UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

May 26, 2009

Patricia A. Grantham
Forest Supervisor
Klamath National Forest
Thom-Seider Project
P.O. Box 377
Happy Camp, CA 96039-0377

Subject: Draft Environmental Impact Statement for the Thom-Seider Vegetation Management and Fuels Reduction Project, Siskiyou County, California (CEQ# 20090108)

Dear Ms. Grantham:

The Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the above project. Our review and comments are pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

EPA acknowledges the importance of project goals to improve forest health, reduce fuel loading, and decrease fuels along important access roads to allow better access for fire suppression activities during fire events. We support the use of thinning and prescribed underburning as important measures necessary to reduce the risk of fire, promote biodiversity, and restore natural ecological processes within the forest. We recognize the ecological significance of the Klamath National Forest and support the inclusion of resource protection measures and best management practices described in the DEIS. Project features such as limiting the amount of new road construction will help minimize adverse effects. Overall, the DEIS contains valuable information useful to both the public and decision maker(s); however, we have some concerns that should be addressed in the Final Environmental Impact Statement (FEIS).

We have rated the DEIS as Environmental Concerns – Insufficient Information (EC-2) (see enclosed "*Summary of Rating Definitions*"). We are concerned about the limited number of alternatives presented for the proposed project, and suggest that the readability of the document could be improved by reformatting and reorganizing certain sections. We recommend the FEIS provide additional information on proposed treatment descriptions, worker exposure to naturally occurring asbestos, air quality emissions and

mitigation measures, and climate change. To ensure local community economic benefits, we recommend the Forest Service focus on the use of local stewardship contracts which utilize community and Tribal labor pools. Our enclosed detailed comments provide additional information regarding the concerns identified above.

We appreciate the opportunity to review this DEIS and are available to discuss our comments. When the FEIS is released for public review, please send one hard copy to the address above (mail code: CED-2). If you have any questions, please contact Ann McPherson, the lead reviewer for this project, at (415) 972-3545 or mcpherson.ann@epa.gov or contact me at (415) 972-3521.

Sincerely,

/s/

Kathleen M. Goforth, Manager
Environmental Review Office

Enclosures: Summary of EPA Rating Definitions
Detailed Comments

EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) FOR THE THOM-SEIDER VEGETATION MANAGEMENT AND FUELS REDUCTION PROJECT, SISKIYOU COUNTY, CALIFORNIA, MAY 26, 2009

Project Description

The Happy Camp Ranger District of the Klamath National Forest is proposing to conduct vegetation management and fuels reduction activities along the Klamath River between Hamburg and Happy Camp California. The purpose of this project is to restore forest health and vigor, to reduce hazardous fuels conditions within the Wildland Urban Interface, and to reduce fuels along important access roads. The Proposed Action would involve approximately 29,600 acres of National Forest system lands across the 132,000 acre project area and would include thinning in about 10-11,000 acres and underburning in about 22,900 acres.

Range of Alternatives/ Treatment Prescriptions

Provide a range of reasonable alternatives. The DEIS has identified only two alternatives: Alternative 1 – No Action; and Alternative 2 – Proposed Action. The DEIS states that several other alternatives were considered, but not developed for further analysis (pg. 17). We note that other actions were considered under the heading "*Alternatives Considered but Eliminated from Detailed Study*" on pages 35-38, but these actions were not grouped together to form a distinct alternative. EPA encourages selection of a feasible range of alternatives. We believe that another alternative that would further reduce environmental impacts could be developed in conjunction with more conservative estimates of thinning and underburning. We acknowledge, however, that the Healthy Forest Restoration Act applies to this project and the Forest Service may have elected to limit the Alternatives Analysis accordingly.

> ***Recommendation:***
> EPA recommends that the FEIS evaluate a range of alternatives, including an alternative that minimizes adverse impacts to water quality, cumulative watershed effects, aquatic resources, and air quality. If the Forest Service has elected to limit the Alternatives Analysis because of the applicability of the Health Forest Restoration Act, then this should be discussed within the Alternatives Analysis.

Organize Chapter 2 (Alternatives, Including the Proposed Action) in a more structured format. Elements of the Proposed Action are identified in table 3 (pg. 18). Descriptions of these elements are presented in the text after table 3, but are presented in a different order and with different topic headers.

> ***Recommendation:***
> EPA recommends that the Forest Service utilize a more detailed numbering system within each of the chapters. When discussing the elements of the proposed action in detail, we recommend using the same order as described in table 3.

