in sediment or removal of riparian habitat, cumulative effects would have little probability of changing current water quality in the Mt. Emily roadless area. 30 acres are proposed for mechanical fuels reduction, none of which are adjacent to perennial streams. Mechanical treatments would be limited to flatter slopes, there would be no temporary or permanent road construction, and haul would be limited to dry conditions only. Therefore, potential effects to water quality exist only on intermittent, seasonal flowing streams. As stated under direct and indirect effects above, no ground based equipment would operate within riparian habitat

conservation areas (RHCAs). Sediment delivery rates to stream channels are not expected to increase due to logging impacts because of the implementation of buffers.

Should livestock grazing continue in the Spring Mt. Sheep Allotment, PACFISH standards for stubble height in RHCAs would retain sufficient vegetation to maintain water quality. Also, sheep are herded to watering holes and sheep herders keep the animals out of drainages.

The cumulative effects to water quality are negligible when considering the unlikely condition of sediment reaching streams and limited magnitude of 30 acres (<1%) of the IRA potentially impacted.

Soil quality – There would be no cumulative effects to soil quality beyond what has been described under Alternative 2 direct and indirect effects of the Mt. Emily II project. Livestock grazing would have limited impact on soil conditions due to the small percentage of area grazed and short duration of grazing periods (rotating pastures).

Air quality - There would be no cumulative effects to air quality beyond what has been described under Alternative 2 direct and indirect effects of the Mt. Emily II project. There is no impact to air quality from livestock grazing.

Diversity of Plants and Animals - Livestock grazing would affect plant diversity according to the plant community grazed. In cool/moist plant communities, livestock grazing decreases some species while increasing others (species are detailed in Appendix B of the Roadless Effects). Overall, grazing would not result in a significant reduction of plant diversity.

No additional cumulative effects would occur. The risk of invasive plant species from livestock grazing is low considering livestock grazing of sheep would not occur on ground disturbed by mechanized equipment (no overlapping activity). There is no chance of seed spread passing through animals onto recently disturbed ground from the Mt. Emily Fuels Reduction Project. The risk of invasive plant species is low, furthermore, because grazing is monitored and utilization standards would meet Forest Plan and PACFISH standards for stubble height retention. Because the animals would be rotated off the pasture prior to reducing stubble heights below standards , the opportunity for invasive plants to establish and replace native plants is low.

Post-project monitoring of all activities would provide information of invasive species introduction should it occur, and allow for early treatment. With mitigation measures in place and low-risk of invasive plant species introduction, diversity of plant and animals in this alternative should be maintained at its current level.

Reference Landscapes – The cumulative effects on reference landscapes includes the 30 mechanically treated acres in the Mt. Emily II Fuels Reduction project plus the 263 acres of potential livestock grazing. Both activities would diminish reference landscape conditions on these acres. Mechanical treatment would move the 30 acres out of the “unmanaged” classification. At best, they would be considered disturbed and slightly modified from a reference condition.

The fact that these acres are immediately adjacent to the 3120 road, somewhat diminishes their condition as “undisturbed” even prior to management efforts to reduce fuels. Forest users seeking reference landscape conditions would not likely focus on these areas so close to roads.

The current condition of reference landscapes in the IRA would not change from livestock grazing since grazing under this allotment has been established within the IRA boundaries for several years (see Umatilla Forest Plan). Since there are no overlapping acres between the two projects, the cumulative effects of livestock grazing would not be compounded with overlapping Mt. Emily II Fuels Reduction activity.

Because approximately 96% of the IRA would remain in a reference landscape condition, the cumulative effects of Alternative 2 are very limited in intensity, leaving the vast majority of the IRA unchanged.

Traditional Cultural Properties and Sacred Sites – There are no cumulative effects related to cultural properties or sacred sites within the IRA for this project.

Natural Appearing Landscapes with High Scenic Quality – The cumulative effects on natural appearing landscapes with high scenic quality include the impacts of both projects on the previously mentioned acres. Of the 263 acres of livestock grazing within the IRA, natural appearing landscapes and high scenic quality has currently been diminished to the degree that the user notices grazed landscapes and some trampling of vegetation particularly near watering holes. Plant species should not be altered from natural conditions as grazing guidelines would remove livestock prior to over-grazing and retain current levels of native plant species.

The 30 acres of mechanical treatment in the Mt. Emily IRA would change the natural appearing landscape by creating stumps, skid trails, landings, and a more open stand condition. This condition would occur at the edge of the roadless area and immediately adjacent to Forest Road 3120. The natural appearing landscape has currently been altered by the existence of these roads. While these treated acres are being slightly modified from their natural appearance, a roadless user looking for natural appearing landscapes would expect to travel deeper into a roadless area than the immediate boundary and/or areas adjacent to roads.

Approximately 96% of the IRA would remain in its natural appearance with potential for high scenic quality. These are areas furthest from the roadless boundaries and more likely that users would seek out for natural appearing landscapes with high scenic quality.

Univentoried Roadless Areas – As described under direct and indirect effects, the Mt. Emily II project has a very minor, if any at all, potential to affect the uninventoried roadless area along the face of Mt. Emily. The original Mt. Emily fuels reduction project has a higher potential to affect this area due to the fuel reduction treatments along the private land boundary along on the face. It was determined in the original Mt. Emily that this area was not to be recommended for Wilderness designation and that the activities proposed in the original Mt. Emily project would not preclude it's potential for Wilderness consideration at some time in the future. The Mt. Emily II areas were analyzed as a part of this analysis and as described early would have little if any affect on the uninventoried roadless area and therefore would not contribute cumulatively to the potential to affect this area.

ISSUE – Fisheries and Watershed Resources

Introduction

The expected and potential effects of each developed alternative on the fisheries and watershed resources were assessed using several management directives/recommendations. The Management directives from the Wallowa-Whitman Land and Resource Management Plan (LRMP) 1990, the Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California (PACFISH 1994); and the LRMP Biological Opinions (1995 and 1998) will be followed. In addition, the PACFISH amendments add further interim management direction in the form of Riparian Management Objectives (RMOs), Riparian Habitat Conservation Areas (RHCAs) and standards and guidelines for Key Watersheds. All of the National Forest System (NFS) Watersheds in the Upper Grande Ronde Basin have been designated as Key Watersheds. National Marine Fisheries Service (NMFS) also designated this as a priority watershed. While there are no streams within the project boundary on the Oregon 303(d) List, the project area does fall within the Upper Grande Ronde River Subbasin. A Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP) for the Upper Grande Ronde

River Subbasin were approved by the Environmental Protection Agency (EPA) in 2001. The Best Management Practices identified in the WQMP will be used for this project. The effects outlined below are based on all fisheries and watershed protection and mitigation measures being implemented in full (Specific Mitigation Measures Section).

Direct and Indirect Effects to Water Quality

Alternative 1 – No Action

There are no direct effects on water quality as a result of the No Action alternative. Effects related to this alternative on water quality are primarily indirect in nature. These indirect effects relate to suppression of conifers in the riparian area which may reduce the effectiveness of the conifers in providing shade, cover and large wood for recruitment to the stream channel. This indirect effect would retard attainment of RMOs.

Sediment delivery rates would remain at existing levels, including the effects of poorly drained and designed roads, under this alternative. This alternative would provide no opportunity to perform restoration activities to correct road system problems (specifically the 3120500 road).

No change in existing stream temperatures would take place under this alternative in the short term. Long term, in those areas where the streamside cover is primarily made up of dead and dying trees, stream temperatures are anticipated to either remain at the current levels or increase as the trees die out and reduce existing cover. Without active restoration (partial removal of dead and dying materials and planting) within these areas, the potential for future streamside cover from regeneration would be delayed approximately 20 years.

Alternative 2 - The Proposed Action

No direct effects on water quality are expected from the implementation of the action alternative described with this project.

The location of activities away from perennial stream channels, adequate riparian buffers (RHCAs), and timing of activities in relation to soil and moisture conditions will prevent direct adverse effects to stream channels. Potential adverse effects such as increased sediment yield and direct channel sedimentation, removal of large woody material from the channel, disturbance of spawning areas, and any instream impacts are not expected due to the protection and mitigation measures being implemented in full (Specific Mitigation Measures Section). Research and monitoring have proven the effectiveness of these measures for maintaining and enhancing riparian habitat.

The primary indirect effects to watershed resources that could arise as a result of fuel reduction activities proposed in the Mt. Emily II Project are increases in sediment delivery rates and water temperature changes. Impacts to water quality will be addressed in terms of sediment loads and temperature.

Sediment - The definition of accelerated sediment delivery includes any increase over and above the natural sediment rates of the watershed. Soil erosion may lead to accelerated sediment delivery to stream channels, although with implementation of RHCA's, as prescribed by PACFISH, this is not expected.

It is difficult to equate soil erosion directly to sedimentation rates. Obstructions in the path (i.e. downed wood, grass/forb cover) between the sediment source and the stream reduce the risk of direct sediment inputs to the stream. Therefore, adequate filter strips (in terms of size, ground cover and downed material) are necessary to slow or prevent sediment movement downslope of disturbed areas.

There are several activities associated with fuel reduction that may cause increased sediment delivery. The activities/methods proposed for use in the implementation of the Mt. Emily II Project include:

- Logging Systems
- Prescribed Fire (pile burning)
- Small Diameter Tree (<7" dbh) Thinning and Cleaning

Logging Removal Systems - Alternative 2 propose the use of ground based removal systems (i.e. tractor skidding or harvester forwarder). Ground based removal of trees would typically occur on slopes less than 35% that have current road access

Soil erosion may be initiated by soil disturbance and/or soil compaction. Repeated soil disturbance (through dragging of logs) can lead to soil compaction (Froelich 1978). Mitigation measures include designated skid trails, skyline corridors, and directional felling techniques to keep soil disturbance and detrimental compaction below 20% of the area (See soils effects documentation for further discussion).

No mechanical harvest or mechanical treatment would occur w ithin RHCAs. PACFISH buffers would be implemented on all RHCAs, and include: 300 feet on fish bearing streams (Class I); 150 feet on non-fish bearing perennial streams (Class III); and 100 feet on intermittent streams and wetlands (Class IV).

Pile burning - Pile burning would occur when weather and fuel conditions are appropriate to meet the objectives and prescriptions. Burning would be accomplished over two to five years depending on environmental conditions needed to provide for adequate consumption. Although not expected to be used, in the event that control lines are needed, roads, natural barriers and brush removal would be utilized instead of bare mineral soil line construction where possible.

Table 20 summarizes the erosion hazard rating (EHR) acres computed for sheet and rill and gully erosion in subwatershed 87C in the 1995 Spring Creek/Five Points Creek Watershed Analysis. The EHR acres designations are based on soils, topography, climate and cover conditions in the subwatershed. There are no acres designated with a high EHR in the Mt. Emily II project and if mitigation measures are implemented in full for prescribed burning during the project, no change in the EHR acres listed in Table 20 would occur.

Table 20: Erosion Hazard Rating (EHR) for subwatershed 87C

SWS	Rating	Sheet and Rill (acres)	Gully (acres)
87C	Low to Moderate	236	40
87C	Moderate to High	14	18

13 units propose treatments on 21.9 acres within RHCAs for Alternative 2. No pile burning would occur within 150 feet of any perennial and/or fish-bearing stream and within 100 feet of any intermittent stream. Burned areas can accelerate sediment delivery into streams from soil erosion if the duff/litter and ground vegetation are consumed to levels that exposing too large of a n area of mineral soil. Soil erosion can also be increased if water repellent soils are created from fires burning too hot. However, this is not expected with localized pile burning.

Small Diameter Tree (<7" dbh) Thinning and Cleaning (SCN) inside mechan ically treated (HTH) units - Approximately 331 acres in Alternative 2 would be thinned to improve tree growth and select desirable tree species. Thinning would occur in RHCAs within 13 of the 22 proposed units, to accelerate achievement of Riparian Manage ment Objectives (RMOs) for shade, cover and large wood recruitment. Due to no cut buffers, tighter tree spacing and diameter limits, hand falling of trees selected for cutting, and no ground disturbance caused by mechanical equipment within RHCAs (See Specific Mitigation Measures) there will be no effect on water quality and achievement

of RMO's related to shade, temperature, and health of riparian areas would be accelerated so that it would be realized within the next 20 years.

Temperature - Adequate streamside vegetation (trees, shrubs, grasses, grass-likes and forbs) necessary to maintain cool stream temperatures would be left through the implementation of PACFISH buffers. In the instances of treatment within RHCAs, adequate streamside vegetation would be left within RHCAs to maintain stream temperatures in the existing condition. No shade producing trees would be removed. Long-term cover would be enhanced through accelerating the growth of trees treated in these alternatives, as well as accelerating regeneration in areas of extreme mortality, which would accelerate long-term cover production 20 years.

Water Quality Summary – Alternative 2 may cause short-term (0-2 years) impacts to water quality because of ground disturbing activities and the use of roads within RHCAs. These short-term impacts are immeasurable. Alternative 2 is consistent with the Clean Water Act and Forest Plan standards. There will be no effect on any 303(d) listed stream within the Upper Grande Ronde River Subbasin due to the location, planning, use of appropriate Best Management Practices identified in the WQMP, and design of this project.

There are no fish species of concern within the project area, however Snake River (SR) spring/summer steelhead (*Oncorhynchus mykiss*) are located downstream of the area. There are no expected adverse effects to fish habitat and populations from the action alternative due to the implementation of activities away from perennial streams, adequate riparian buffers (RHCAs), timing of activities in relation to soil and moisture conditions.

Cumulative Effects on Water Quality

The logical resource area used to analyze cumulative effects of the Mt. Emily Project includes past, present, proposed and future management activities within subwatersheds Wright Slough (17E), South Fork Willow Creek (84G), Upper Willow Creek (84H), Upper Five Points Creek (87C).

Disturbances in the analysis area from past, present, proposed, and future management activities include open and closed roads, timber harvests of varying prescription, prescribed burning, recreation activities and domestic grazing on federal and private land (see list of activities under section A. Introduction, in chapter 3) Activities proposed with the Mt. Emily II Project were designed to meet the anticipated restoration needs within the project area for a 20-year period before additional management activities would occur (see purpose and need in chapter 1).

Road densities on both private and public ground in the analysis area are at or below LRMP standards..

Alternative 1 – No Action

While the potential impacts from the Mt. Emily II Project would not occur under this alternative, neither would the restoration activities which would reduce sediment delivery, reduce potential impacts to sensitive riparian areas and fisheries and accelerate large wood recruitment and stream cover. However, past and present disturbances from roads, timber harvest, grazing, fire and recreation would continue. As the area continues to be at risk to wildfire, and increases in susceptibility to insects it would be considered again for entry long before the 20 years described as the objective under the action alternative.

Alternative 2 – The Proposed Action

The Mt. Emily II Project would not further reduce road densities, but would improve current drainage and sediment delivery problems. Recent harvest activities in the analysis area included restrictions on harvest prescriptions, on location, and timing of harvest due to listed fish, which have reduced impacts to riparian areas and stream channels.

