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4-10 Thirdly, the change in ECA has the potential to alter timing of peak flows and runoff. This is likely to affect temperature in streams. Even if no logging is conducted in RHCAs, if snowmelt is coming off quicker, there will be increases in stream temperature after the spring melt. This has the real potential to exceed temperature guidance established in the TMDL.

4-11 Lastly, high levels of ECA will result in lower levels of both above- and below-ground biomass. Above-ground biomass reduces surface erosion through the interception of precipitation. Below-ground biomass reduces the potential for both surface erosion and landslides. Therefore high values of ECA in the tributaries of the American River will prove difficult toward meeting the upward trend requirement and state water quality standards, particularly with regard to the mandated reductions in sediment and temperature in the South Fork Clearwater TMDL.

4-12 It is unclear from the DEIS tables on pages 94-101, whether the ECAs pertain to the entire subwatersheds, or just the effects of the American and Crooked River and Eastside Projects. Further, the assumption that 15% of the American River watershed, which is composed of Lodgepole pine, will add to the ECA is inaccurate. This fails to account for any trees in the understory (notably grand fir and Douglas fir) that are already established and would continue to grow.

Riparian Restoration

4-13 The Eastside Township project should incorporate additional restoration in riparian areas and the stream channel of the American River. We appreciate the fact that riparian restoration is accompanying this project, however we feel that more must be accomplished in order to meet requirements of the MFP and Refinements. Re-establishing the floodplain and recontouring the channel will drastically improve the habitat conditions in the 1.2 miles of proposed riparian channel restoration. The riparian planting will also help to improve habitat and reduce water temperatures in the American River.

However, increasing the number of stream miles where dredge piles and the channel would be manipulated to restore the floodplain and sinuosity of the river would drastically improve habitat conditions for sensitive and listed species while simultaneously helping to meet the upward trend requirement.

4-14 We also appreciate the fact that 1.35 miles of fish habitat in Queen Creek would be reconnected to the American River by culvert or bridge placement. Whichever crossing type is used, the crossing should accommodate 100-year flood events. All fords should either be closed and decommissioned, or the impacts of these fords should be reduced through the placement of culverts or bridges. Leaving fords in place will continue to result in erosion and sediment delivery, impacting fish and other aquatic life.

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Comment: 4-12

Response: Please see EIS (page 94) where the first sentence for Indicator 2 – Water Yield states, “ECA was calculated by prescription watershed for each alternative.”

Table 3.0.1 lists the projects that were considered in completing the cumulative impacts analysis.

The table on page 94 (Table 3.4.5) shows the estimated equivalent clearcut acres (ECA) for the subwatersheds, with areas in square miles indicated in the first column. Alternative A is the existing condition, followed by the estimated changes from alternatives for the Eastside Project only; i.e., without the addition of the American Crooked Project. In contrast, Table 3.4.6 on page 96 reflects the existing condition and the Eastside Project combined effects of foreseeable actions. The labels on these two tables will be changed to help clarify this.

As indicated on page 94 (Indicator 2 – Water Yield) “Dead and dying lodgepole pine will continue to contribute to ECA over the next two decades. Also on page 94, third paragraph under Alternative A, we discuss dead and dying lodgepole pine and the effects to ECA. While we acknowledged that small existing trees in the understory would eventually recover ECA conditions as the stand matures, this would likely take several decades.

Comment: 4-13

Response: We acknowledge the importance of watershed restoration efforts in the upper South Fork of the Clearwater River and specifically the American River watershed. Within these areas, we have conducted or are proposing to conduct a wide variety of restoration actions without logging.

Many of the actions noted in Table 3.0.1 have or will occur in the current Eastside Project area, specifically American River Instream Improvements, Box Sing Creek channel re-connect and fish barrier removal, and American River Restoration Projects (fish barrier removal and instream habitat improvement).

The bank re-contour and riparian vegetation planting along the American River are included in all of the Eastside Project action alternatives. As shown in Appendix A, the treatments occur on all of the BLM ownership in the project area.

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4-15 When riparian restoration occurs, all fish should be captured using electro fishing and should be relocated. Additionally, nets could be placed downstream to prevent sensitive and listed fish from entering reaches of the American River where restoration is taking place to reduce mortality.

4-16 The BLM should also recreate pool habitat and place coarse woody debris throughout the American River. Pool habitat is basically absent from the river, and pool habitat and coarse woody debris would significantly improve habitat for sensitive and listed fish species.

4-17 While restoration activities occur, the BLM should monitor turbidity levels. The lethal concentration for 50% of Chinook salmon (LC50) in confined laboratory settings is 488 mg/L for 96 hours.[14] <#_ftnl4> The BLM should insure that the LC50 concentration is not exceeded.

Soil Resources

Roads, OHV Trails, & Skid Trails

4-18 As reiterated throughout these comments, the most concerning aspect of the project is the high number of proposed new and temporary roads. The BLM's own analysis indicates that roads are the current primary source of sediment in the watershed.[15] <#_ftnl5> Yet the project proposal for the Eastside Township logging project includes up to 15.1 miles of temporary roads, 2.12 miles of permanent roads, would designate up to 2.39 miles of OHV trails, and would only result in the decommissioning of up to 3 miles of existing roads. Although most of the road-related aspects of this project would involve temporary roads, drastic, short-term sediment yield occurs within the first year or two following construction of a road, as well as during decommissioning of the temporary roads.

