

Attachment 19

February 16, 2000

Mr. Jeff Blackwood, Supervisor
Umatilla National Forest
2517 S.W. Hailey Ave.
Pendleton, OR 97801

RE: Comments on Tower Fire Recovery Projects Draft Environmental Impact Statement

Dear Mr. Blackwood,

Thank you for this opportunity to provide comments on the draft environmental impact statement (DEIS) for the Tower Fire Recovery Projects. As you may be aware, the Columbia River Inter-Tribal Fish Commission ("CRITFC" or "Commission") consists of the Fish and Wildlife Committees of the Confederated Tribes of the Warm Springs Reservation of Oregon, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes and Bands of the Yakama Nation, and the Nez Perce Tribe. These four tribes possess rights reserved by treaty to take a fair share of the harvestable fish destined to pass their usual and accustomed fishing places. Among these fish are the anadromous and resident salmonids that originate in the John Day River and its tributaries, including streams within the Tower project area.

The DEIS Fails to Address the Tribes' Treaty Reserved Rights to Take Fish

Over the last decade or more the Commission has provided extensive comments to the Umatilla National Forest referencing and/or discussing its member tribes' treaty rights to take fish and how forest management activities affect those treaty rights. Staff from the Commission and governmental representatives from the Warm Springs and Umatilla tribes and the Commission have also met with staff and line officers of the Umatilla National Forest on several occasions. Despite these extensive contacts, the DEIS is devoid of any discussion of the tribes' treaty reserved rights to take fish and how the Tower Fire Recovery Projects will either help or hinder in the eventual fulfillment of those rights.¹ It appears that these many years of personal and written contacts have been wasted. We respectfully request that you inform us how we might more effectively communicate to you the fact that the Commission's member tribes possess federally secured treaty rights that are part of the supreme law of the land which the Umatilla National Forest is bound to accept and address.

¹ See e.g., DEIS at 4-101-107 (No mention of treaty rights in discussion of compliance with other laws, regulations, and policies).

Selective Listening

While there is no discussion of the tribes' treaty rights, the Forest is careful to note that it met on April 8, 1999 with Michael Farrow, CTUIR and that Farrow stated that he believed that short-term increases in sediment from restoration projects would be acceptable as long as the end result was beneficial to fish. In addition, the DEIS states that Farrow supported use of the experimental shaded fuel break and promoted use of harvester/forwarder logging systems. DEIS at 1-18; DEIS Summary at S-7. The Forest did not mention Farrow's consistent advocacy for fulfillment of treaty rights or his concerns about continuing declines in salmon populations and continuing habitat degradation.

The Forest does not refer to or quote from the Umatilla Tribe's written comments to the Forest on the Tower project. Nor does the Forest refer to or quote from the Warm Springs Tribe's written comments. The Warm Springs Tribes' comments request, among other things, that the Forest

1. Discuss all monitoring done since the fire, including implementation monitoring on the salvage projects already completed;
2. Clarify what activities, such as road construction, reconstruction, obliteration, mitigation, occurred prior to the halt order (to facilitate understanding the cumulative effects of salvage and restoration activities);
3. Discuss a schedule for implementing mitigation and explain which measures are mandatory and which will be implemented only if funds are available; and
4. Address grazing management as a key component of meeting recovery goals.

Letter to Craig Smith-Dixon, District Ranger, Umatilla National Forest, from Brad Nye, Confederated Tribes of the Warm Springs Reservation of Oregon (March 1999). The Forest cannot pick and choose what it wants to hear and then claim it is meeting its obligations to the tribes or that the tribes endorse their action.

The DEIS Fails to Address the Role of the Tower Project in Salmon Habitat Protection and Rebuilding

The DEIS does not discuss the context of its salmon habitat management. The DEIS does not provide the information needed to inform the public or decision-makers about the relative importance of protecting steelhead habitat in the John Day River and in streams within the project area.

The rebuilding and harvestability of salmonid populations is a key issue in the Columbia River basin. There is considerable agreement that habitat improvement and protection is absolutely essential to rebuilding salmonid populations (e.g., Rhodes et al., 1994; Henjum et al., 1994; USFS 1997a;c) and that avoidance of habitat degradation is equally imperative. Conversely, there is no evidence indicating that additional "short term" impacts or even temporary delays in habitat recovery would be consistent with

preventing extinction, much less promoting recovery and eventual rebuilding. See USFS (1997a;c) (additional habitat degradation is inimical to rebuilding these populations and will further impede efforts to rebuild these fish populations). In the John Day River basin, habitat protection and improvement has been consistently identified as the critical strategy for rebuilding salmonid populations (ODFW et al., 1990). Similarly, the USFS has concluded that all remaining habitat for wild spring chinook and steelhead (which includes many of the streams within the project area and downstream portions of the NFJDR that will be affected by project actions) are critical to the continued persistence of these salmonids (USFS 1997c). This is neither disclosed nor analyzed in the DEIS. Also, the DEIS completely fails to analyze the project's consistency with rebuilding salmonid populations, avoiding degradation, and improving habitat conditions. These failures are exacerbated by the failure to incorporate and disclose the findings of the literature cited above. As a result, the DEIS falls far short of determining the project's direct, indirect, and cumulative effects on habitat conditions and consistency with rebuilding salmonid populations and improving habitat conditions. Given what is known about the salmonid populations in the John Day River basin, affecting individual salmonids and their habitats is wholly inconsistent with rebuilding salmonid populations to harvestable levels.

The Forest's failure to address treaty rights and salmon rebuilding issues likely contributed to its failure to discuss the salmon rebuilding plan developed by the Commission and its member tribes.² This plan, known as *Wy-Kan-Ush-Mi Wa-Kish-Wit, Spirit of the Salmon, The Columbia River Anadromous Fish Restoration Plan of the Nez Perce, Umatilla, Warm Springs and Yakama Tribes* (CRITFC, 1995) addresses all sources of mortality to Columbia basin salmon, including habitat management in the John Day basin. This plan provides specific recommendations regarding management of fish habitat on federal lands for the purpose of eventually complying with the tribes' treaty-secured right to take fish. The plan includes extensive citations to the technical literature. Implementation of DEIS alternative 6 would be inconsistent with *Wy-Kan-Ush-Mi Wa-Kish-Wit*, meeting salmon rebuilding goals, and the tribes' treaty rights to take fish.

Failure to Address Monitoring Information

Since the Tower project is largely complete, there should be ample monitoring information that will document the Forest's track record in meeting its commitments to implement BMPs, mitigation, and restoration actions. This information is not disclosed in the DEIS, even though it was specifically requested by the Warm Springs Tribes. This information bears directly on the issue of whether the Forest meets its commitments and whether the restoration outcomes promised by the Forest are likely to occur.

