



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 10
1200 Sixth Avenue
Seattle, WA 98101

FEB 18 2004

Reading File

Reply To
Attn Of: ECO-088

Ref: 03-025-AFS

Mr. Scott Conroy, Forest Supervisor
Department of Agriculture - U. S. Forest Service
Attn: Biscuit Fire Recovery Project
Rogue River and Siskiyou National Forests
P.O. Box 520
Medford, OR 97501

Dear Mr. Conroy:

We have reviewed the draft Environmental Impact Statement (DEIS) for the proposed **Biscuit Fire Recovery Project** (CEQ 030525), Rogue River and Siskiyou National Forests, in Southwest Oregon and Northern California in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA). Section 309 specifically directs the U.S. Environmental Protection Agency (EPA) to review and comment in writing on the environmental impacts associated with all major federal actions and the document's adequacy in meeting NEPA requirements. For further explanation of our environmental review responsibilities, please refer to *EPA's Section 309 Review: The Clean Air Act and NEPA*, attached.

The DEIS presents seven alternatives for treating the 500,000 acre Biscuit Fire area, which burned in the summer of 2002. Six action alternatives propose varying levels of timber salvage, creation of Fuel Management Zones (FMZs), reforestation, and watershed restoration within the fire perimeter. Three of the alternatives focus salvage activities within matrix lands, which are lands designated for commercial timber production and silvicultural activities by the Northwest Forest Plan (NWFP) and the Siskiyou Forest Plan, and include some salvage within Late Successional Reserves (LSRs). The other three alternatives propose varying levels of timber salvage in key watersheds and Inventoried Roadless Areas (IRAs), in addition to matrix lands and LSRs.

Based on our review, we have rated the preferred alternative, Alternative 7 as **EO-2, Environmental Objections - Insufficient Information**. The preferred alternative, if not mitigated, would result in long-term impacts to water quality and continued exceedances of water quality temperature standards in waters already listed as impaired under Section 303(d) of the Clean Water Act (303 (d) waters), due to increases of sediment delivery. This includes waters located in key watersheds which were established to provide high quality water and habitat for at-risk salmonids. Other significant impacts include adverse effects to fish and in-stream habitat, impacts to Wild and Scenic Rivers, and impacts to potential wilderness values in IRAs. In addition, the Final EIS (FEIS) should explain in more detail how conclusions of the impacts to aquatic and fish habitat were reached.

Our conclusions about Alternative 3 are very similar to Alternative 7, and the DEIS indicates that the level of adverse environmental impacts from Alternative 6 would exceed those under Alternative 7.

While EPA has environmental concerns with Alternatives 2, 4, and 5 because of potential water quality impacts, we believe that they strike a reasonable balance between economic benefits and protection of water quality. They would limit salvage primarily to areas the USFS has allocated to timber production as intended in the Northwest Forest Plan and reduce delivery of sediment to streams, but still provide substantial economic and community protection benefits. We encourage the USDA Forest Service to select Alternative 2, 4, or 5.

As we noted in our scoping letter for this project dated April 24, 2003, EPA does not oppose salvage logging if it is consistent with applicable environmental laws. EPA focused on National Forest lands managed for timber production (matrix lands) consistent with the Northwest Forest Plan. In addition, EPA is very supportive of the USFS's proposals in all alternatives to focus salvage outside of riparian buffers, avoid removing live trees, utilize detailed replanting plans based on site-specific conditions, and to monitor different stand treatments and restoration measures.

Detailed comments regarding our concerns are enclosed. Our rating and a summary of the comments will be published in the Federal Register. Also enclosed is an explanation of the EPA rating system.

We appreciate the opportunity to comment on this draft EIS and the time your staff has already spent with my staff in meetings and discussions about this significant and challenging project, working on the concerns raised in our review. We look forward to working with you to resolve these concerns as the Final EIS is prepared.

Should you have any questions regarding our comments please contact Judith Leckrone Lee at (206) 553-6911 or by electronic mail at lee.judith@epa.gov, or Jonathan Freedman at (206) 553-0266 or by electronic mail at freedman.jonathan@epa.gov.

