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

April 6, 2009

Alice B. Carlton
Forest Supervisor
P.O. Box 11500
159 Lawrence Street
Quincy, CA 95971

Subject: Revised Draft Environmental Impact Statement for the Moonlight and Wheeler Fires Recovery and Restoration Project (CEQ# 20090043)

Dear Ms. Carlton:

The Environmental Protection Agency (EPA) has reviewed the Revised Draft Environmental Impact Statement (RDEIS) for the above-referenced 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 our NEPA review authority under Section 309 of the Clean Air Act.

The RDEIS describes the revised action, in which the Moonlight Safety and Roadside Hazard Tree Removal Project was added to the Moonlight and Wheeler Fires Recovery and Restoration Project, as described in the June 2008 DEIS, and the acreage of salvage timber to be removed as part of the Recovery and Restoration Project has decreased.

EPA supports the effort to rehabilitate the fire-damaged watersheds as soon as possible. We acknowledge the need to reforest in order to stabilize the soil and prevent soil losses from debris flows and mudflows. We also understand the desire to harvest fire-killed trees while there is sufficient timber value to fund needed restoration efforts. However, based on our review, we have rated the project and RDEIS as Environmental Concerns - Insufficient Information (EC-2). A *Summary of EPA Rating Definitions* is enclosed.

We commend the Forest Service for decreasing the length of proposed temporary roads, and subsequently the acreage proposed for ground-based logging of salvage timber under Alternatives A and C; however we remain concerned about the impacts to project area watersheds from the preferred alternative, particularly given the addition of roadside salvage to the project. We also do not believe that the RDEIS provides sufficient rationale for the selection of Alternative A as the preferred alternative and does not properly distinguish the impacts to resources of the various alternatives discussed.

We recommend that the Forest Service consider incorporating elements of other proposed alternatives into the preferred alternative, as discussed in our attached comments, to minimize adverse impacts to damaged watersheds.

We appreciate the opportunity to review this RDEIS. We 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 Carolyn Mulvihill, the lead reviewer for this project, at (415) 947-3554 or mulvihill.carolyn@epa.gov, or me at (415) 972-3521.

Sincerely,

/s/ Connell Dunning

Kathleen M. Goforth, Manager
Environmental Review Office

Enclosures:
Summary of EPA Rating Definitions
Detailed Comments

cc: Central Valley Regional Water Quality Control Board

Project Alternatives

In EPA's comments on the June 2008 Draft Environmental Impact Statement (DEIS) for this project, we recommended that the Forest Service develop an alternative that minimizes adverse impacts to damaged watersheds. The DEIS analyzed two action alternatives, one that included ground-based, skyline, and helicopter logging (Alternative A) and another that included just ground-based logging (Alternative C). The Revised Draft Environmental Impact Statement (RDEIS) includes two additional alternatives, Alternatives D and E, which would allow ground-based logging in smaller areas than those proposed in Alternatives A and C. All of the action alternatives now also include Roadside Hazard Timber Harvest, which was not a part of the proposed project in the DEIS. The amount of ground-based logging originally proposed under Alternatives A and C has decreased in the project described in the RDEIS; however, the addition of the Roadside Hazard Timber Harvest to those alternatives increased the total acreage logged to similar amounts proposed under the DEIS.

EPA commends the Forest Service for including additional Alternatives D and E; however, the RDEIS does not include an appropriate level of analysis of the differences in impacts to resources from each of the alternatives. While the alternatives would impact vastly different acreages, their impacts on resources, such as wildlife, soil, and water quality are not distinguished.

Recommendation:

- The Final Environmental Impact Statement (FEIS) should include a robust analysis of the impacts to resources, such as wildlife, soil, and water quality, of each of the alternatives. Since each of the alternatives would impact different acreages of land, the impacts should be described both qualitatively and quantitatively so that government agencies and the public can distinguish the scale of impacts that would result from increasing the scale of logging activities.

The RDEIS also does not include a sufficient rationale for the selection of Alternative A, the preferred alternative. Since Alternative A would prolong natural recovery from 2 to 5 years, and impacts to water quality and wildlife habitat would likely be higher than those resulting from the other alternatives, as discussed above, the FEIS should include a more robust rationale if it is to remain the preferred alternative. While it would provide more jobs and income to the local community, it would result in negative net revenue, a loss to the Forest Service of close to $6 million. Conversely, Alternatives C, D, and E would have positive net revenue.

The RDEIS also describes additional alternatives that were considered but eliminated from detailed study. Alternatives G, H, I, J, and K are eliminated primarily for

economic reasons; however, the preferred alternative would result in a financial loss to the Forest Service, as stated above. Since this negative financial impact could result in less financial resources available for future management or other activities in the Forest (which could provide employment to local residents) it seems questionable to use economic benefit as a primary factor in eliminating alternatives.