Information should be available regarding a similar "restoration" project (Summit Fire Recovery Project) nearby in the Middle Fork John Day. The Summit fire occurred at around the same time as the Tower fire. The Summit project was touted as a "no impact"

² This plan has been formally approved by the Confederated Tribes of the Umatilla Indian Reservation Board of Trustees, the Tribal Council for the Confederated Tribes of the Warm Springs Reservation of Oregon, and the Commission.

project needed to assist in the recovery of fish habitat, water quality, and vegetation. Many of the same land management practices proposed as "recovery" measures for the Tower project were also employed in the Summit project. The ROD for the Summit project committed to an extensive monitoring process. The Forest concedes that it is appropriate to look at the lessons learned from the Summit project. DEIS at 4-8. This monitoring information should be included and addressed in the Umatilla National Forest's discussion of the likely effectiveness of its mitigation measures.³

The Forest Failed to Disclose Information on Existing Fish Habitat, Water Quality and Soils Conditions that Is Necessary to Make a Reasoned Decision

Although the DEIS (p. 3-17 to 3-19) provides some information on whether or fish habitat attributes, set as standards in the UNF Plan as amended by PACFISH, were met in streams prior to the fire and the logging under the enjoined sales, it fails to disclose the current conditions of the attributes. This failure is significant because a reasoned assessment of likely environmental effects requires disclosure of existing habitat conditions and the **magnitude of departures from standards**.

All of the evaluation of compliance with standards in the DEIS (p. 3-17 to 3-19) is based on out-of date surveys made prior to the illegal logging under the enjoined sales, the Tower fire, and subsequent storm events. Since almost all of this information is from prior to 1993, it is also likely that other projects, such as subsequent road construction and logging, have affected the attributes. Although the DEIS provides some qualitative assessments of potential changes since the survey dates, this is not a surrogate for up-to-date information. Therefore, the DEIS is fatally flawed. The DEIS must be revised to include disclosure of the existing conditions of all fish habitat attributes set as standards in affected streams, based on stream surveys taken after the fire, illegal logging, and subsequent storm events. These deficiencies are critical because analysis of existing land use and resource conditions are absolutely essential to credibly analyzing the environmental impacts of the various alternatives. Information on existing conditions is necessary to be able to reasonably assess the likely consistency of the various alternatives with attainment of state water quality standards and UNF Plan standards related to watershed and aquatic conditions.

Similarly, the DEIS failed to disclose the relationship of existing watershed and habitat conditions to the indicators in the "Matrix and Pathways" approach proposed by NMFS (1996) for determining the likely effect of actions on listed anadromous fish species. The also DEIS fails to note that existing road and harvest levels in most of the affected watersheds within the TFRP project area make it highly likely that adverse cumulative effects will occur, using the USFS's own methods for estimating the risk of cumulative effects on endangered species (McCammon, 1993), even if the additional cumulative effects of fire and grazing are ignored.

³ The Commission also has extensive photographic evidence of the impacts resulting from both the implementation of the logging and road reconstruction associated with the Summit project. We also have evidence of the Forest's failure to follow its own management requirements.

The DEIS also completely failed to make a reasonable determination of the consistency of watershed and habitat conditions with the standards of the UNF Plan. Indeed, the DEIS fails to even mention or list many of the salient standards in the UNF Plan that pertain to existing conditions, many of which appear to be violated under existing conditions. For instance, in discussing existing conditions the DEIS fails to note that the UNF Plan (p. 4-164, 4-165) sets as a standard in riparian areas that openings created by logging shall be < 6% of affected riparian areas. Notably, the DEIS (p. 3-5) does disclose that on a watershed basis, all of the watersheds except Big, Winom, Upper North Fork Cable, and Upper Hidaway have had **15-47%** of riparian areas entered. Although this clearly indicates that the created opening standard is thoroughly violated throughout the project area, the DEIS fails to make this simple assessment of consistency of existing conditions with the UNF Plan. The DEIS needs to be corrected to cure this defect; the UNF must disclose the degree to which current conditions comply with, or violate, UNF Plan standards.

A standard for riparian areas (MA C5) includes quantitative standards for stream shading (>80%), smolt habitat capability index ("SHCI")(>90%). The DEIS fails to disclose either SHCI or quantitative stream shading levels on a stream basis, or at any other scale. The DEIS should be revised to include this information and an assessment of current compliance with these standards.

Although unstated in the DEIS, it also appears from available information that UNF Plan standards are currently being violated for the special fish management area C-7, which includes most of the project area. The UNF Plan (p. 4-169) sets as a standard that <25% of a subwatershed area will be in stands <20 years old in C-7. The DEIS indicates that 5 of the 12 subwatersheds within the TFRP have had 25% or more of the area entered for logging over the past 20 years. In most of these watersheds, a considerable acreage burned (DEIS, p. 3-6). Therefore, from this information, it is clear that many of the subwatersheds have significantly >25% of their watershed area in stands < 20 years old. The DEIS must be corrected to properly disclose this information and relationship with UNF Plan standards, based on credible estimates of the amount of area in stands < 20 years old, including roads, burned areas and logging.

The DEIS also fails to disclose and analyze current compliance with UNF Plan (p. 4-80) standards for soils. These standards require that more than 80% of an activity area must have <15-20% increase in bulk density (compaction); they also require minimum percent groundcover levels that vary with erosion hazard of soils. Notably soil compaction is cumulatively affected due to long recovery periods (USFS, 1997b), yet the DEIS includes no quantitative assessment whatsoever of existing soil compaction. The DEIS indicates that the UNF either made no effort to determine if the completed portions of the enjoined sales met UNF Plan standards for soil productivity and minimum effective groundcover, or failed to report the results. This is a critical deficiency. The Wenatchee National Forest found via monitoring that standards for soil compaction were not met in many areas monitored post-activity (WNF, 1999); this is also the likely case on the UNF. The DEIS must be revised to determine current compliance with UNF Plan

standards, including quantitative assessment within the recently completed logging under the enjoined sales.

A necessary aspect of determining consistency of any alternative with these standards is to determine existing level of compliance, existing effects, and likely effects under each alternative. The DEIS completely failed to analyze and disclose the existing condition of attributes for which there are standards in the UNF Plan, as well as the effects the alternatives would have on those attributes.⁴ Therefore, the DEIS provides no reasonable basis for determining the consistency of any of the alternatives with the standards of the UNF Plan.

The DEIS fails to disclose project information critical to disclosing the effects of the alternatives. For instance, the DEIS does not disclose the location and number of landings recently constructed/reconstructed, as part of the enjoined sales. This is a significant omission because landings typically have impacts on soils, erosion, and sedimentation on a per unit basis that are as great as those caused by roads sedimentation (Geppert et al., 1985; Ketcheson and Megahan, 1996). The locations of such impacts, especially with respect to stream proximity, have a pronounced effect on the magnitude and type of effects landings have on aquatic resources. Recently constructed landings, such as those constructed and used in the enjoined sales have extremely high rates of erosion and contribute to on-going sedimentation, as well-documented in field reviews and declarations by CRITFC staff (also photos in CRITFC analysis file). Therefore, the DEIS must provide the locations, number, and individual and total areas of landings constructed as part of the enjoined sales. The UNF plainly has such information (Second declaration of P. Musgrove in district court, dated 4/29/99) ; it just failed to include this information in the DEIS. Further, since landing effects plainly vary with respect to physical settings, the DEIS should be revised to include the following for each landing constructed under the enjoined sale: soil type and erosion severity rating; proximity of most proximate stream and the stream class; and area of landing.