Sincerely,



Michelle Pirzadeh, Director
Office of Ecosystems and Communities

Enclosures

cc: Dave Powers, EPA Oregon Operations Office
Dan Opalski, EPA Oregon Operations Office

**Environmental Protection Agency (EPA) Detailed Comments on the
Biscuit Fire Draft DEIS**

Water Quality

Clean Water Act 303(d) Listed Streams and Total Maximum Daily Load (TMDL)

Based on data provided in the DEIS, the preferred alternative, if not mitigated, would result in long-term impacts to water quality and continued exceedances of water quality temperature standards in waters already listed as impaired under Section 303(d) of the Clean Water Act (303 (d) waters), due to increases of sediment delivery. All of the proposed alternatives would result in sediment loadings to waterbodies within the project area from timber salvage harvesting and related activities including timber hauling, road construction and repair, prescribed fires, and the creation and maintenance of Fuel Management Zones (FMZs). The DEIS, however, predicts substantially greater salvage-related increases in sediment loads for the Preferred Alternative and Alternatives 3 and 6, with high potential for temperatures increases in 303(d) listed waters. These alternatives salvage two to eleven times the timber as Alternative 2, 4, and 5. The FEIS needs to explain how the State of Oregon Water Quality Standards will be met by each alternative.

There are at least twenty-two waters within the Biscuit Fire perimeter that are listed on the Oregon Department of Environmental Quality's (ODEQ) 2002 Section 303(d) list of impaired waterbodies because they exceed the State of Oregon's temperature standard. Oregon water quality standards state: "Unless specifically allowed under a DEQ surface water temperature management plan (as required under (OAR 340-041-0026(3)(a)(D))) no measurable surface water temperature increases resulting from anthropogenic activities is allowed in State of Oregon Waters determined out of compliance with the temperature standard."

Total Maximum Daily Loads (TMDLs) have not been established for any of these 303(d) listed waterbodies, but are expected to be completed within the next few years. ODEQ's preliminary analysis, however, for the TMDLs within the Biscuit Fire perimeter indicates that load allocations for temperature on federal lands in both sub-basins (Lower Rogue River and Illinois River sub-basins) will be zero. No thermal loading is permitted from anthropogenic sources to ensure these 303(d) waters attain water quality standards and support the salmonid rearing designated beneficial use. The DEIS acknowledges that accelerated or excess sedimentation contributes to temperature increases by reducing pool depth, filling interstitial space, altering substrate composition, causing channels to braid, increasing surface area and affects shading of the water surface. It further states that timber harvest on burned slopes already lacking in protection from erosional forces can accelerate erosion.

Table III-72 of the DEIS provides data on pre- and post-fire background sediment delivery to many of the 303(d) listed streams in the Biscuit Fire Project area. The data projects a substantial, sometimes exponential, increase in sediment that would be delivered to waterbodies that are already temperature impaired. The predicted sediment loading, along with the loss of riparian shading will exacerbate the problematic pre-fire water quality temperature conditions. Even though the sediment model (WEPP) used by the USFS in the DEIS is plus or minus 50% in terms of accuracy, the Oregon

state water quality standards do not allow any increase in temperature due to anthropogenic causes to waters that are listed as impaired for temperature.

Antidegradation

Antidegradation provisions of the Oregon's water quality standards apply to those water bodies that are currently meeting water quality standards. The purpose of the antidegradation provisions is to prevent the deterioration of existing levels of high water quality. The CWA provisions prohibit degrading the water quality unless an analysis shows that important economic and social development necessitates degrading water quality. The FEIS should explain how the antidegradation provisions of the State of Oregon's water quality standards would be met by each Alternative.

Ecological Effects on Fish and Aquatic Habitat

The treatment in the DEIS of the overall effects of the fires, planned salvage and fire suppression activities on fish species and their habitats is descriptive, but lacks specificity. The FEIS should provide tables, maps, descriptions of the spatial extent of the stream networks within the nearly half million-acre fire perimeter. The information provided in the DEIS is only the spatial area of the major river basins within the project area. The FEIS should also provide information on stream characteristics within the basins in terms of channel geomorphic descriptors such as stream order, reach length and gradient. Similarly, the FEIS should provide specific information on spatial and temporal distribution of fish within the project area and identify streams providing critical or focal habitats for maintaining fish populations.

While the DEIS provides some conclusions about the relative effects of the various alternatives on fish species of concern, they are too general to give the reader an understanding of the actual impacts on fish populations within any given basin. The FEIS should provide information on the process used to derive these conclusions and the criteria used to make effects ratings so that the reader can draw conclusions about the accuracy of these conclusions.

The FEIS should provide information that links the stream networks within each basin to the distribution (by life-history occurrence within habitats) of each fish species of concern to support the characterization of the relative effects of each alternative. Furthermore, the analysis of the effects on fish populations and a detailed explanation of how the ratings of effects were derived, should also be included in the FEIS. The Oregon Department of Fish and Wildlife (ODFW) maintains an interactive database that spatially links fish distribution and life-history stage use to Oregon's rivers and streams. We recommend that the FEIS include a summary of the pertinent information from this database that supports the conclusions made in the effects analysis.