4-19 Furthermore, roads are predominately used to facilitate the types of yarding methods that result in high levels of soil disturbance compared to helicopter yarding. A review of the ecological effects of roads and skid trails by Trombulak and Frissell showed that soil resource impacts related to skid trails in northeastern California persisted 40 years after the logging concluded.[16] <#_ftnl6> If the BLM is to conform with the upward trend requirement in the MFP, road-related and management-related sediment must be drastically reduced. Decreasing the amount of new and temporary road construction, increasing the proportion of helicopter yarding, and increasing the amount of road decommissioning in the project area would help to reduce the effects of this project and meet the upward trend requirement.

4-20 At the very least the BLM should avoid the proposed road construction involving soils rated high for erosion potential.[17] <#_ftnl7> As Trombulak and Frissell point out in their review, roads are the responsible catalyst for the majority of slope failures and gully erosion in steep,

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Comment: 4-14

Response: Thank you for your comment. The Queen Creek channel reconnect is designed to accommodate fish passage and a 100-year flow event (See Appendix I). Queen Creek reconnect design criteria are described under Alternative B on page 20. Section 3.8.1.3 discusses ford's treatment alternatives. Page 263 clearly describes the current situation and what is planned for fords. As discussed, all existing active live water fords on BLM land will either be hardened or closed as shown in Table 3.8.3.

Comment: 4-15

Response: Refer to Appendix I, for a description of proposed restoration measures. Refer to Table 2.3.1, Project Design Measures, Number 21, for additional information regarding instream work in fish-bearing streams. Relocating fish (e.g., electrofishing) out of areas where riparian restoration takes place would not be practical in a stream the size of the American River, primarily because of stream flow conditions and low conductivity. The riparian restoration primarily involves re-contouring streambanks; and seeding and planting of riparian vegetation. The restoration efforts would primarily occur in areas above the mean high water level.

Comment: 4-16

Response: We agree with your comment. Table 3.0.1 and Section 3.6.3.4-Cumulative Effects (page 172), identifies past projects BLM has undertaken to create pool habitat and place large woody debris. The BLM also plans to create pools and place woody debris in dredge mined stream reaches in American River (*American River Restoration Projects* USDI-BLM 2006), which includes stream segments within the project area.

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4-20
Cont'd forested landscapes where logging activities have occurred.[18] <#_ftn18> Ideally, all unauthorized OHV routes should be closed and rehabilitated, any skid trails should be designated, proposed new and temporary road construction should be reduced, the proportion of helicopter logging should be increased, and more roads should be decommissioned. As the BLM's own analysis points out, additional sediment delivery into the American River may adversely affect listed and sensitive fish species.[19] <#_ftn19>

Delineation of PACFISH Buffers

4-21 There was some discussion of whether or not the dredge ponds should be used in the delineation of PACFISH buffers. If peak flows in the American River are at a high enough volume such that overland flow occurs from the river into the dredge ponds or from the dredge ponds into the river, PACFISH buffers should be delineated from the outside edge of these ponds. If management- or logging-related sediment is delivered into the dredge ponds an overland flow occurs, sediment could conceivably be delivered from the dredge ponds into the American River. This conservative approach is warranted given the presence of sensitive and listed fish in the American and South Fork Clearwater Rivers.

Slopes

4-22 One conservative approach toward avoiding detrimental impacts in the project is the fact that the BLM will be applying PACFISH to all areas with high landslide hazard and mass failure potential. However, there is not a standard or guideline to be applied regarding steep slopes. The BLM should, for example, avoid logging on all slopes >35%, or at the very least avoid ground-based skidding. Reducing both above- and below-ground biomass will increase the potential for erosion and mass failure. Above-ground biomass intercepts precipitation and reduces the volume and force with which precipitation hits the soil surface. Below-ground biomass is important for holding soil in place. Therefore both above- and below-ground biomass are important on steep slopes, warranting the avoidance of logging in such locations.

Treatments

Yarding Methods

4-23 The yarding methods associated with accessing treatment units via logging roads exacerbate the effects of the roads themselves due to soil and surface disturbances. In a review of 16 different studies, Megahan et al. found that helicopter yarding resulted in an average of 4% soil disturbance compared to 9.1% for skyline, 23.9% for cable, and 33.5% for tractor yarding.[20] <#_ftn20> Where silvicultural treatments are absolutely necessary, helicopter logging should be employed to reduce soil and ground disturbance

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Comment 4:17

Response: Thank you for your comment. We acknowledge that turbidity should be monitored (see Appendix E-Monitoring Plan, page E-5). By complying with state water quality standards the LC50 concentration (488 mg/L for 96 hours) will definitely not be exceeded from any proposed BLM management actions. As stated on page E-5, there is a turbidity monitoring requirement for riparian and channel restoration actions (pre-, during, and post-) to ensure that potential project attributed turbidity or sediment impacts are minimized to native and special status fish.