Recommendations:

- The FEIS should describe the criteria and rationale for selection of the preferred alternative. We also reiterate our recommendation provided following our review of the DEIS that the Forest Service consider different combinations of treatment practices (ground-based, skyline, and helicopter harvesting methods, intensity, and acreage of harvested areas, and number of miles of temporary roads and landings) in order to design alternatives which may more effectively achieve the project purpose, need, and objectives, while minimizing impacts to an area that is already highly impacted.
- The FEIS should provide a more robust discussion of the rationale for eliminating Alternatives G, H, I, J, and K from detailed study.

Watershed Impacts

As stated in our August 18, 2008 letter on the DEIS, Lower Lone Rock Creek, West Branch Light Creek, and Lower Indian Creek are well above the Threshold of Concern (TOC) for Cumulative Watershed Effects (CWE), with very high to extreme risk of cumulative effects. The West Branch Lights Creek watershed is expected to change from very high to extreme CWE as a result of the proposed project. The RDEIS states that most of the project area watersheds are above TOC because of wildfire effects, recent salvage removal on private lands, and past management on Forest lands (page 182). In addition, the RDEIS states that under Alternative A, 19 of 26 watersheds would be over the threshold set by the Forest for "equivalent roaded acres," a factor that affects runoff and water quality. While the distance of temporary roads proposed under the preferred alternative has decreased from the figure of 33 miles stated in the DEIS to 19 miles in the RDEIS, there would still be detrimental effects to water quality and wildlife habitat in an area that is already highly impacted by fire and past logging activities. We commend the Forest Service for decreasing the length of proposed temporary roads, and subsequently the acreage proposed for ground-based logging of salvage timber under Alternatives A and C; however we remain concerned about the impacts to project area watersheds from the preferred alternative.

EPA also questions the proposal to harvest fire-killed and fire-injured conifer trees within 150 feet of the road prism, as part of the Roadside Hazard Timber Harvest. While we understand the need to remove potential hazards in order to protect the safety of Forest staff and the public, we question the need to remove all trees to a distance of 150 feet from the road. Minimizing this harvest activity to only those trees that could actually reach the road if felled by wind or other natural occurrences would decrease the impact on resources.

Recommendations:

- While EPA recognizes the need for reforestation to rapidly reduce the risk of erosion and sedimentation, we continue to recommend development of an alternative that minimizes adverse impacts to damaged watersheds. We recommend including in the preferred alternative aspects of other alternatives, such as:
    - avoid California spotted owl Home Range Core Areas and Protected Activity Centers;
    - avoid riparian zones;
    - limit the upper diameter limit of harvested trees to 24 inches diameter breast height (dbh); and
    - harvest only from units accessible by existing roads.

- We continue to urge careful consideration of the quantity and location of temporary roads, landings, and skid trails in order to minimize adverse effects on water quality and watersheds already at high risk of CWE.
- The FEIS should include information supporting both the proposed siting of roads and landings and the conclusion that proposed activities would not result in significant adverse effects.

Roads and Landings

We stated in our DEIS comment letter that the DEIS lacked information on existing roads, the condition of these roads, the need for 33 miles of temporary roads and 14 landings, and potential adverse affects of construction of such facilities. While we commend the Forest Service for decreasing the proposed length of temporary roads, we reiterate this concern, as the RDEIS does not contain an adequate description of existing roads and does not provide the rationale for the proposed temporary roads. EPA has frequently expressed concerns about potential water quality impacts, wildlife habitat fragmentation, and noxious weed proliferation caused by the existing road system, its use, and new road construction. Since, as stated above, under Alternative A, 19 of 26 watersheds in the project area would be over the threshold set by the Forest for "equivalent roaded acres," further minimization of length of temporary roads is warranted.

Recommendations:

- We recommend that the FEIS describe the condition of existing roads, the data and rationale underlying the need for the proposed temporary roads and 14 landings, and the environmental effects of existing roads and temporary road and landing construction. We recommend temporary roads and landings be carefully placed to minimize adverse effects on already unstable slopes and soils. The FEIS should state measures proposed to reduce adverse impacts and should provide an estimate of the impacts that are avoided by such measures.
- In order to mitigate the impacts of the proposed project on watersheds, EPA recommends that existing roads and landings that are not essential to the

proposed project, other ongoing Forest Service activities, or access to private land holdings be decommissioned. Include a quantification of miles of roads proposed for decommissioning.

In our comments on the DEIS, we requested that the Forest Service provide detailed information on closure of temporary roads and landings following the completion of harvest. We reiterate this request, as the RDEIS does not contain this information.

Recommendation:

- 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 recontoured, replanted with appropriate vegetation, monitored, and closed to off-highway vehicle use. We recommend the FEIS include a specific post-harvest schedule and timeline for closure of the temporary roads and landings.

Livestock Grazing

In our comments on the DEIS, EPA recommended temporary adjustment of livestock management practices to encourage watershed recovery. The RDEIS states that there are no plans to adjust livestock numbers, season of use, or distribution in the seven active livestock grazing allotments within the analysis area and that this would delay recovery of riparian vegetation (p. 61). Given the highly degraded condition of the area and its high susceptibility to erosion and sedimentation of stream channels, EPA is concerned about the potential significant adverse effects to water quality and channel recovery from continued livestock grazing in high severity burn areas. While we understand that rangeland management is not a part of the current salvage harvest and restoration action, we believe that limitation of grazing is a strategy to mitigate the adverse impacts to water quality of the action.