Fuel reduction treatments within the analysis area would reduce impacts to water and fisheries resources by reducing fire behavior and improving the ability of firefighters to direct attack fires. This would increase their potential to catch fires at a smaller size and prevent large catastrophic wildfires that could result in overstory mortality, severe soil damage and sedimentation of stream channels. Restrictions (primarily fencing and grazing strategies) on domestic livestock grazing due to the three listed fish as well as Biological Opinion (BO) monitoring requirements have reduced impacts to riparian areas and stream channels that may effect fish distribution downstream of the Mt. Emily Project.

Forest standards on location of all types of user trails and ATV use have reduced, and would continue to reduce impacts to riparian areas and stream channels. Continued implementation of these forest management practices are not expected to cause adverse effects on water, riparian and fish resources.

Direct and Indirect Effects to Fisheries Habitat and Populations

Alternative 1 – No Action

There are no direct effects on instream fish habitat or populations as a result of the No Action alternative. Effects related to this alternative on fish habitat and populations are primarily indirect in nature. Riparian habitat will be maintained in its current condition.

Alternative 2 – The Proposed Action

No direct effects on fisheries habitat are expected from the implementation of the action alternative described with this project, or in conjunction with the original Mt. Emily Fuels Reduction Project. In a letter dated April 20, 2004, from the National Marine Fisheries Service to the Wallowa-Whitman National Forest, it was determined that proposed projects *"are not likely to adversely affect"* Snake River (SR) spring/summer Chinook salmon (*Oncorhynchus tshawytscha*) and SR steelhead (*O. mykiss*) (see letter located in the analysis file). The location of activity away from perennial stream channels, adequate riparian buffers (RHCAs), and timing of activities in relation to soil and moisture conditions would prevent direct adverse effects to fish habitat, and fish populations. Potential adverse effects such as increased sediment yield and direct channel sedimentation, removal of large woody material from the channel, disturbance of spawning areas, and any instream impacts are not expected due to the protection and mitigation measures being implemented in full (See Mitigation Measures Section) and the fact that no fish populations occur in the project area. The closest downstream location of SR steelhead or SR spring/summer Chinook salmon to any project activity is 0.75 miles. The primary indirect effects to fish populations that could occur as a result of the Mt. Emily Project are effects to water quality, from sediment delivery, as described above.

The harvest of trees would not result in an increase of equivalent clearcut acres (ECA) beyond 15% in any subwatershed except subwatershed 17E (see report in analysis file). Subwatershed 17E (Wright Slough) is 97% private land that has undergone heavy timber harvest in the past few years. The original Mt. Emily Fuels Reduction Project estimated an increase in the ECA in this watershed from 20.8 to 21.8, but this is not expected to have any effects on stream flow in the watershed because the condition of forested acres, riparian areas, and stream habitat in this subwatershed are primarily controlled by private management. There are no adverse effects on peak or base flows of streams in these watersheds expected as a result of the combined harvest activities from the two Mt. Emily projects.

There are 13 units with RHCA treatments on 21.9 acres in the Mt. Emily II Project (see Appendix A of fisheries effects in analysis file). No ground disturbance caused by mechanical equipment would occur in RHCAs. Potential adverse effects such as increased sediment yield and direct channel sedimentation, removal of large woody material from the channel, disturbance of spawning areas,

and any instream impacts would not occur due to the protection and mitigation measures being implemented in full (See Mitigation Measures Section).

Alternative 2 proposes hand cleaning (SCN), piling (RMP) and pile burning (RPB) treatments in units within RHCAs. These treatments contain Class III (non-fish bearing perennial) streams and Class IV (non-fish bearing intermittent) streams. Approximately 7.85 acres would receive a 25 foot no treatment buffer and 9.67 acres would receive a 10 foot no treatment buffer (Table 21). In each of these units, achievement of RMOs for shade, cover and large wood recruitment would be accelerated approximately 20 years with the restorative treatments prescribed. Removal of trees and burning of small fuels within the RHCAs would not prevent the attainment of Riparian Management Objectives (RMOs). The removal and burning of standing dead and down trees within RHCAs would accelerate tree growth (by 20 years), aid in conifer regeneration, and reduce the risk of intense wildfire.

Pile burning will not occur within 150 feet of any perennial and/or fish-bearing stream and within 100 feet of any intermittent stream. Fireline construction disturbs the soil and could expose bare mineral soil that would be susceptible to soil erosion and could potentially result in sediment inputs into the stream. In the Mt. Emily II project firelines would only be constructed where needed and would be restored to pre-disturbed condition after use. Potential adverse effects such as increased sediment yield and direct channel sedimentation, removal of large woody material from the channel, disturbance of spawning areas, and any instream impacts, are not expected due to the protection and mitigation measures being implemented in full (See Mitigation Measures Section).

Table 21: Summary of Units Proposed for RHCA Treatment for each Subwatershed

SWS	Number of Units Treated		Total RHCA Acres Treated		Class III miles in RHCA Treatments		Class IV miles in RHCA Treatments		No Treatment Buffer Acres				Miles from Occupied Fish Habitat
									25 foot		10 foot		
	Alt 1	Alt 2	Alt 1	Alt 2	Alt 1	Alt 2	Alt 1	Alt 2	Alt 1	Alt 2	Alt 1	Alt 2	(Miles From)
17E	0	1	0	0.6	0	0	0	0	0	0	0	0	2.25
87C	0	12	0	21.3	0	0.18	0	0.73	0	7.85	0	9.67	.75 to 2.25
Totals	**0**	**13**	**0**	**21.9**	**0**	**0.18**	**0**	**0.73**	**0**	**7.85**	**0**	**9.67**	**.75 to 2.5**

Cumulative Effects to Fisheries Habitat and Populations

Alternative 1 – No Action

The cumulative effects of the no action alternative on fisheries habitat and populations are the same as those listed above under the cumulative effects to water quality.

Alternative 2 – The Proposed Action

The cumulative effects of the proposed action on fisheries habitat and populations are the same as those listed above under the direct and indirect effects to fisheries, and under the cumulative effects to water quality.

ISSUE – Soil Quality and Productivity

Introduction

Management activities can result in direct and indirect effects upon the soil resource, causing adverse effects on soil physical, chemical, and biological properties. Direct effects of management activities may include compaction, displacement, puddling, and burning (loss of organic ground cover). Erosion, mass wasting, deposition/sedimentation, changes in the water table, soil biology, organic detritus recruitment, and fertility (such as the fertilization effects of ash the year after a light intensity fire) usually occur as indirect effects.

The primary concern is the impact of direct and indirect effects of management activities on soil quality, productivity and soil stability (*Forest Plan Soils Standard and Guideline #1*).

Direct and Indirect Effects on Soils Quality and Productivity

Alternative 1 – No Action

There would be no direct increase in detrimental soil conditions (DSC), compaction, displacement, or puddling, if this alternative were implemented. In the absence of land management, soil productivity within these units would continue to improve (20 to 50 years or longer). Compaction and displacement are being ameliorated through natural restoration processes, for example freeze/thaw, tree root expansion, ground cover root mass expansion, and organic matter (leaf, and litter layer) development. The project area has very few detrimental soil conditions, and only in isolated spots, based on the Level I surveys.

The Mt. Emily analysis area is generally a stable landscape, except the areas underlined with soft clay producing bedrocks. However, if a high intensity wildfire were to occur, soil properties could be severely altered and damaged. In the event of a wildfire, the potential effects upon soil productivity, extent of post-fire soil erosion, and the ability of the soil to recover from these impacts would depend upon the intensity and duration of the fire. The ability of the soil to recover depends upon the soil's residual organic content, post-fire erodibility, and the speed with which groundcover is established. High intensity wildfires could reduce the long-term site productivity of the soils by removing large downed woody debris and surface organic matter. Surface soils and their associated nutrient reserves could also be lost through increased erosion as a result of cover loss and reduction in infiltration capacity. These situations could, in turn, lead to reduced site productivity, increased sediment production, and reduced water quality. The likelihood of increased mass failure following a stand replacement fire event within the analysis area is low given the stability of the area, and the limited areas underlined with soft clay producing bedrocks.

Alternative 2 – The Proposed Action

Soils issues relating to soil productivity and disturbance are analyzed by each potential ground-disturbing activity proposed. Direct impacts could occur from sheet and rill erosion, gullying and landside erosion, soil compaction, displacement and puddling. Indirect effects include the reduction of organic matter and large woody debris.

Sheet and Rill Erosion-- Soil erosion is a natural process that can be accelerated by land management activities. Soils on steep slopes with poor vegetative cover and lack of structural development are more susceptible to erosion than are soils on flatter terrain. Vegetation protects the soil surface from raindrop impact, dissipates the energy of overland flow, and binds soil particles together.

Slopes proposed for mechanical treatment, i.e., mechanized (grappler) fuel reduction are generally below 30% (with small inclusions greater than 30%) and have well-established existing groundcover.

Ground cover within these treatment areas exceeds 85% (see soils existing conditions report in the analysis file). Major soil complexes represented within the analysis area exhibit moderate permeability rates and are well drained. It is not anticipated that the proposed mechanical treatment activities would increase surface erosion given the high infiltration rates, relatively flat topography, and density of effective ground cover. Mitigation measures would be imposed to minimize the potential extent of bare ground exposed during skidding and mechanized fuel reduction operations.

Groundcover on lightly used summer skid trails (1 or 2 passes) is not anticipated to be reduced along the entire length of the trail because operations would occur over slash mats (if using in-woods processors), or the material would be whole-tree-yarded. Protection of groundcover would reduce surface erosion and protect soil productivity. Groundcover along a greater length of main skid trails would likely be reduced. This impact would be mitigated through the use of slash mats, designating skid trails, one-end log suspension, and ceasing operations if detrimental puddling or displacement becomes excessive.

Main skid trails would be reviewed for restoration needs following removal and fuel reduction treatments. Restoration may include constructing water bars, creating brush sediment traps, seeding or planting, tilling or subsoiling, or doing nothing depending on the extent and amount of ground cover reduction. In the long-term (greater than 5 years) it is anticipated that ground cover would become re-established, with or without post activity restoration.

Activity-generated slash (activity fuels) would be treated in all thinning units, through piling and burning.

The highest likelihood of occurrence of detrimental soil conditions would be in localized areas associated with harvest generated slash piles. Long flame lengths and high residence times could cause severe burning of soils. However, severe soil conditions are not expected to exceed 2 percent of the land base, be well distributed throughout treatment areas, and be relatively small in size. As such, discrete areas of severely burned soils would recover naturally over time.

Gullying and Landslide Erosion–The project area is in a generally stable landscape. The potential for landslides to occur is low.

Intermittent tributaries and ephemeral swales are found within most units. The swales have good establishment of vegetation and ground cover and are not showing signs of conversion to intermittent channels. Vegetation regrowth and biological activity is breaking up the surface compaction (0-4 inches) of soil on the historic skid trails.

The following mitigation measures would be implemented and have proven effective in maintaining soil productivity:

- Limit equipment crossings of the draws (ephemeral swales), adhering to Blue Book standards; sale administrator would approve any crossing.
- Pre-designate skid trails. Adhere to Blue Book standards for skidding operations adjacent to the draws.

It is not anticipated that pile burning would result in increased gully and landslide erosion. Refer to discussion of “Sheet and Rill Erosion” above.

Organic Matter and Large Woody Material–Organic surface litter and duff currently approximates 0.25-2.0 inches in depth within the units proposed for treatment. Amounts of down woody material are variable across the entire unit. Vegetation management (fuels reduction) would retain down wood at levels specified in the Forest Plan “*Screens”.* All sale activities would maintain snags (see mitigation measures, chapter 2) and green tree replacement trees. Fuel treatments (pile burning) may also result in the short-term reduction of surface soil organic matter in spots. Potential surface erosion would not change as a result pile burning.

Whole-tree yarding would have an impact on the organic matter left on the site. Under this method of logging, the entire tree (with limbs attached) is removed and concentrated at the lan ding. In the long term (greater than 3 years) there would be a reduction of organic matter on the unit.

Soil Compaction and Displacement-- Ground based equipment has the potential to cause detrimental soil compaction and displacement, and subsequently re duce site productivity. Soil compaction is the result of an increase in the density of the soil due to applied loads, mechanical pressure or vibration. Soil compaction increases soil density, reduces soil porosity, and consequently affects air and water movement within the rooting zone. This limits root development and affects the volume of soil available for plant growth. Displacement is the physical removal of soil from one place to another by mechanical forces. Removal of surface soils (displacement) reduces amounts of available nutrients and affects soil biological activity **.**

Level I Survey field observations were done for all units proposed for treatment. They indicated that there is currently little or no soil compaction. All units are estimated to be at 0-5% DSC existing condition (see existing soils existing condition in the analysis file). Mitigation measures in chapter two are designed to prevent DSCs from exceeding 20%. Should DSCs exceed 20% on any treatment unit due to unforeseen circums tances, a restoration plan would be implemented. Restoration may include subsoiling, seeding, pull berms back, reforestation, or other means designed by the Silviculturist and/or Soil Scientist.

The use of lightweight (low ground pressure) equipment on designated and existing skid trails is not anticipated to measurably increase detrimental soil conditions. Based on the type of equipment used, the operator's and sale administrator's adherence to mitigation measures, and the implementation of restoration activities (where needed), it is the professional judgment of the soil scientist that the activities proposed would result in minimal measurable increase in detrimental soil conditions. Natural restoration activities would move the unit toward an improvin g trend over the next 5-20 years.

Grapple- machinery used for piling is not expected to exceed Forest Plan standards and guidelines for DSC's. It is not anticipated to measurably increase detrimental soil conditions because, the operator would use pre-existing skid trails and the machine has low ground pressure. This determination is based on the type of equipment used in the past, the operator's and sale administrator's adherence to mitigation measures, and the implementation of restoration activities if needed. Once these activities are completed, natural restoration activities would move the soils toward an improving trend over the next 5-20 years.

Grapple piles are generally scattered throughout a unit. These piles are generally larger than hand piles, and they are often windrowed rather than heaped, reducing the impacts of burning. Burned grapple piles are not as damaging to soils as burned piles at landing sites, and soils would recover faster (within 3-5 years).

Studies have documented the impac t of commonly used equipment on soils. Largest increases in soil bulk density generally occur during the first five passes when using feller bunchers or rubber tired/tracked skidders. However, detrimental compaction was not encountered with 1 -4 passes of the feller buncher or conventional skidders (*Zaborske 1989*). *Froehlich (1978*) found that soil density at the 2-inch depth increased greatest during the first two passes with little change in density after 6 passes. At the 10-inch depth, *Froehlich (1978*) found little change in soil bulk density regardless of the number of passes. *McNeil (1996*) found that feller-bunchers compacted 10 to 20 percent of the activity areas on the Malheur National Forest in eastern Oregon. Degree of compaction from summer logging over dry ground was significantly reduced when equipment was operated over slash (*Froehlich 1978; Zaborske 1989*). Harvester/forwarder operations on the Limber Jim Fuel Reduction Study conducted on the La Grande Ranger District (1998) resulted in detr imental soil conditions on 3 to 8 percent of treated stands. In comparison, harvester/skidder operations resulted in approximately 20 percent of the treated areas in detrimental conditions (*McIver 1996*). The grappler

used in piling produces little change is soil bulk density as it is more like low ground pressure equipment.