Fish Species of Concern

Of the five species of native, cold-water fish discussed in the DEIS, only one is currently listed under the Endangered Species Act (Coho Salmon), with other species mentioned listed by the

State as species of concern. The DEIS provides good general descriptions of the life-history characteristics for the fish species as they occur in their southern Oregon range. However, the DEIS does not provide specific information on fish life histories for the specific watersheds within the project area. The DEIS includes one coarse-scaled map (Map III-8, near page III-221) labeled "Fish Distribution" that provides limited information on species distribution, in-stream habitat characteristics, channel morphology and water quality conditions.

The FEIS should list which fish species, fish runs and life stages (e.g., spawning, rearing) are present in the various stream reaches throughout the year in each of the waterbodies within the project area. The FEIS identify which fish are occupying which in-stream habitats spatially and temporally. The proximity of these key habitat locations to the specific post-fire management actions for each alternative should be described in detail, so the reader can understand the effects of each of the proposed actions at various scales or analysis.

The vulnerability of individual fish runs should be considered when making determinations on the impacts each of the alternatives will have on various fish populations. For example, ODFW (Nicholas 1993) summarized population vulnerability for salmonid species in several of the streams in the Biscuit Fire area. The Pistol, Chetco, Winchuck, and Illinois Rivers all have a high vulnerability rating for coho populations. The Pistol River Hunter, Winchuck, Euchre, Floras, lower Rogue also has a high vulnerability rating for fall chinook. The Sixes, Illinois and Chetco Rivers have a medium vulnerability for fall chinook. The FEIS should be clear on what the impacts will be on the various fish populations within the project area.

The DEIS narrative (pages III-271 to 273) describes in general terms the overall effects of alternatives on coho, chinook, steelhead, cutthroat and Pacific lamprey. This discussion "ranks" the alternatives' relative impacts, making some definitive conclusions about the relative degree of effect for each alternative. Alternatives 4, 5, and 7 are all assigned an identical effects rating when sediment increases differ dramatically between these alternatives. Neither the body of the DEIS nor Appendix F provides the technical basis for how those determinations were made. For example, a ranking of the relative contribution of sediments from each alternative, by basin, is useful but only if this information is related to the relative importance of aquatic habitats and the risks to water quality and habitats imposed by this additional sediment input. An explanation of the data sources and the criteria used to make effects rankings and conclusions should be provided in the FEIS.

Sediment Loads, Models, and Data

Table III-73 of the DEIS presents modeled sediment loading to several of the 303(d) listed waters caused by timber salvage and construction of the FMZs. Page III-242 of the DEIS states that "Accuracy of predictions suggested in WEPP [the sediment model] documentation is plus or minus 50 percent." EPA recognizes that calculating sediment delivery to streams is very complicated. Nonetheless, we have questions about what factors were considered and utilized in the model. For example were factors such as the ability for large wood left on site to trap sediment included in the model predictions? The FEIS should discuss in more detail what factors the USFS input into the WEPP model to arrive at the final calculations of sediment delivery presented in Table III-73.

Increases in sediment delivery and routing through a significant number of stream networks is likely the most significant management-induced effect on water quality. Accordingly, the FEIS should also be more explicit about identifying locations on the landscape and the relative effects on temperature as well as on fish species as discussed above.

When the DEIS compares background sediments in the project area to sediment inputs from project-related activities, there appear to be discrepancies among the Tables. For example, the increase in estimated volume of sediments delivered in Alternative 4 is 14%, and in Alternatives 6 and 7, 78% and 31% respectively over the Action Alternative (see Table II-2 on page II-40 - 41). In Table III-72 (page III-243) the DEIS predicts increases of sediment inputs by basin for the first two post-fire years. In the case of the Illinois River / Klondike Creek, the increase is projected to be approximately 8000% over background levels, with most other basins receiving an increase of at least several hundred to several thousand percent. Table III-80 (page III-258) appears to conclude that all of the Action Alternatives contribute about the same level of sediment to streams. The FEIS should clarify these apparent discrepancies and summarize the relationship between background, post-fire, and project related sediment delivery.

These same tables present some data in terms of transport capability (Table II-2) or transport capacity of streams (Table III-80). Was a sediment budget developed for each watershed and calculated as part of the WEPP model that each alternative may “use up?” The FEIS should define these two terms and their meaning in the DEIS, clarify whether the WEPP model used a sediment budget, and describe, if appropriate, how this influenced the results.