Recommendation:

- Given the severely damaged state of watersheds, we recommend a temporary closure of specific allotments, readjustment of livestock numbers, or adjustment of use levels, within high severity burn areas, to encourage more rapid watershed recovery. We recommend the FEIS describe the livestock management practices which could be or are being implemented to encourage watershed recovery and include a timeline for implementation of modified management practices.

Air Quality

Plumas County is designated as non-attainment for particulate matter less than or equal to 10 micrometers (PM_{10}) and particulate matter less than or equal to 2.5 micrometers ($PM_{2.5}$) (Portola Valley only), in accordance with State of California standards. Plumas County is unclassified for PM_{10} and $PM_{2.5}$ for federal standards. However, since measurements for particulate matter emissions from pile burning indicate amounts much larger than the trigger for a General Conformity analysis (100 tons per year), the Forest Service should implement a smoke management plan and mitigation measures to reduce the possibility of exceedances of air quality standards.

Recommendation:

- EPA recommends aggressive implementation of mitigation measures to address potential exceedances of air quality standards. The FEIS should include a detailed smoke management plan describing Northern Sierra Air Quality Management District regulations for pile burning and smoke management, an implementation schedule, the responsible parties, and monitoring and reporting requirements.

Construction and Operations Emissions

In addition to pile burning impacts, as stated in our previous letter on the DEIS, the RDEIS does not appear to evaluate the potential particulate emissions generated by log hauling, harvest activities, temporary road and landing construction, or equipment emissions. We recommend that the FEIS include an evaluation of the potential emissions generated by these activities and measures to mitigate these emissions.

Recommendation:

- 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). EPA recommends the following mitigation measures be included in the Construction and Operations Emissions Mitigation Plan in order to reduce impacts associated with emissions of PM and other toxics, particularly in areas where the public or Forest 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, where applicable, levels 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.).

Naturally Occurring Asbestos

Serpentine and other soils in the Sierra Nevada of California have been found to contain chrysotile and amphibole asbestos. Very low levels of asbestos in soil can generate airborne asbestos at hazardous levels.

Recommendations:

- It is important to protect human health by limiting exposure to naturally occurring asbestos. We recommend that the Forest Service determine whether naturally occurring asbestos may be a management issue for this salvage harvest by reviewing the asbestos occurrence information on the California Geological Survey website at: 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 documented in the FEIS.

- The Forest Service should also review the results and road surfacing recommendations in the Department of Toxic Substances Control report "Study of Airborne Asbestos From A Serpentine Road in Garden Valley, California" (April 2005) at: http://www.dtsc.ca.gov/loader.cfm?url=/commonspot/security/getfile.cfm&pageid=33546.

Climate Change

Current research estimates that climate change could change 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 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 on the impacts of climate change to California, the latest research, and state efforts to adapt to impacts (http://www.climatechange.ca.gov/publications/cat/index.html). 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.

EPA recommends that the FEIS address the potential effects of climate change on Forest Service resources and 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 and species diversity.

Recommendation:

- We recommend the FEIS include a description of climate change and its implications for successful reforestation. For example, describe and evaluate projected climate change consequences such as frequency of high intensity storms and amplified rain events, severity and frequency of insect outbreaks, droughts, and fire seasons, and their effects on the success of reforestation efforts.

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

Quality of the Document and Evaluation

While the RDEIS contains more data than the DEIS, it still contains a large number of typographical errors. Information in the text often does not match corresponding information in tables, and there are other inconsistencies between different sections of the RDEIS. For example, the document states on page 62 that there will be "no more that 33.2 miles of temporary road under alternative A and 27 miles of temporary road under alternatives C and D. EPA assumes that this is an error, since Table 20 on page 31 states that the lengths of temporary roads for Alternatives A, C, and D would be 19, 18, and 3, respectively. Another example is that the figures for percentage of land to be reforested stated in Table 21 and then in the text on page 64 do not match and it is unclear whether they represent different measures.

The RDEIS also lacks clear summaries of included data and conclusions that would allow interested parties to understand the impacts of the preferred alternative, or any of the other alternatives, on resources. Other stated conclusions, such as the impacts to various wildlife species, are not backed up by clear evidence or rationale. These factors limit the RDEIS's value as a public disclosure and decision-making document.

In other sections, information is missing. For example, the DEIS contained a conclusion that 54,044 logging-related trips would contribute to a negligible increase in traffic in the communities of Indian and American Valleys, which was presented without any description of existing traffic volumes or road conditions within these communities. This statement has been eliminated from the RDEIS; however, the document includes no analysis of traffic, or other project impacts on the community aside from economic impacts.

Recommendations:

- The FEIS should be thoroughly edited so that it does not contain inconsistent information or other errors.
- The FEIS should provide clear summaries of the data in the text and supporting tables and conclusions that clearly describe the impacts of the alternatives.
- The FEIS should include specific data on existing conditions in the analysis area and all community impacts.