Effects of mechanical crushing include soil productivity loss through compaction or displacement. If mechanical crushing treatments were prescribed, equipment would be limited to existing skid trails on slopes less than 30 percent with a slash mat sufficient to buffer the equipment weight. These skid trails would be the same ones used for harvest operations. No observable change in soil compaction or displacement was noted with equipment use over a sufficient slash mat.

Whole-tree yarding and leaving the top attached may increase detrimental soil compaction, as the skids trails are usually less than 100 apart. Landing sites would need to be expanded to accommodate the accumulated slash, therefore increasing the DSC at landing sites.

It is anticipated that the units (even with the availability of existing skid roads and landings) could experience a 3 to 8% increase in detrimental soil conditions (*McIver 1996*). Added to the existing condition of 0-5% DSC, Forest Plan standard of 20% detrimental soil condition is not anticipated in any mechanical treatment unit. Adherence to the mitigation measures (see Chapter 2) is integral to the validity of this assumption. Unacceptable compaction and displacement is not anticipated to be of concern within the remainder of the proposed units for treatment.

Puddling– Puddling would occur at isolated locations in association with roads where vehicles had used the native surface during wet conditions. Detrimental puddling is not expected to occur within activity units if mitigation measures are adhered to.

Cumulative Effects on Soils Quality and Productivity

Alternative 1 – No Action

There would be no direct increase in detrimental soil conditions (compaction, displacement, puddling) if this alternative was selected. Existing conditions would remain the same in the short term. Mechanical soil damage that currently exists as a result of previous entries would recover naturally over the next 20 to 50 years, or longer.

Soil structure and productivity would continue to be altered by on-going activities. On-going activities in the subwatersheds include, but are not limited to, minor livestock grazing, reconstruction of stock watering facilities, off-road vehicle use, hunting, recreation, firewood collection, and vehicle use of roads when the roads are wet or soft. These actions are dispersed throughout the planning area with detrimental soil damage most evident where use is concentrated, and the acreage is minimal within the project area. Since these actions are ongoing, detrimental soil conditions associated with these activities are not being ameliorated and would persist into the future.

Alternative 2 – The Proposed Action

In addition to the direct and indirect effects of the proposed action as described previously, there would be additional cumulative effects on the soils resource as a result of the on-going activities within the analysis area. Activities of hunters, firewood cutters, other forest users, and domestic grazing contribute to the amount of soil damage within the Mt. Emily project area. These activates would continue into the future. The human impact (hunters, firewood cutters, and other forest users) to the soils resource would be concentrated in discrete areas and would not likely add appreciable amounts of soil damage above present levels.

There are no cumulative effects of domestic grazing associated with the proposed action (as it relates to surface erosion). No detrimental soil conditions are expected from the Boundary Fuels Reduction project as no mechanized equipment would be used (hand tools only). No cumulative detrimental soil conditions are expected with the implementation of this project in conjunction with

the original Mt. Emily Fuels Reduction Project (signed in December 2004). Soil effects were analyzed with both projects being implemented concurrently, and no significant effects were identified (see soils report in the analysis file).

ISSUE – Wildlife Resources

Introduction

This section describes the effects of the Mt. Emily II Fuels Reduction alternatives on wildlife and wildlife habitat. Direct, indirect and cumulative effects are addressed; direct effects are related to habitat features and indirect effects are described in terms of wildlife species response. A wildlife existing condition document for the Mt. Emily analysis area resides in the analysis file. Effects on Management Indicator Species (MIS), Proposed, Endangered, Threatened, and Sensitive species (PETS), and Neotropical Migratory Bird Species (NTMBS) are discussed.

The following restoration activities associated with the Mt. Emily project are of such limited and constrained nature that they would not impact wildlife species or wildlife habitat in the project area, and would therefore have no effect on Wildlife resources. These activities and their effects will not be discussed further in this section:

- Subsoiling
- Seeding
- Borax stump treatments

A. Management Indicator Species (MIS)

The management indicator species (MIS) of the Wallowa-Whitman National Forest and the habitat component they represent are shown in table 22 below. All of these species are known or suspected to inhabit the analysis area.

Table 22: Management Indicator Species (MIS)

SPECIES	HABITAT
Pileated woodpecker	Old growth and mature forest
Northern goshawk	Old growth and mature forest
American marten	Old growth and mature forest
Primary cavity excavators*	Snag and log habitat
Rocky Mountain elk	Cover and forage ratios (security habitat)

*flicker, Lewis woodpecker, yellow-bellied sapsucker, Williamson's sapsucker, hairy woodpecker, down woodpecker, white-headed woodpecker, Northern three-toed woodpecker, black-backed woodpecker, mountain chickadee, white-breasted nuthatch, red-breasted nuthatch, pygmy nuthatch

Management indicator species are addressed under separate headings: Pileated woodpecker, Northern goshawk, and American marten are addressed under "Old Growth Wildlife Species and Habitat", primary cavity excavators are addressed under "Snag and Log Habitat", and Rocky Mt. Elk are addressed under "Elk Security Habitat".

1. Old Growth Wildlife Species and Habitat

Old growth is well represented in the Mt. Emily analysis area; multi-strata with large trees (MSLT) makes up 34% of the forested acres. Old growth characteristics include tree size, snags and down wood, canopy layers, and species composition as described in Region 6 Interim Old Growth Definition,

June 1993. Effects to old growth habitat in Mt. Emily II project area are analyzed using key indicators: 1) old growth acres treated and 2) acres converted from MSLT to SSLT (single strata with large trees).

Old growth currently supports pileated woodpecker nesting, roosting and foraging habitat, black bear denning sites, Northern goshawk nesting habitat, and Northern flying squirrel nesting habitat (Bull pers. commun. 2003, Bull and Heater 1996, Bull 1994, Wisdom et al. 2000). Based on professional judgment, MSLT (approximately 1,748 acres) in the Mt. Emily analysis area provides optimal American marten habitat based on large structure, cover, and abundant wood. However, the Mt. Emily area does not provide contiguous cover; approximately 25% is comprised of open grassland plant communities that naturally fragment the area, and are avoided by American marten. These naturally occurring openings reduce the overall habitat suitability for marten in the Mt. Emily area.

Current road densities may facilitate a reduction in the density of large diameter trees and snags (Wisdom et al. 2000) as suggested by the lower density of large-diameter trees, snags and logs associated with roaded areas (Hahn and others 1997). Existing road densities meet Forest Plan standards and guidelines; however, additional access has been created by fuelwood gatherers to remove snags for firewood.

Direct and Indirect Effects to Old Growth Wildlife Species and Habitat

Alternative 1 – No Action

Alternative 1 provides Northern goshawks with suitable habitat based on the abundance of MSLT; however, stands with dense understory may reduce hunting efficiency (Marshall 1992; Reynolds and Meslow 1984). Approximately 32% (1,743 acres) of the forested habitat within the Mt. Emily analysis area provides habitat for Northern goshawks.

Alternative 1 provides pileated woodpeckers with approximately 1,058 acres of suitable habitat (20% of forested acres) based on the quantity of stands with large trees within grand fir and mixed conifer plant communities. In the absence of wildfire, old growth characteristics would persist for 50 to 100 years.

HRV's indicate that SSLT historically occurred in the Mt. Emily analysis area (approximately 420 acres); however, no SSLT presently occurs on the landscape. SSLT conditions would provide habitat for wildlife species such as pygmy nuthatch and white-headed woodpecker. The overstocked condition in MSLT stands would lead to a continued increase in susceptibility to stand replacing fires and vulnerability to insect and disease related tree mortality.

Old growth is well connected throughout the analysis area and with the adjacent Mt. Emily roadless area. The face provides old growth habitat connected by riparian areas, primarily east to west. Old growth on the ridge is extensive and, therefore, provides a large block of connected old growth habitat. Fragmentation exists on the ridge due to past timber harvest; however, old growth connectivity is met through the short-term. In the absence of fire, Alternative 1 would not change current connectivity conditions. A large landscape crown fire, however, would have the potential to reduce connectivity.

Alternative 2 – The Proposed Action

For goshawks, pileated woodpeckers and martens, source habitat is provided by the MSLT structure stage (Wisdom et al 2000). Reduced canopy closure in adjacent stands may not provide adequate escape cover for such species as American marten and pileated woodpecker from predation. It is important to realize that the treatment proposed (331 acres) is relatively small in relation to some wildlife species home ranges and may have negligible effects to meeting species habitat requirements.

Alternative 2 includes commercial thinning to the lower management zone, followed by fuels reduction of dead standing and down trees, cutting of small diameter ladder fuels (cleaning) piling, and pile burning. Thinning treatments in Alternative 2 would reduce canopy closure by approximately 20 percent (Powell 1999; Barrett pers. commun. 2004) for 10 to 20 years when the next fuels reduction treatment would be expected. This treatment would result in a canopy closure of 40 to 50%.

Small Diameter Treatments in MSLT

The Mt. Emily II project proposes to treat 221 acres MSLT. MSLT units 262, 268, and 271 (19 acres) are located on the perimeter of the Mt. Emily Roadless Area and west of Road 3120 and will remove only small diameter ladder fuels. Treatment objectives include (1) removal of small diameter ladder fuels ($\leq$6 inches diameter) by hand with no mechanical removal and (2) reducing standing and down dead trees (in excess of Forest Plan standards and guides) to be piled and burned or removed. These units provide old growth habitat in grand fir dominated stands and will continue to function as MSLT due to retention of large diameter trees, adequate canopy closure, and snags and down wood.

Thinning Treatments in MSLT

The remaining MSLT units (202 acres) proposed for treatment includes units 235, 238, 239, 240, 241, 244, 245, 246, and 248 and are located east of the 3120500 road. These units are predominantly subalpine fir plant communities. Treatments in these units would retain all live trees $\geq$ 21 inch diameter and meet the Forest Plan standards for down wood and snags and meet the Region 6 Old Growth Definition, June 1993.

Thinning treatments would reduce canopy closure by approximately 20% (Powell 1999; Barrett pers. commun. 2004) for 10 to 20 years when the next fuels reduction treatment would be expected. This treatment would result in a canopy closure of approximately 40 to 50% and would not likely meet optimal escapement cover for such species as American marten and pileated woodpecker (Bull et al. 1996, Bull pers. commun 2004). Although these MSLT treated units will reduce tree densities from existing levels they will continue to meet the structure stage definitions (Wallowa-Whitman National Forest Recommended Definitions for New Structure Stages per Amendment #2, November 9, 1995).

Bull (pers. commun. 2003, Bull and Holthausen 1993) reported that pileated woodpeckers exhibit a preference for grand fir stands with at least 60% canopy closure to protect them from predation by accipiters. However, Wisdom et al. (2000) states that pileated source habitat generally include both MSLT and SSLT and that special habitat for pileateds includes the dependency on large snags and logs for nesting, roosting and foraging.

Goshawks nest in various forest structural conditions, from open stands to SSLT to MSLT; however, nest stands are generally characterized by large trees and the densest canopy cover available within the area (Reynolds and other 1992). The reduction of canopy closure may not provide optimal nesting cover for Northern goshawks; however, fuel reduction treatments in foraging habitat would have negligible effects.

Connectivity requirements would be met under Alternative 2, although treatments along the 3120500 road would affect connectivity between the south portion of the Mt. Emily face and the ridgetop. Wildlife species, such as American marten, would have increased vulnerability to predation due to the reduction of canopy cover (E. Bull, pers. commun. 2003) for 20 to 30 years when the next fuels reduction treatment would be expected. Reduced fuel loadings would reduce prey densities and the amount of below snow habitat available to marten during the winter.

American marten usually avoid openings dominated by grasses, forbs, and saplings, especially in the winter. Bull et al. (1996) found 56% radio-collared marten killed by predators and believes that marten avoid areas in early structural stages or open canopies due to the increase in vulnerability to

predation. Optimal escapement cover is 60% canopy cover and minimum levels are assumed to have at least 40% canopy cover. Reduced canopy cover would not offer protection from predation or access to the subnivean zone (Buskirk and Powell 1994). Overall, the Mt. Emily II project would not affect the local population.

Cumulative Effects to Old Growth Wildlife Species and Habitat

The logical resource unit for old growth cumulative effects analysis is the project area boundary and the adjacent Mt. Emily roadless area (approximately 16,117 acres). This logical resource unit is of adequate size to encompass the home range of wildlife species associated with old growth habitat.

Old growth habitat is well represented in the logical resource unit. The Mt. Emily IRA contains 45% old growth (reference Five Points EIS file at La Grande District). The Mt. Emily analysis area contains 34% old growth. The combined old growth for the logical resource unit is 40%. Old growth is primarily represented in the subalpine fir (biogroup 1) and grand fir (biogroup 4) plant communities. Old growth, within the logical resource unit, currently supports wildlife species associated with large structure such as American marten, pileated woodpecker and Northern goshawk. The Mt. Emily Roadless Area contributes to meeting the habitat requirements of old growth associated species; however, adjacent private land to the south and east of the Mt. Emily project area are not a dependable source of old growth habitat.

Alternative 1 – No Action

Past timber sales and roads on the ridge portion of the project area have resulted in habitat fragmentation, reduced connectivity and reduced old growth acres. The effect of these timber sales is expected to last 75 to 100 years. Roads have facilitated woodcutting access that has resulted in the removal of snags and logs important to old growth habitat.

Overstocked conditions in old growth stands would lead to a continued increase in susceptibility to stand replacing fires. The immediate post-fire environment in large stand replacement fires presents all animals with a sudden and drastic modification of habitat structure and local microclimate. Increased light and temperature, lowered humidity, and changes in food and cover may have positive or negative influences to wildlife species. The intensity and extent of area burned regulates the effect on wildlife. In general, the larger the area burned and the higher intensity, the higher habitat modification and effect on wildlife. Large stand replacement forest fires have the greatest potential to adversely affect late and old growth associated species.

Motorized access on the ridge would continue to facilitate the removal of large snags and logs by woodcutters.

Alternative 2 – The Proposed Action

Past timber sales and roads on the ridge portion of the project area have resulted in habitat fragmentation, reduced connectivity and reduced old growth acres. The effect of these timber sales is expected to last 75 to 100 years. Roads have facilitated woodcutting access that has resulted in the removal of snags and logs important to old growth habitat.

Alternative 2 would not convert MSLT to SSLT. The thinning treatments in areas adjacent to MSLT, may not provide adequate escape cover for such species as American marten and pileated woodpecker from predation.

2. Primary Cavity Excavators (Snag and Log Habitat)

Fire suppression has allowed the development of dense stands of s hade-tolerant and fire-intolerant trees. These stands are stressed, resulting in high mortality of small trees and increased levels of small dead wood. Overall, however, densities of smaller snags have declined slightly from historical levels in the Columb ia River Basin as a whole (Korol et al. 2002). Large snags have declined from historical conditions due to timber harvest and firewood cutting (Korol et al. 2002). Amounts of both large and small down wood are above historical levels due to the long-lived nature of down wood and fire suppression (Korol et al. 2002).