Table III-80 indicates that the relative impact of all alternatives on chinook and coho salmon are judged to be more or less equal. This does not appear consistent when the data the DEIS presents on the significantly different levels of salvage timber harvest, upland replanting, FMZs, haul road construction, and riparian planting specified for the different alternatives is considered. The DEIS predicts essentially no difference between the “no action” alternative and Alternative 6, which proposes the highest volume of timber salvage. The FEIS should clarify why impacts to chinook and coho salmon were judged equal when sediment inputs were radically different.

Large Wood in Aquatic Systems

The FEIS should explain how each alternative affects the recruitment of large wood into streams by watershed in the Biscuit Fire perimeter and specifically compare riparian and upslope sources. At issue is whether there would be an adequate supply of large wood over time for recruitment into stream channels.

As the DEIS discusses on page III-266, large wood is widely recognized as a critical component of fish habitat and stream forming processes. Wood is important to the physical, chemical and biological function of ecosystems. Large wood, whether live or dead, provides nesting, foraging, and rearing habitats and dispersal and recruitment corridors for dozens of species. It stores carbon, providing nutrients and elements essential for plant growth, provides nurse logs for new plant growth, conserves available moisture, moderates surface temperatures, retains genetic legacies,

protects against disturbance, holds soil and reduces erosion. An abundant quantity of large wood creates this complexity and facilitates the recovery of fisheries and large scale, high intensity fires are often the discrete events that set up systems for recovery.

The Northwest Forest Plan (1994 Record of Decision, Aquatic Conservation Strategy - page B9) requires protection of headwater riparian areas so that debris slides and flows contain coarse woody debris and boulders necessary to create the variety of channel depths and morphological complexity, that are, in turn, necessary to provide favorable conditions for fish habitat downstream.

The levels of existing and future downed wood in the Biscuit Fire area will have a significant impact on sediment loading and the long-term health of aquatic habitat in the burn area and in downstream areas. Montgomery et. al. (2003) showed that the sediment retained on site behind large downed wood may be fifteen times greater than what is transported downslope. In addition, large wood is critical for the beneficial deposition of sediment and other substrate within stream channels. Large wood removed from the system will take multiple decades or longer to replace and may cause long-term, adverse impacts to water quality and fisheries.

Stand replacing fires and other large scale disturbance events cause a short-term increase in sedimentation rates (<10 yrs) and attendant impacts to fisheries and other aquatic organisms. After sedimentation levels return to pre-disturbance levels, fish production in recolonized areas can increase significantly provided that adequate large wood remains in the system (Bruce Reiman 2003: Fire and Aquatic Ecosystems). Two keys to aquatic system recovery are system complexity and resiliency and both can be tied to large wood availability.

Timber harvest and salvage operations on downstream private forest lands have removed much of the present and future large woody debris from stream systems. The ODFW's 1999 study of Stream Habitat Conditions in Western Oregon (Monitoring Program Report 1999-1) found major deficiencies in large wood levels on private lands, noting that riparian corridors on private lands were 94% deficient in future sources of large wood (Source 1). Since 1995 approximately \$30 million has been spent by the Oregon Plan partnership for riparian and instream enhancement projects on private lands. One of the current challenges is to ensure a supply of wood large enough to persist in stream channels long enough to provide the hydrologic conditions necessary for fish habitat. USDA Forest Service and BLM lands are generally the only source of wood large enough to stay in the larger streams. It is particularly important that U.S. Forest Service lands in the Biscuit Fire perimeter, at the headwaters of several large watershed systems, continue to supply large wood to downstream waters.

While wood contributions from riparian reserves is critical, large wood originating outside of riparian areas is also a key to stream hydrology, fish habitat and water quality on Federal and downstream private lands. McGarry and McDade, in two large wood studies that quantified the delivery and distribution of large, instream wood in Western Oregon, found that large wood inputs from near-stream riparian areas made up only about half of the total, with the other half coming from up-slope source areas farther from streams. Benda and Sias (1998) also found that wood from debris flows can overwhelm all other sources to a channel or valley floor locally in time and space, constituting the dominant large wood source for a decade or as long as many decades (Source 4).