Further, the DEIS also fails to provide a cumulative estimate of the number and area of landings constructed over the last 20 years. Since landings cause impacts to soils and sedimentation that are similar to and as long-lasting as those from roads, this omission is a fatal flaw. The DEIS should be revised to include the number and total area of landings constructed within the affected watersheds over the past 20 years, including their proximity to streams and soil types and erosion severity rating.

The DEIS also fails to disclose the location, number and area of roads constructed and reconstructed as part of the logging under the enjoined sales. Many of these roads caused considerable watershed and aquatic resource damage (J. Rhodes, CRITFC hydrologist, pers. comm.) The DEIS should be revised to disclose this information. Further, for each road, the DEIS should also provide the soil type and erosion severity rating, stream proximity, and class of most proximate stream.

⁴ This problem affects more than just the fish habitat standard.

Although the DEIS provides some information on the amount and location of logging under the enjoined sales, the DEIS does not disclose the soil type and erosion severity ratings. Much of this logging was conducted on soils with high erosion rates.

The DEIS fails to note that estimated percent of the watershed area occupied by system roads may be considerably underestimated. System roads often fail to include abandoned roads. Further, the estimate made in the DEIS (p. 3-5, 3-6) is based on an assumed 15 ft road width, many of the roads within the project area are considerably wider. Based on extensive stratified sampling of roads within the Tucannon watershed (Rhodes and Huntington, 1999), road widths averaged about 17 feet, **excluding ditches, cut and fill** (J. Rhodes, CRITFC hydrologist, pers. comm.) Since ditches, cuts, and fill are part of the road width that causes hydrologic alteration and elevated erosion, this data indicates that average road widths in the project area are considerably greater than the 15 feet cited in the DEIS (p. 3-6). Notably, elsewhere in the DEIS (p. 4-26), it is assumed that sediment reductions from road obliteration occur over a road width of **20 feet**, clearly indicating that the estimate of percent of area in roads is underestimated in the DEIS.¹ The DEIS should be revised to provide a more credible estimate of the area occupied by roads, based on stratified sampling of actual road widths, including ditches, cuts, and fills. This should also be factored into estimates of sediment delivery.

The existing effects of past management on current conditions are distorted in the discussion in the DEIS. For instance, the DEIS fails to make a reasonable estimate of erosion and sediment delivery respectively from the following sources: roads, logging, grazing, and fire. The DEIS's incorrect statement that it is difficult to estimate the amount attributable to these disturbances is undermined by the fact that they have been routinely estimated in many situations (Rhodes et al., 1994; Rhodes, 1996; Reid and Dunne, 1996). The very model which served as the basis for the sediment modeling in the DEIS can be used to estimate sediment delivery from these various sources; the UNF just didn't do it.

The estimated percent increase in sediment delivery in the project area from 1996-1999 provided in the DEIS (p. 3-14) is a probable underestimate for several reasons. First, it appears that a road width of 15 feet was incorrectly assumed and only inventoried roads were included. Second, it does not appear that grazing was factored into the estimates (DEIS, p. D-2), even though it is well-documented that grazing significantly increases erosion and sediment delivery (Lusby, 1970; Platts, 1991; Henjum et al., 1994; Rhodes et al., 1994; Fleischner, 1994). Sediment delivery from grazing tends to be significant because much of the impacts occur near the stream where sediment delivery is extremely efficient. This is a key deficiency since cumulative effects from grazing on fish habitat and water quality are a key concern. Third, it also appears that erosion and sediment delivery from landings were not factored into the estimates (DEIS, p. D-2) even though erosion from landings can be as significant and persistent as that from roads. Fourth, the sediment modeling in the DEIS arbitrarily and greatly reduced erosion rates in

¹ This may also significantly skew the estimates of changes in sediment delivery from existing roads and from road obliteration.

the model (as documented by Potyondy et al. 1991) for helicopter and skyline logging, road obliteration, and first year road construction on non-granitic materials (DEIS, p. D-2). The discussion of the model in the DEIS (p. D-1) indicates that this was done because the model has not been tested extensively in the Blue Mountains and that previous tests on the Starkey Experimental watershed indicated that a variant of the model over-predicted sediment delivery. However, tests of the model or variants in granitic terrain in Central Idaho indicated that the model performed reasonably well in predicting sediment delivery (Ketcheson et al., 1999) while tests in the Clearwater National Forest indicated that the model tended to underestimate sediment delivery, considerably (Hickey, 1997). The study in the Starkey Experimental Station is not particularly relevant: it was conducted in basaltic parent material. The parent material in much of the project area is granitic, so the results of Hickey (1997) and Ketcheson et al. (1999) are more applicable than those from the Starkey. However, it is clear that the erosion rates have been considerably reduced for skyline and helicopter logging relative to those used in the initial model; it is equally clear that the DEIS provides no sound data for this alteration. Reductions in the erosion rates from road obliteration are also unwarranted because the DEIS concedes that the UNF has had a poor rate of success in reducing erosion from decommissioned roads in granitic materials. This certainly skews the estimates of recent sediment delivery within the project area, as well as estimates of sediment delivery by alternative.

Fifth, the modeling in the DEIS (p. D-2) vastly and arbitrarily increased erosion rates for high and moderate intensity wildfire in the model as documented by Potyondy et al. (1991). The DEIS provides no explanation for this arbitrary change. However, it is clear that this arbitrary change serves to overestimate the role of fire in the project area sediment budget, obfuscating management-induced sources. Sixth, it also appears that the modeling in the DEIS fails to account for increased sediment delivery caused by road reconstruction and traffic, although it is well-documented that these increase sediment delivery (Reid and Dunne, 1984; Potyondy et al., 1991). Seventh, the model's sediment delivery ratios were reduced under the explicit assumption that there will be no mass wasting (DEIS, p. D-2). This assumption is clearly unwarranted; mass wasting from roads has been relatively common within the project area. Eighth, the model is unable to account for culvert wash-out which has commonly occurred in the project area. Culvert wash-outs deliver significant amounts of fine sediment to streams. In aggregate, these sources of estimation error render the model prone to underestimating management-induced sediment delivery while overestimating sediment delivery from the fires.

These sources of quantitative error are compounded by the narrative descriptions and assumptions in the DEIS. For instance, the DEIS repeatedly notes that rill erosion in burned areas is an indication of increased erosion from the fire. The DEIS does not note that rill erosion and other signs of elevated erosion and overland flow are ubiquitous on most cuts, fills, road prisms, old and recent landings, recently obliterated roads, and temporary roads throughout the project area, including those constructed and/or reconstructed for logging under the enjoined sales. Similar signs also appear on many skid trails and subsoiled landings throughout the project area.