Thirteen species of primary cavity excavating birds are found in the Mt. Emily analysis area (Thomas 1979) including: flicker, Lewis woodpecker, yellow-bellied sapsucker, Williamson's sapsucker, hairy woodpecker, down woodpecker, white-headed woodpecker, Northern three-toed woodpecker, black-backed woodpecker, mountain chickadee, white-breasted nuthatch, red-breasted nuthatch, and pygmy nuthatch. Habitat structure and diversity strongly influence the composition and diversity of avian communities (Cody 1968). Timber harvest generally reduces the density of live trees, the percentage of canopy closure, and the density of dead trees. Therefore, forest management normally changes habitat structure and has major effects on cavity excavators. Franzeb (1977) found similar numbers of avian species in selectively logged and control areas, however, species composition changed. Species preferring open habitats took advantage of the increase in insects after logging. Primary cavity excavators declined in logged areas. Marshall (1977) summarizes the decline of white-headed woodpecker populations in the last 30 years due primarily to over-harvest of ponderosa pine.

The ridge portion of the project area has lower numbers of large snags due to fire wood cutting and past management activity, compared to the face portion where access is limited. Overall, snags and down wood meet or exceed Forest Plan standards due to mortality from insects, disease an d timber management activity. Based on field recon, stand exam data and knowledge of forest stand dynamics (Oliver and Larson 1996) the following table describes how each structure stage compares with the Forest Plan standards and guides for meeting snag densities.

Table 23: Snag levels in the Mt. Emily analysis area.

	Structure Stage	Acres	Percent
Exceeds Forest Plan	MSLT, MSLTU, 50% UR	3,079	57
Meets Forest Plan	SSLT, 50% UR	1,106	20
Below Forest Plan	SE, SI	1,234	23

Primary cavity excavators are Management Indicator Species on the Wallowa-Whitman National Forest. These species rely heavily on decadent trees, snags and down logs. DecAID (Mellen et al. 2006), a planning tool was consulted for information on snag and down wood habitat (see Wildlife Effects). Based on this review of Blue Mt. literature (see Korol et al. 2002), La Grande Ranger Districts' Snag Policy was determined to be within the range of recommended levels. Chapter 2 of this EA describes the La Grande Ranger District snag policy; action alternatives meet the policy direction.

Current Forest direction says to maintain snags and green tree replacements at the 100% potential population levels of primary cavity excavators (Regional Forester's Forest Plan Amendment #2). A District policy assigns minimum snag densities to three broad forest community types; dry, moist, and cold (District Snag Policy, March 1997). Dry forest types should have at least 2 snags/acre, moist should have 4-6 snags/acre, and cold should have 6-8 snags/acre. Snags should be $\geq$ 21 in. dbh or at least 12 in. dbh if larger ones are not present.

Additional scientific literature (primarily contained in DecAID; Mellen et al. 2006) was reviewed to derive snag and down wood levels that meet habitat requirements for dependent wildlife species in

this biophysical setting. To provide snags in balance across the analysis area, DecAID (Mellen et al. 2006) an advisory tool on deadwood was consulted (*Advice on Decayed Wood in the Eastside Mixed Conifer Forest, East Cascades/Blue Mountains, Larger Trees Vegetation Condition*). DecAID is a compilation of many different studies on snags and down wood. These studies have been synthesized to assist managers in developing snag and down wood guidelines. DecAID numbers should not be applied at the same level across an entire project area, snag and down wood should provide a balance between high, moderate and low levels. Some areas of the landscape will provide high density of snags while others will provide a low density.

Based on this review of Blue Mt. literature (see Korol et al. 2002), La Grande Ranger Districts' snag policy was determined to be within the range of recommended levels. Korol et al. (2002) determined HRV for snag densities in dry forests with a low-intensity fire regime to be 2.9 to 5.4 snags/acre >20 in. High-intensity fire regime areas estimates were 3.8 to 7 snags/acre>20 in.

Because snags are lost in harvest units (5-15%) from direct removal, skid trail and landing placement, safety reasons, and post sale treatments, an increase in acres treated would result in a greater reduction in snags and logs. The effectiveness of snag habitat is reduced when a closed canopy is converted to an open setting. A few species (e.g., Northern flicker, great horned owl, bluebird) seem to do as well in either setting, but others (e.g., pileated woodpecker, nuthatch, black-backed woodpecker) avoid snags in open settings.

Direct and Indirect Effects on Snag and Log Habitat

Alternative 1 – No Action

Without disturbance, Mt. Emily would continue to provide snag and down wood habitat to meet habitat requirements of primary cavity nesters at least through the short-term (15-25 years, Table 23). Snag replacements would be provided over several decades by mortality from existing live trees to provide long term (25 + years) habitat for primary cavity nesters. Overstocking and high fuel loadings would cause stands to become increasingly susceptible to insect and disease outbreaks and stand replacement fires. Fuelwood removal would continue to reduce snag habitat, especially on the Mt. Emily ridge.

High snag densities resulting from stand-replacing disturbances are temporary because snag densities decline rapidly as snags fall in the first decade or so after the disturbance (Mellen et al. 2006). Recent post-fire habitats are different systems structurally and ecologically from later successional habitats, and from early seral habitats where trees and snags have been removed. These post-fire habitats have a unique suite of associated animals and plants. Kreisel and Stein (1999) report that fire-killed trees provide a major food source for woodpeckers, especially during winter when most bird mortality occurs. Black-backed woodpeckers select areas of very high density of relatively smaller snags. At the other extreme, Lewis woodpeckers use larger snags in lower densities. These birds typically use burned areas several years post-fire as snag densities decline due to small snags fallings.

Alternative 2 – The Proposed Action

Snag and down wood densities would be met in all proposed treatment units. Constraints and mitigation measures (see Chapter 2 under Wildlife Resources) require snag and down wood levels to be retained to Forest Plan standards. Snag requirements for primary cavity nesters would be provided over time

Alternative 2 would meet or exceed the 100% level for snag habitat on approximately 77% of the forested habitat in the Mt. Emily area (see wildlife report in the analysis file). The alternative would not appreciably change snag habitat or population levels of primary cavity excavators over the next

10 years. Stands that are currently below Forest Plan standards are expected to provide snag habitat within 50 to 100 years.

Cumulative Effects on Snag and Log Habitat

Alternative 1 - No Action

The cumulative effects on snag and log habitat (primary cavity excavators) include the effects of wood cutting in the project area. Access management is not addressed in this EA, therefore, fuelwood removal would continue to reduce snag habitat. Snag densities exceed Forest Plan standards and guides on approximately 57% of the forested area (see wildlife report in the analysis file).

Alternative 2 – The Proposed Action

The cumulative effects on snag and log habitat (primary cavity excavators) under alternative 2 include the effects of wood cutting in the project area, snag and log removal, and potential road closures under a future environmental analysis. Wood cutting would continue reducing snag and log levels along open road systems. Snags would also be better retained along road closures planned under a separate Environmental Assessment to be completed and implemented within the next 5 years.

Snag levels are not expected to go below Forest Plan levels due to the high existing snag levels, mitigation measures to retain Forest Plan levels under the proposed action, road closures and no new areas opened to wood cutting via road construction. Snag replacements would be provided over several decades by mortality from existing live trees to provide long term (25 + years) habitat for primary cavity nesters. Overall, the Mt. Emily project area would continue to meet the Forest Plan standards and guides on over 35% of the forested area. If the snag habitat level is maintained over time, there would be little negative impact on primary cavity excavators.

3. Elk and Elk Security Habitat

Mt. Emily analysis area provides quality elk habitat due to high cover quantity and quality, and high security habitat along the face (winter range) of Mt. Emily due to the limited motorized access. The elk habitat effectiveness is 0.64 HEI and meets the 0.50 HEI standard in the Record of Decision of the Forest Plan. The limiting factor in the Mt. Emily big game summer range is the disturbance caused by motorized vehicles. The ridge top is heavily used by recreational OHV users and fuelwood gatherers.

Dense cover acts as thermal cover, regulating body temperature changes as well as providing security cover. Cover exists on 55% of the analysis area (24% marginal and 32% satisfactory; see table 24) resulting in a Habitat Effectiveness cover quality value of 0.78.

Open road densities meet Forest Plan standards and guidelines (See Chapter 1 – Access and Travel Management). Rowland et al. (in press) found road densities to be a poor indicator of habitat effectiveness for elk and that habitat effectiveness increased with increasing distance from open roads. Elk security habitat is provided along the face of Mt. Emily, including the North Mt. Emily roadless area (5,400 acres) that extends to the north of the project area and the adjacent Mt. Emily roadless area (8,822 acres)

The Mt. Emily area receives high recreation by big game hunters, berry pickers, fuelwood gatherers and OHV users. Unregulated use of off highway vehicles continues to have a deleterious effect on elk distribution. This EA does not address woodcutting access and OHV use; a road management proposal will be completed under a separate EA.

Direct and Indirect Effects on Elk and Elk Security Habitat

Alternative 1 – No Action

Without disturbance, the Mt. Emily analysis area would continue to provide high quality big game habitat conditions at least through the short-term (15-25 years). Overstocking and high fuel loadings would cause stands to become increasingly susceptible to insect and disease outbreaks and stand replacement fires.

Open road densities meet Forest Plan standards and guidelines (1.5 mi/sq mi; see Chapter 1, Access and Travel Management. Unregulated access by OHVs and fuelwood gatherers, primarily on the Mt. Emily ridge, would have a negative effect on elk distribution. The low motorized access along the face and adjacent roadless areas would continue to provide security habitat for big game.

Alternative 2 – The Proposed Action

Alternative 2 proposes to convert 126 acres of satisfactory thermal cover to marginal cover, and 204 acres of marginal cover to forage (1 acre of the project is already considered forage). However, 45% of the cover in the Mt. Emily analysis area is comprised of satisfactory cover; and 49% of the Mt. Emily analysis area would remain in a cover condition ($\geq$ 40% canopy closure; Table 24). Marginal cover would slightly increase and satisfactory cover would slightly decrease. The change in habitat effectiveness would be negligible.

Alternative 2 would reduce tree density and fuel loadings that may reduce the risk of a large fire and maintain big game cover habitat in the long-term.

Cumulative Effects on Elk and Elk Security Habitat

The logical resource area for cumulative effects analysis on elk habitat includes the project area boundary as shown on the maps in Appendix A and adjacent forested private lands to the east and south. This area is large enough to evaluate cumulative effects to elk.

Alternative 1 – No Action

Past timber sales and roads on the ridge portion of the project area, natural succession, and opening of stands from insect and disease outbreaks, have resulted in reduced hiding cover, reduced security habitat and increased disturbance to elk. The limiting factor in the Mt. Emily big game summer range (Mt. Emily ridge) is the disturbance caused by motorized vehicles. Unregulated access by OHVs, primarily on the Mt. Emily ridge, would have a negative effect on elk distribution. High security habitat would continue to be provided by adjacent roadless areas and the Mt. Emily face.

Without disturbance, Mt. Emily analysis area would continue to provide high quality big game habitat conditions at least through the short-term (15-25 years). Overstocking and high fuel loadings would cause stands to become increasingly susceptible to insect and disease outbreaks and stand replacement fires. Crown fires that reduce large areas of cover would redistribute elk away from the burned areas, displacing elk for approximately 20 to 40 years until the area provides hiding cover. Also natural succession is occurring in many of the marginal stands, causing them to be in the lower range of the marginal cover classification (40-70% cover).

A road management plan to be completed within the next 5 years would benefit elk by increasing security areas adjacent to the road closures.

Alternative 2 – The Proposed Action

Past timber sales, roads on the ridge portion of the project area, natural succession, and opening of stands from insect and disease outbreaks have resulted in reduced hiding cover, reduced security habitat and increased disturbance to elk in the area. The Mt. Emily II project and adjacent management activities (Mt. Emily Fuel Reduction Project, Boise timber sales, Oregon Department of Forestry and private land fuels reduction) are in the process of implementation or planned for implementation within the next five years. Alternative 2, combined with other ongoing projects, would move the cover to forage ratio of the area closer to optimum of 40:60 (see table 24).

Elk winter feeding ground traditionally is closer to the valley bottom with less use on the steeper slopes of the project area (Leonard Erickson – Oregon Department of Fish and Wildlife, pers. comm). Treatments in the project area would have minimal impact to winter elk distributions. Project activities combined with motorized vehicle use during summer and fall months may redistribute elk to more secure areas, such as the adjacent roadless areas. A road management plan would be completed under a separate EA to be completed within 5 years.

Overall, the Mt.Emily analysis area would continue to provide quality big game habitat due to high cover quality, adequate security habitat and an improvement of forage conditions.

Table 24: Mt. Emily analysis area elk cover conditions.

Cover Types	Existing Condition	After Mt. Emily & Mt. Emily II Projects are completed
Forage Acres	3,232	3,691
Marginal Cover Acres	1,719	1,971
Satisfactory Cover Acres	2,294	1,583
Cover:Forage Percent (40:60 optimal)	55:45	49:51

B. Proposed, Endangered, Threatened, and Sensitive Species (PETS)

Evaluation of effects to terrestrial PETS species is discussed below and covered in the biological evaluations and assessments for PETS wildlife and plant species, residing in the analysis file of this project. Evaluation of effects to aquatic PETS species has been covered earlier under "Fisheries and Watershed resources".

Direct, Indirect and Cumulative Effects on Wildlife PETS

The following PETS wildlife species from the Regional Forester's sensitive species list were analyzed for this area. The Endangered and Threatened species include the Canada Lynx, the Northern Bald Eagle, and the Gray Wolf. The Sensitive species include the Peregrine Falcon, the Spotted Bat, and the California Wolverine. Species were selected for discussion because they were known to, or suspected to, exist (based on habitat characteristics) within the Mt. Emily project area. (Refer to the Wildlife Biological Evaluation and the Lynx Biological Assessment and Addendum in the Analysis File).

1. Canada Lynx

Table 25: Effects of Mt. Emily II alternatives on lynx habitat.

	Suitable	Unsuitable	Denning
Conservation Strategy	≥ 70%	≤ 30%	≥ 10%
Alternative 1	89%	11%	51%
Alternative 2	85%	15%	48%

Alternative 1 – No Action

Alternative 1 prescribes no activities, and therefore, initiates no actions that would be inconsistent with the LCAS. Lynx habitat would remain at current levels within the LAU until stand replacement events occur. Retaining high fuel loadings in this area could pose an increased risk to stand replacement wildfires, potentially affecting lynx habitat. Otherwise, this alternative has *"no effect"* on lynx habitat.

Alternative 2 – The Proposed Action

Alternative 2 fuel treatments would occur in 331 suitable habitat acres, of which 165 acres are denning habitat that would be converted to unsuitable habitat, 52 denning acres that would remain in denning habitat and 114 acres are forage habitat that would be converted to unsuitable habitat. Unsuitable habitat would be maintained in this condition for as long as the fuel reduction treatments are maintained. Treatments would not preclude the return of suitable habitat in the future. Without management, the stand could return to forage habitat in 15-20 years.

