



**NORTHWEST ENVIRONMENTAL DEFENSE CENTER**  
**10015 S.W. Terwilliger Blvd., Portland, Oregon 97219**  
**Phone: (503) 768-6673 Fax: (503) 768-6671**  
**[www.nedc.org](http://www.nedc.org)**

Carolyn Wisdom, District Ranger  
Silver Lake Ranger District  
P.O. Box 129  
Silver Lake, OR 97638

November 17, 2003

**RE: Comments on the Toolbox Salvage Sale Draft Environmental Impact Statement**

Dear Ms. Wisdom,

The Northwest Environmental Defense Center (NEDC) has numerous concerns related to the proposed actions described in the Toolbox Salvage Sale Draft Environmental Impact Statement (Toolbox DEIS or DEIS). The DEIS often ignores or fails to utilize best available science and contains numerous questionable assumptions, unsubstantiated conclusions, and unsupported recommendations. We do not believe it provides an adequate basis for management within the Silver and Toolbox Fire areas and is simply used to justify additional logging in sensitive and impaired watersheds on the Fremont National Forest (FNF).

On July 12, 2002 a lightning storm ignited 67 fires on the Fremont-Winema National Forests, two of which became the primary fires within the Toolbox Complex. Approximately 85,000 acres burned within the Toolbox Complex, including 49,500 acres of National Forest Land, 8,000 acres of BLM land, and 27,500 acres of private land. The Toolbox DEIS states that the overall objective of the proposed actions is to promote recovery of the Toolbox Fire Complex area. In accordance with that overall objective, the DEIS then lists its six components to the purpose and need for the project, the first of which is to “maintain sufficient amounts of snag and down wood created by the fire to provide effective habitat for dependent species, while promoting recovery of live forest habitat that was lost as a result of the fire.” *DEIS*, 1-8.

Current fuel loading is low in most of the high severity burned stands in the project area and will only begin to increase after ten years or more. Until and after that time, the snags and logs in burned stands play vital roles in natural recovery processes. Imposing the severe disturbance of salvage logging as proposed would put recovery processes at risk and cause damage to multiple ecosystem components. There is absolutely no valid ecological reason to log right now for the sake of fuels reduction. The rush to log in burned stands is strictly an economic matter of trying to extract the maximum timber value. *See Beschta, et al., 1995. Wildfire and salvage logging: recommendations for ecologically sound post-fire salvage logging and other post-fire treatments on Federal lands in the West. Eugene, OR: Pacific Rivers Council.*

We conclude that the proposed actions will not achieve the projects' stated goals and

objectives but will instead likely cause unacceptable environmental impacts and increase the risk of catastrophic fire rather than decrease it. Therefore, we object to the proposed actions outlined in the Toolbox DEIS and urge you to develop a management plan for the area based on restoring natural fire processes and watershed function while reducing fire risk adjacent to communities. The DEIS must develop and analyze an alternative that will adequately protect the Toolbox Fire landscape, actively restore some parts of the landscape, allow passive restoration to occur on the rest of the area, reduce risk of fire-related injury and damage to private property, and be fiscally responsible.

The Forest Service cannot ignore its role as trustee, responsible for managing the nation's natural resources. 42 U.S.C. § 4331(b)(1). This duty includes managing natural resources "without degradation, risk to health or safety, or other undesirable and unintended consequences." *Id.* at § 4331(b)(3). The Forest Service is also responsible for carrying out Congress' promise of providing aesthetically pleasing surroundings for all Americans. *Id.* at § 4331(b)(2). Moreover, each person at the Forest Service is responsible for contributing to the preservation and enhancement of the environment. *Id.* at § 4331(c). Consequently, forest managers must balance these goals with the Fremont National Forest Land and Resource Management Plan (FLRMP) objectives. Critical analysis, necessary to ensure that these Congressional policies are met, is lacking in the Toolbox Salvage Sale Draft Environmental Impact Statement. As a result, the following issues arise.

## **I. FIRE AND FUELS**

The "Fire and Fuels" section of the Draft Environmental Impact Statement for the Toolbox Fire Recovery Project raises many issues and questions regarding the wisdom of the proposed actions.

The first "Purpose and Need" statement says that the project will "[r]educe the risk of adverse effects on vegetation and soils that can result from long residence heat caused by heavy down fuels." *DEIS*, 3-3. It appears that the project will reduce a possible future risk of adverse effects stemming from fires with an immediate state of adverse effects caused by commercial logging.

The second "Purpose and Need" statement says that the project will "[d]evelop a long-term sustainable forest that is maintainable by re-introduction of fire." We question how this particular project will move us towards that goal. Unfortunately, this project simply appears to be a written justification for post-fire commercial salvage operations that will harm the forest more than help it. Please explain how this project meets the second "Purpose and Need" statement.

In the "Fuel Load-Background" section, the DEIS states that, "[i]t is generally accepted that fire suppression and past large-tree harvesting operations have contributed to excess tree densities and fuel loads in ecosystems that developed with relatively short fire intervals." *DEIS*, 3-5. We agree. Although, we question how post-fire commercial logging will reverse this trend. The preferred alternative will not address the USFS policy of fire-suppression and will allow significant levels of large-tree harvesting in an area which is vulnerable to adverse affects due to the recent burn. In supplemental NEPA analysis, please discuss how the project will address the

issues of fire suppression, and how the project's current large-tree harvesting will help solve the problem of fire-prone forests when "past large-tree harvesting operations" created the problem?

In addition, the "Fuel Load-Background" section begins to use the term "fuel" in a manner which brings up many questions. For example, the DEIS states, "[i]f lower and mid-elevation ecosystems are to experience a disturbance regime similar to that which they are adapted, the fuels must first be reduced to keep fire effects within an historic range. One goal of this project is to manage future fuel loads and fuel continuity to be within a manageable range for both fire control and ecosystem processes." *DEIS*, 3-6. By measuring fuel loads in tonnage of downed woody material per acre, the DEIS does not address the fact that different forms of wood and other organic material burns differently and is more or less combustible. It should be obvious that a snag or fallen log will burn much differently than broken branches of less than three inches in diameter. As the USFS well knows, one of the reasons why logging increases the risk of fire is because it creates more easily combustible fuels by increasing the presence of slash and wood fragments.

In supplemental NEPA analysis, please discuss why the DEIS fails to adequately and consistently discuss the different types of "fuel" and the project's impacts on the risk of severe fire effects, how removing large pieces of downed woody material from the forest floor will impact the ability of the forest floor to hold and retain moisture, and how the removal of standing trees decreases canopy closure in the forest and will result in an overall drying out of the more combustible types (three inches and under) of downed woody fuels.

On page 3-7, the DEIS states that the project analysis will "[a]ssum[e] that 10 percent [of overall slash] would remain on site after harvest that would result in 68 pounds of slash remaining per tree." Toolbox DEIS at 3-7. There is no support for this conclusion in the record for this project. In supplemental NEPA analysis, please address how this left-over slash will affect the short and long term risk of fire in the units.

The DEIS states that, "it was determined that a net increase of about 1.4 tons per acre consisting of branch wood, a few tops, and breakage would occur in a typical ground-based salvage unit. Helicopter harvest units used the same calculations, with the additional assumption that slash amounts left behind would include tops (these would typically not be removed to the landing). In helicopter units a net increase of about 34 tons per acre, consisting of branch wood, tops and un-merchantable boles would occur." *DEIS*, 3-7. For a project to reduce the amount of fuels in the area, this is an unacceptable amount of fire prone material left in the project area. This fire prone material will have been created in the process of commercially logging the area of large trees, which are the most resistant to fire.

In the DEIS, please discuss how much of the project will be helicopter logged, how logging-created slash will be treated, and how logging slash will affect the feasibility of helicopter logging in these units.

The DEIS states, "It is the objective of the Fremont Forest Plan that all wildfires within the analysis area receive a suppression response. (Fremont Forest Plan, p.118)." Toolbox DEIS at 3-7. This is, of course, one of the primary problems our public lands are facing today. Recent

scientific studies counsel against this approach, and the Forest Service should reexamine the LRMP guidelines to reflect even the Forest Service's admitted need to reintroduce fire into these ecosystems.