The DEIS (p. 3-13) also misleadingly states that several years after roads are constructed, erosion from road surfaces decline to a "persistent low level..." In contrast to this wholly incorrect characterization, studies consistently demonstrate that road surfaces erode at much higher rates than natural levels for as long as the road exists (Rhodes et al., 1994; USFS 1997a; c).

The DEIS severely distorts the likely changes in stream flow caused by logging, grazing, and fire within the project area. Studies have consistently found that peak discharge is increased by logging in areas dominated by snowmelt (MacDonald and Ritland, 1990; Rhodes et al., 1994), such as the TFRP. The DEIS steadfastly ignored that in a broadly similar setting to the Tower area, King (1989) consistently found statistically significant increases in a variety of peak flows in small watersheds with equivalent clearcut areas of 25-37%. Five of the 12 subwatersheds in the TRFP, have had 25% or more of the area entered for logging, plus additional area roaded. Therefore, King's (1989) study indicates that peak flow in the TRFP has probably been increased. This must be disclosed in the DEIS. Additionally, although the DEIS does note that Cheng (1989) found significant increases in peakflows caused by logging of about 30% of the area of watershed in a broadly similar setting to that in the TFRP, it fails to note that this indicates that it is likely that at least 3 of the subwatersheds in the TFRP have had peakflows increased by logging and roads. Finally, the DEIS fails to note that it is likely that the results of the High Ridge Evaluation (HRE) studies are unlikely to be applicable to the TFRP for very obvious reasons: the HRE area is primarily comprised of basaltic parent material and some of the treatment watersheds have primarily north aspects. Within the TFRP, much of the area is underlain by granitic parent material and aspects are primarily south. The DEIS must be revised to correct these glaring defects.

The assumption in the DEIS that the only effect of logging in the TFRP is relegated to regeneration harvests outside of the burned area is absurd and not supported by any data in any peer-reviewed studies. Logging, grazing, and related activities have accelerated topsoil loss and compacted soils throughout the project area, causing significant reductions in both infiltration rates and water storage capacity, as available literature clearly indicates. Both effects increase overland flow and peakflow. In fact, reductions in water storage capacity via compaction and soil loss may be more significant than reductions in infiltration rates, since available studies clearly indicate that most overland flow occurs due to exceedance of soil water storage capacity rather than exceedance of infiltration rates (except on roads). Further, reductions in both infiltration rate and storage capacity caused by compaction and soil loss from logging, grazing, and roads are far more significant than fire effects, because they are far more persistent, as the USFS's own assessments clearly state (USFS, 1997b). There is no good evidence in the DEIS that reductions in infiltration rates due to hydrophobicity are widespread within the fire area. The DEIS must wholly revise this absurd treatment of hydrologic alteration by land management and present analysis based on the best available data and information.

The DEIS also fails to include any assessment of cumulative wetland damage within the project area. Such damage has consistently occurred on a regular basis (Photos CRITFC analysis file). Since wetlands are key aspects of watersheds, the DEIS

must be revised to include an estimate of the number and percent of wetlands affected by land management over the last 20 years.

The DEIS also fails to properly analyze conditions and effects in the NFJDR which has been cumulatively affected by activities in the project area. This must be corrected.

Although the DEIS repeatedly notes that dry forest types have undergone significant conversion or reduction within the project areas, it fails to make any credible assessment of the relative contribution of the primary causes of this loss of these forest types. Inspection of the area clearly indicates that high grading and clearcut logging have been the primary causes of the loss of dry site forest types; the contribution of fire suppression is minor. Lodgepole stands in former dry forest sites are found primarily on logged areas rather than in any other setting, including previously burned areas, as is common throughout most of the logged watersheds in the Blue Mountains. Since the DEIS repeatedly states that forest structure and composition are key parts of the purpose and need for the project, it must credibly ascertain the primary causes of existing problems by disclosing the relative contribution of the causes in the loss and conversion of ponderosa pine and other dry forest types.

Failure to Analyze and Convey Widely Available Scientific Literature and Findings Related To the TFRP or Its Effects on Watersheds and Other Aquatic Resources

The DEIS seriously distorts the likely effects of the alternatives on aquatic resources by ignoring a large body of scientific information relevant to assessing the effects of the actions proposed under the alternatives. This information is neither analyzed, discussed, nor mentioned in the DEIS even though much of it was supplied to the UNF in citation form in comments on the project from CRITFC and the CTUIR and/or in declarations to the U.S. District Court of Oregon hearings on the Tower project by Jon Rhodes and F. A. Espinosa, Jr. In so doing, the DEIS analyses and findings that are critical to elucidating and conveying the likely effect of the alternatives on aquatic resources are grossly distorted.

Much of the information ignored in the DEIS was generated by the USFS's own scientists and specifically dealt with many key issues related to the TFRP within the geographic region that includes the TRFP. For example, relevant studies by the USFS's own scientists that were ignored in the DEIS include the work of: Lisle and Hilton (1992) and Reid (1993). The Forest also ignored the conclusions of Ziemer and Lisle (1993) that there is no good evidence that BMPs are effective at the watershed scale. This is not a comprehensive list of the literature supplied to and ignored by the Forest. Similarly, the DEIS does not disclose that in USFS (1997 a, b, c) (a broad scale analysis of the status and outlook for anadromous and resident salmonids as well as the likely broad scale effect of land management across the Columbia River basin), it was concluded that there is no data to indicate that fuel treatment efforts provide any benefit to salmonid assemblages and convey serious risks; based on this conclusion it was recommended that

fuel reduction treatments not occur in roadless areas. USFS (1997 c) also noted that it is not possible to implement logging activities without causing sedimentation of fish habitat regardless of how carefully it was implemented. USFS (1997 b) also noted that removal of trees and soil compaction have far more long-lasting and serious negative effects on soils than fire.

Likewise, the DEIS failed to note that other USFS assessments of constructed fire-breaks (USFS, 1999) noted that there was considerable uncertainty regarding the effectiveness of fire-breaks in reducing fire extent, intensity, and frequency, while the breaks would contribute significantly to soil compaction, adverse watershed cumulative effects, and increased livestock use in the fire-breaks. Further, although the DEIS contains no such analysis, USFS (1999) noted that constructed firebreaks were likely to serve as dispersion corridors for noxious weeds.

The DEIS is devoid of any disclosure or discussion of Henjum et al. (1994) and ISG (1996). At the behest of members of Congress, Henjum et al. (1994) analyzed the condition of streams, forests, wildlife, fish populations, and watersheds on federal lands in Oregon and Washington, including those on the UNF. Based on this evaluation, the extensively peer-reviewed report provided detailed and scientifically sound recommendations on forest restoration treatments, logging and salvage logging, roadless areas, and fish habitat protection measures, which are the very issues at the heart of the TRFP. Further, based on their detailed evaluations of land management, and the condition of watersheds, fish habitat, water quality, and fish populations, Henjum et al. (1994) recommended that Big Creek, the NFJDR, Hidaway, and S. Fork Cable Creeks -- all within or affected by the project area-- be managed as "Aquatic Diversity Areas" as part of efforts to rebuild fish populations. Henjum et al., (1994) recommended that these watersheds be completely protected from additional logging (including salvage). It also recommended complete suspension of grazing until complete and peer-reviewed analysis of effects and ecologic status are completed. Henjum et al., 1994 also recommended that so-called "restoration" approaches, such as those in the TRFP, not be implemented until scientific panels had been able to come to agreement on low risks approach. However, the DEIS completely fails to even discuss Henjum et al. (1994) despite the report's clear geographic applicability, high degree of specificity, scientific credibility, and the authors' superior scientific expertise to that of the UNF.