Alternative 2 meets the recommendation identified in the Lynx Conservation Assessment and Strategy. The Forest Plan would be amended with this alternative by adopting these recommendations relative to the project from the LCAS to mechanically treat and prescribe burn within lynx habitat. The direct and indirect effects of this site-specific Forest Plan amendment would provide greater protection for lynx and lynx habitat than currently provided in the Plan. The Forest Plan provided indirect standards and guidelines for lynx conservation through old growth, down wood, snag levels and cover requirements. None of these were designed specifically for conservation of lynx habitat. Following the Federal listing of lynx, the LCAS provided measures intended to produce or eliminate adverse effects from the spectrum of management activities on federal lands. This site-specific amendment to include applicable standards and guidelines for Alternatives 2 would provide a specific design for protecting and developing lynx habitat.

Alternative 2 would result in a "*may affect, but is not likely to adversely affect"* determination for Canada lynx (see BA Addendum in analysis file for complete effects determination). This is based on the following rationale (as listed in the consultation letter to the Wallowa-Whitman NF from the US Fish and Wildlife Service, dated August 25, 2005, and located in the analysis file):

1. It is unlikely lynx make any use of the project area. No recent documented occurrences of lynx are within the proposed project area.
2. Denning habitat is well distributed throughout the LAU and well connected with other suitable habitat. This proposed project reduces denning habitat from 51% to 49%. This 2% change would have little effect to lynx habitat within the LAU.
3. Treatment areas are on the outermost ridge along the southeastern perimeter of the LAU and would not bisect or fragment interior lynx habitat; there are large blocks of roadless areas within the LAU that will remain intact. Patches (approximately 1 acre) of suitable lynx habitat will be retained, usually associated with riparian areas, within the fuel reduction corridor. This will help provide connectivity to the interior of the LAU.

4. Treatments are proposed in a total of 95 acres of mapped forage habitat on the eastern most edge of the LAU boundary. These areas proposed for treatment are not currently providing hare habitat due to self-pruning and/or little overhead and horizontal cover.
5. No broadcast burning will occur in any units; pile burning will occur outside patches of small trees and shrubs to avoid affecting lynx forage habitat.
6. Sufficient conservation measures will be employed to avoid any potential adverse impacts to lynx habitat ad the Mt. Emily II Fuels Reduction Project is in compliance with the LCAS.
7. Direct effects to Canada lynx are not anticipated and indirect effects to Canada lynx are minimized through the implementation of the best management practices previously described to the point they will be insignificant, negligible, or discountable.

2. Northern Bald Eagle

Alternatives 1 and 2

No potential habitat for bald eagles is within or immediately adjacent to the analysis area. Therefore, these alternatives would have *"no effect"* on bald eagles.

3. Gray Wolf

Alternatives 1 and 2

Generally, land management activities are compatible with wolf protection and recovery, especially actions that manage ungulate populations. Habitat and disturbance effects are of concern in denning and rendezvous areas. No such habitat is currently occupied in Oregon. Therefore, these alternatives would have *"no effect"* on gray wolves.

4. Peregrine Falcon

Alternatives 1 and 2

A falcon eyrie is located immediately adjacent to this analysis area, south of Mt. Emily. The Mt. Emily analysis area likely represents a very small percentage of these peregrines' foraging range. The majority of foraging is likely to occur in the Grande Ronde Valley where ducks, pigeons, and other birds are abundant and easily seen. Therefore, any changes to habitat that alter bird abundance and diversity within the analysis area would have minimal, if any, effect to peregrines using this site. Alternatives 1 and 2, as proposed, would have *"no impact"* on individuals or their habitat. The viability of this nest site would not be affected, or move the species toward federal listing. This conclusion is based on the location of the project and the distance from the active eyrie.

5. Spotted Bat

Alternatives 1 and 2

Alternative 1 proposes no treatment, and would have *"no effect"* on the spotted bat.

The mechanical treatments and prescribed burning within or near potential habitat in alternative 2, is not expected to change the character or function of these areas in regards to potential prey base, water availability, or roosting habitat. Alternative 2 may impact individuals or habitat, but would not likely contribute to a trend towards Federal listing, or cause a loss of viability to the population or species for individuals or habitat.

6. California Wolverine

Alternatives 1 and 2

Alternative 1 proposes no treatment, and would have *"no effect"* on the California Wolverine.

The mechanical treatments and burning activities proposed in Alternative 2 are likely to reduce habitat suitability at the stand scale for wolverines. Potential use by wolverines during winter would not likely be affected. Summer habitat would be reduced, but not to a scale that would influence the occurrence of wolverines in the area. This assertion is based on the large home range of wolverines compared to the relatively small acreage being affected by this project. Additionally, all treated forest stands would continue to provide some level of habitat, but with less structural complexity than currently exists. Alternative 2 may impact individuals or habitat but would not likely contribute to a trend towards Federal Listing, or cause a loss of viability to the population or species for individuals or habitat.

C. Neotropical Migratory Bird Species (NTMBS)

Neotropical migratory birds are those that breed in the United States, and winter primarily south of the United States-Mexico border. They include a large group of species, including many hawks, shorebirds, warblers, and other song birds, with diverse habitat needs spanning nearly all successional stages of most plant community types. Of the 225 migratory birds that are known to occur in the western hemisphere, about 102 are known to breed in Oregon. Nationwide declines in population trends for neotropical migrants have developed into an international concern. Habitat loss is considered the primary factor in decline of neotropical migratory birds.

In 2000, the Oregon-Washington Chapter of Partners in Flight published its Landbird Conservation Plan (PIF,2000). The Plan uses a "Priority Habitats and Species" approach. By managing for a group of species representative of important components in a functioning coniferous forest ecosystem, many other species and elements of biodiversity will be conserved. The Mt. Emily analysis area lies in a mesic mixed conifer (late-successional) habitat although portions of the face could be classified as dry forest (ponderosa pine and ponderosa pine/Douglas-fir/grand fir). These focal species (Table 26) were selected based in part on their conservation need and degree of association with important habitat attributes in coniferous forests in the Blue Mountains.

Table 26: Forest conditions and associated habitat attributes and focal species for landbird conservation in the Mt. Emily analysis area.

Forest condition	Habitat Attribute	Focal Species
Dry Forest	Large trees and snags	White-headed woodpecker
Dry Forest	Old forest with openings	Flammulated owl
Dry Forest	Open understory with pine regen	Chipping sparrow
Mesic Mixed Conifer	Large snags	Vaux's swift
Mesic Mixed Conifer	Overstory canopy closure	Townsend's warbler**
Mesic Mixed Conifer	Structurally diverse	Varied thrush
Mesic Mixed Conifer	Dense shrub layer	MacGillivray's warbler
Mesic Mixed Conifer	Edge and openings	Olive-sided flycatcher*

* significantly declining population trends in the Central Rocky Mountain BBS physiographic region.
** significantly increasing population trends in the Central Rocky Mountain BBS physiographic region

McIntyre (1995) found the highest number of birds in large contiguous forests.

Direct and Indirect Effects on Neotropical Migratory Bird Species (NTMBS)

Alternative 1 – No Action

In the absence of large scale disturbances, Alternative 1 would provide long-term habitat for migratory birds at the same level that exists today. Habitat for old growth associated bird species is met in the Mt. Emily area due to the abundance and distribution of large structure across the landscape. Overstocking and high fuel loadings, however, could cause stands to become increasingly susceptible to insect and disease outbreaks and stand replacement fires.

The no action alternative may result in increased fuel loading, especially after snags begin to fall. The higher fuel loading may put remaining habitat at risk from disturbance (i.e. fire). Fire would have mixed effects, depending the species and fire intensity. For most upper forest canopy birds, large stand replacement fires would have long term negative effects. Wildfire results in loss of habitat for many species that require young, mature and old growth forest stand conditions. Smaller burns of lower intensity would tend to have a positive effect on the majority of NTMBS. Shrub levels would increase in the next 10 years, favoring NTMBS that prefer early-seral forest conditions, such as the olive-sided flycatcher, where there are residual canopy trees.

Alternative 2 – The Proposed Action

Fuel reduction treatments would increase the amount of habitat available for species that prefer more open areas with limited ground cover. Openings would either be enlarged or created, which would increase foraging habitat for certain species. Removal of snags would decrease potential perch sites. Logging would decrease habitat for cavity nesters in some areas. Alternative 2 would create a direct benefit to those NTMBS that prefer more open stand conditions, such as the chipping sparrow and flammulated owl, but would negatively affect species that prefer more closed canopies, such as the varied thrush. Untreated areas in alternative 2 would help assure that habitat is provided for a variety of NTMBS species.

Fuel reduction activities that occur in the spring through early summer (May-August) would directly affect nesting neotropical migratory bird species (NTMBS). Although little is known about the effects of logging on neotropical migratory birds, it is expected that removal of snags under these alternatives could have a negative effect on potential population numbers of cavity nesting birds in certain areas. This is from direct mortality as well as displacement. The changing habitat conditions after treatment could favor other, more competitive species, forcing NTMBS to nest elsewhere. The greater removal of trees, the greater impact to neotropical migrants, especially species preferring the upper forest canopy (Sallabanks 1996). Overall, however, the potential population numbers for forest nesting birds across the landscape is not expected to decline.

Fuel treatments associated with harvest and pile burning would have direct short term impacts to NTMBS. Hand piling had the least impact to NTMBS. Alternative 2 reduces the risk for future high severity fire. This would indirectly benefit those NTMBS that prefer old growth and mature forest conditions such as the pileated woodpecker and Vaux's swift.

NTMBS associated with riparian areas are not expected to be affected by this project due to the no-treatment buffers.

Cumulative Effects on Neotropical Migratory Bird Species (NTMBS)

Alternatives 1 and 2

Several factors have influenced NTMBS within the Mt. Emily analysis area including past harvest activity, fire suppression, recreation and roads. Past timber management activities including regeneration harvest, commercial thinning, precommercial thinning and salvage have resulted in

fewer mature and old growth stands, with fewer large trees and large snags. These activities have favored NTMBS that prefer early-seral stand conditions. Recreation, woodcutting and roads have led to a reduction in snag habitat in parts of the Mt. Emily area. Fire suppression has resulted in increased shrub layers and conifer undergrowth.

All of the activities in the Mt. Emily II project have been considered for their cumulative effects on neotropical migratory birds. Because neotropical birds include such a wide range of species, all activities benefit some species while negatively impacting others.

ISSUE – Plant PETS

Direct, Indirect and Cumulative Effects on Plant PETS

Alternatives 1 and 2

There is no known potential habitat or species within the project area for federally listed Threatened, Endangered, or Proposed plant species. Only one currently liste d Region 6 Sensitive plant species is documented within the Mt. Emily analysis area, and it is located outside of all proposed activities for the alternatives. No new populations or species were found during field surveys. Because project activities are outside of the sensitive plant species location, there would be no direct or indirect effects from either the no action (alternative 1) or the proposed action (alternative 2).

The cumulative effects logical resource boundary is the project area boundary. There are no cumulative effects to plant PETS from Alternatives 1 and 2, or from livestock grazing in the Tie Creek allotment.

ISSUE – Forest Health / Vegetation Management

Introduction

Following is a description of the biophysical groups in the Mt. Emily analysis area, including a general condition of each. The effects analysis area for this issue is the project area boundary as described in Chapter 1 and on the maps in the appendices.

Cold/Dry Subalpine fir Groups (G1, 2) - 932 acres in analysis area

This higher elevation group typically has a mix of grand fir, subalpine fir, Engelmann spruce, western larch, Douglas-fir and lodgepole, much in a multi stratum condition susceptible to insect/diseases and stand replacement fires. Many of these stands have increasing fuel loads due to die-off of subalpine fir from the balsam wooley adelgid, root disease and blowdown. Tomentosus root/butt disease and subsequent breakage occurs in the Engelmann spruce stands. Structural stages are mostly multi-stratum with large trees (MSLT) and understory re-initiation IUR). Late old structure (LOS) is currently 612 acres above the average historic range of variability (HRV).

Cool, Dry-Wet Grand Fir Group (G4) – 3637 acres in analysis area

This group typically has a mix of grand fir, Douglas-fir, western larch, ponderosa pine and lodgepole pine, with occasional spruce near the riparian areas. Density related mortality and root diseases are present and much of the understory component is suppressed. Armillaria root disease was observed in ponderosa pine as well as Douglas-fir and grand fir stands in this group. Approximately 1,500 acres of these stands (after original Mt. Emily projects are completed) are overstocked and in a condition of low vigor

Warmer Grand Fir/Douglas-fir Groups – Hot/Dry Ponderosa pine. (G5, G6, G7 and G8) - 951 acres in analysis area

In this group, fir stands occupy parts of Warm/Dry types, reducing the regeneration of desired larch and ponderosa pine. These stands have an excessive fir (ladder fuel) component. Approximately 300 acres of these stands (after original Mt. Emily projects are completed) exhibit reduced growth rates and are susceptible to diseases and insects. Fire and insect/disease risks and structural stages are largely understory re-initiation and multi-stratum with large trees. Fuel loadings are excessive in much of the area and contribute to higher fire intensities than those that would have occurred historically.

The following table describes the stand classifications specific to the Mt. Emily II treatment units:

Biogroup	Acres	Unit Numbers
G1	219	150, 235, 238, 239, 240, 241, 244, 245, 246, 248
G2	43	237, 242, 243
G4	69	252, 262, 264, 265, 267, 268, 271, 317

Silvicultural Objectives of proposed treatments - The objectives of treatments are to reduce overstocking to levels consistent with the capability of individual plant communities to support them, and to thereby reduce the amount of tree suppression in multi-layered stands that are now more susceptible to disease, stand replacing fires and insect outbreaks. Reducing the amount of Douglas-fir and grand fir, and increasing the amount of western larch and ponderosa pine, is also an objective to reduce the incidence of root rot caused damage. (Risk of uncharacteristic wildfire are measured by parameters such as crown base height, crown bulk density, and flame length which are modeled for representative stands and described in detail in the Fuel Effects document in the Analysis File).

Direct and Indirect Effects on Forest Health/Vegetation Management

Alternative 1 – No Action

G1 and G2 Groups - No acres would be treated and approximately 550 acres of these stands would remain in a low vigor condition, many with elevated fuel loadings due to die-off of subalpine fir from the balsam wooley adelgid, root disease and blowdown. Tomentosus root/butt disease and subsequent breakage would continue unabated in engelmann spruce. Fire and insect/disease risks would increase. Structural stages would mostly be multi-stratum with large trees (MSLT) and understory re-initiation (UR), until a stand replacement wildfire creates stand initiation (SI) conditions. No actions would be taken to facilitate development of additional stands or late and old structure.

G4 Group - Density related mortality and root diseases would continue to increase and much of the understory component would be suppressed. Armillaria root disease in ponderosa pine, Douglas-fir and grand fir stands in this group would continue to spread. No acres would be treated and approximately 1,500 acres of these stands (after original Mt. Emily Fuels Reduction project is completed) would remain overstocked and in a condition of low vigor, until a disturbance occurs. Under this alternative, stands in the group would experience reduced growth and an increased spread of insect and disease (particularly root disease and dwarf mistletoe) damage and wildfire. Competition would also affect the larger tree component by increasing their risk of mortality. There would be a delay in attaining a healthy viable structural condition in these stands. Fire and insect and disease risks would not be reduced and structural stages would be mostly understory re-initiation until a wildfire creates stand initiation conditions.

