

Addendum to Trail Creek Environmental Assessment

Background

Trail Creek Environmental Assessment (EA) was released to the public June 22, 2002, for the formal thirty day comment period. On July 13, 2002 lightning ignited the Wall Creek Fire in the Trail Creek drainage. The Wall Creek fire was contained at 313 acres of which 216 acres were Bureau of Land Management (BLM) administered lands. A portion of those lands had been identified as Community at Risk. On September 19, 2002 the Butte Falls Field Manager signed the Finding of No Significant Impact (FONSI) and Decision Record for Fuel Hazard Reduction, Culvert Replacement, and Road Projects. The Decision Record was not issued on the timber harvest portion of the EA at that time. The interdisciplinary team re-evaluated the proposed alternatives taking into consideration the effects of the Wall Creek Fire in the Trail Creek drainage. Of the 216 acres of BLM administered lands affected by the Wall Creek Fire, 3 acres were included in the proposed timber harvest units and up to twenty acres created salvage opportunities. The purpose of this Addendum is to analyze changes to the original baseline and project proposals.

Impacts Caused by the Fire

Approximately 150 acres burned with a high or moderate severity with the remaining 163 acres burning with a low severity. A high or moderate burn severity consumes the litter, duff, and small woody debris. This burn severity also chars and consumes some of the large woody debris. In these areas of high burn severity the structure and porosity of mineral soil can be altered.

There were 5.5 miles of tractor fireline created during the fire suppression efforts. Roads that have been previously blocked, closed, or overgrown were opened to provide access for the fire suppression efforts. Firelines on BLM lands were rehabilitated by waterbarring, seeding, pulling debris over the lines, and laying mulch at stream crossings. Previously blocked roads on BLM were re-blocked.

Hydrology

The cumulative effects on the watershed have increased slightly due to additional openings in the canopy, compaction on firelines, and opening up roads that were closed or previously overgrown. The lower reaches of Trail Creek, including a substantial length above the West Fork to Wall Creek and beyond, and the lower reaches of the West Fork below Walpole Creek, have gradients

below 2 or even 1%, but remain well-confined by bedrock. Defined as response reaches, these areas are expected to be particularly sensitive to wood and sediment input, or lack thereof. Shallow, straight, bedrock channels are the prevalent condition in the main fork of Trail Creek and Wall Creek.

The reduction of canopy and consumption of litter, duff, woody debris and altered soil structure could potentially increase the amount of runoff, peakflows, erosion and subsequent sedimentation in moderate to high severity burned areas. Wall Creek is a response reach, which is expected to be sensitive to wood and sediment input, or lack thereof. These potential impacts can affect fish populations and their habitat. The magnitude of these effects depends on the timing, intensity, and duration of winter storm events.

The construction of firelines (including reopening of previously closed roads) potentially increased the amount of surface erosion and transportation of sediment to stream channels. Due to the sensitivity of Wall Creek to sediment inputs, the current high road density and sediment problem from roads in this watershed, these additional impacts could have negative effects on fish populations and their habitat downstream.

These effects would be in addition to the cumulative effects previously analyzed in the EA. The amount of compaction and disturbed soils from firelines in this watershed has increased causing the probability of transporting sediment to streams and affecting fish habitat to also increase.

Soils

Effects on the soil resource from the wildfire are expected to come from high intensity burned areas where the duff layer (organic surface layer) and vegetation were consumed. Other effects come from tractor firelines and roads opened up to access the fire during the suppression effort. Areas of bare soil from high intensity fire are subject to erosion, subsequent sedimentation, and soil productivity losses. Vegetation and the duff layer act to intercept and protect the soil from raindrop impact and detachment. Therefore, these areas are highly vulnerable to erosion, runoff and sedimentation. The intensity of subsequent rainstorms would be most determining factor for the magnitude of these impacts. These effects are expected to be short term (1-5 years) and diminish over time as the areas revegetate and stabilize. Also, the duff layer is a dominant source for soil nutrients. In areas where there is no remaining duff layer, it is expected that soil nutrients especially nitrogen, would decrease and soil productivity would decline. These effects could be long term (greater than 5 years). Tractor firelines and natural surfaced roads opened up and bladed off for fire access are expected to be a source of runoff and sedimentation in the short term (1-5 years). Firelines that were adequately waterbarred and grass seeded are expected to revegetate and restabilize in the long term. Roads where adequate drainage structures (i.e. waterbars, water dips, ditchlines, culverts, etc.) are installed or reinstalled are expected to stabilize.