The DEIS also completely ignores the detailed findings of Rhodes et al. (1994) even though Rhodes et al. (1994) was peer-reviewed by more than 9 experts in aquatic resources, including USFS employees. Rhodes et al. (1994) provides detailed recommendations to protect salmonids and salmonid habitats in John Day River watershed and is based on a far more intensive and extensive review and analysis of scientific literature and data than is the DEIS. Similarly, as noted above, the DEIS also fails to discuss the scientifically sound and salient recommendations of *Wy-Kan-Ush-Mi Wa-Kish-Wit, Spirit of the Salmon, The Columbia River Anadromous Fish Restoration Plan of the Nez Perce, Umatilla, Warm Springs and Yakama Tribes* (CRITFC, 1995).

The DEIS ignores ISG (1996), even though it analyzed conditions and actions currently underway that are affecting salmon, together with a review of available scientific information, and made concrete conclusions and recommendations related to the protection of natal salmon habitats. The ISG (1996) also concluded that there was no good evidence that BMPs were effective at constraining the adverse effects of logging and roads to levels that did not adversely impact salmonids and their habitat. Notably, the conclusions of the ISG (1996) corroborate the conclusions of Stanford and Ward (1992) and Zeimer and Lisle (1993) regarding BMP effectiveness, as well as the long-term field evidence in Rhodes et al. (1994) and Espinosa et al. (1997) that BMPs plainly fail to adequately protect salmonids and their habitats. Also, in Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208, 1214 (9th Cir. 1998), the Ninth Circuit clearly stated that the UNF's EA contained an inadequate discussion of BMP effectiveness. The DEIS failed to disclose the peer-reviewed assessments of BMP effectiveness by researchers with far more expertise and experience than the UNF. The DEIS also failed to disclose that the court found its previous assessment inadequate. Plainly, the DEIS and FSEIS failed to analyze and convey seriously important scientific literature related to the likely effects of the alternatives on watersheds and embedded aquatic resources.⁵ While the entire list of relevant and important scientific literature ignored in the DEIS is too voluminous to list here, one can simply compare the literature cited in DEIS to the applicable literature previous comments letters, appeals, and declarations from the CRITFC and CTUIR, to that in the DEIS to determine that the DEIS improperly ignored important information and salient scientific information supplied to it. If this information had been properly analyzed, incorporated, and discussed, it would have greatly ameliorated the many serious deficiencies, omissions, and gross inaccuracies in these DEIS related to the likely effects of the alternatives on aquatic resources, including watersheds, hydrologic soil properties, riparian zones, water quality, salmonid habitat, and salmonids. The DEIS should be revised to include a thorough and detailed analysis of likely effects based on all of the best available scientific peer-reviewed literature and information; at a minimum, the literature cited in this and previous comments and declarations on post-fire logging in the TFRP project area must be included in the analysis.

The Ninth Circuit was critical of the Forest's failure to address the Beschta Report. In response, the DEIS distorts the report by selective use and improper treatment and characterization. For instance, the DEIS (p. 4-7) asserts without providing any basis, that Beschta et al. (1993) "concentrates on the recovery of moist sites" ignoring impacts on dry sites. However, Beschta et al. (1993) never uses the terms "moist sites;" a wide variety of site conditions were considered and discussed in making the recommendations in Beschta et al. (1991) (J. Rhodes, hydrologist, CRITFC, pers. comm.). Similarly, the DEIS notes that unnamed reviewers that are asserted to have expertise in natural resources, objected to the "tone" of the report, its subjectively interpreted tenor with respect to federal land management, lack of scientific literature, and interpreted bias towards environmental conditions west of the Cascades. These characterizations have

⁵ Again, the Forest's own implementation and effectiveness monitoring of the Tower project along with the monitoring of the Summit project conducted by the Malheur National Forest and CRITFC should contain information relevant to determining the effectiveness of the "restoration" measures proposed in the DEIS.

absolutely no merit for several reasons. First, these second-hand characterizations are hearsay without any reference to available citation and source for verification. Second, if such opinions were indeed made by specialists with expertise in natural resources, they should have been reviewing the document for substantive issues within their fields. As characterized, none of the reviewers had expertise in interpreting tone or intuiting the trust the authors had with respect to federal land management. Fourth, the document was not biased towards physical settings west of the Cascades. All of the authors had research experience and expertise in the Interior West; most of the focus of discussions and recommendations included in the report was on conditions and effects in Columbia River basin (J. Rhodes, hydrologist, CRITFC, pers. comm.) Fourth, the DEIS's characterization that Beschta et al. (1995) referred to a limited set of available literature is plainly hypocritical. This characterization in the DEIS, as well as the discussion (p. 4-6) of Everett (1995) (requested by the USFS, for the USFS, which hardly constitutes an unbiased evaluation) is accompanied by **no literature citations**. The DEIS does note (p. 4-6) that the conclusions of Beschta et al. (1995) were similar to those in uncited USFS white papers. The DEIS completely failed to note that the conclusions of Beschta et al. (1995) were similar to those made in other independent scientific assessments based on highly detailed literature and data review over an extensive area of the Interior Columbia basin (Rhodes et al., 1994; Henjum et al, 1994; ISG 1996). Further, USFS (1997a;c) came to similar conclusions regarding fuel treatments and salvage harvest, as did USFS researchers (Reiman and Clayton, 1997), although neither is disclosed in the DEIS discussion of Beschta et al. (1995).

Other examples of distortion and omission are easy to find. Although the DEIS cites USFS (1991), it fails to note that, with respect to forest health and watershed issues, USFS (1991) stated (p. II-149 -150), "Soil compaction, disturbance, and displacement from ground-based harvesting equipment during salvage operations have probably resulted in significantly more damage to watersheds than any direct influence of the pests themselves."

Similarly, the DEIS repeatedly asserts that forest plan standards have reduced or limited aquatic or watershed impacts. Yet, the DEIS provides absolutely no monitoring data to support this assertion and completely fails to note that USFS (1997c) concluded that Forest Plans as amended by PACFISH were unlikely to prevent habitat damage and assist in assuring the persistence of salmonids.

Although the DEIS repeatedly questions the merit of some information, based on statistical considerations with respect to data, it makes assertions for which it provides no information on statistical significance or study design. For instance, the DEIS states that hydrophobic soil conditions were found in some burned areas, but it does not provide any information on whether this was determined by measuring infiltration rates in burned and unburned areas as part a sound experimental approach, and if so, whether the results were statistically significant. If the latter considerations were not met, it is likely that such information is misleading. However, just as importantly, this provides an example of the uneven treatment that available information is given in the DEIS: information that leads to conclusions that the UNF does not like are overly criticized and dismissed or just plain

omitted, while mere surmise with no data made by the UNF are treated as gospel. This must be corrected in the DEIS.