G5, G6, G7, and G8 Groups - No acres would be treated and approximately 300 acres of these stands (after original Mt. Emily Fuels Reduction project is completed) would continue to exhibit reduced growth rates and become more susceptible to diseases and insects. In this group, fir would continue to occupy parts of Warm/Dry types reducing the regeneration of desired larch and

ponderosa pine. Without some type of disturbance these stands would continue to have an excessive fir (ladder fuel) component. Fire and insect/disease risks would increase and structural stages would still be largely understory re-initiation and multi-stratum with large trees. Fuel loadings would continue to be excessive and contribute to higher fire intensities than those that would have occurred historically.

All Groups - No steps would be taken in any of the groups to control stocking levels, thereby reducing the presence of ladder and down fuels. As a result, a variety of effects to the area's vegetation can be expected:

a. Increased risk of high-intensity wildfire through continued build-up of dead fuels.

b. Increased multi-layering within stands and susceptibility to crown fires, spread of root diseases, dwarf mistletoe and risk of future tussock moth and western spruce budworm defoliation.

Blow down Potential – There would be no increase of potential blow down under Alternative 1.

Alternative 2 – The Proposed Action

Treatments under Alternative 2 would address the desired condition to maintain tree stocking at acceptable levels and species composition within the historic ranges that are sustainable. Treatments would reduce densities, and would provide stocking levels and trend towards a species composition compatible with site potential to promote healthy, vigorous, stand conditions and reduced probability of damaging wildfire. Treatments would accelerate movement of the landscape toward structural stages and patch sizes that are within the HRV.

G1 and G2 Groups – Alternative 2 would treat 219 acres in G1 and 43 acres in G2. Treatments in this group would remove suppressed trees, reduce basal area to an acceptable density, and remove trees (less than 21" DBH) with poor live crown ratios (generally less than 30-40% live crown ratio). Treatments would reduce the risk of insect and disease problems 10-15 years.

Fuels Reduction Units (HFU) in this biophysical group would immediately change potential fire behavior by reducing the rate of spread and fire intensity. Treatment would reduce standing and down dead fuels and ladder fuels. This treatment would also help reduce the risk of fire consuming the healthy, residual stand.

Removing the dead, ladder fuels would provide reduced fire risk for 10-15 years (based on Forest Vegetation Simulation (FVS) from sampled stands; see spreadsheets in Appendix C). These estimates are based on years to attain a basal area greater than the ULMZ.

G4 Group – Alternative 2 would treat 69 acres in group G4. Treatments in this group would reduce stand densities with commercial thinning from below and stand cleaning of precommercial sized material. In addition, strategic locations would have roadside and ridge treatments to remove dead standing and down fuels. These treatments would enhance stand and landscape health, while helping to create conditions in some stands that would allow a healthy seral species understory to develop. Many of these stands would provide large structure single and multistory canopy across the landscape. Treatments would reduce the risk of insect and disease problems for 10-15 years.

Fuels reduction (HFU) treatments would reduce standing and down dead fuels to less than 25 tons per acre. Treatments would cause a change in potential fire behavior by reducing potential rates of spread and fire intensity. This treatment would help to reduce the risk of fire consuming a healthy, residual understory. Removing the dead, ladder fuels and suppressed green trees less than seven inches in diameter would provide reduced fire risk for 10-20 years depending upon the level of removal.

Intermediate treatments such as thinning would reduce existing tree densities, but could lead to long term insect and disease impacts and higher fire risks if stands are allowed to proceed toward shade tolerant species. This condition would prevail until a disturbance creates openings that fill in with seral species.

Cool, Dry-Wet Grand Fir Group (G4)

G5, G6, G7, and G8 Groups – The effects would be the same in these groups as those described under Alternative 1 above.

All Groups - To restore and maintain the landscape, silvicultural means would be used to modify and rejuvenate stand conditions. Commercial thinning (HTH), and harvest for fuels (HFU) are types of silvicultural methods that can improve landscape health, reduce the risk of insect mortality and wildfire, begin to provide a range of structures for the long term, release growth potential of the sites, and alter species composition. Treatments in stands, especially in the understory reinitiation stage, will anchor habitats of late and old structure across the landscape.

Thinning from below is to stocking levels designed to maintain additional wildlife cover in selected stands. Target levels are typically the mid point between the ULMZ and LLMZ. Where model results showed that fuels objectives would be met by thinning to the ULMZ, the ULMZ was selected. Basal areas are typically 120-130 square feet per acre.

Blow down Potential - The potential for blow down is higher in stands that are adjacent to previous clear cuts from the Fiddler and Big Valley Timber Sales. Units affected are located in the southern half of the project area, primarily in priority treatment areas two and three. This determination is based on field observations and documented in a memo to the analysis file under silviculture.

The blow down potential is based on exposure to winds (including observations that Mt. Emily is prone to high wind events), occurrence of Englemann Spruce (a shallow rooted species), evidence of tomentosa root and butt rot in Englemann Spruce and Sub-Alpine fir mortality due primarily to Balsalm Wooley Adelgid (an aphid).

The project activity most likely to affect risk of blow down is thinning of commercial size trees (over seven inches diameter). Other project activities would not contribute to an increased risk of blow down. Stocking levels prescribed under Alternative 2 would provide some protection from blow down. With additional protection from higher density levels left in high risk areas, the potential for blow down is greatly diminished. Blow down risk in thinned areas under this alternative is low to moderate within the first 100 feet adjacent to clear cut areas. In 20-40 years, tree heights of adjacent clear cut areas would further protect thinned areas from blow down risk.

Larch and ponderosa pine would be favored for leave trees. Larch and ponderosa pine are both more wind firm than Engelmann Spruce, Grand fir or Sub-Alpine fir. Leaving dominant trees of these species is less likely to result in wind throw as they are already exposed prior to the proposed thinning activity.

Cumulative Effects on Forest Health/Vegetation Management

The logical resource unit for cumulative effects on this resource area is the project area plus the adjacent private and industrial lands between Hunter and Fruitdale lanes to the NFS boundary.

Alternative 1 – No Action

Under this alternative, overstocked stands would not be treated, nor would other stands with excessive standing and down dead fuels. This alternative would result in a continued decline in overall forest health, as described by stand and tree health, and increases in fire intensity should there be a wildfire. 1,500 overstocked acres would continue to be selected for natural stocking reduction by insect and disease. There would be an increased potential for spread of insect and disease damage to adjacent private and industrial forest lands. The warmer biophysical groups would continue to be in an overstocked, low vigor condition. The risk of damage from defoliators (e.g. western spruce budworm and Douglas-fir Tussock moth) the balsam wooley adelgid, root rots, dwarf mistletoe and bark beetles would increase. Accelerated growth to trees would be foregone and movement towards larger diameter trees would be delayed. The desired future condition of meeting stocking levels and species composition objectives are not addressed by this alternative.

Alternative 2 – The Proposed Action

Overstocked stand conditions can have a major impact on landscape health and managements attempts to move toward desired future conditions (DFC). In a healthy landscape there are areas of high density and low vigor, but to develop the DFC on a landscape level, many of the overstocked stands need to be treated. This alternative would reduce densities, alter stand compositions and provide for a more sustainable landscape on approximately 4% of the analysis area. Treatment would allow management to stay current with stocking and forest health needs and provide for a structure and species composition mix that is more sustainable.

Management on these acres would supplement fuels reduction activities and objectives on adjacent public and private ownerships. The original Mt. Emily Fuels Reduction Project (signed March 2005) treated approximately 20% of the area. Private projects share a similar goal of treating fuels to reduce damaging wildfire potential. The cumulative effects of all projects would accelerate development of LOS, reduce risks of insects and disease, promote sustainable species composition, promote and encourage prescribed fire use in fire-adapted plant communities, and trend toward development of structural stages consistent with HRVs. The above projects would affect these impacts to the landscape for up to 30 years.

ISSUE – Noxious Weeds

An analysis was conducted which considered prevention, correction, or maintenance measures. Decision elements pertaining to vegetation management have been incorporated into the alternatives included in this EA (reference analysis file for existing condition survey information).

Direct and Indirect Effects on Noxious Weeds

Alternative 1 – No Action

Under this alternative, no land disturbance would occur and no major changes in noxious weed populations on National Forest lands within the project area are expected.

Alternative 2 – The Proposed Action

Establishment of new noxious weed populations as a result of project activity is a low to moderate risk because of incorporation of the following: use of an early treatment strategy (manual methods as defined in the INWMP); mitigation measures to prevent seed spread from project vehicle use; annual inspections for noxious weed infestations; utilization of other methods to prevent spread (refer to constraints and mitigation section); and, increased efforts regarding identification and education of noxious weed infestations and spread.

Fuels treatment would result in a low to moderate amount of (ground) site disturbance and a low to moderate potential for the introduction of off-site noxious weed propagules. The incorporation of mitigation measures limits both the intensity and amount of ground disturbance, and reduces the duration until vegetation recovery occurs. The associated desirable vegetation (including seeding of disturbed sites) would provide deterrence to noxious weed infestation.

Known sites of diffuse knapweed occur along forest roads 1400100, 123, and 130 within the project area. However, these roads will not be used during implementation of Mt. Emily II project activities. Noxious weeds on these sites are being hand treated. Mitigation measures to clean equipment operating within the project area prior to entering National Forest lands would reduce the risk of seed spread. Passenger vehicles such as pick-up trucks are expected to remain on road systems, reducing the risk of spread to treated areas with recent ground disturbance. The risk is low for seed spread due to mitigation measures and increasing awareness of noxious weed potential to spread.

Known sites of diffuse knapweed and sulfur cinquefoil occur east and south of the project area on private and industrial land. Many of these sites occur along road systems. Right-of-way access across private transportation routes is necessary to access the Mt. Emily project area. Therefore, there is a concern that spread of noxious weeds may occur from project vehicles driving past sites on private land. The risk of spread is low assuming that project vehicles remain on road surfaces. Cooperation by local landowners to treat sites would further reduce the risk of seed spread from project activity. Treatment of these sites is under the jurisdiction of the Union County Weed Master.

Cumulative Effects on Noxious Weeds

The cumulative effects of past and present management activities, including logging; grazing, burning and recreation were considered in the above analysis of direct and indirect effects of the alternatives. Planned projects in and adjacent to the analysis area include noxious weed treatment for 2004 - 2007. Reasonably foreseeable future activities within the project area would include the original Mt. Emily Fuels Reduction Project (signed in 2004), grazing by domestic livestock and wild ungulates, utilization of hiking and ATV trails, and fire woodcutting.

Alternative 1 – No Action

Current known noxious weed infestations are currently being treated or planned for treatment. Since Alternative 1 does not propose any additional activities, it would have no cumulative effect on noxious weeds.

Alternative 2 – The Proposed Action

The incorporation of the mitigation measures which provide for inspection, improved recognition of noxious weed species, and early treatment of noxious weed infestations would be expected to dramatically reduce the possibility of project-induced establishment of new noxious weed populations within the project area.

ISSUE – Recreation

Introduction

This analysis evaluates the effects of implementing the different alternatives on the availability of different recreation opportunities within the Mt. Emily area.

The analysis is based upon definitions and guidelines set forth in the USFS Recreation Opportunity Spectrum Handbook. The recreation opportunity spectrum (ROS) provides a framework for classifying different types of outdoor recreation opportunities that exist within an area. While the goal of the recreationist is to obtain a satisfying experience, the goal of the recreation manager is to provide the "recreational opportunity," or setting in which people can engage in their chosen activities and have a satisfying experience. The ROS is a communication tool that describes combinations of activities, settings, and probable experiences that would result in a given situation. The spectrum describes opportunities from the most primitive (deep wilderness), to rural (a city park).

The parts of ROS definitions that apply directly to this discussion of Mt. Emily are:

- **Semi-Primitive Motorized**: The experience goal is to provide visitors with a moderate probability of getting away from the sights and sounds of other people, to be independent, and to practice outdoor skills. Motorized equipment is allowed in this setting. Vehicles such as jeeps and ATVs are encouraged. Non-recreation uses may result in moderately dominant alterations to the visitor wandering through, however, from trails and primitive roads would remain visually subordinate. Visual quality objective is foreground partial retention. A semi-primitive motorized area can be closer than ½ mile to primitive roads, but must be at least ½ mile from better primitive roads.

- **Roaded Natural**: The experience goal for a roaded natural area is to provide visitors with an equal opportunity of meeting and enjoying other visitors and of being isolated from the sights and sounds of other people. Visitors have the opportunity to interact with the natural environment, but the risk and challenge associated with semi-primitive settings is not present. Both motorized and non-motorized forms of recreation take place. Highway vehicle use is encouraged, however road closures are allowed. Non-recreation uses include activities that dominate the observer's view. However, from sensitive travel routes and use areas, these alterations are unnoticed or visually subordinate. Roaded natural areas are generally within ½ mile of roads.

Because no developed recreation facilities exist within the project area, recreation is primarily focused day trip activities such as OHV riding, firewood gathering, and huckleberry and mushroom picking during the summer months. The highest use in this area is experienced during the big game hunting seasons when hunters occupy many of the dispersed campsites within the area.

The long-term goal of this project is to maintain the current recreation character of Mt. Emily against the possibility of a large wildfire that would greatly reduce the desirability of the area for the recreationists that use it.

Direct and Indirect Effects on Recreation

The following analysis of the effects of the alternatives reflects a conservative interpretation of the ROS definitions. The effects analysis is based on field surveys, data review and professional judgment.

Alternative 1 – No Action

There would be no immediate direct effects on recreation opportunities available. In the absence of a large wildfire, the area would maintain its current ROS.

Visual resources would be little changed from current conditions. If a wildfire occurred, the landscape character would be changed until recovery, but the roaded natural setting and scenic integrity would be maintained.

The risk of a high intensity crown fire in the area would continue. Results of a high intensity crown fire would likely be unfavorable to recreation opportunities. The attractiveness for camping and berry picking would be diminished. Hunting conditions would be altered as cover would be removed for several years.

Alternative 2 – The Proposed Action

The project as currently designed would fully meet the parameters on which roaded natural areas are to be managed. Fuel reduction areas would be maintained without ladder fuels yet these alterations of such a small portion of the landscape would remain subordinate to the contiguous landscape and recreational use within these areas is not expected to change. Roaded-natural/modified settings are in high supply and low relative demand. This action would have a minor short-term effect on a small portion of the IRA but would not impact the quality of the entire area and the recreational experience related to it.

The fuels reduction treatments would remove dead fuels, and thin and clean trees to meet objectives of the project. The direct effects of project activities would be a delay in recreational activities during project implementation. Mushroom, berry picking or hunting activities may need to be postponed as equipment and contractors work in the area. User sites would remain functional following project activities. Dispersed sites would not be impacted. Some gathering sites may receive slight ground disturbance and loss of some vegetation, but would recuperate within two to five years.

The areas along the 3120 and 3120500 roads that receive fuel reductions may be more attractive in appearance after treatments, as large concentrations of dead fuels are removed. This may attract more users to the area, but would attract fewer woodcutters.