Provide a more detailed description of proposed treatment prescriptions and commit to leaving larger diameter trees. The DEIS describes the acres and types of treatment prescription for the Proposed Action without describing specific treatment features. In

Chapter 2, the DEIS does not describe the maximum allowable tree size for harvesting or thinning, slope restrictions by type of treatment, the desired spacing between trees, or canopy closure rates for most treatment prescriptions. Further discussion of variable density thinning units is provided in Appendix A and in Chapter 3. According to Appendix A, stand density index (SDI) will frequently be reduced to less than 40% (31-39%). Canopy closure rates are seldom disclosed except for areas that will be maintained at 60% canopy for owl foraging. Appendix A also states that trees up to 18-19 inches in diameter will be removed in many areas.

> ***Recommendations:***
> Include a commitment to leave trees greater than a specific DBH in size, and identify how this would be implemented. Diameter and height are, in effect, measures of tree resistance to fire damage. Large diameter trees are generally more able to withstand wildfire, assuming that surface and ladder fuels have been reduced and the severity of the fire is not extreme. By leaving the largest trees and treating surface and ladder fuels, fire tolerant forest conditions can be created.
>
> Provide estimates of canopy closure rates within Appendix A. Strive to retain higher rates within selected areas, especially those that provide suitable habitat for Wildlife Species of Interest and Klamath National Forest Management Indicator Species.

Provide a more detailed description of measures used to ensure that underburning results in reduced fuel hazards. The DEIS discusses prescribed burning activities including underburning on pages 19 and 55. In some cases, however, underburning can actually increase fuel hazards, as additional vegetation may be killed but not consumed.

> ***Recommendation:***
> Describe measures that will be implemented to ensure that vegetation is consumed, and does not remain as a fuel hazard after underburning.

Purpose and Need

Provide a clear and concise description of the purpose and need for the project. The EIS should clearly identify the underlying purpose and need to which the U.S. Forest Service (Forest Service) is responding (40 CFR 1502.13). The purpose and need should be a clear, objective statement of the rationale for the proposed project, as it provides the framework for identifying project alternatives. Although this information is contained in the DEIS, it is spread out in several sections of the text and is not summarized concisely or consistently. It would benefit the reader if the purpose and need for the proposed project were more clearly defined and presented concisely and consistently throughout the document (pg. S-1; pg. 6; pg. 11).

***Recommendations*:**
EPA recommends that the Forest Service revise the text to more clearly define and present the purpose and need for the proposed project in the Final Environmental Impact Statement (FEIS).

EPA recommends that the Forest Service organize Chapter 1 into numbered sections to facilitate the readability of the document and focus the discussion in each section.

Provide more detailed information on issues within the FEIS. The DEIS states that comments from the public, other agencies, and the Karuk Indian Tribe were used to formulate issues concerning the Proposed Action and that these issues were separated into two groups: significant and non-significant (pg. 14). The DEIS does not clarify which issues are significant or non-significant, but states that a list of non-significant issues and reasons why they were found non-significant may be found in the project record at the Happy Camp District Office (pg. 15).

Recommendation:
For disclosure purposes, EPA recommends that the significant and non-significant issues be discussed and summarized in the FEIS. We suggest that the list of non-significant issues and reasons they were found non-significant be included in an Appendix.

Naturally Occurring Asbestos

Limit exposure to Naturally Occurring Asbestos. The DEIS describes the presence of ultramafic rock in the project area (pgs. 88, 90). Ultramafic rock often contains asbestos, which is a human health hazard when airborne. As noted in the DEIS, there is a potential for asbestos fibers to be introduced into the air by: 1) vehicles traveling on unsurfaced roads in ultramafic areas; 2) vehicles traveling on roads surfaced with ultramafic rock aggregate; 3) quarrying ultramafic rock; and 4) yarding timber in ultramafic areas. The DEIS states that a map showing areas with ultramafic rock and existing and proposed roads, proposed harvest areas, and prescribed burn areas is available for review in the geology files, but does not elaborate on the location of these files (pg. 90). The DEIS also states that standard mitigation measures would be applied, including watering roads during use or surfacing with material which does not contain asbestos (pg. 30).

It is important to protect human health by limiting the exposure of workers to this air pollutant. Very low levels of asbestos in soil can generate airborne asbestos at hazardous levels. We are concerned about the potential for exposure to Naturally Occurring Asbestos from proposed activities.

Recommendations:
EPA recommends that the FEIS identify the project areas that contain ultramafic rock and include maps illustrating these areas in an Appendix. The FEIS should

discuss exposure mechanisms and assess the potential for exposure to elevated levels from proposed activities.

EPA recommends that the Forest Service review the asbestos occurrence information on the California Geological Survey website: http://www.consrv.ca.gov/cgs/minerals/hazardous_minerals/asbestos/index.htm and the California Air Resources Board (CARB) regulations and guidance at: http://www.arb.ca.gov/toxics/asbestos/asbestos.htm. The CARB website addresses California's Asbestos Airborne Toxic Control Measures for surfacing Applications, which apply to unpaved roads. This issue should be documented in the FEIS.