Key Watersheds

The NWFP established a system of Key Watersheds serves as crucial refugia for maintaining and recovering habitat for at-risk stocks of anadromous salmonids and resident fish species (FEMAT V-46, 50, 51). These refugia contain areas of good habitat and degraded areas with high restoration potential that serve as part of the foundation for the Aquatic Conservation Strategy (ACS). The network of Tier 1 Key Watersheds identified on forest lands in the NWFP area were specifically selected for directly contributing to conservation and recovery of habitat for at-risk anadromous salmonids and resident fish species. These Key Watersheds also provide high quality waters and are particularly important as strongholds and refugia after disturbance events.

While the Biscuit Fire killed a large number of trees, the fire may over the long-term improve and rejuvenate habitat for salmonids. The ability of Key Watersheds and roadless areas to serve as refugia and areas for re-colonization by salmon will be largely dictated by the structural complexity of the post fire aquatic system. Preservation of large wood in Key Watersheds is critically important to State and regional salmon conservation and restoration efforts.

The FEIS should adequately discuss the effects of the alternatives on designated Key Watersheds. The FEIS should more specifically, explain what the effects from the prescriptions and treatments associated with each alternative would be on these Key Watersheds, and specifically describe how each alternative effects water quality and fish species of concern in each affected Key Watershed. The FEIS should also discuss what consideration was made to avoid or minimize salvage in Key Watersheds. EPA strongly recommends selection of an alternative that precludes or severely limits salvage operations in Key Watersheds.

Riparian Zone Planting

The FEIS should explain how the prescriptions for riparian area plantings were derived for each alternative and what actual benefits to shade and water temperature amelioration are predicted for them in each alternative that normal plant regrowth would not provide. Alternative 4, which emphasizes watershed restoration, has the least amount of riparian planting. The FEIS should also explain why an identical amount of 2,899 acres (Table III-83) was selected for alternatives 2, 3, 5 and 7.

Commercial Wood Products

The NWFP established matrix lands outside of reserved areas, as lands “in which most timber harvest and other silvicultural activities will be conducted” (1994 NFP ROD - p. 7) and that these salvage activities designed to produce fiber as a commodity should be focused primarily within these Matrix lands. EPA supports Alternatives 2, 4, and 5 because they focus salvage activities within these Matrix lands designated by the NWFP for timber production. The DEIS (III-329) indicates that approximately 402 million board feet of dead timber lie within Matrix land allocations in the Biscuit Fire perimeter. (It is not clear whether volume within Riparian Reserves was included

or withdrawn from this Matrix volume estimate). Table III-115 indicates that over 95% of this 402 million board feet lies within 2 miles of existing roads, which could be salvaged easier and with less cost than timber at a greater distance from roads.

For some land allocations outside of Matrix designation, salvage may be permitted but only where it is specifically designed to meet the objectives and Standards and Guidelines that apply to Congressionally Reserved Lands (e.g., Wilderness, Wild and Scenic Rivers). For example, the NWFP (ROD, pages C-13, C-14) states that Salvage in Late Successional Reserves is only appropriate where it would not impede or would accelerate conditions that contribute to high quality habitat for Late-Successional species now and in the future.

The DEIS notes on page I-1 that an important goal of the Forest Plan is to “provide a sustained yield of resource outputs that will promote the stability of local communities.” EPA supports this goal and believes that alternatives 2, 4, and 5 meet this intent. Alternatives 6 and 7, and possibly 3, however, provide a large pulse of timber over a limited time frame that exceeds local mill capacity. This pulse of timber may have the effect of depressing timber prices on adjacent private lands. Social and public service levels may also be problematic under these alternatives. In addition, the DEIS indicates that Net Revenues (Less PTS 25% and near-term costs) are the lowest under Alternatives 6 and 7 (-\$15,269,995 and -\$14,453,578 respectively) than for any of the other salvage alternatives. Helicopter logging in IRA’s under these two alternatives raises the cost of logging and may reduce available funding for associated restoration work.

The Biscuit Fire was a major disturbance event and a significant opportunity to harvest timber exists. EPA supports an increase in harvest activities given the current post fire opportunities to benefit local communities. However, the levels of salvage/thinning volume proposed under Alternatives 3, 6 and 7 range from 251 mmbf to 1.02 billion board feet over a compressed period of time (approximately 2 years). This represents a 600% to a 2,500% increase over the annual volume offered during the last ten years. Other scheduled or unscheduled harvest may be added to these projections. EPA does not believe that these levels of harvest are consistent with water quality, fishery, wilderness and ecological goals of the NWFP.