Scenic attractiveness would be slightly reduced in terms of its intactness, harmony, uniqueness, and balance when initial tree removal activities are evident. Evidence of tree removal is expected to fade within one to three years. In the areas outside the fuel reduction corridors, the evidence would be completely unnoticeable within 10-20 years and the scenic attractiveness and integrity would remain unchanged.

Cumulative Effects on Recreation

Alternatives 1 and 2

The cumulative effects include ongoing or planned projects within the project area. The cumulative effects of livestock grazing and project activities would not diminish recreation opportunities. Recreation opportunities have and would continue to co-exist with the grazing, following project activities.

Alternatives 2 could prolong the use of the Mt. Emily area as a high recreation use area should treatments assist in reducing probabilities of a large stand replacement fires. Reducing fuels, modifying fire behavior, and returning fire intervals (through prescribed burning) closer to historic conditions would help sustain ecosystem health and provide a more pleasant experience for the recreation user..

Wilderness Eligibility

Within the analysis area the Mt. Emily and North Mt. Emily IRAs were assessed for wilderness potential in the Forest Plan FEIS (Appendix C, pages C-43 through C-45 and C-63 through C-66). The area was determined to provide localized solitude and semi-primitive recreational experiences. A range of alternatives was examined, and the area was allocated to multiple resource management objectives. Both unroaded areas are relatively small in size and visitors to the areas can perceive the entire area from many points along the perimeter and within the interior. However, because of its compact shape, there are opportunities for solitude not found in many similarly sized areas. The knowledge that roads are never more than 2 miles, away would detract from a sense of self-reliance or adventure for many.

These unroaded areas were determined to have demonstrable wilderness potential but were not needed for retention as future wilderness designation unless the purpose would be to simply add wilderness acreage. Due to the fact that that public interest in these areas is primarily at the local level and they lie 20-30 miles from the Eagle Cap Wilderness and the Wenaha-Tucanon Wilderness which are much larger areas which provide the same ecosystems, they were not recommended for wilderness designation in any of the Forest Plan alternatives. All of the alternatives, including the no action, considered in this project would retain unroaded characteristics as described in the Roadless Character effects analysis in this section.

The activities proposed in Alternative 2 are approximately one mile away from the North Mt. Emily IRA and would have no effect on it (see Roadless Effects section in this chapter). Alternative 2 would not road the Mt Emily IRA, and all work accomplished in the action alternative would be at the very periphery of the IRA. It would therefore not preclude future consideration of this area for Wilderness designation.

ISSUE – Economic Viability

Introduction

A comparison of costs based upon anticipated treatments by alternative provides a relative measure of economic efficiency related to the effectiveness of treatments. An economic analysis was completed as part of the original Mt. Emily Fuels Reduction Project (signed December 2004), and was intended to provide the decision maker with an economic basis with which to consider and compare the alternatives. This analysis also included the units that are now in the Mt. Emily II Fuels Reduction project. The analysis assumed that the two projects (Mt. Emily I and Mt. Emily II) would occur concurrently, as one project, and that costs would reflect all of the treatments being done as one project. The projects, although planned separately, would still be implemented together, using a combination of both stewardship and service contracts, which would include units from both projects.

Alternatives were developed irrespective of cost, and focused primarily upon issues identified in the scoping portion of the planning process. The Mt. Emily II Alternative 2 utilizes methods of treatment common to fuels reduction projects, which include biomass reduction with mechanical removal, mechanical treatment and pile burning. All treatment areas have the potential to provide forest products, which may be available to offset costs associated with the fuels reduction work. Effectiveness over time is an important item for consideration, which is addressed in the fire and fuels effects analysis.

The area proposed for treatment within the Mt. Emily II project was analyzed for timber sale viability, as part of the original Mt. Emily project. A timber sale can accomplish a large portion of the vegetation management needs identified in the project area. Products would be produced wherever trees are cut to meet stocking levels critical to fuels objectives, and where mechanical fuels reduction methods with removal are used. Timber sale viability can be used as a relative measure of comparison to evaluate costs.

The potential advertised rates per hundred cubic feet ($/CCF) are calculated based upon estimates of volume, species composition, the amount of saw timber and non-saw timber material, logging system requirements, haul costs, contractual costs, and road construction costs.

The preliminary value of timber was based on the prices for the same species and saw timber/non-saw timber material of all sales actually sold within Appraisal Zone 3 (Malheur, Ochoco, Umatilla, and Wallowa-Whitman National Forests) during the last year. The estimated costs of logging for the purchaser (logging systems and yarding costs, haul costs, road maintenance costs, road reconstruction costs, contractual costs and temporary road construction) were adjusted from the base period prices to determine the predicted bid rate.

Assumptions/Methodology

Treatments include thinning to reduce ladder fuels and crown bulk densities, and removals to reduce fuel loadings. Thinning and removal may be achieved by hand and/or mechanical means. Mechanical thinning provides the opportunity to select individual trees for retention in the future to meet overall objectives. Mechanical removal also would assure fuel loadings are adequately reduced to accept either wildfire or prescribed fire.

Main cost factors evaluated by this analysis relate to the level of fuel treatment performed as well as to the method of fuel treatment utilized. This analysis will focus upon mechanical treatment costs with emphasis upon mechanical removal off site. Mechanical removal is an important aspect of the treatments in order to adequately meet fuels reduction objectives as well as protection of residual stand conditions for future management.

Acres/Volumes/Removal Systems/Costs

Alternative 2 in Mt. Emily II treats approximately 331 acres with mechanical treatments, with either removal or piling and burning. Volumes are based upon trees anticipated to be cut and yarded which includes trees greater than 5 inches on ground based removal areas.

Table 27: Mt. Emily II volumes

	ACRES	Sawtimber Volume	Non-Saw Volume*
Removal	262	1243 CCF	2500 CCF
No removal	69	0	0
TOTAL	331	1243 CCF	2500 CCF

*Potential removal at discretion of purchaser, otherwise treated on site.

Stump to truck ground based logging costs are based upon locally experienced costs for typical treatments on the La Grande Ranger District, Wallowa-Whitman National Forest. Typical costs are estimated at $100/CCF for analysis purposes.

TEA.ECON is the economic analysis tool utilized to perform this evaluation. TEA.ECON evaluates timber sale economics at the planning level. This spreadsheet tracks costs associated with the project and generates gross timber values. These timber values are used to provide a relative comparison of costs and possible needs for supplemental to implement the project.

Table 28: Cost estimations – Mt. Emily II Alternative 2

	Stump to truck $/ccf	Log Haul $/ccf	Road Mt.c $/ccf	Slash Work $/ccf	Rd Work $/ccf	Temp Rds $/ccf
Ground Base	100.00	21.00	5.00	4.00	1.37	.01

Direct, Indirect and Cumulative Effects on Economic Viability

Alternative1 – No Action

Alternative 1 is the no action alternative. Timber sale viability is a non-issue as there would be no sale.

Alternative 2 – The Proposed Action

The following table displays the total volume of products, acres with timber value sufficient to offset work, indicated advertised rates and total timber value at indicated advertised rates, calculated bid rates, advertised rates, and base rates associated with the original Mt. Emily project. These costs include the combined rates for both the Mt. Emily and the Mt. Emily II projects. These 2 projects were analyzed as one project, so the cumulative economic analysis includes both projects as one proposed sale (see economic analysis in the Mt. Emily analysis file).

Table 29: Economic Analysis for Mt. Emily Projects

Appraisal Entries	Mt. Emily II Alt 2
Volume (CCF)	1243 CCF
Acres	331
Indicated advertised rate	$12.86/CCF
Total timber value at indicated advertised rate	$15,985

Summary: Units proposed for removal treatments in Alternatives 2 of Mt. Emily II will provide a positive, though minor value which can contribute to the heavily deficit total Mt. Emily Fuels Reduction package (including the original Mt. Emily project). The ability to utilize ground based removal systems reduces treatment costs on this portion of the project. Higher levels of non-saw utilization is expected from these units which will provide greater opportunity to diversify and expand wood fiber markets such as biomass for fuels and energy. This may increase local economic opportunities and diversification.

ISSUE – Access and Travel Management

Direct, Indirect and Cumulative Effects

Alternatives 1 and 2

The Mt. Emily II project would not change the current access and travel management plan. There are no road closures or new roads planned, so road densities would remain the same.

ISSUES – Firefighter & Public Safety, Cost of Fire Suppression, and Air Quality

Direct, Indirect and Cumulative Effects

Alternatives 1 and 2

Fire-fighter and public safety - Alternative 1 would do nothing to prevent the area from moving into a higher risk category for safety. Alternative 2 would increase fire-fighter and public safety by reducing the potential for high intensity, fast moving crown fires on high risk acres , and maintaining low to moderate crown fire risk on other acres.

Cost of suppression - Alternative 1 provides no treatment or potential reduction of crown fires. Fire intensity levels in areas with heavy fuel loading would exceed the level of safe direct attack with hand tools. Indirect attack would require more costly mechanized equipment such as bulldozers and air support. Alternative 2 would decrease the future cost of wildfire suppression in this area. Treatments would reduce the likelihood of high intensity crown fires, allowing for more direct attack with hand crews and tools. Cost of firefighting would be reduced with smaller, less intense wildfires. Fuel treatment costs over the next 20 to 30 years are expected to be reduced.

Air quality - Alternative 1 would result in a higher risk of wildfire smoke emissions, which would be more difficult to manage. Huff, Ottmar, et al (1995) found PM10 smoke production was twice as high for wildfires as for prescribed fire. This is because wildfires generally occur during drought periods in which there are low fuel moistures. Alternative 2 would produce smoke through pile burning that may impact nearby sensitive areas (see chapter for list of areas). However, smoke emissions could be managed to stay under the 15,000 tons PM10 per year agreed to under the Memorandum of Understanding (October 27, 1994). Prescribed fire smoke intrusions may have short-term impacts (from a few hours, to possibly two days). Prescribed burning opportunities may also be limited at times due to weather and smoke management forecasts; or because of the combined effects of multiple ignitions within the general area.

Maximizing removal and utilization of small diameter trees and dead standing and down trees would decrease the amount of pollutants generated during prescribed burning.

Smoke generating activities on the La Grande Ranger District would be coordinated with the Oregon Department of Forestry and the Oregon Department of Environmental quality. The following areas are considered smoke sensitive:

1. Class I (and II) Wilderness areas. Visibility protection during the peak recreational period of July 1, through September 15. The Eagle Cap Wilderness is a Class I airshed.
2. The City of La Grande. Health impairment due to exposure to excessive quantities of smoke and dust particulate are of concern. There are five major sources of PM-10 within the Urban Growth Boundary of La Grande, one being slash burning.
3. Interstate 84
4. Highways 82, 203, 204, and 237
5. Forest Roads 31 and 3120
6. Communities: La Grande, Elgin, Union, Cove, Imbler, and Summerville

Issue: Forest Plan Amendment for the Lynx Conservation and Assessment Strategy

The Canada lynx was listed as a threatened species under the Endangered Species Act by the US Fish and Wildlife Service in March 2000. To protect lynx and lynx habitat, the Canada Lynx Conservation Assessment and Strategy (LCAS; Ruediger et al. 2000) was developed and is considered the best science for species and habitat protection for lynx. This project would adopt the standards and guidelines applicable to the project area and purpose and need for this project from the LCAS, August 2000, as described in Chapter 2 of this EA, as a non-significant, project-specific Forest Plan amendment.

The effects of this portion of the Forest Plan amendment have the potential to affect not only lynx habitat and the species if it was to occur within the project area, but also the other resources and uses associated with the Mt. Emily project area. The effects on lynx and lynx habitat have been covered under the Proposed, Endangered, Threatened, and Sensitive Species Effects earlier in this chapter, the Biological Assessment for Canada lynx, and the Biological Opinion from USFWS (see Analysis File).

The adoption of the standards and guidelines for the small number of acres within the project area that are lynx habitat (approximately 2,000 of which only 331 are actually being affected by the action alternative) is of such a limited nature, or are not physically located within a designated or allocated area, that it would not have any effect on the following resources or uses. These activities and their effects will not be discussed further in this effects analysis

- Inventoried Roadless Areas
- Uninventoried Roadless Areas
- Allocated Old Growth – MA15
- Proposed, Endangered, Threatened, and Sensitive Species
- Recreation

The following effects analysis is for the other resources and uses within the project area, and is based on data review and professional judgment.

Direct, Indirect and Cumulative Effects

Alternative 1 – No Action

Because alternative 1 is the no action alternative, and no activities would occur in lynx habitat and the project area as a whole, the Forest Plan Amendment for lynx habitat would not be necessary and there would therefore be no effect from the standards and guidelines of the LCAS.

Alternative 2 – The Proposed Action

The lynx standards and guidelines adopted as a part of the action alternative were those related to the purpose and need and the types of habitat available in the project area. Therefore, some of the standards and guidelines listed in LCAS were not adopted under Alternative 2 because they were not applicable to the purpose and need, and not connected to the fuels reduction work. Also, many LCAS standards and guidelines are programmatic in nature and are incorporated on a large scale (Lynx Analysis Unit – LAU) but were not appropriate at the project specific level in this area.

In general, management of lynx habitat is directly opposed to that commonly prescribed for fuels reduction and improving stand vigor, because it calls for leaving higher levels of down wood, tree densities, and canopy closure than would meet the goals of fuels reduction within a wildland urban interface. While the project was able to achieve the purpose and need because of project design and the large quantity of lynx habitat within the area, fuels reduction or silvicultural treatments to

improve stand health and vigor at a larger scale within the project area would not be possible because they have the potential to reduce habitat levels below those required under the LCAS.

The Mt. Emily analysis area is approximately 7,295 acres in size, with approximately 2,000 acres of lynx habitat within its boundaries. Alternative 2 would mechanically treat 331 acres of lynx habitat. The total administrative area of the Wallowa-Whitman National Forest is 2.3 million acres. Therefore, the affected area comprises less than 0.00015 of the administrative area of the Forest.

The effects of implementing the LCAS standards and guidelines in the action alternative on those acres would have no additional effects beyond those described under their specific resource areas within Chapter 3 for Alternative 2.

- Soil Quality and Productivity
- Management Indicator Species
- Neotropical Migratory Birds
- Noxious Weeds
- Old Growth – LOS
- Scenery
- Fisheries and Water Quality

This amendment does not change the allocation of any of the lands within the Mt. Emily project area. It merely places some additional protective measures on 331 acres in Alternative 2, and permits treatment within the lynx habitat acres to meet the fuels reduction purpose and need for the life of the project. The scale of the change of management on these acres is imperceptible when compared to the total goods and services estimated for the Forest Plan.

Adoption of the LCAS for the acres treated in the project area does not alter the goods and services projected by the Forest Plan. In general, due to the small nature of the materials and the type of prescriptions being used, the materials being removed to treat fuels within these areas produce a minuscule decrease in outputs over the totals projected by the Forest Plan. However, in comparison to the totals, the decrease is imperceptible.