EPA also recommends that the Forest Service review the recommendations presented in the Department of Toxic Substances Control report, "*Study of Airborne Asbestos from a Serpentine Road in Garden Valley, California*" at: http://www.dtsc.ca.gov/loader.cfm?url=/commonspot/security/getfile.cfm&pageid=33546.

EPA recommends that the Forest Service provide additional information on the mitigation measures that will be implemented in response to this problem. The FEIS should identify and include commitments for measures that can be implemented to protect human health from Naturally Occurring Asbestos.

Closure and Restoration of Roads and Landings

Provide a closure and restoration plan for the proposed temporary roads and landings. The DEIS states that approximately 1.5 miles of temporary roads in nine segments would need to be constructed for commercial thinning (pg. 18). Approximately 40 of 208 landings (14 acres) would also need to be constructed. The project area contains about 325 miles of Forest Service system roads (pg. 103). Since 1999, about 44 miles of road have been decommissioned and are no longer on the road network. Roads are frequently associated with dramatic and long-lasting effects on biotic integrity in both terrestrial and aquatic ecosystems. The DEIS states, however, that road decommissioning is not currently a connected action and is not necessary as a mitigation measure (pg. 37).

Recommendations:

EPA recommends the Forest Service consider whether there are additional opportunities to decommission roads within the project area. If this is not feasible, the Forest Service should discuss the reasons for this in greater detail within the FEIS.

The FEIS should provide a detailed closure and restoration plan for the proposed temporary roads and landings. This plan should include specific information on whether these roads and landings would be re-contoured, replanted with appropriate vegetation, monitored, and closed to off-highway vehicle use. We

recommend the FEIS include a post-harvest schedule for closure of the temporary roads and landings.

Air Quality

Describe potential emissions and air quality effects from the Proposed Action. The DEIS presents a table that contains estimated daily emissions for Siskiyou County (table 60-2006; pg. 244). It is unclear, however if these emissions estimates are from the Thom-Seider project, other sources within Siskiyou County, or both. The DEIS states that the emissions shown in the *tables* are over the life of the project and by year (pg. 247); however, we note that only one table is included in this section of the DEIS and we are unsure what, exactly, the DEIS is referring to. The DEIS states that a maximum of 641 tons of particulate matter less than 2.5 microns (PM 2.5) per year would be produced from prescribed burning activities in the Thom-Seider project area, but fails to discuss PM2.5 or support this conclusion (pg. 247).

***Recommendations*:**
EPA recommends that the Forest Service clarify what type of information is presented in table 60-2006. We recommend that the FEIS include tables illustrating: 1) emissions from equipment used to thin and harvest timber; and 2) emissions from prescribed burning.

EPA also recommends that the FEIS include estimates for carbon dioxide associated with prescribed burning in the Thom-Seider project. As a measure of comparison, the FEIS could compare these values to estimates for carbon dioxide from recent catastrophic wildfires in California, including the acreage burned.

Provide a detailed smoke management plan describing the Siskiyou County Air Quality Management District's (SCAQMD) Smoke Management Plan. The DEIS states that the forest will follow the SCAQMD Smoke Management Plan in order to avoid creating a nuisance, visibility impairment, or impacts to public health (pg. 245).

Recommendation:
The FEIS should include a more detailed description of the SCAQMD regulations for pile burning and smoke management, an implementation schedule, the responsible parties, and monitoring and reporting requirements.

Include a Construction and Operations Emissions Mitigation Plan. EPA recommends that the Forest Service include a Construction and Operations Emissions Mitigation Plan for fugitive dust and diesel particulate matter (DPM) in the FEIS and adopt this plan in the Record of Decision (ROD). We recommend that the following measures be included in order to reduce impacts associated with emission of particulate matter and other toxics, particularly in areas where the public or Forest Service staff may be impacted:

Fugitive Dust Source Controls:

- Stabilize open storage piles and disturbed areas by covering and/or applying water or other dust palliative where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

Mobile and Stationary Source Controls:

- Reduce use, trips, and unnecessary idling from heavy equipment.
- Maintain and tune engines per manufacturer's specifications to perform at EPA certification levels, where applicable, and to perform at verified standards applicable to retrofit technologies. The California Air Resources Board has a number of mobile source anti-idling requirements which could be employed. See their website at: http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm.
- Prohibit any tampering with engines and require continuing adherence to manufacturer's recommendations.
- If practicable, lease new, clean equipment meeting the most stringent of applicable federal or state standards.

Administrative controls:

- Identify all commitments to reduce construction and operations emissions in the FEIS and specify air quality improvements that would result from adopting specific air quality measures.
- Identify where implementation of mitigation measures is rejected based on economic infeasibility.
- Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking. (Suitability of control devices is based on: whether there is reduced normal availability of the construction equipment due to increased downtime and/or power output, whether there may be significant damage caused to the construction equipment engine, or whether there may be a significant risk to nearby workers or the public).