Fire and Fuels

EPA supports fuels treatments that focus on protecting fire fighters and homes. Treatments are especially important on the Wildland-Urban Interface (WUI). Prescribed burning and fuels treatments in some other areas may also be desirable in some fire-adapted plant communities. However, fuels treatments without changes to fire suppression policies will not likely be successful because of cost and because fire is an inherent component of fire-adapted ecosystems. The DEIS indicates that 225,000 acres burned at high intensity (>75% mortality), while the remaining 279,980 acres of the Biscuit Fire area burned at low to moderate intensity. It is not clear what portion of these acres included plant association groups where high intensity fire is the natural fire regime. The FEIS should clarify which areas within the fire perimeter the USFS considers adapted to higher fire intensity, and if this had a factor in the planning of prescribed burns.

The FEIS should also disclose the fuel reduction benefits provided by the Biscuit Fire. The cost of prescribed fire can range from \$50 to \$100/acre in the back country and \$200 to \$800/acre in WUI areas (USDA Forest Service Regions 5 & 6 costs for prescribed fire; personal communications with EPA Region 10 staff Dec. 2003). At \$100/acre almost \$28,000,000 in fuel reduction benefits were achieved in the low and moderately burned Biscuit Fire areas. Factoring in the higher cost of WUI treatments and acreages where high intensity fire is the appropriate fire regime would increase the amount of fuel reduction benefits.

Smoke Management

The DEIS mentions that the Kalmiopsis Wilderness area is designated a Class 1 airshed under Sec. 164 of the Clean Air Act and it has more stringent emissions limits. The FEIS should disclose how the Oregon Smoke Management Plan requires present and potential emission sources to take into account these more stringent requirements. EPA supports the use of prescribed fire where prior notification, Class 1 airshed and smoke management plan requirements can be met.

It appears that the DEIS (Table III-14) assumed that prescribed fire, FMZs, and Road-Associated Fire Lines (RAFLs) would reduce the risk of air quality impacts from wildfire, and ranked the alternatives which employ more of these practices to have the least impact on air quality. This is based on the assumption that they would reduce chances of a stand-replacing wildfire. We acknowledge that there are tradeoffs between wildfire and prescribed fire impacts. However, the FEIS should consider the impact of prescribed fires and FMZs / RAFLs separately, because while air quality impacts from these prescriptions can be modeled fairly accurately, predicting the probability of air quality impact from wildfire based on the future performance of management practices is speculative. Additionally, the FEIS should explain the criteria used for the overall ratings of L, M and H on Table III-15.

Fuels Management Zones

Fuels Management Zones (FMZs) ranging from approximately 200 - 400 feet in width are proposed for all alternatives except no action and Alternative 3. Creation and maintenance of an extensive FMZ network is an untested strategy that could impact water quality and wildlife habitat. In most cases we recommend concentrating FMZs near the WUI. FMZs outside these interfaces should be focused in areas where impacts to water quality and sensitive habitats will be minimized and where the plant association groups are adapted to frequent fire return intervals. Since FMZs will require long term maintenance they should only be proposed where there is reasonable certainty that funding will be available to maintain them. Existing information strongly suggests that FMZs that are not properly maintained over the long-term, can increase the risk of fire as slopes are opened up to sunlight and undergrowth is stimulated.

EPA supports using existing roads as the foundation for FMZs. In addition, we suggest that the FEIS consider the use of staggered fuel breaks. This approach would facilitate salvage/thinning operations, focus treatments where human caused ignitions are most likely, is already tied to the transportation network for future suppression and prescribed fire efforts, and would greatly limit the

environmental impacts associated with treatments.

Mitigation

The DEIS notes in a number of locations that effects would not be significant with mitigation added. Several examples include the Wilderness Section, where the DEIS states that mitigation measures in FMZs located in IRAs would allow the roadless character of IRAs to be preserved; the Fisheries Section, where the text states that impacts to salmonids from the alternatives would result in beneficial impacts if all proposed restoration and improvement maintenance is implemented; and the Wild and Scenic Rivers Section, where the conclusion that there would be no effect on either designated or eligible streams is based on implementing mitigation.

The FEIS should disclose and describe the impacts without compensatory mitigation. When needed, the FEIS should then describe proposed mitigation and how it would compensate for the predicted impacts. We understand from conversations with USFS staff that mitigation in the DEIS sometimes means avoidance measures such as setting and marking buffers around riparian areas, or minimization measures such as Best Management Practices for controlling erosion as well as compensatory mitigation, which is typically constructed after project completion to replace lost natural resource functions over time. The FEIS should specifically describe how mitigation would work to preclude a resource impact, and when applicable, clearly differentiate avoidance and minimization measures from mitigation. The source and certainty of mitigation funding should also be discussed in the FEIS.