The Mt. Emily project would provide for the greatest level of fuel reduction effectiveness by occurring now in conjunction with the collaborative efforts currently be implemented to manage vegetation on state, private and public land to reduce fire hazard and improve defensible space adjacent to urban development. Actual on the ground implementation of this section of the amendment would begin in 2006, which is 16 years after the signing of the ROD for the Forest Plan (April 1990). In general, Forest Plans should be updated every 10-15 years. The Wallowa-Whitman Forest Plan is just beginning its revision cycle (in year 14). Since 2000, emphasis on protection of Wildland Urban Interface areas has been growing in national importance and emphasis. Forest Plans did not address this issue in 1990 and this has been recognized as an area that will be addressed in the upcoming Forest Plan revision.

D. Required and Additional Disclosures

This section discloses the effects of the alternatives on the human environment as specified by law, regulation, policy, or Executive Order.

Cultural Resources

No impacts to any known cultural resource site would result from implementation of any of the alternatives. This responds to the non-key issue of protection of cultural resources.

Tribal Treaty Rights

Treaties provide that Native Americans will continue to have the right to erect suitable buildings for fish curing, privileges of hunting, gathering roots and berries, and pasturing stock on unclaimed lands. Indian treaty rights and privileges were considered throughout this analysis and maintained through appropriate design and layout features, especially related to resources such as fish, wildlife, and riparian areas. All alternatives are equal in their treatment of treaty rights and are expected to maintain treaty rights and opportunities into the future. This responds to the non-key issue of Indian treaty rights and trust responsibilities.

Biological Diversity

All existing native and desirable introduced species and communities are maintained with all alternatives. Erosion control measures (seeding) would use native species when possible (EA, section two). Biological diversity would not be affected by this project.

Public Safety

No long-term public safety problems are anticipated with either of the alternatives. Short-term safety hazards such as log truck traffic and falling trees near roads would be mitigated through contract safety provisions and are not anticipated to impact public safety.

There is no expectation that there would be a change to public health and safety. Mitigation and precautions apply to the action alternative. Should there be a wildfire under any alternative, there could be an adverse impact to public health in terms of a change in the water quality. However, under the action alternative, safe firefighter ingress and egress would be improved under the action alternative while it would not be safe under the Not action alternative. Other safety measures are discussed or are a standard part of sale contracts.

Research Natural Areas, Experimental Forests, Wilderness and Federal State and Local Laws

There are no research natural areas, Experimental Forests, or Wilderness areas within or adjacent to the project area.

There are no known significant cumulative effects between the project and other projects implemented or planned on areas separated from the affected area of the project beyond those evaluated in Chapter IV of the FEIS of the Forest Plan. The physical and biological effects are limited to this analysis area. No actions are proposed which are considered precedent setting.

There are no known effects on the human environment that are highly uncertain or involve unique or unknown risks. None of the actions threaten a violation of Federal, State, or local law. Alternatives would comply with air and water quality regulations (laws). Although the effects on the quality of the human environment are not likely to be highly controversial, based on public participation, the project proposals themselves are highly controversial.

There are no known plant communities containing yew species within the analysis area.

Probable Adverse Environmental Effects that Cannot Be Avoided

Some impacts caused by implementation of management activities proposed in this analysis that cannot be avoided may be considered adverse according to individual interpretations. Stumps and disturbed areas are not a pleasing sight to some people, visually or environmentally. Truck traffic would compete with public traffic on roads used in common. Traffic and removal activities would also create dust and noise. Smoke from prescribed burning, fuels reduction, and slash disposal is an irritant and an unpleasant sight to some people. Recreation users may find changes to the areas they

have visited in the past, either through reduced or increased access, changed landscape, or changes in vegetation.

Irreversible and Irretrievable Commitment of Resources

Irreversible resource commitments are actions that either deplete a non-renewable resource or disturb another resource to the point that it cannot be renewed within 100 years. There are no known significant irreversible resource commitments or irretrievable loss of timber production, wildlife habitats, soil production, or water quality from actions initiated under any of the alternatives. No know heritage sites would be affected.

Impacts to soil and water are controlled by management practices and mitigation measures, and would not represent an irreversible resource commitment, except for the minor acreage involved in log landing sites used for decking logs. For all practical purposes, rock is a non-renewable resource. Use of rock as surfacing represents an irretrievable commitment of a resource, although due to quantities of supply, it is not a significant commitment. Existing roads constitute a more-or-less permanent commitment of a portion of land to a purpose other than timber production.

Some non-designated old growth may be affected under the action alternative. In addition, some loss of snag habitat would occur under the action alternative. It is not known whether this is an irretrievable or irreversible action at this time. It is also not know what impact this type of change may have on unidentified nest sites of management indicator species.

Energy Requirements of Alternatives

In this analysis, mechanical, ground-based yarding systems have been prescribed for the action alternative. There would be no energy requirements for the No Action alternative.

Wild and Scenic Rivers, Prime Farmlands, Range Land, Forest Land

Actions taken under any of the alternatives would have no adverse impact on farmland, rangeland or forest land, inside of or outside the National Forest. There are no prime farmlands affected by the proposal. Wetlands and floodplains associated with streams and springs would be protected using mitigation guidelines previously identified. No designated Wild and Scenic rivers would be affected by this project proposal.

Civil Rights, Women, Minorities, Environmental Justice

There are no known direct, indirect or adverse effects on women, minority groups, low-income populations, or civil rights of individuals or groups. The action alternative is governed by sale or service contracts, which contain nondiscrimination requirements to prevent adverse impacts to these groups. The no action alternative may have some short-term adverse impacts on the local community by not providing project receipts. To the greatest extent possible all populations have been provided the opportunity to comment before decisions are rendered on proposals and activities affecting human health or the environment

Wetlands and Floodplains

Executive Orders 11988 and 11190 require protection of wetlands and floodplains. Wetlands in the project area are generally stream channel-associated seeps and springs. With the exception of those units proposed for RHCA treatment, most are protected by the PACFISH RHCAs in the action alternative. Isolated seeps and springs would be protected with appropriate buffers. The floodplains within the area are generally very narrow, due to the steep topography. Nearly all floodplains are avoided or protected by RHCAs in this project.

Chapter IV: Consultation with Others

Introduction – Consultation and extensive collaborative work for this the Mt Emily area was completed under the original Mt. Emily Fuels Reduction Project (which incorporates the treatments called for in the Mt. Emily II project) was also used for this analysis and is described below. Consultation specific to the Mt. Emily II project and the lynx amendment is outlined under the Mt. Emily II Consultation below.

Mt. Emily II Consultation

On June 24, 2005, a scoping letter and description of the proposed action for the Mt. Emily II Fuels Reduction Project was mailed to approximately 280 forest users, local landowners, and concerned publics, soliciting comments and concerns relating to this project.

Public scoping for the Mt Emily II Fuels Reduction Project was initiated in the spring, 2005, Wallowa-Whitman Forest Schedule of Proposed Actions (SOPA), and has appeared in each quarterly SOPA since then. This mailing is distributed to over 250 individuals, organizations, and agencies.

Scoping and consultation for the project was initiated and is ongoing with the CTUIR and ODF&W. Consultation with the CTUIR Archaeologist on February 13, 2006 and May 18, 2006.

An addendum to the Biological Assessment for Canada lynx to adjust acres submitted for the original Mt. Emily project was submitted to the USF&W on August 5, 2005 and consultation was re-initiated. A Letter of Concurrence for the addendum was issued on August 25, 2005 concurring with the USFS finding for Canada lynx.

Between October 2003 and August 2005 members of the Mt. Emily Interdisciplinary Team served as a member of the planning committee or in an advisory capacity for the planning and development of the Community Wildfire Protection Plan for Union County (August 2005). This team was made up of a diverse group of collaborative partners including Federal, State, and local fire protection agencies, government officials, private citizens, Tribal members, forest industry representatives, members of the environmental community, and law enforcement officials. The Community Wildfire Protection Plan rates the Mt Emily WUI as the third highest priority (out of 16) for treatment on Federal, State, and private lands.

The Union County Community Forestry Board has received regular updates and discussion on the Mt. Emily II project related to its progress and expected date of completion.

The Forest Supervisor, Forest Staff, and Regional Planning Group have been consulted on the project to discuss lynx, HFRA, the preferred alternative, public comments, and the analysis.

Original Mt. Emily Fuels Reduction Consultation/Collaboration

Public scoping for the original Mt Emily Fuels Reduction Project (signed March 2005) was initiated in the spring, 2002, Wallowa-Whitman Forest Schedule of Proposed Actions (SOPA), and has appeared in each quarterly SOPA since then. This mailing is distributed to over 150 individuals, organizations, and agencies. Five letters of interest were received.

Scoping and consultation for the project was initiated and is on-going with the Confederated Tribes of the Umatilla Indian Reservation.

The Oregon State Forestry, Rural Community Volunteer Firefighters, and Oregon Department of Fish and Wildlife (ODF&W) office was contacted as part of the Proposed Action scoping process.

Permittees who graze cattle within the project area were notified of project planning activities.

The Union County Community Forestry Board has received several presentations on this project and visited the project area in July 2003 and in 2005 to discuss the Purpose and Need and the Alternatives being considered within the project area.

This project was submitted to The State Historical Preservation Officer (SHPO) for review and has been approved.

The Biological Assessment for Canada lynx was submitted to the USF&W on August 25, 2004, and a Letter of Concurrence was issued by USF&W on September 10, 2004.

Two public forums were held on February 25 and 26, 2003 to discuss the Mt. Emily project and accept public comments. The forums were conducted in cooperation with the Oregon Department of Forestry with hour long presentations by both agencies, followed by questions and answers. Local landowners and valley residents were encouraged to attend with over 150 notifications mailed and advertisement in the local newspaper.

A description of the original Mt. Emily proposed action was mailed on March 21, 2003 (letter dated March 10, 2003) to approximately 280 forest users and concerned publics soliciting comments and concerns related to this project.

On April 25, 2003, an overview of the original Mt. Emily project was presented to the Union County Community Forest Restoration Board. On July 11, 2003 the Forest Restoration Board was given a presentation in the field on the current status and alternatives being developed for the project. On December 12, 2003, a summary presentation to the Union County Community Forestry Board discussed the projects preferred alternative and fire modeling results.

Several field trips to the Mt. Emily project area were organized to discuss proposed actions on the ground and incorporate feed back. On July 1, 2003 interdisciplinary team members and representatives from Hells Canyon Preservation Council (HCPC) toured portions of the project area. Field trips were organized for Forest Service officials from the Regional office in Portland and the Forest Supervisors office in Baker City, OR.

Formal consultation for the original Mt. Emily Fuels Reduction project was completed in the spring of 2004 with National Marine Fisheries Service for the endangered spring-summer Chinook salmon and summer steelhead.

The ID Team met on July 19 and September 8th (in the field) with Hells Canyon Preservation Council at their request, to discuss and clarify their comments.

Public meetings were held on May 26-27, 2004 to present the preferred alternative for the original Mt. Emily project, and the effects of implementation analysis in the EA. Approximately 10-12 people attended the meetings.

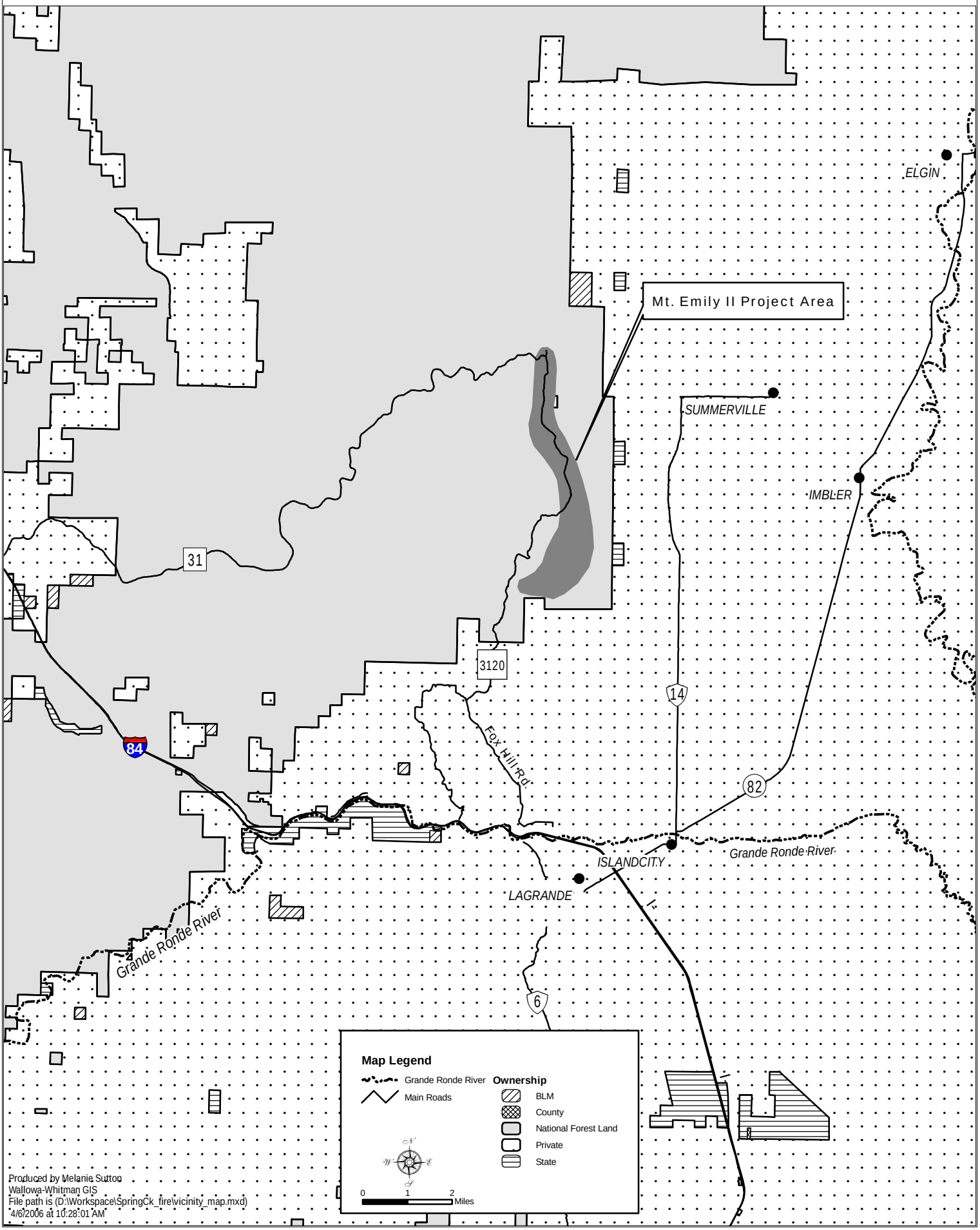
On September 9 and November 23, 2004, the ID Team took the Forest Supervisor and staff to the project area to discuss the original Mt. Emily preferred alternative and public comments.

Chapter V: Interdisciplinary Participation

We have participated in this analysis and believe the significant issues have been identified and addressed:

Name	Date	Title

Mt. Emily II Vicinity Map



Produced by Melanie Sutton
Wallowa-Whitman GIS
File path is (D:\Workspace\SpringCk_fire\vicinity_map.mxd)
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