On page 3-11, the DEIS states that, "[i]n forested areas most of the biomass is contained in tree boles and generally unavailable to burn except where fuels are ideally arranged." How does the project justify its suggestion that overall tonnage of wood materials needs to be logged and hauled out in order to decrease fire risk with this data? Is the project attempting to "ideally arrange[]" more biomass for burning by commercially salvaging the area? I thought that the primary purpose for this project was to decrease the fire risk.

On page 3-22, the DEIS discusses the "Action Alternatives." In particular, we are concerned about the disclosed impacts on the "Ground Based Units." The DEIS admits that the short-term effect of commercial salvage operations will be to increase the risk of fire hazards in these units. However, the DEIS simply states the post-salvage operations will dispose of this increase. Please address how the USFS will actually ensure the post-salvage slash operations will actually take place and be effective.

The DEIS states that, "Units that are identified for helicopter would not likely be whole tree yarded due to the associated additional costs." Toolbox DEIS at 3-22. Does this mean that the tops, or other parts, of standing trees would be left in the unit to increase the amounts of small-woody fuels? How does this contribute to the goal of reducing fire risk?

The DEIS states that, "The overall effect of the harvest, the post harvest slashing and the additional fuel treatment would be to return the area treated to a fire safe condition." Toolbox DEIS at 3-25. What is your scientific evidence for this statement? NEPA requires scientific integrity in decision making. 40 C.F.R. § 1502.24.

We are particularly concerned that the Toolbox DEIS leaves open the possibility that only 14" dbh and greater poles will be brought to the landings, with everything else left on the ground in the units. The agency's data shows that this eventuality would allow even more post-salvage fuel loading in the area (29% more!!). How does this alternative meet the purpose and need of the project, which is to reduce hazardous fuels in the planning area? Why does the DEIS leave open the option of leaving even more slash and small diameter fuels in the units than the 9" dbh plan?

Funding for the fuels treatment actions in the project is not guaranteed. DEIS, 3-26. No actions should be allowed or taken until it is fully apparent that mitigation and post salvage slash treatment operations are fully funded. If the project is not fully funded, would parts of the project be enacted in advance of the funding? Would the USFS allow commercial salvage operations to take place before funding was available to guarantee slash treatment actions?

How does the USFS plan to fund all of the work associated with this project? Is the USFS planning on using other funds outside of timber sale funds for this project's direct costs? If so, under what statutory or common law authority?

The DEIS states, “On a landscape scale, particularly in relation to the effect of fuel loads on fire behavior, differences between action alternatives are minimal.” Toolbox DEIS at 3-27. What is the scientific basis for this comment? How can this be so? The differences in the “General Effectiveness of the Fuels Treatments” quoted on page 3-27 range from 10%-75%. How can there be no difference on a landscape level?

The DEIS fails to incorporate adequate scientific backing for analysis and conclusory statements throughout the document. Federal law does not allow unsupported analysis or conclusory statements. In fact, NEPA requires the agency to provide high quality science to support an environmental analysis. 40 C.F.R. § 1502.24. Furthermore, one of the Forest Service’s requirements under NEPA’s is to disclose information to insure that both the agency has carefully and fully contemplated the environmental effects of its action, and that the “public has sufficient information to challenge the agency.” Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1151 (9th Cir. 1998); Robertson v. Methow Valley Citizens, 490 U.S. 332, 349 (1989). Without such information, the public cannot adequately know how to comment on the action.

The Toolbox DEIS does not adequately analyze the cumulative impacts of prior actions on the Fire and Fuels elements within the project area or how the project will impact those elements. At the end of the section, the DEIS lists prior actions affecting Fires and Fuels in the area. However, it does not analyze how they affected the Fires and Fuels elements. NEPA requires this analysis. 40 C.F.R. § 1502.16

## **II. WATERSHEDS AND AQUATIC HABITAT**

NEDC is concerned about the effects of the proposed action on water quality. The USFS acknowledges that the proposed salvage and connected actions could adversely affect water quality. NEDC encourages the USFS to reconsider Alternative F, the restoration only alternative. If the USFS insists on implementing an action alternative, NEDC recommends implementation of alternative D because it is likely to have the least significant impact on water quality and fish habitat.

The DEIS suggests that alternative D best addresses water quality and fisheries issues and that alternative H best addresses wildlife issues. This characterization of the alternatives does not recognize the cohesive nature of the entire ecosystem. An alternative that benefits “wildlife” while doing little to improve fish habitat, does not benefit wildlife as a whole. Effects on fish habitat should affect the USFS analysis of wildlife habitat because fish are a subgroup of wildlife and because the entire system is interdependent. An alternative that does little to protect fish habitat cannot be said to benefit wildlife. The USFS should create an alternative that positively affects both “wildlife” and fish.

### **A. Cumulative Impacts**

The USFS must consider the cumulative impacts of the Toolbox and Silver Fires and management projects in the private lands surrounding USFS land. The agency has an obligation under NEPA to assess the direct, indirect, and cumulative impacts to all species that will be

affected by the proposed action. 40 C.F.R. § 1502.16. The Forest Service also has an obligation to obtain missing information or state why it could not be obtained if that information is necessary to make an informed decision. *Id.* § 1502.22 Due to the checkerboard nature of the area surrounding the Freemont National Forest, the USFS must consider the cumulative impacts of private actions outside the Freemont National Forest in addition to the projected impacts of the proposed action and Toolbox Fire on the watershed.

## **B. USFS Must Aid Habitat Restoration**

The action chosen by the USFS must aid in the restoration of aquatic habitat to comply with the Purpose and Need listed in the DEIS. The DEIS lists as a goal of the proposed action the restoration of riparian areas damaged by the Toolbox Fire Complex. *DEIS* 1-13. Mere maintenance of the status quo following the fire is not adequate because if the USFS considers the cumulative impacts of the fire. (Four fish bearing streams were “significantly impacted.” *DEIS* 1-13.) In combination with the impacts of the proposed action, maintaining the current water quality conditions will not return the streams to pre-fire conditions. Alternatives A, E, & preferred alternative G do nothing to restore the functionality of the upland in terms of roads. *DEIS* S-19. Alternative E also fails to restore large woody debris into the streams *DEIS*, S-20. Because these alternatives do not improve the watershed, but rather maintain the status quo or further degrade the watershed, they should be rejected. Because the USFS may be mistaken in its prediction that the action alternatives will not lead to water quality degradation, alternative A is the best alternative.

A forest-wide fisheries management standard recognized in the DEIS further supports rejection of all action alternatives other than alternative D. The DEIS lists “protection and enhancement of riparian areas... which emphasizes fish and wildlife habitat and water quality” as one such strategy. (DEIS 3-260). Fish habitat cannot be enhanced, or for that matter protected, when the habitat was degraded as a result of the fire and the USFS is doing nothing to *restore* the habitat. Again, perpetuation of the status quo is not adequate to protect fish species.

Redband trout is listed as a sensitive species on the Regional Forester Sensitive Species List. (DEIS 3-261) and a management indicator species (Freemont National Forest Plan 4-54), but no survey was done in conjunction with the preparation of the DEIS. To ensure that viable populations are maintained, the USFS regulations require that the Service identify management indicator species (MIS) and that “[p]opulation trends of the management indicator species will be monitored and relationships to habitat change determined.” 36 C.F.R. § 219.19(a)(6). Without initial surveys, the population cannot be properly monitored to determine the effects of the proposed action. Monitoring is “essential to verify and, if necessary, modify the forest plan’s assumptions about the effects of timber harvesting and other management activities on wildlife... In order to meet the monitoring requirement, planners will need to obtain adequate inventories of wildlife populations and distribution.” Charles F. Wilkinson and H. Michael Anderson, *Land and Resource Planning in the National Forests*, 304 (1987).