Grazing Must Be Addressed by the DEIS

The decision to exclude changes in grazing management in two allotments affected by the fire is as part of the DEIS is irrational. Although the DEIS (p. 1-26) asserts that "changes in allotment management do not fit the purpose and need of the project and are, therefore, beyond the scope of the analysis," this assertion is clearly without merit. The DEIS clearly and repeatedly states that the purpose and need include soil and water, fish habitat, forests, wildlife habitat and recreation. It is well-documented that grazing affects all of these resources and especially fish habitat and soil and water (Platts, 1991; Henjum et al., 1994; Rhodes et al., 1994; Fleischner, 1994; Belsky, et al. 1999). Grazing has repeatedly been shown to greatly increase sediment delivery (Lusby, 1970) and sedimentation (Rhodes et al., 1994) two of the major concerns for fish habitat and water quality in the area. Grazing also increases compaction, reducing both infiltration and water holding capacity, increasing runoff and erosion (Rhodes et al., 1994). Grazing also adversely affects riparian revegetation, channel conditions, and water temperatures (Platts, 1991; Henjum et al., 1994; Rhodes et al., 1994; Fleischner, 1994; Belsky, et al. 1999), all of which are major parts of the cited purpose and need in the DEIS, and the stated purpose for many of the proposed watershed restoration measures. Indeed, the DEIS concedes (p. 1-26) that grazing effects are part of the cumulative effects on water resources in the project area. In addition, a key initial response to the fire was to order a suspension of grazing. DEIS at 1-26. Therefore, it is glaringly clear that changes in allotment management **are within the scope of the analysis because it clearly fits the stated purpose and need for the project and the assertion of management authority already exercised by the Forest.** Further, the DEIS presents absolutely no rationale support for its statements that changes in allotment management can be better addressed an EA for allotments; peer-reviewed studies of USFS land management, including the UNF, have concluded that the USFS's track record for updating allotment management plans is dismal and a prime cause of watershed degradation that thwarts the persistence and recovery of salmonids (Henjum et al., 1994). Therefore, the DEIS must be revised to include changes in grazing, including long-term discontinuation, as part of alternatives and **detailed** analysis based on thorough examination of the best available scientific information including **all applicable and credible scientific** information, including the literature cited here, which was completely ignored in the DEIS.

Distortions and Omissions in Likely Effects of Alternatives

The assessment of likely effects of the alternatives is severely distorted and inadequate. Analysis of changes in sedimentation from the alternatives are particularly obfuscatory, but the DEIS also fails to properly analyze changes in hydrology, soil properties, forest structure, water quality and fish habitat. It also completely fails to

analyze how changes caused by the alternatives affect compliance with UNF Plan standards.

The DEIS (4-28) incorrectly assumes that RHCA's will arrest sediment prior to reaching fish habitat, contrary to the USFS's own assessments. Under several of the alternatives, RHCA widths on ephemeral streams would be 50 feet and 100 feet on Class III streams. The information in the DEIS (p. D-2) and in USFS (1994) indicate that at least 200 feet of intact riparian forest is required to prevent sediment delivery from overland flows of sediment. Channelized sediment delivery travels considerably farther than 200 feet (O'Laughlin and Belt, 1994). Further, USFS (1997a) indicates that depending on slope, intact riparian vegetation widths of 540 feet or more are necessary to obviate sediment delivery in granitic terrain. Notably, the riparian areas in the project area are not intact, due to logging, grazing, road construction, and fire, as the DEIS acknowledges. Therefore, it is certain that RHCA's will not obviate sediment delivery.

Logging within a tree-height of streams will also increase sediment delivery by reducing the recruitment of LWD to streams. The RHCA widths along ephemeral streams are clearly inadequate to maintain LWD recruitment, as the DEIS concedes. However, the DEIS never discloses nor analyzes the amount of stream that will have logging within a tree-height or the subsequent effect on LWD levels and sediment delivery by alternative.

Although the Tower EA noted that much of the logging and related activities would occur on soils with high erosion severity ratings, the DEIS never discloses the amount of any activity under any of the alternatives that would occur on soils with moderate to high erosion severity ratings. This is a fatal flaw that must be rectified.

As previously discussed, the estimates of sediment delivery in the DEIS significantly overestimate sediment delivery from fire and severely underestimate sediment delivery from project activities. These estimates also overestimate the reductions in sediment delivery from road obliteration, as discussed. The aggregate effect of the estimation methods is that they significantly underplay the relative effect of the action alternatives on sediment delivery. These attributes of the estimates of sediment delivery in the DEIS need to be corrected.

As mentioned, the sediment delivery estimates by alternative fail to properly estimate cumulative sediment delivery because they fail to include contributions from grazing and landing construction and use, even though the DEIS consistently concedes that grazing increases sediment delivery and that landings pose a major risk to watershed hydrology and erosion (DEIS, p. 4-28). This further distorts the analysis of likely effects by alternatives because, although undisclosed, the number and location of landings is likely to vary considerably by alternative. Notably, the DEIS failed to include alternatives with varying levels of grazing, including a no-grazing alternative.

The sediment delivery estimates are also premised on data from the High Ridge area which is not reasonable. The DEIS fails to note that most of the High Ridge area is underlain by basalts which have been consistently documented to have lower sediment

yields than the parent material in much of the TFRP area.. This unreasonable approach, alone, results in significant underestimation of the likely amount of sediment generated in the project area.

Nonetheless, using the DEIS's own estimates of sediment delivery it is clear that alternatives 2, 3, and 6 cause the greatest increases in sediment delivery. Although unstated and unanalyzed in the DEIS, the estimates of sediment delivery in the DEIS indicate that cumulative sediment delivery under alternatives 2,3, and 6 for a ten or more year period will be significantly greater than under the no-action alternative, indicating that these alternatives will clearly cause more degradation to water quality, fish habitat, and fish survival than the no action alternative. This is the case for the project area as a whole and in the majority of the individual subwatersheds. The failure to explicitly note and analyze this must be corrected in the DEIS. Clearly, these alternatives do not reduce sediment delivery in the long-term (10 years) as incorrectly stated in the DEIS, even based on the estimates in the DEIS, which underestimate several sources of sediment delivery and ignore many other sources of management-induced sediment delivery.

The presentation of the sediment delivery estimates also obscures likely effects. The DEIS fails to provide sediment delivery estimates by year (in percent and estimated tons) by watershed by alternative. Such a presentation would greatly clarify the outputs.

The DEIS's assertions that only harvest outside of the fire area has an effect on sediment delivery and hydrology is without merit. Compaction lasts for decades (USFS, 1997b); topsoil loss lasts for centuries to millenia. Both topsoil loss and compaction significantly reduce soil productivity, infiltration rates, and soil water storage. The latter two effects contribute to increased erosion and peakflow, while reductions in soil productivity tend to lengthen the time to hydrologic and erosional recovery.