Comment: 4-18

Response: A full discussion on sediment is disclosed in this EIS Section 3.4.

The effects of the new permanent roads and the use of temporary roads are disclosed along with the effects (including beneficial) of the restoration actions. The short- and long-term effects as well as cumulative effects of the action alternatives will be considered in making our decision.

The action alternatives identify from 0.6 to 1.13 miles of new permanent roads, not 2.12 as you have stated

Also see our responses comments 4-1, 4-3, 4-6, and 4-7 that address these concerns

Comment 4-19

Response: The majority of temporary roads proposed for construction occur in areas that have low sediment delivery potential to streams. A full discussion on sediment is disclosed in this EIS Section 3.4. A discussion on upward trends and the effects of the project is disclosed in Appendix H. Also see response to comment 4-1.

We acknowledge that temporary roads are proposed to facilitate use of yarding systems which are more economical than helicopter yarding. Alternatives C and D were developed to address yarding issues.

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4-23
Cont'd

to limit erosion and sediment delivery. Where helicopter logging is not possible, winter logging could be applied to reduce soil disturbances when snow pack exceeds 2 feet. Furthermore, increased soil disturbance creates seed beds for the establishment of noxious weeds and invasive plants. [21] <#_ftn21> Helicopter yarding and winter logging also have the added benefit of reducing impacts to threatened, endangered, and sensitive plants such as Macfarlane's four-o'clock, Spalding's catchfly, Idaho barren strawberry, Payson's milkvetch, Case's corydalis, and Candystick.

Feathering & Diameter Limits

4-24

The main purpose for the Eastside Township logging project is to reduce hazardous fuels in the township and the Wildland Urban Interface (WUI). According to the BLM, effective fuels treatments include reducing the continuity of the forest canopy [22] <#_ftn22>. While increasing crown spacing will reduce the potential ability of a fire to 'crown' and create a high intensity fire, it is not necessary to maintain space between every crown. If every single tree crown is spaced from neighboring trees, the logging units will be left with a uniform, plantation-style appearance.

As part of the Eastside Township project, the BLM should consider employing some diameter limits. For example, 20 inches for ponderosa pine, 20 inches for Douglas-fir, 21 inches for Engelmann spruce, and 21 inches for grand fir. Individual trees of each respective species with these diameters or larger should be sufficiently self-pruned that ladder fuels are not present to carry a fire into the crown. Trees with these diameters or larger are also more likely to survive a fire. These diameter limits will retain the fire-resistant individuals, will produce a more naturally appearing treatment, and will still accomplish the objectives of the project. Although not all individuals will be uniformly spaced, 'clumps' of individuals should be spaced such that a crown fire would not carry in the logging units.

4-25

Near the edge of the units, removal of individual trees should be reduced to produce a 'feathered' appearance rather than an 'edge' effect. This practice will not only benefit wildlife by reducing edge effects but will also result in a more aesthetically pleasing appearance.

4-26

In lodgepole pine stands, the BLM should be particularly cautious about uniform crown spacing. This practice will make lodgepole pine vulnerable to blow down during high winds. Clumping or avoiding logging in lodgepole pine altogether will maintain low levels of blow down.

OHVs

4-27

The proposal to designate up to 2.39 miles of additional OHV trails [23] <#_ftn23> as part of this project is very concerning. High road densities in this area have the real potential to encourage irresponsible OHV and

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Comment 4:20

Response: Proposed road locations are chosen based on a combination of criteria as stated in Section 3.8.1.3. As table 3.5.3 illustrates acreages involved are relatively small and there are differences between alternatives (reflecting the differences in the amount of helicopter logging).

The Eastside Project action alternatives are not proposing to log, burn, or build roads on slopes susceptible to slope failure (e.g., landslide prone).

Design criteria have been developed for this project to limit detrimental soil physical disturbance of temporary roads, skid trails and landings (refer to Table 2.3.1) and rehabilitation following use. Section 3.8.2 contains a full discussion of road decommissioning.

These and other factors were considered in alternative formulation.

Comment: 4-21

Response: This statement does not pertain to the Eastside DEIS. This was a topic of discussion on the Whiskey South project field trip conducted in June 2006. However, PACFISH standards are used in the Eastside Project RHCA delineations. Mean high flow connected American River dredge ponds are considered in the delineation of PACFISH buffers (i.e., RHCAs). No Eastside Project logging is proposed to occur within RHCA buffers.

Comment: 4-22

Response: PACFISH buffers should minimize potential for adverse sediment delivery to live waters (see pages 158-159). Table 2.3.1 contains Project Design Measures to deal with landslide prone and slope concerns. Items 1 and 5 deal specifically with landslide prone. The MFP on page II-4 limits the use of ground based yarding systems on slopes exceeding 35%. The yarding design of the Eastside project is in conformance with the MFP. Item 6 incorporates the State of Idaho Best Management Practices, several of which relate to slope and logging practices and can be viewed at www.idl.idaho.gov/Bureau/forasst.htm. The project was designed so that sustained slopes >35% are either cable or helicopter yarded.