The Ninth Circuit has stated that the duty to ensure viable or self-sustaining populations “applies with special force to “sensitive” species.” *Inland Empire Public Lands Council v. United States Forest Serv.*, 88 F.3d 754 (9<sup>th</sup> Cir. 1996) citing *Oregon Natural Resources Council*

*v. Lowe*, 836 F.Supp 727, 733 (D.Or. 1993). NFMA clearly directs the USFS to create regulations to “insure research on and (based on continuous monitoring and assessment in the field) evaluation of the effects of each management system to the end that it will not produce substantial and permanent impairment of the productivity of the land.” 16 U.S.C. § 1604(g)(3)(C); *Sierra Club v. Martin*, 168 F.3d 1 (11<sup>th</sup> Cir. 1999).

In light of this direction, NFMA’s regulations require inventorying and monitoring on the National Forests under 36 C.F.R. §§ 219.12(d) and (k) as well as 36 C.F.R. §§ 219.19(a)(6), 219.26, and 219.19(a)(2). The regulations state “each Forest Supervisor shall obtain and keep current inventory data appropriate for planning and managing the resources under his or her administrative jurisdiction.” *Id.* § 219.12(d). The regulations further require that “at intervals established in the plan, implementation shall be evaluated on a sample basis to determine how well objectives have been met and how closely management standards and guidelines have been applied.” *Id.* § 219.12(k). To ensure biological diversity, the regulations specifically require that “[i]nventories shall include quantitative data making possible the evaluation of diversity in terms of its prior and present condition.” *Id.* § 219.26.

The multiple mandates in NFMA and its implementing regulations requiring population monitoring and surveying is clearly unmet by the USFS. Because of the difficulty in monitoring all the species on the forest, NFMA regulations recognized that management indicator species (MIS) could be used as surrogates for other species with similar habitat needs. The USFS, however, has failed to even meet the minimal requirement to monitor MIS. Additionally, the USFS admits that the Proposed Action could impact fish species or their habitat, but will not likely contribute to federal listing as threatened. Alternative D does the most to reduce this risk because RHCA logging is most limited and overall road density is reduced under this alternative.

### **C. Sedimentation**

The DEIS recognizes that Section 208 of the Federal Water Pollution Control Act of 1972 “specifically mandates identification and control of silvicultural related non-point sources of pollution” and that Section 404 of the Clean Water Act requires states to implement programs to control non-point source pollution. Alternatives C and E should be eliminated because both you increase sediment inputs in the short term. *DEIS*, 3-367. The Clean Water Act does not permit “short term” degradations of water quality and any project that proposes such degradations is unlawful. 33 U.S.C. § 1323(a).

Furthermore, the Forest Service must consider the implications of the recent District Court decision from the Northern District of California, *EPIC*. Under this new decision, the Forest Service must obtain a National Pollutant Discharge Elimination System (NPDES) permit from the Oregon Department of Environmental Quality (DEQ) for all point source discharges. Under the CWA, all discharges from a discernable conveyance, like a ditch, require a permit. 33 U.S.C. § 1301. The Forest Service must survey the project area and contact DEQ to determine if a permit is necessary.

## **D. Roads**

By constructing new roads and leaving existing roads in the project area, the USFS risks increasing sedimentation in the watershed. Although the USFS denies that any excess sediment will be generated as a result of the salvage logging activities, it admits that road closure and decommissioning “provide long-term sedimentation savings” *DEIS*, 3-273 and that road decommissioning, particularly in close proximity to streams, would promote improved riparian conditions. *Id.* at S-9. Alternative D is the preferred action alternative because it contemplates the most road decommissioning and closure and the least new road construction of the action alternatives. Alternative D should be altered to eliminate all construction of new roads in order to further decrease the likelihood of additional water quality degradation

## **E. Logging in RHCAs**

The USFS plans to log in Riparian Habitat Conservation Areas (RHCA) under all action alternatives and admits that this logging will likely result in increased sedimentation. The no-action or restoration only alternatives are the preferred alternatives because elevated post-fire sedimentation levels exist and any risk of increased stream sedimentation should be avoided. If the USFS decides to implement one of the action alternatives, alternative D is the preferred because it only provides for logging in roadside hazard areas in the RHCAs, thus reducing the risk of sedimentation and increased stream temperature. Any water temperature increases in the 303(d) listed streams, West Fork Silver Creek and Silver Creek, is not acceptable. The temperature in these streams already exceeds State standards for fish rearing habitat. *DEIS*, 266. Removal of trees, dead or alive, which provide shade to these streams, violates the Clean Water Act by further increasing stream temperature. 33 U.S.C. 1313(d). Because the RHCAs are very sensitive areas, logging in the RHCA should be limited to reduce sedimentation and temperature increases in streams. Although alternative H limits logging in the RHCA, but is not the preferred alternative because it allows excessive logging the in forest as a whole.

## **F. Mitigation Efforts**

To mitigate the effects of sedimentation from the proposed project and the cumulative effects from other projects and the fire, the USFS should consider re-instating the contour felling aspect of the project included in the original proposal. *DEIS* S-9. It is questionable whether the mitigation measures are either adequate or applicable for salvage sales as opposed to the green sales for which the mitigation measures are usually employed.

## **G. INFISH**

In 1995, Inland Native Fish Strategy (INFISH) amended the MNF Land and Resource Management Plan (MLRMP). INFISH provides direction for the protection of riparian habitat in ecosystems containing native fish. INFISH establishes a set of Riparian Management Objectives (RMOs) to protect Riparian Habitat Conservation Areas (RHCAs). These Objectives contain quantitative standards used to achieve eight management goals. *INFISH Decision Notice*, A-2 to A-13. The goals are to “maintain and restore” water quality, stream channel integrity and

instream flows, and support population of well-distributed fish stocks. *Id.* at A-1 to A-2. The Toolbox salvage sale must meet and maintain each of these objectives.

The Forest Service only notes INFISH once in its analysis. *DEIS*, 3-49. The Forest Service fails to indicate how it will meet the INFISH objectives and has not ensured that the project will not adversely affect INFISH RMOs. As discussed *supra*, the Forest Service failed to adequately provide sufficient information for sedimentation, water quality, and water quantity. As such, the agency cannot claim with any validity that RMOs will not be affected. The agency cannot ensure that it is meeting the goals prescribed in INFISH of “maintain[ing] and restor[ing]” water quality, stream channel integrity, and instream flows, and support population of well-distributed fish stocks without providing adequate support in determining the project effects. *INFISH Decision Notice*, A-1 to A-2.

### **III. SOILS**

The Forest Service finds the proposed project’s effects on soil to be minimal. The Forest Service first dismisses the negative findings of a 1997 watershed analysis as an “anomaly.” 3-233. The 1997 survey found 31 to 45 percent of the watershed have “extensive” soil impacts. *Id.* The more recent 2003 study, quite amazingly for an area that has been heavily managed in the past, found absolutely no detrimental soil impacts. *Id.* The Forest Service does not provide information necessary to evaluate this statement. The DEIS fails to present any information regarding the effects of the fire-fighting, including the creation of fire lines, heavy equipment, or retardant drops that could effect not only compaction but the quality of the soil. Numerous studies have found that intense wildfire tends to increase the sensitivity of sites to further soil disturbance. Helvey, J.D. 1980. Effects of a north central Washington wildfire on runoff and sediment production. *Water Resources Bulletin* 16(4):627-634. These cumulative impacts can be substantial and are essential of understanding the existing conditions of the area. 40 C.F.R. § 1508.7. Further, the public cannot know whether these soil types are highly susceptible to erosion or compaction. .

The Forest Service uses Table 3.97 to distinguish between the effects on different soil types. *Id.* at 3-237. Although NEDC commends the Forest Service’s recognition that different parts of the forest contain distinct soil qualities, the Forest Service fails to account for the soil type on 14% of the project area. The Forest Service never discusses the soil type it chooses to ignore, leaving the public to only wonder what the effects of the project a substantial portion of the units. The Forest Service provides absolutely no analysis of the project’s effects on these areas. NEPA does not permit the Forest Service to ignore the effects of the project on portions of the project area. *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1151 (9th Cir. 1998).