Management of Inventoried Roadless Areas (IRAs) and Wilderness

The project will have irretrievable impacts to wilderness potential in some IRAs, permanently removing them from potential future consideration as wilderness for planning purposes. The DEIS (page III-363) states that Alternatives 6 and 7, by proposing timber salvage in several roadless areas irreversibly commits 36,850 and 12,355 acres of IRAs to multiple use management. These roadless areas surround the Kalmiopsis Wilderness. With the cumulative impacts described in the DEIS, the affected acreage in IRAs may be considerably greater.

Alternative 6 causes most wilderness attributes to be changed. Under alternative 7, the DEIS concludes that the North Kalmiopsis attributes would not change, yielding a further conclusion that adverse effects to 25,000 acres from salvage logging would not reduce the future wilderness potential of the North Kalmiopsis, and possibly improve the Manageability attribute by resolving some irregular boundaries. The evidence presented in the DEIS does not adequately explain how intensive salvage logging would leave overall wilderness potential unchanged and the manageability wilderness character attribute improved for the North Kalmiopsis. EPA concludes based on information presented in the DEIS that Alternative 7 is likely to have a significant impact on wilderness potential in the North Kalmiopsis IRA.

Wild and Scenic Rivers

The DEIS effects analysis on designated and eligible wild and scenic rivers under the Wild and Scenic Rivers Act relies on the mitigation proposed for water quality, fish, botanic, scenic, or recreation values to conclude that none of the proposed alternatives would adversely effect either designated or eligible rivers in the project area. Before considering mitigation, the FEIS should first clearly identify how each alternative could potentially adversely affect either values of present or eligible Wild and Scenic Rivers. Then the FEIS should describe how the proposed mitigation would compensate for lost values to Wild and Scenic Rivers. The DEIS presently states that many of the eligible rivers and all designated rivers possess outstandingly remarkable values for fish and water quality as defined by the Act. Elsewhere in the DEIS, significant impacts to water quality and fish habitat are predicted, but the analysis does not describe how proposed mitigation would compensate for those impacts. Based on the information presented in the DEIS, EPA cannot concur with the DEIS determinations of no effect to outstandingly remarkable values under the Wild and Scenic Rivers Act.

Port Orford Cedar and Invasive Species

Another concern is the potential for the introduction of invasive species into roadless areas in general, and about the effect of the preferred alternative on Port Orford cedar in particular. As the DEIS discusses, this species is already being greatly affected in the project area by the exotic root pathogen *Phytophthora lateralis*, which causes widespread Port Orford cedar root disease and tree mortality in stands where it occurs. The DEIS describes the occurrence of Port Orford cedar in the Siskiyou National Forest and states that Port Orford cedar communities are among the most diverse in the region. The species is found within many different plant communities, and provides lasting structure to the forest ecosystem. Importantly, it is usually found near streams and is an important contributor of large wood, and channel complexity to streams. Port Orford cedar, as the DEIS reports, also has high economic value. EPA strongly recommends that the USFS select an alternative that minimizes or prevents the spread of invasive species, in particular *Phytophthora lateralis*.

Under alternatives 6 and 7, unlike other alternatives, salvage logging would take place in IRAs, presently unaffected by the pathogen. The DEIS states that salvage logging would take place in presently uninfected watersheds, greatly increasing the risk of spreading the disease to these watersheds. Streams and temporary roads such as those proposed for Alternatives 6 and 7, can help spread *Phytophthora lateralis*. Mitigation measures listed in the DEIS include pre-construction survey of Port Orford cedar areas, completion of all work in uninfected areas first, and vehicle and equipment washing. EPA is not aware of any data that demonstrates the effectiveness of these measures in stopping or inhibiting the spread of the pathogen. The FEIS should present any available data on the effectiveness of these measures, and explain how this might reduce the risk of spreading *Phytophthora lateralis* into roadless areas.

The FEIS should also be consistent with Executive Order 13112 on Invasive Species and the conclusions of the FEIS and Record of Decision (ROD) for the Bureau of Land Management (BLM) entitled, Port-Orford-Cedar Management Plan Implementation, Coos Bay, Medford, and Roseburg Bureau of Land Management Districts, and the Siskiyou National Forest. This management document

is a joint effort between BLM and the USFS to agree to work cooperatively on long-term prescriptions for the Port-Orford cedar within southwestern Oregon. We understand that the FEIS/ROD will specify that BLM and the USFS must work in cooperation to maximize the protection of uninfested areas of Port-Orford cedar in Southwestern Oregon against *Phytophthora lateralis* by avoiding entry into these areas. EPA reviewed and commented on this DEIS and our comments supported the avoidance of uninfested areas since no current silvicultural prescriptions exist for Port-Orford cedar at the landscape level.