The DEIS assumes that helicopter logging on burned terrain has nominal effects on sediment delivery and runoff. This incorrect assertion is clearly undermined by Megahan (1987) who found that helicopter logging in burned terrain in settings broadly similar to the project area significantly increased sediment delivery by several times for several years and also significantly increased peakflow.

The DEIS's assertion that hydrologic effects of the alternatives will have little effect on hydrology is incorrect. As discussed, available literature indicates that existing watershed conditions have increased peakflow. Compaction and soil loss caused by the actions together with the cumulative effects of existing conditions and grazing re-introduction will increase hydrologic effects and lengthen the time to complete hydrologic recovery. The DEIS completely fails to take a hard look at the role of cumulative and likely future levels of compaction and soil loss on runoff regimes over time.

The DEIS is also devoid of any credible quantitative estimates of changes in compaction, soil loss, and soil productivity by alternative. This is a critical deficiency and precludes reasoned assessment of the project's likely consistency with UNF Plan standards for soil productivity.

The DEIS's forecasts on forest vegetation by alternative is specious. The DEIS presents no quantitative monitoring data indicating that salvage harvest results in better re-growth or improved forest structure or composition. Further, the DEIS completely fails to note that available data indicate that salvage logging thwarts the recovery of vegetation after fire in settings similar to the TFRP (Sexton, *in process*). Further, the DEIS provides absolutely no quantitative monitoring data on the survival of plantings or the effect of plantings vs. no treatment effects on forest stand or structure, probably because there is none. Therefore, the DEIS's analysis of these effects on forest structure is baseless.

The DEIS's analysis of effects on fish habitat is entirely misleading and in conflict with the best available information. Although the DEIS declares that there is no method for quantitatively linking sediment delivery estimates with substrate changes and changes in salmonid survival, this is incorrect. The USFS's own publications provide just such a method (USFS, 1983), routinely employed on several national forests in the Columbia River basin (Rhodes, 1996). Limited tests of the model indicate that appears to predict shifts fairly accurately (Rhodes, 1996). Other methods have also been used by other national forests and others to estimate changes in salmon survival with changes in sediment delivery (Rhodes et al., 1994; Weaver and Fraley, 1991). Therefore, the statements to the contrary in the DEIS are no methods to estimate the effect on salmonids are purely misleading. Literature citations of these methods have been supplied to UNF staff routinely by the CRITFC.

The DEIS's qualitative analysis of effects of the alternatives on fish habitat and fish survival is in conflict with the best available scientific information and compounds the other deficiencies in the analysis of the alternatives' effects on aquatic resources. Although inadequately disclosed in the DEIS, the best available information indicates that increased sediment delivery will decrease pool volumes (Lisle and Hilton, 1990), increase channel width/depth (Dunne and Leopold, 1978; Richards, 1982), and increase fine sediment levels (literature reviewed in Rhodes et al., 1994) in affected streams. These effects tend to be especially pronounced in streams where sedimentation is already significant. Streams throughout the project area already exhibit signs of significant sedimentation and increased levels of fine sediment, as acknowledged in the DEIS, albeit inadequately. All of these effects of elevated sediment delivery and sedimentation reduce salmonid survival significantly via multiple means (USFS, 1983; Meehan, 1991; Rhodes, 1994; Henjum et al., 1994; USFS et al., 1997a; c). Given existing population conditions for anadromous fish, this type of habitat degradation is likely to speed extinction (Rhodes, 1994; Henjum et al., 1994; USFS et al., 1997a; c). Notably, the DEIS fails to disclose any of the foregoing information adequately, and therefore severely distorts the analysis of likely effects of the alternatives.

The analysis of cumulative effects on fish habitat and survival is also severely distorted by the failure to take a hard look at cumulative effects of sedimentation on habitats within the project area and downstream. The DEIS failed to analyze cumulative effects on fish habitat on the basis of current conditions of affected attributes, as recommended by the USFS own researchers (Reid, 1993). All habitat survey data in the

area are hopelessly out-of-date; the qualitative assessments are no surrogate. The DEIS's analysis of cumulative effects on fish habitat also fail to credibly analyze the cumulative effect of grazing on width/depth ratios, including the cumulative effect of sediment delivery from grazing in combination with other sources. The DEIS also includes no hard look at the effects of changes in width/depth ratios on water temperatures, water quality standards, and salmonid survival and persistence.

The DEIS fails to disclose that the Tower Fire Ecosystem Analysis (TFEA) and the EA noted that sediment deposition in Winom Creek (TFEA, p. 46) and Oriental Creek (EA, p. 27) consistently buried sediment samplers, even prior to the fire. This indicates that existing sediment loads are causing sedimentation and that additional sediment delivered to the stream will increase the magnitude and extent of sedimentation in affected salmonid habitat. This condition is critical for both assessing and disclosing the effects of the project and the cumulative effect of watershed conditions on salmonid habitat in streams within the project area. Due to this condition, on-going degradation of salmonid habitat is likely to occur via sedimentation of pools and increased levels of fine sediment in spawning and rearing habitat. Any additional sediment delivery will increase the duration, magnitude, and intensity of the degradation from sedimentation. However, this existing condition is not fully disclosed in the discussion of existing cumulative effects and it is fully ignored in the deficient discussion of the project's direct and cumulative effects on water quality, salmonids, and their habitats.

The DEIS also fails to disclose that the effects of sediment delivery on fish habitat are inconsistent with the Forest Plan as amended by PACFISH. This is because, "Actions that reduce habitat quality, whether existing conditions are better or worse than objective values, are inconsistent with the purpose of this interim direction" (PACFISH EA, p. C-5); as discussed, it is certain that alternatives 2, 3, and 6 will reduce habitat quality. The DEIS must be revised to reflect this obvious consequence of sediment delivery under many of the action alternatives.

The DEIS also fails to analyze and disclose the consistency of the alternatives with the riparian goals of PACFISH. PACFISH's riparian goals include the maintenance and restoration of: 1) water quality needed for stable and productive riparian and aquatic systems; 2) stream channel integrity, processes, and sediment regime under which the aquatic ecosystem developed; 3) instream flows needed to support healthy riparian and aquatic habitats; 4) natural timing and variability of water table elevations in meadows and wetlands; 5) diversity and productivity of native and desired non-native plant communities in riparian zones; 6) riparian vegetation needed to provide natural levels of LWD, water temperature regulation, and aid in controlling erosion and sedimentation; 7) aquatic habitats needed to protect locally-adapted fish stocks; 8) habitat to support populations of well-distributed native and desired non-native plants, vertebrates, and invertebrates that contribute to the viability of riparian-dependent communities. The DEIS does not provide any analysis of any of the alternatives' consistency with these goals.