Furthermore, although the Forest Service assures that the soil in the project area will remain within the 20% limit for detrimental soil in the Forest Plan, the agency ignores the Forest Plan’s further mandate to maintain and improve soil conditions. *DEIS* at 3-231. Logging on soil already damaged from years of aggressive timber management and fire will certainly not improve soil quality.

#### **A. Sedimentation**

The Forest Service presents Table 3.106 to quantify the effects of salvage on sedimentation. The table lists 7 soil “cases.” No erosion is estimated on four cases, two cases have a 2% probability of sediment transport, and one case has a 14% probability of transport. It is unclear what affects the “probability of transport.” NEDC first requests that the Forest Service eliminate all units located in Cases 4, 5, and 7 to eliminate the Forest Service’s probability of erosion.

The Forest Service expects 39.1 tons per year of sediment to be lost from the preferred alternative G. *Id.* This estimate is misleading. Not only is 14% of the project area unaccounted for, the Forest Service only estimates the sediment from harvest units located in Case 7, the soil characteristics with 14% probability of sedimentation, and the temporary roads. *Id.* The Forest Service fails to include the additional sediment from Cases 4 and 5, each with 2% probability. Furthermore, it is unclear whether the sediment estimated from temporary roads is due to construction, existence, or obliteration, each which contributes to sedimentation.

The Forest Service finds absolutely no adverse effects on soil productivity from the predicted sediment loss of the action alternatives. In fact, the Forest Service predicts that the no action alternative will have a negative effect. *DEIS* at 3-253. The Forest Service acknowledges that treatment may have an indirect effect on soil biology and habitat recovery through soil loosening and plant dynamics, but fails to discuss what those indirect effects are. NEPA requires the Forest Service to analyze the direct, cumulative, and indirect effects of the proposed project. 40 C.F.R. § 1508.7

## **B. Compaction**

In the Forest Service’s cursory analysis of compaction, the agency estimates that the project will not produce detrimental soil impacts beyond the 20% permitted by the Forest Plan. The Forest Service acknowledges that there may be “short-term” impacts to area, varying by treatment. The agency fails to quantify or even qualify these impacts by treatment type. *DEIS*. at 3-254. Compaction creates a detrimental effect on pine seedlings in clay soils, but the Forest Service does not acknowledge whether clay soils exist in the planning area. *Id.* at 3-237. Table 3.97, listing the soil types, does not contain any mention of clay soils and it is unclear what soil type is contained in the missing 14% of the planning area. *Id.* Without a more specific description of the soil types on the units, the Forest Service provides no support for its contention that the project will keep the area below the Forest Plan maximum of 20% detrimental soil type.

NEDC reminds the Forest Service that NEPA’s disclosure goals are two-fold: (1) to insure that the agency has carefully and fully contemplated the environmental effects of its action, and (2) “to insure that the public has sufficient information to challenge the agency.” Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1151 (9th Cir. 1998); Robertson v. Methow Valley Citizens, 490 U.S. 332, 349 (1989). Without properly identifying which units have sensitive clay soils, or which units have soils that are close to the 20% detrimental limit, the public cannot be ensured that the agency is in compliance with the Fremont National Forest Plan and thus NFMA.

#### IV. WILDLIFE

The Fremont National Forest provides important habitat for a number of federally threatened and sensitive species in addition to an array of other species designated as Management Indicator Species (MIS) or species of concern. The main focus of the Toolbox DEIS with regard to wildlife is centered around snag and down wood habitat dependent species. Although the DEIS correctly notes that many wildlife species rely on snags and down logs for nesting, roosting, denning, and feeding, it conducts an inadequate review of impacts to wildlife from the proposed sale. *DEIS*, 1-10. The DEIS fails to adequately identify impacts that the sale would have on a number of wildlife species by removing the snags and down trees associated with this project. Many of the species listed in the Toolbox DEIS depend on snags and down wood for survival, and removing this valuable habitat component threatens the viability of these species. Consequently, the USFS cannot ensure that it is providing for the viability of the species in the planning area. 36 C.F.R. §§ 219.19, 219.26.

Snags and down wood are very important for wildlife and are necessary for a properly functioning forest. The USFS ignores the fact that removing snags and down wood will decrease the viability of those species that depend upon snags and downwood for habitat. Indeed, scientific findings by Bull et al. for the Pacific Northwest Research Station indicate that the Service's standards for snag and down wood retention are insufficient to provide adequate habitat for species that depend on such features. *See Pacific Northwest Research Station, United States Forest Serv., Gen. Tech. Report, PNW-GTR-391 Trees and Logs Important to Wildlife in the Interior Columbia River Basin* (May 1997). However, the USFS has failed to incorporate such findings in designing the Toolbox project, which violates NEPA. 40 C.F.R. § 1502.24 (requiring the use of high quality science).

The 1982 regulations implementing the National Forest Management Act (NFMA) require that "fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area." *Id.* § 219.19. With regard to this responsibility to provide for the viability of the species known to exist within the planning area, the Toolbox DEIS does everything but discuss the effects of the project on species viability. Instead, the DEIS relies on analysis represented by "DecAid" to examine the effects on snag and down wood-dependent species. *DEIS*, 1-6. However, DecAid is not an appropriate analysis tool to be using to manage for the viability of the species present in the project area for several reasons

First, the creators of DecAid specifically state that DecAid is not meant to be used as an analysis of wildlife population viability. Instead, it is a "statistical synthesis of data showing levels of use of decayed wood elements by various wildlife species," in the form of tolerance levels, not viability. Marcot, Mellen, Ohmann, et al. 2002, *DecAid- Work in Progress on a Decayed Wood Advisor for Washington and Oregon Forests*, USDA Forest Service, Pacific Northwest Research Station and Pacific Northwest Region, Portland, Oregon.<sup>1</sup>

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<sup>1</sup> Available on-line at [http://www.fs.fed.us/wildecology/decaid/decaid\\_background/decaid\\_whatism.htm](http://www.fs.fed.us/wildecology/decaid/decaid_background/decaid_whatism.htm)

Second, DecAid is a “statistical summary of forest inventory data on snags and down wood in *unharvested* forests and entire landscapes across Oregon and Washington.” *Id.* (emphasis added). Clearly this is not a situation in which the forest has never been harvested. To the contrary, nearly every unit in the project area has been managed and the Toolbox fire burnt significant portions of the landscape. The Forest Service cannot rely on DecAid to supplement the analysis when the program is not intended for use in situations such as this.

Third, DecAid is not intended to “predict occurrence of wildlife species at the scale of individual forest stands or specific locations” as is being done in the Toolbox project area. *Id.* That is because “there are far too many other factors influencing the presence of absence of organisms at that scale.” *Id.* Instead, DecAid was intended to be a much broader planning aid than a species- or stand-specific prediction tool as it is being employed in the Toolbox DEIS. Because DecAid is being used in a context for which it was not designed (prediction of species-specific occurrence within a specific area in a post-fire, post-salvage context), the entire analysis in the DEIS is flawed and, thus, the project must necessarily fail.

Even setting aside the issue of misuse of DecAid as a primary analysis tool, other flaws in the Toolbox DEIS are apparent. Despite the clear direction contained in the LRMP, as well as direction provided by NFMA itself, the DEIS fails to provide accurate data on population levels or trends for snag and down wood-dependent species, MIS or species of concern. As a result, the DEIS has inadequately analyzed the impact to these species. This failure is the result of not having conducted any surveys for any of the aforementioned species. Surveys for snag and down wood-dependent, MIS and sensitive species that have been reported or are likely to utilize the project area should be conducted if reliable population estimates are not available.