Fish

The majority of the fire occurred within the Wall Creek 6th field in T32S, R1W Sections 30 and 31.

Although the fire burned intensely with high to moderate severity in the uplands, the majority of the fire burned with low severity and left most of the canopy intact along Wall Creek.

The private lands, which were burned, are currently being harvested for salvage timber, removing whatever canopy still remains. An estimate of 10 to 15 acres, were compacted by constructing firelines and safety zones during the fire suppression. Although the firelines on BLM lands were rehabilitated by waterbarring, seeding, pulling debris over the lines, and laying mulch at stream crossings, these firelines could potentially contribute additional sediment to adjacent stream channels and at stream crossings until revegetation occurs.

The Wall Creek 6th field has been shown to be very responsive to changes in peak and base flows. This stream has very little instream structure, which would function to trap sediment and debris flows. This would be exacerbated by the fire effects and could add to the risk of channel degradation should a major storm event occur before vegetation has a chance to become established. Although, coho salmon are not known to occur within the fire perimeter due to a waterfall downstream which blocks migration, it is likely that these effects could be transmitted to coho habitat in the lower reaches of Wall Creek and the mainstem of Trail Creek.

Effects of the fire on the stream channels and aquatic habitat remain to be seen, because fall/winter storms have not yet begun in this region. Predicted effects would be influenced by the amount of rain, which would fall and could range from minor to severe. Although effects of harvesting timber on private lands was previously accounted for in the cumulative effects analysis completed for this EA, the effects of the fire surpass the effects of timber harvest in several ways. Soil hydrophobicity resulting from the fire, a condition in which the soil has “baked” and repels water, would be expected to result in increased amounts of precipitation running off, rather than soaking into the soils. There has been a complete removal of the duff layer from the soil surface in many places as well as a total loss of shrub, grass, and forb vegetation. This could result in increased peak flows and subsequent channel degradation such as sedimentation and bank erosion. These effects would not have been expected to occur if the lands had been harvested for timber.

Botany

Vascular plant surveys, which targeted all Special Status and Survey and Manage vascular plant species, were completed in July 2000 in the areas proposed for salvage. No Special Status or Survey and Manage vascular plant species were discovered. No non-vascular plant surveys for lichens and bryophytes have been conducted in the burned areas. Although, surrounding areas were surveyed in February and March 2002. The results of those vascular and non-vascular surveys are discussed in Appendix B of the Trail Creek EA.

Most of the BLM acres that burned in the Wall Creek Fire were under-burned. A few areas, however, burned at high severity. In these areas most, if not all, of the trees were severely burned

and may not survive. The under-story shrubs, herbaceous vegetation, duff layer and lichens and bryophytes

were also burned. Some vascular plants have already begun to re-sprout and would naturally revegetate the area over the next couple of years. Lichens and bryophytes would take much longer to re-establish and would depend on the persistence of spores or fragments in the burned areas, spore dispersal or fragmentation from surrounding areas, and regeneration of host trees. Suitable habitat for Special Status or Survey & Manage lichens and bryophytes currently does not exist in the areas that burned at high intensity.

Wildlife

Northern Spotted Owl

Of the 216 BLM acres within the fire area, about 170 acres were “suitable” owl habitat (nesting, roosting, foraging), with the remainder in open rocky meadows. Approximately 100 acres were nesting habitat. Most of the burned area was a relatively low intensity underburn, where only a few large trees were killed. It is presumed that the change in ground and shrub vegetation would disrupt the owls’ prey base for two to five years. Due to wildfire and associated suppression activities, 170 acres of habitat was degraded from suitable to dispersal in the short term.

About ten acres of underburn was within the designated 100 acre core for the Off The Wall spotted owl site (#3394). An adult pair had been present in 2001 and 2002, with the birds last producing young in 1998. Both adults are color banded to enable monitoring as individuals without having to recapture them to read their numbered US Fish & Wildlife aluminum leg bands. An adult owl was viewed within the burned area during mop-up three weeks following the initial fire.

In summary, the wildfire and suppression activities (dozer lines, aerial operations) impacted the resident owl pair in the short term (2 to 5 years). In the long term (10 to 50 years), the underburn would rejuvenate the owl habitat through reintroduction of fire.

Red Tree Vole (RTV)

The burned area was surveyed for RTV in 2000 and 2001, with 16 nests located in the vicinity of the section 31. Trees with suspected active nests had been flagged and tagged. Post-fire, we were able to relocate about half the trees to remark them after tags and flagging had burned off.