The DEIS's also failed to credibly analyze the cumulative effects by alternative on the NFJDR. The dismissive statements in the DEIS that effects in the project area are

unlikely to have effects on the NFJDR are specious and in conflict with the best available information. Current data and information clearly indicate that tributary streams exert a profound cumulative effect on conditions in larger streams (Reid, 1993; USFS et al., 1993; Zeimer and Lisle, 1993; Rhodes et al., 1994; Henjum et al., 1994; Murphy, 1995; USFS, 1997 a, b, c). The DEIS must be revised to take a hard look at effects on the NFJDR based on full consideration of all cumulative effects on affected reaches and the best available information.

The DEIS contains no credible analysis of the project's consistency with protecting the "outstandingly remarkable values" of the "Wild and Scenic" reaches of the NFJDR, as required by law. Salmon and their habitat are one of the outstandingly remarkable resources of the NFJDR. The proposed TFRP project together with existing watershed conditions is likely to cumulatively affect substrate and channel morphology conditions on the NFJDR that profoundly affect salmon survival. Yet, as mentioned, the DEIS contains no credible analysis and disclosure of the cumulative effects on these resource values. As such, the DEIS contains no reasoned analysis and disclosure of the project's consistency with management direction in the UNF Plan.

The DEIS failed to identify and disclose that negative impacts to the salmonid resource resulting from the project cause an irretrievable loss of salmonid resources. Habitat degradation and associated effects on salmonid stocks are irreversible over several decades.

The DEIS fails to make a reasonable assessment of effects on turbidity. Although undisclosed in the DEIS, it is likely that turbidity levels have greatly increased on the streams because increased sediment delivery typically increases turbidity. Even using the estimates in the DEIS, which significantly underestimate likely sediment delivery, it is apparent that turbidity has been significantly elevated and will be elevated yet more under the action alternatives. Yet, the DEIS fails to make any credible analysis of effects on turbidity and compliance with state water quality standards.

Although the DEIS asserts that Best Management Practices ("BMPs") and mitigation have been shown to "minimize" adverse effects, DEIS does not present any credible quantitative evidence to support this statement. Existing conditions in the project area and downstream strongly countermand the baseless assertion. Indeed, there is no good evidence that the application of BMPs can reduce the impacts of logging, grazing, and road construction at the watershed scale to an ecologically insignificant level (Zeimer and Lisle, 1993; Rhodes et al., 1994; ISG, 1996; Espinosa et al., 1997). Therefore, it is clear that the action alternatives involve management practices that will cause detrimental deposits of sediment.

The DEIS also completely fails to disclose how much the action alternatives will increase the magnitude of created openings in MA C7. This is a critical omission because the limit on created openings from timber harvest is one of the central standards for MA C7 in the UNF Plan. It is also one of the major ways that the TFRP will modify subwatersheds. Therefore, the DEIS clearly fails to analyze and disclose the nature of the

TFRP action alternatives, their effects on the environment, and the level of deviation from the UNF Plan that they will cause.

The DEIS also fails to disclose the number, area, and location of landings constructed under each alternative, as well as the soil type and soil erosion hazard rating for the location. This defect must be corrected.

The DEIS also fails to disclose that the remaining vegetation between streams and logged areas is made more prone to blowdown due to logging (Franklin and Forman, 1987). Therefore, although undisclosed in the EA, logging near streams is like to reduce the longevity of standing trees along stream and the protective benefits they provide, such as providing shade.

The DEIS fails to disclose that many of the cumulative effects of land management cannot be mitigated. The loss of groundwater recharge and subsequent reduction in summer baseflows and flows to wetlands caused by soil compaction, reduced permeability, redirection of surface and groundwater flow by roads cannot be mitigated. Water temperature increases caused by channel widening cannot be mitigated.

Failure to Disclose That Habitat Degradation Is Irreversible and Reduced Salmon Survival Is An Irretrievable Loss

Although undisclosed in the DEIS, available information indicates that habitat degradation is not reversible. For instance, logging along intermittent streams will reduce LWD levels as the DEIS concedes. This will contribute to downstream degradation. LWD levels may require up to 200 years to recover from this impact (Rhodes et al., 1994). Pool loss and increased levels of fine sediment are not immediately reversible and recovery is dependent on watershed conditions; the attributes never fully recover as long as sediment loads generated at the watershed scale exceed the transport capacity of the stream. Elevated erosion and sediment delivery can not be immediately arrested, much less reversed, as previously discussed.

The habitat degradation that the project will contribute to cumulatively will reduce the survival of affected salmonids. The loss of even one salmonid due to habitat degradation represents an irretrievable loss not only of that fish, but its progeny. Indeed, salmonid populations stressed by habitat degradation may never fully recover from the reduced survival caused by additional, incremental habitat degradation. However, the DEIS completely fails to disclose that such losses are irretrievable, even though it identifies the failure to rapidly harvest dead trees as an irretrievable loss

Cumulative Risk Initiative

The DEIS does not contain a risk analysis of how the various alternatives might affect listed fish populations. While the Forest may believe that its proposed management practices and "restoration" measures may be the best available for minimizing the impacts of logging and road construction on aquatic species, it does not

address the potential consequences of incorrect judgment. Nor does the Forest assess its role in the overall Columbia basin-wide scheme of protecting and recovering listed species.

The federal government, including the Forest Service, recently issued a document, entitled Conservation of Columbia Basin Fish (December 1999) (also known as the "All-H Paper"). In this document, the federal government opines that Snake River steelhead must have a 10% increase in productivity in order to reverse its steep decline toward extinction. Upper Columbia River steelhead are described as requiring a 35-42% increase in productivity in order to avoid extinction. All-H Paper at 7. While the level of increased productivity needed for John Day basin steelhead was not yet available, it is expected to be available in March 2000. What is becoming clear is that near-term degradation is not an option. Even maintaining the status quo (non-degradation) is not an option. Improved habitat productivity in the near-term is essential. With the possible exception of alternative 4, none of the action alternatives addresses this need identified by the federal government. The DEIS must be revised to fully address the habitat protection and improvement issues raised by the federal government in its All-H paper.⁶

Conclusion

The flaws in the DEIS are so numerous and so basic that the Commission recommends that the Forest go back and do it over again. In preparing another DEIS, the Forest should remedy the flaws identified in these comments.⁷ If there are any questions regarding these comments, please feel free to contact Jim Weber, Policy Analyst (503) 731-1288 or Jon Rhodes (Hydrologist) at (503) 731-1307. Again, thank you for this opportunity to provide comments. We look forward to working with you to improve forest management on the Umatilla National Forest.

Sincerely,

Donald Sampson
Executive Director

Cc: Brad Nye
Naomi Stacy

⁶ While the All-H Paper opines that ICBEMP is not being addressed by the process, it is clear that federal land management is an essential component in any salmonid protection strategy. In any case, the Tower project is not being proposed pursuant to ICBEMP.

⁷ We incorporate by reference all comments, appeals, and accompanying declarations provided by the Umatilla Tribes, Warm Springs Tribes, and the Commission addressing the Tower project, along with declarations filed separately by Jon Rhodes and F.A. Espinosa, Jr.

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