Such monitoring is required under NFMA, and NEPA requires the agency to use only high quality science to obtain data that is missing, but necessary to make an informed decision. 36 C.F.R. § 219.27(a)(6); 40 C.F.R. §§ 1503.24 (scientific accuracy), 1502.22 (incomplete or unavailable information). The failure to conduct surveys for the project logically implies that the USFS did not and cannot adequately evaluate the impacts to the snag and down wood-dependent species, MIS and others. A thorough survey of each proposed unit is necessary for reliable scientific information to support the conclusions reached in the DEIS. Without surveying each unit, one could not know if optimal or suitable habitat exists for the species listed in the DEIS and, hence, whether the impacts of the project will threaten these species’ viability. Therefore the Toolbox DEIS fails to demonstrate that the project will not threaten the viability of these species in violation of NFMA (36 C.F.R. § 219.19), the Fremont National Forest LRMP, and NEPA (40 C.F.R. §§ 1508, 1502.16, 1508.25(a)).

The same issue (lack of surveys) is also apparent with respect to the Federally Threatened, Endangered or Sensitive species listed in the Toolbox DEIS. Again, it appears that the USFS did not survey at all for Threatened, Endangered, or Sensitive Species. This is problematic for several reasons. First, it is impossible for the agency to conclude that there are no significant impacts or effects to the listed or proposed species when it fails to adequately analyze the project in terms of impacts to these species. The Endangered Species Act (ESA) requires the USFS to use the best available scientific and commercial data in assessing the impacts to species, which includes *surveying* for them. 16 U.S.C. § 1536(a)(2). Since population studies are lacking for

the Toolbox project area, the USFS is precluded from determining that the project is not likely to adversely affect the listed species under Section 7 of the ESA. *Id.* at § 1536(b). Basing such determinations on “non-information” is unreasonable and violates the Administrative Procedure Act (APA). 5 U.S.C. § 706.

The Toolbox project would cause non-listed species to trend towards listing, and listed species to trend toward jeopardy. Bald eagle, Canada lynx, Oregon spotted frog, California wolverine, pacific fisher, and many others are species about which the District lacks adequate information to conclude that the proposed project would not make their populations trend toward listing in violation of the ESA. *Sierra Club v. Martin*, 168 F.3d 1 (11th Cir. 1999). There is no evidence to support the conclusion that removing what remains of what may be suitable habitat for wildlife species will have no impact on them. Indeed, the facts suggest that these species will be adversely affected in the short and long term by the activities proposed for the project. It is the stated policy of Congress that all Federal departments and agencies “shall seek to conserve endangered and threatened species and shall utilize their authorities in furtherance of [this] purpose.” ESA of 1973, 16 U.S.C. § 1531(c)(1). The Supreme Court has clearly restated congressional policy stating that, “The plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost.” *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 184 (1978). A decision to proceed with the Toolbox project would, thus, be inconsistent with the congressional mandate of the ESA.

Another major flaw of the Toolbox DEIS is that it fails to adequately consider the cumulative environmental impacts of the proposed project and past, present and future Forest Service and private actions. Cumulative impacts are defined as “the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions” on both public and private lands. 40 C.F.R. § 1508.7. Although the Forest Service briefly mentions the Winter Fire, which was directly adjacent to the Toolbox and Silver Fires, and notes that 3,000 acres are currently proposed for salvage, it fails to mention or discuss any potential cumulative impacts to wildlife habitat that might result from the two projects being located adjacent to one another. *Toolbox DEIS*, 3-179.

Aside from that brief mention of the proposed Winter Fire project, the DEIS fails to mention any other concurrent or future projects occurring near the project area. Moreover, the agency makes no effort to discover the impacts of actions on private lands, even though 27,500 acres (out of the total 85,000 acres that burned within the Toolbox Fire Complex) were burned on private land. *Id.* at 1-8. The DEIS also fails to indicate the severity or consequences that actions on private lands have on wildlife and their habitat. The DEIS does not assess the cumulative effects of the other fires that burned during the same fire season and in the same vicinity as the Toolbox Complex. Nor does the DEIS include a discussion of proposed salvage harvest in those planning areas. The DEIS very briefly mentions a salvage project on BLM land, but dismisses it without analysis, reasoning that the project is so small in comparison to the fire that there is likely to be no cumulative impact. *Toolbox DEIS*, 3-179. Furthermore, the DEIS does not indicate whether the USFS is planning future timber sales in or near the project area. NEED CITATION.

Although the DEIS mentions that past management activities, including roadside hazard, fire suppression, snag and down wood removal, and overstory removal have led to a decline in snag and down wood numbers from pre-fire historical levels, its analysis stops at stating that excavator species have likely experienced a decline in habitat suitability as a result of those actions. *Id.* at 3-179. Furthermore, the DEIS attempts to avoid analysis of the cumulative impacts on various species by stating that, “due to the uncertainty of disturbance and what kinds of activities would result from future disturbance,” it is unknown how certain species’ populations would be cumulatively affected over time. *Id.* at 3-180. Perhaps of greatest concern in terms of the cumulative effects analysis is that the DEIS only cursorily mentions, if at all, how the project activities will factor into the cumulative effects on wildlife and wildlife habitat. *See Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372 (9<sup>th</sup> Cir. 1998) (requiring the Forest Service take a “hard look” at cumulative effects”).

The DEIS gives only very brief attention to the cumulative impacts of the Toolbox project itself, and fails to evaluate the cumulative impacts from contemporary Forest Service and BLM projects or other past and planned future activities, citing uncertainty as the justification. Even the brief attention given to the cumulative impacts of the Toolbox project is inadequate and fails to meet NEPA’s requirement for high quality scientific analysis that would satisfy the “hard look” standard. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 353 (1989); *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208 (9<sup>th</sup> Cir. 1998) *cert. denied*, *Ochoco Lumber Co. v. Blue Mountains Biodiversity Project*, 119 S.Ct. 2337 (1999). The courts have also held that the failure to conduct a cumulative impacts analysis is fatal to a project. *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372 (9<sup>th</sup> Cir. 1998); *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146 (9<sup>th</sup> Cir. 1998); *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800 (9<sup>th</sup> Cir. 1999). The lack of an adequate cumulative impact analysis to assess the fragmentation of habitat corridors, degradation of water quality, impacts to plant and animal species and soil health is especially problematic given the cursory admissions throughout the administrative record that the project area had already been highly impacted by logging and other management activities. Further, simply stating that certain activities are occurring or will occur does not suffice as an adequate cumulative impacts analysis. NEPA requires this analysis, and the failure to provide it violates the law. 40 C.F.R. § 1508.7.

## V. PETS PLANTS

The “Endangered, Threatened, Proposed, or Sensitive Plants” (PETS Plants) section of the Draft Environmental Impact Statement for the Toolbox Fire Recovery Project raises many issues and questions regarding the wisdom of the proposed actions.

The DEIS states that, “If habitat does not have sagebrush remaining, then it can be assumed *Castilleja chlorotica* will vanish from the area.” However, *C. chlorotica* is hemiparasitic on more plants than just Western Sagebrush. What is the scientific basis for the agency’s conclusion?

The DEIS also states that there will not be logging within protected habitat of *C. Chlorotica*; however, there will be some logging adjacent to these areas. The DEIS assures the public that there will be no falling of timber towards or on the protected areas. How will this

mitigation be ensured? What kind of training or signs will be present to inform the fallers of this mitigation? How will OSHA hazard trees fit into this mitigation?

NEDC is concerned that the DEIS does not address the possibility of increased wind-throw of trees left exposed due to commercial salvage operations adjacent to the above-mentioned protected areas. How will the Forest Service mitigate the possibility of increased wind-throw into the protected habitat?

It appears that no surveys were conducted for *L. bakeri*. The DEIS states that, “[t]he project area would be monitored for appearance of [*L. bakeri*] and sites would be protected if they are discovered.” *DEIS*, 3-452. This is not an acceptable mitigation plan for failing to do adequate surveys. The FEIS needs to contain a realistic plan for surveying and managing for this species.