Climate Change

Describe climate change and its effects on successful reforestation. Current research indicates that climate change could impact the amount, timing, and intensity of rain and storm events; increase the length and severity of the fire season; modify the rate and distribution of harmful timber insects and diseases; and aggravate already stressed water supplies. A significant change in the weather patterns could have important implications for how we manage our forests. A number of studies specific to California have indicated

the potential for significant environmental impacts as a result of changing temperatures and subsequent environmental impacts.[1] The California Climate Action Team just released a report[2] on the impacts of climate change to California, the latest research, and state efforts to adapt to impacts. The report indicates that estimates of the long-term risk of large wildfires in California are substantial, with increases in occurrences statewide ranging from 58% to 128% in 2085.

On the subject of climate and climate change, the DEIS presents three paragraphs in Chapter 3 and concludes that, while this project may result in the release of some greenhouse gases (GHG) via smoke from prescribed burning, the scale of the project is too small to have a meaningful impact on climate change (pg. 43). One objective of the project is to prevent the occurrence of large uncontrolled wildfires that result in high levels of GHG. EPA recommends that the Forest Service consider the potential effects of climate change on Forest Service resources and describe how the Forest Service will adaptively manage affected resources. For example, the likelihood of larger and more frequent wildfires could increase erosion, sedimentation, and chemical and nutrient loads in surface waters, resulting in adverse impacts to water quality and quantity as well as species diversity.

> ***Recommendation:***
> We recommend the FEIS include a more detailed description of climate change and the potential effects on Forest Service resources, including reforestation efforts. For example, describe and evaluate projected climate change consequences such as frequency of high intensity storms, and amplified rain events and the severity and frequency of insect outbreaks, droughts, and fire seasons, and their effects on the success of reforestation efforts.

Miscellaneous Topics

Provide a list of Aquatic Conservation Strategy Objectives and Riparian Resource Protection Measures. The DEIS states that an analysis was conducted to consider the potential project impacts on watershed conditions and function. The DEIS concludes that, of the nine Aquatic Conservation Strategy (ACS) objectives, only three were relevant to this project (pg. 121). The reasons that the other Aquatic Conservation Strategy Objectives are not relevant were not discussed in the DEIS; however, the reader is told to see the ACS Report in the project file.

> ***Recommendations:***
> EPA recommends that the FEIS discuss this topic in greater detail and include a list of all nine Aquatic Conservation Strategy Objectives and Riparian Resource Protection Measures in an Appendix, along with a discussion of the effect of the Proposed Action.

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[1] Our Changing Climate: Assessing the Risks to California, A Summary Report from the California Climate Change Center, July 2006.

[2] Draft 2009 Climate Action Team Biennial Report to the Governor and Legislature. See internet address: http://www.climatechange.ca.gov/publications/cat/index.html.

The FEIS should describe the contents of the ACS report in greater detail and reference this document appropriately in the text and *Literature Cited*.

Provide reference for Hydrology Report. The DEIS states that the model results for the existing condition are Cumulative Watershed Effects (CWE) results in the Hydrology Report (pg. 111). We believe that the DEIS may be stating that model results for the existing condition are represented as CWE results in the Hydrology Report, but we are uncertain if that is accurate and ask for clarification. We also note that the DEIS does not cite the Hydrology Report using authors or dates explicitly in the text.

Recommendation:
The FEIS should describe the contents of the Hydrology Report in greater detail; clarify whether model results are represented as CWE results in the Hydrology Report; and reference the Hydrology Report appropriately in the text and *Literature Cited*.

Address whether there are impaired waters in the watershed based on Clean Water Act Section 303(d) list. The Clean Water Act requires States to develop a list of impaired waters that do not meet water quality standards, establish priority rankings, and develop action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality. The DEIS does not state whether there are impaired waters in the project area.

Recommendation:
The FEIS should provide information on CWA Section 303(d) impaired waters in the project area, if any, and efforts to develop and revise TMDLs. The FEIS should describe existing restoration and enhancement efforts for those waters, how the proposed project will coordinate with on-going protection efforts, and any mitigation measures that will be implemented to avoid further degradation of impaired waters.

Reformat and Organize document into numbered sections. The DEIS is difficult to read in the present format. If the DEIS were reformatted and better organized, this would likely improve the readability of the document.

***Recommendation*:**
Use a more detailed, numbered format within each of the chapters. For instance, number the subject areas in Chapter 3 as follows: Section 3.1 – Forest and Fuels; Section 3.2 - Forest Vegetation; Section 3.3 – Geology, etc…Renumbering and focusing on the contents of each section, should enable the Forest Service to improve the readability of the document.