Consultation with Native American Tribes

The DEIS discusses heritage sites that might be affected by the proposed salvage operations, some of which are characterized as prehistoric lithic scatters or village sites. The FEIS should discuss steps the USFS plans to take before project activities begin to consult government-to-government with Native American tribes in the area.

The tree species of Oregon white oak, California black oak and sugar pine have traditionally been used by the Siletz and Grand Ronde Tribes who inhabit the project region. Where opportunities exist for combining FMZ treatments with propagation of such plants used by Native Americans, EPA strongly supports their proposed planting and culturing and strongly suggest that the USFS pursue them. This is especially important for those areas where subsequent maintenance burning of FMZs would be needed. The FEIS should include discussion of any coordination with Native American groups on this matter.

Additional Specific Comments

Page II-33: Under Alternatives 2, 5, and 7, the DEIS recommends reducing maintenance on 5 miles, 25.6 miles and 25.6 miles of roads, respectively. The FEIS should explain why this is being done.

Page III-75: The ROD should commit to Best Management Practices (BMPs) for site-specific erosion and soil compaction rather than leaving it to the discretion of a logging contractor.

Page III-76: Table III-23 is difficult to interpret. Can project related impacts to soil compaction be considered separately? Table III-24 should specify whether “decommissioning” means obliterated, what “stabilized” means, and what “closed” means. Does “closed” mean gated or signed and not managed; gated or signed and managed? The FEIS should be more specific about future disposition of these roads.

Page III-77: The DEIS states that with Alternatives 5 and 7, leaving incidentally felled green trees and slash onsite helps mitigate surface erosion. Would green trees incidentally felled be left onsite with any of the other alternatives?

Page III-78: Soil erosion on soil plots should be compared with undisturbed sites in the area.

Page III-121: The DEIS states the number of acres of skyline and tractor yarding in an alternative is perhaps the best measure of negative effects. Alternative 2, 4, 5, and 3 have the most tractor logging. The FEIS should also compare this measure with the total acreage of estimated ground disturbance among the alternatives as another, possibly better overall measure of negative effects to species.

Page III-153: The text states that the threat from future wildfires to live trees larger than 9" dbh is highest in alternatives 1, 2, 3, and 6. Table II-42 does not appear to help explain this result. One of the categories in this table should be acres of stands supporting large trees with high crown-fire potential by alternative. If item 4 on page III-152 (regarding survival of live trees in fire) is true, it appears that low intensity fires would remain small, and if the Forest Service is required to put them out, high intensity fire would eventually destroy stands moving toward the late-successional condition. On page III-155, Table III-43 has small values, not large enough acreages to explain the comparative rankings on the bottom row. The FEIS should also define how the "break points" between L and M and H were derived.

Page III-245: The text states that sediment delivery estimates from prescribed fire were not incorporated into management related effects. The FEIS should explain why this was not done. All management actions proposed with each Alternative that could have an effect on sediment delivery should be included in the sediment delivery estimates for each Alternative.

Attachment 1:

2002 303(d) Temperature Listings in the Biscuit Fire Project Area ODEQ 303(d) List vs DEIS

<i>ODEQ 2002 303(d) List</i>	<i>DEIS - Table III- 65, page III-244</i>
Briggs Creek	Briggs Creek
Collier Creek	Collier Creek
Illinois River	Illinois River
Indigo Creek	Indigo Creek
NF Indigo Creek	NF Indigo Creek
Josephine Creek	Josephine Creek
Lawson Creek	Lawson Creek
Silver Creek	Silver Creek
SF of Silver Creek	SF of Silver Creek
NF of Silver Creek	NF of Silver Creek
Chetco River	Chetco River
Pistol River	Pistol River
Panther Creek	Deer Creek
Klondike Creek	
Rancherie Creek	
Fall Creek	
Canyon Creek	
SF Rough and Ready Creek	
Whiskey Creek	
Little Six Mile Creek	
Six Mile Creek	
Soldier Creek	

**U.S. Environmental Protection Agency Rating System for
Draft Environmental Impact Statements
Definitions and Follow-Up Action***

Environmental Impact of the Action

LO – Lack of Objections

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC – Environmental Concerns

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO – Environmental Objections

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU – Environmentally Unsatisfactory

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 – Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 – Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 – Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.