NEDC is particularly concerned that the DEIS fails to incorporate adequate scientific support for the agency’s conclusions throughout the document. Federal law does not permit unsupported analysis or conclusory statements. NEPA requires the Forest Service to support contentions with high-quality science. 40 C.F.R. § 1502.24.

## **VI. CULTURAL RESOURCES**

The area of the proposed actions is filled with known and unknown archeological sites. All of the action alternatives will have a significant direct impact on these sites. In fact, according to the DEIS, “Some sites are entirely surrounded by harvest units, fuel treatment units, or reforestation areas. This proximity increases the potential that one or more of these sites may inadvertently be impacted by project activity.” *DEIS*, 3-378. The DEIS claims that the direct impacts of carrying out one of the proposed salvages on the archeological sites would far outweigh the indirect impacts of the no action alternative. However, the DEIS provides little empirical information to back up that assertion. *Id.* at 3-382. 40 C.F.R. § 1502.24.

The DEIS states that, under the no action Alternative A, the archeological sites would be subject to indirect degradation from “unlimited road access due to lack of road closures,” which would result in increased looting. *DEIS*, 3-380. However, the DEIS states in the Recreation section that the no action Alternative A “would effectively close many secondary roads much of the time. The resulting over-abundance of downed debris (caused by no action) would, in all probability, exceed the Forest’s [*sic*] ability to keep anything but the main roads open.” *Id.* at 3-390. Logically, both statements cannot be true. Therefore, the data used in at least one of the aforementioned assertions is inaccurate and the conclusions that are based on that assertion must be false.

The DEIS claims that adequate mitigation measures will be taken to protect known sites from direct impacts. However, the DEIS does not adequately address the issue of direct impacts on unknown sites and how the Forest Service intends to protect archeological sites discovered during the fire salvage operations. *DEIS*, 3-378. There is the possibility that unknown sites will be destroyed by the fire salvage operations, and be lost to humanity forever.

## **VII. RECREATION**

The Toolbox Fire Recovery DEIS does not adequately address the impacts of the proposed action alternatives versus the no action alternative. The Recreation section has a dearth of empirical evidence to support the conclusions reached by the individual assessment of each alternative. There are few statistics regarding past recreational use of the area. There are also few statistics regarding the impacts on future recreational use of the area under each action alternative.

The DEIS mentions the multiple recreational uses of the area, such as, “hunting, fishing, camping, scenic driving, backcountry trail travel, birding, wildlife viewing, snowmobiling, cross-country skiing, showshoeing, mountain biking, ATV riding, and a variety of other outdoor-related activities.” *DEIS*, 3-308. The Recreation section gives little direct information on how those stated recreational activities would be affected by the various action plans. The Forest Service must adequately address the full direct, indirect, and cumulative effects of recreation on the project area. 40 C.F.R. § 1508.7.

## **VIII. ECONOMICS**

The Economics section of the DEIS does not adequately address the total economic impact of the fire salvage. The DEIS fails to take into account externalized costs in its economic analysis such as: lost recreational opportunities and decreased tourism, degraded habitat for important game species and loss of hunting opportunities both within and outside of the impacted area, increased flooding of the normal flows of rivers and streams, loss of non-timber forest products such as wild mushrooms, herbs, and medicinal plants, exacerbation of global warming through release of greenhouse gasses, diminished quality of life of neighboring communities, loss of biological resources that either have value now or have as yet unknown but potentially large economic and social value, loss of biological and genetic resources and species that can improve the long-term productivity and aesthetic qualities of all forest land, diminished pollination services provided by species that pollinate important forest and agricultural crops, lost jobs and income associated with timber production on private lands that is displaced by subsidized recovery area sales, lost jobs and income associated with the production of alternative and recycled products that is displaced by subsidized recovery area timber sales, property damage associated with logging in the recovery area, and the increased risk of severe wildfires caused by adverse changes in microclimate.

The failure of the Toolbox Fire Recovery DEIS to adequately address the economic impacts of the Toolbox Fire Recovery Project is a violation of the National Environmental Policy Act (NEPA). NEPA states, “all agencies of the Federal Government shall...identify and develop methods and procedures...which will ensure that presently unquantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical considerations.” 42 U.S.C § 4332(B). A cost benefit analysis is not required for a project, however, if it is “relevant to the choice among environmentally different alternatives being considered for the proposed action, it shall be incorporated by reference or appended to the statement as an aid in evaluating the environmental consequences.” 40 C.F.R. § 1502.23.

The Toolbox Fire Recovery DEIS provides no empirical information regarding the long-term costs associated with Alternative A. The DEIS claims that no action will result in a present net value (PNV) loss of \$18.97 million, although the rationale of the cost of a future fires and reforestation are given as the basis for this PNV, no empirical data is given to support it. In addition, none of the aforementioned externalized costs have been taken into account. It is impossible to assess the accuracy of Alternative the A PNV. *DEIS*, 3-428-429.

The calculation of the total jobs created by the Alternatives C-H is inadequately supported by empirical data. The Forest Service went about these calculations by simply using a predetermined multiplier of 1.5. *DEIS*, 3-430. The value of such a predictor in determining the creation of jobs by a project is dubious. Such an analysis does not take into account externalized economic factors, nor does it control for other relevant factors associated with the labor market. Furthermore, the multiplier of 1.5 is “typical of rural Oregon communities,” (*DEIS*, 3-430) and yet is being used to aggregate the total amount of jobs direct and indirect created “across the state, not just in the local area.” *Id.* at 3-433. Such an assessment cannot give an accurate aggregate of the affects of the Toolbox Fire Recovery Project on the entire state labor market.

The Economics section of the Toolbox Fire Recovery Project DEIS does not give an adequate amount of empirical data and theoretical analysis in order to assess the relative impact of the alternative plans. Therefore, the Economics section of the Toolbox Fire Recovery DEIS does not give a “reasonable” range of alternatives as required by NEPA. 40 C.F.R. § 1500.2.

## **IX. ENVIRONMENTAL JUSTICE AND TREATY RIGHTS**

The Toolbox Fire Recovery DEIS does not adequately address the issue of social resources and environmental justice. The issue of civil rights is addressed in a separate *Civil Rights Impact Assessment*, which was not included in the DEIS. *DEIS*, at 3-435. It was also not easily accessible to the public for evaluation as part of the NEPA commenting process. Therefore, the Toolbox Fire Recovery DEIS does not adequately address the issue of environmental justice, because civil rights and environmental degradation are closely tied together and should be addressed together, so that, the public can assess the impacts of the proposed project on local and statewide communities. Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1151 (9th Cir. 1998).

The analysis area associated with social resources and environmental justice was inadequate in scale. It focuses on local communities and does not address the larger aggregate effects on the state and region. *DEIS* at 3-436. This is of concern because, in the Economics section of the DEIS, the methodology used was based on the larger statewide aggregates of analysis, as discussed above in the labor market analysis. Therefore, the impacts on social resources and environmental justice have been inadequately addressed if they were based on the employment figures generated by the labor market analysis.

The potential effect on the treaty rights of the Klamath Tribes was not adequately assessed by the Toolbox Fire Recovery DEIS. These treaty rights include “the right of tribal members to hunt, fish, trap and gather on their reservation lands for their livelihood in perpetuity. These rights include interest in off reservation areas.” *DEIS*, at 4-422. As discussed in the

Economics section of the DEIS, it does not address the externalized economic impacts of the proposed alternatives on degraded habitat for important game species, or the loss of non-timber products such as mushrooms, herbs and medicinal plants which are important to tribal communities. If economic impacts on tribal rights covered under the Treaty of 1864 have not been properly addressed by the economic analysis of the DEIS, then the DEIS does not properly assess the impact of the proposed action alternatives on those rights.

## **X. EASTSIDE SCREENS**

In 1994, the Region 6 Regional Forester adopted the Eastside Forest Plan Amendment Number 2 to guide timber proposals on the Colville, Deschutes, Malheur, Ochoco, Umatilla, Wallowa-Whitman, Wenatchee-Okanogan, and Winema-Fremont National Forests. This plan became known as the Eastside screens. Although initially adopted as interim standards until the Forest Service proposed ICBEMP, the screens continue to be in effect and are incorporated into the Malheur National Forest's Land and Resource Management Plan (MLRMP). The direction applies to all timber, qualified by a number of exceptions. The Eastside Screens require timber sales to incorporate three sets of standards: riparian, ecosystem, and wildlife. The FNF's Toolbox Salvage proposal violates all three of these standards.

The Toolbox Sale DEIS violates the Eastside screens wildlife standards. The project area is highly deficient in LOS, significantly below the Historic Range of Variability (HRV) for all Plant Association Groups. *DEIS*, 3-50. When current conditions are below HRV for LOS, the wildlife standards require *no net loss of LOS*. The Forest Service fails to discuss how they will satisfy these requirements. The Forest Service claims that the Toolbox Salvage Sale meets the Eastside screen wildlife standards because live trees are not harvested, so harvesting does not decrease LOS.

The Forest Service misinterprets the direction of the wildlife standards. The Eastside screens do not define LOS based on an individual tree standard; instead the screens define LOS on a stand by stand basis. For example, the definition of single-stratum LOS is: "A single stratum of later trees is present. Large trees are common. Young trees are absent or few in the understory. Park-like conditions may exist." The description provided is: "The single dominant canopy stratum consists of medium sized or large trees. One of more cohorts of trees may be present. An understory may be absent or consists of sparse or clumpy seedlings. Grasses, forbs, or shrubs may be present in the understory." A stand with a light to moderate burn severity in which only *some* were trees killed by the fire may still fall under this expansive definition of LOS. The agency is thereby prohibited from removing any tree, even dead trees, from within the LOS.

NEPA's disclosure goals are two-fold: (1) to insure that the agency has carefully and fully contemplated the environmental effects of its action, and (2) "to insure that the public has sufficient information to challenge the agency." *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1151 (9th Cir. 1998); *Robertson v. Methow Valley Citizens*, 490 U.S. 332, 349 (1989). The agency did not provide the public with adequate information to evaluate whether harvest is prescribed in LOS. If the MNF permits harvest in the LOS, the agency violates the Eastside screens, the MLRMP, and NFMA. 36 C.F.R. § 219.10(e). The wildlife standards further require connectivity corridors that are 400 feet wide, protective areas around goshawk nests, 100 percent

snag retention, and prohibit harvest in non-LOS that is surrounded by LOS. The FNF fails to provide documentation that these requirements have been followed in accordance with the Eastside screens. Id.

Second, as the current conditions are below HRV, the wildlife standards require that the agency “maintain all remnant late and old seral and/or structural live trees [greater than or equal to] 21” dbh in stands outside the LOS. Eastside screens, p.10. As discussed *supra*, the agency’s analysis of mortality is not supported by science. The agency cannot be sure whether these large trees will be “live” when removed in the salvage sale. Harvesting live trees greater than 21 inches violates the Eastside screens, the MLRMP, and NFMA. 36 C.F.R. § 219.10(e). Failure to provide strong science is a violation of NEPA. 40 C.F.R. § 1502.24.

## **XI. Tree Mortality**

The Forest Service claims it will only harvest dead trees. The agency does not describe how it has and will determine tree mortality. The Forest Service has in the past acknowledged that determining survival and marking trees accordingly is difficult and complex in the rating system guidelines. *Factors Affecting Survival of Fire Injured Trees: A Rating System for Determining Relative Probability of Survival of Conifers in the Blue Mountain and Wallowa Mountains*, Scott, et al. 2002, p.1. As a result, the Forest Service cannot ensure that no live trees will be harvested.

As noted above, the Eastside screens contain a bar on logging live trees greater than 21 inches in diameter. Eastside screens, p.2. Although the screens do not provide a definition of “salvage,” other guidance frameworks, like the Sierra Nevada Framework, define salvage as only “dead” trees. For the salvage exception to apply, the Forest Service must ensure only dead trees are salvaged. The wildlife standards also prohibit harvest of “live” trees greater than 21 inches in diameter. Eastside screens, p.10. If the Forest Service harvests *any* live trees greater than 21 inches in diameter, the agency violates the Eastside screens.

The Forest Service does not discuss what it will use as a guide to determine mortality or if that guide will assess all of the factors that influence mortality. According to Forest Service research, site-specific factors including elevation, wind exposure, slope aspect, soil depth, site moisture, bark thickness, burn severity and seasonality of disturbance all influence tree mortality and decay rates. Lowell and others 1992. The Fremont National Forest must account for site-specific factors that affect tree mortality and decay rates, as clearly recommended by relevant scientific research:

Good estimates of loss of timber volume and value over time are necessary for each of the alternatives listed in the impact statement and to help in the planning and decision-making process... The one goal for determining the rate of deterioration is to be able to apply the information to the appraisal of fire-killed and fire-damaged timber... The conditions of each sale must be carefully evaluated for all factors influencing the rate of deterioration and selling values adjusted accordingly. Lowell and others 1992, p. 23.

Stephens and Finney 2002, current and former Forest Service researchers, respectively, found that among ponderosa pines approximately 20 inches DBH, about 60 percent of the trees studied survived a 90 percent crown scorch by fire. Also, a substantial percentage of the ponderosa pines studied survived 100 percent crown scorch. This study is particularly significant to the burned forest in the Toolbox Project area, which is dominated by ponderosa pine trees. Another study by Ryan and Reinhardt (1988) identified bark thickness as an important factor influencing tree mortality after fire. Only 60 percent of conifers with bark thickness of 3 cm (which equates to fairly small trees – in the range of 15 inches DBH) survived 65 percent crown scorch. 75 percent of trees with bark 4 cm thick survived 65 percent crown scorch. For trees with bark 5 centimeters thick and 65% crown scorch, over 80 percent survived.

A substantial portion of the large ponderosa pines that had 100% crown scorch in the North Fork fire of 2001 on the Sierra National Forest produced significant new green foliage in 2003, despite the fact that they showed no signs of life in the late summer and fall of 2001 or the entirety of 2002. Pers. Comm. with Mike Price, Sierra National Forest, 7/10/03. So many of the large ponderosas that were previously believed dead came "back to life" nearly two years after the fire that Forest Service personnel are not sure they will be able to sell the timber sale. Id.

The Forest Service's failure to disclose published findings of tree mortality and decay rates violates NEPA. The Toolbox DEIS lacks a reasoned discussion of scientific disagreements. See Seattle Audobon Society v. Mosely, 798 F.Supp. 1473, 1482 (W.D. Wash. 1992), *affirmed*, 998 F.2d 699 (9th Cir. 1993). The NEPA document must meaningfully address uncertainties surrounding the relevant scientific evidence concerning post-fire forest conditions. See Seattle Audobon Society v. Espy, 998 F.2d 699, 704 (9th Cir. 1993).

NEPA requires the Forest Service to provide the "hard data" upon which it relies for its conclusions and decisions. Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1150 (9th Cir. 1998). The record must disclose the studies and data used compiling NEPA documents, which must be "sufficient to enable those who did not have a part in its compilation to understand and consider meaningfully the facts involved." Environmental Defense Fund v. Corps of Engineers, 492 F. 2d 1123, 1136 (5th Cir. 1974). Without full disclosure the public is not be able to make independent judgments about the agency's action. Izaak Walton League of America v. Marsh, 655 F. 2d 346, 368-369 (D.C. Cir. 1981). "Conclusory statements which do not refer to scientific or objective data supporting them do not satisfy NEPA's requirement for a 'detailed statement'" Citizens Against Toxic Sprays v. Bergland, 428 F. Supp. at 908.

The FNF fails to provide enough information for the public to be able to challenge the agency. Robertson v. Methow Valley Citizens, 490 U.S. at 349. NEPA requires the agency to prepare a detailed analysis of the environmental impacts and adverse environmental effects of proposed actions. 42 U.S.C. § 4332(2)(C). The DEIS fails to divulge the extent of live, green and partially burned trees that would otherwise survive that would be removed due to use of Scott et al. mortality guidelines, and the impacts of this on habitat, spotted owls and other old forest species and fire severity.

The Forest Service cannot ensure that it will not log live trees. As a result, the agency must follow ecosystem standards prescribed in the Eastside screens and the FLRMP. By

arbitrarily calling large, live, viable, partially burned trees “dead” or “dying” even though the relevant science shows that they will likely survive, the Toolbox Salvage Sale violates the prohibitions in the Eastside screens ecosystem and wildlife standards, the FLRMP, and NFMA. 36 C.F.R. § 219.10(e). The Forest Service fails to provide the public with science and hard data to support mortality determinations, fails to acknowledge contradictory science, and fails to provide an impacts analysis of the effect of harvesting live trees in violation of NEPA. This constitutes arbitrary and capricious decision making in violation of the APA. 5 U.S.C. § 706(2)(A).

## **XII. THE TOOLBOX EIS INADEQUATELY DESIGNATES “DEAD AND DYING” TREES.**

The Toolbox DEIS utilizes a flawed method for determining mortality of trees in the planning area. The USFS states that “only fire-killed trees or trees expected to die as a result of fire injury would be removed, or live trees that would jeopardize the safety of the harvest operation, would be harvested.” DEIS. The Forest Service estimates that 90% of the planning area had a mortality of 60-100%. Id.

In order to determine which of these trees would die as a result of the fire, the Forest Service turned to another model. The Toolbox DEIS explains that trees expected to die as a result of the fire, insect, or drought stress would be identified in large part using a rating system developed by Scott, Schmitt, and Spiegel in the fall of 2002. This rating system takes into account the season of the fire, tree size and species, pre-fire vigor, and the existence of disease and insects and then considers the intensity of the fire as shown by duff consumption, bole scorch, and crown scorch. To adapt the rating guide to local conditions and increase the accuracy of predictions, several additional factors may be added to the rating guide. For more details, refer to the publication “Factors Affecting Survival of Fire Injured Trees: A Rating System for Determining Relative Probability of Survival of Conifers in the Blue and Wallowa Mountains” BMPMSC-03-01, Nov. 2002, located in Appendix B. DEIS.

The Scott mortality guidelines are a flawed analysis tool for several reasons. First, as the Forest Service acknowledges in Appendix B, the Scott mortality guidelines are merely a synthesis of existing knowledge. Appendix B. However, the Forest Service fails to discuss any scientific justification or support for its criteria used to determine whether a tree is dying or dead, in the DEIS. This is problematic, because the public cannot review the fundamental data relevant to determining whether the USFS’s analysis of the existing literature is accurate. Agencies must ensure the professional integrity, including scientific integrity, of discussions and analyses. 40 C.F.R. § 1502.24; Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208, 1214 (9th Cir. 1998).

For example, Stephens and Finney (2002), current and former Forest Service researchers, respectively, found that among ponderosa pines approximately 20 inches DBH, about 60 percent of the trees studied survived a 90 percent crown scorch by fire. A substantial percentage of the ponderosa pines studied survived 100 percent crown scorch. This study is particularly significant to the burned forest in the Toolbox Project area, which is dominated by ponderosa pine trees. This information suggests that many of the trees that the USFS states will die, will in

fact survive the fire. However, the Forest Service failed to include this study in its development of the Scott guidelines.

Another study by Ryan and Reinhardt (1988) identified bark thickness as an important factor influencing tree mortality after fire. Only 60 percent of conifers with bark thickness of 3 cm (which equates to fairly small trees in the range of 15 inches DBH) survived 65 percent crown scorch. Seventy-five (75) percent of trees with bark 4 cm thick survived 65 percent crown scorch. For trees with bark 5 cm thick and 65% crown scorch, over 80 percent survived. Although this study is listed in the bibliography to the Scott guidelines, the Toolbox DEIS disclosed no such variation in post-fire tree mortality, and instead erroneously asserted without support that crown scorch is the sole factor accounting for tree death.

Appellants are concerned that many, if not most, of the larger trees proposed for removal in the Toolbox Project are alive and only partially scorched. We are concerned that most of those trees would survive in the long-term if left alone, and we base our concern on published scientific findings, including Forest Service research that the Malheur National Forest failed to apply in this case. By arbitrarily removing mature, live, partially burned trees from the Toolbox Project, severe impacts to the environment may occur. In addition, removing these trees would violate the Regional Forester's Forest Plan Amendment #2, which prohibits the removal of live trees greater than 21 inches dbh. Second, the Scott guidelines have not been calibrated or field verified. Appendix B. As with DecAID, the lack of field verification is especially troublesome when a model is used on a large scale without appropriate mechanisms (i.e. monitoring, evaluation, and adaptive management; see mitigation and monitoring sections, *infra*) to adapt to site-specific realities and outcomes. In this case, the Malheur National Forest, as well as the Deschutes and Fremont national forests, are proposing to utilize the Scott guidelines for all of its salvage projects. Although these projects cover hundreds of thousands of acres, there is no indication that the guidelines are accurate or applicable to site-specific conditions.

A more prudent approach would be to design a comprehensive adaptive management and monitoring plan that could test the Scott guidelines on a small scale. However, the Forest Service did not consider such an alternative to broad scale use of an untested management theory. What will the agency do if the Scott guidelines result in the logging of healthy, green trees? How will the agency compensate for this loss of habitat, as well as LRMP violation?

Third, even though Appellants oppose the use of the Scott guidelines, the agency has failed to apply them as directed by the authors. The guidelines explain that "the system requires rating individual trees over areas of interest or concern on the fire." Appendix B. In this case, the Forest Service failed to take the guidelines into the field and apply them to individual trees, as directed by Scott et al. In a FOIA request, Appellants requested the raw data from the Toolbox planning area that was input into the guidelines, which then led to the conclusion in the planning area that 90% of the planning area had a mortality of 60-100%. *Id.*

Because the Forest Service has not applied the Scott guidelines to each and every tree it proposes to log, it is impossible for the agency to conclude that any one tree is "dead and dying," or that a particular harvest unit experienced a certain percentage mortality. Particularly for trees greater than 21 inches dbh, this site-specific validation is required in order to remain consistent

with Regional Forester's Amendment #2, which prohibits felling live trees greater than 21 inches dbh.

Concluding that 90% of the planning area had a mortality of 60-100% without site-specific evidence of this claim is arbitrary and capricious. 5 U.S.C. § 706(2)(A). Logging trees without verification that they will in fact die --especially trees 21 inches dbh and greater-- will violate the MFP and NFMA. 16 U.S.C § 1604(i); 36 C.F.R. § 219.10(e). Also, because the DEIS states that only dead and dying trees will be logged, the purpose and need of the Toolbox DEIS will not be met. In order to address this legal violation, the Forest Service must demonstrate that it has applied the Scott guidelines on a site-specific, individual tree basis, especially for trees greater to, or larger than, 21 inches dbh.

### CONCLUSION

The Toolbox Salvage Sale analysis area provides important aquatic and terrestrial habitat for a multitude of species. However, the proposed salvage project would continue to degrade habitat, soil and aquatic conditions, as well as cultural resources. In light of these existing conditions, the proposed project will have significant cumulative impacts when viewed in conjunction with other past, present and future timber projects.

The FNF should withdraw the Toolbox Salvage Sale and focus on restoration of the already damaged landscape instead of destroying the remnants for minimal economic productivity. Anything short of this ignores the multiple use objectives of NFMA, and the ESA's and NEPA's requirement of high quality science, leaving the DNF with little basis for concluding the Forest is meeting the requirements of the National Environmental Policy Act, Clean Water Act, Endangered Species Act, National Forest Management Act, Northwest Forest Plan, and the Deschutes National Forest Land and Resource Management Plan.

Sincerely,

/s/

Hillary Prugh  
NEDC Law Clerk

*For:*  
Jacob Braunstein  
Kenneth Kreuzscher  
Daniel Le Roux  
Erin Uhlemann  
Sarah Uhlemann