In most of these areas the fire was a relatively low intensity ground fire that charred the bigger trunks, but did not kill the older trees. In several areas, the fire was more intense, resulting in patches of dead trees that would no longer be RTV habitat. Patchy crown fires probably consumed several of the originally mapped RTV nests.

The voles’ main diet is green conifer needles. From telemetry studies, adult voles have a median home range that covers five trees (Brian Biswell, cited in Management Recommendations for RTV, Version 2.0 Sept 27 2000, pg 8).

Vehicular Access and Human Disturbance

Several overgrown and not driveable roads were opened during suppression efforts in July. Newly constructed two-to-three blade wide dozer lines created potential ATV/OHV trails. All of the dozer lines were blocked, seeded, waterbarred in August during emergency fire rehabilitation. Some lines had excavator piling of debris along the trails to reduce erosion and to block ATV/OHV access.

Vegetation

The result of the fire may result in a short-term increase in the insect population due to Douglas-fir beetles, mountain pine beetles, and bark bore beetles invading the dead and dying trees created by the fire. It is possible that the resulting increased insect population could migrate to green conifers and subsequently kill those neighboring trees. With the increase in insects, a short-term increase in insect eating birds, such as woodpeckers, may also occur. The size and intensity of the fire would indicate that the conditions described above are possible, though if they do occur, the conditions would be short termed in duration.

Modifications to the Proposed Timber Sale to Mitigate the Effects from the Fire

Hydrology

Skid trails would be ripped on an additional 180 acres of tractor units in order to mitigate some of the effects of the constructed firelines. This would be expected to have the effect of increasing infiltration and reducing runoff on skid trails. As a result, the potential of sedimentation coming from skid trails would be reduced.

In addition, approximate 1/3 mi. of jeep trail would be decommissioned. This action would be expected to reduce the overall amount of sediment being transported to stream channels in both the long and short term.

The construction of a temporary road for a tractor unit in the original EA has been dropped and the logging system has changed to helicopter which also reduces the overall amount of compaction and soil disturbance analyzed under the Trail Creek EA.

Ripping additional skid trails and decommissioning an additional road is likely to offset some of these effects.

Soils

In order to offset some of the effects of the wildfire on soil erosion, runoff, and sedimentation, an additional 180 acres of proposed tractor yarding ground is recommended for tillage (soil ripping). In addition, the skid roads with the highest potential for erosion would be grass seeded and mulched. This is expected to reduce runoff, soil erosion, and subsequent sedimentation in nearby stream channels in these areas both in the short term and long term. The amelioration of existing soil compaction is also expected to increase overall long term soil productivity in these tractor units.

Fish

All units proposed for tractor harvesting would have skid trails ripped following the harvest. Because the skid trails affect approximately 8-10% of the harvest units, this would result in additional decompaction of at least 14 acres. In addition to this, the skid trails would be seeded and mulched for 100 ft. from where they intersect with roads to reduce the potential for overland flow off of these units to contribute sediment to ditchlines.

A timber harvest unit, totaling 13 acres that was proposed for tractor logging has been changed to helicopter. A new temporary road, which would have provided access to the tractor unit was dropped. This change would reduce the amount of compacted soils within this unit by approximately 1 acre.

An unnamed, unmapped jeep road located between road #s 32-1-29.2 and 32-1-33.1 would be decommissioned. The road is currently eroding, forming gullies in the roadbed and contributing sediment to ditchlines. This road would be ripped, waterbarred, seeded, mulched, and blocked. This action would result in reduction of road mileage by approximately .33 miles.

Reducing the amount of compacted acres throughout the watershed would be expected to help offset the anticipated increases in peak flows should a storm event occur. The proposed additional ripping in tractor units would offset most of the effects created by the suppression activities. The additional road decommissioning and dropping of the temporary road construction in the one harvest unit would also reduce runoff resulting from compaction.

The effects of the proposed changes to the timber sale would be expected to offset some of the effects of the fire and suppression activities.

Botany

No sites were found. Therefore, the proposed additional ripping of the skid trails, change from tractor to helicopter logging, and the additional road decommissioning would have no effect to plants.

Wildlife

The additional mitigation for the fire would not have an effect on wildlife.

Vegetation

By ripping all the skid trails in the density management units in the Trail Creek Timber Sale Proposal, the silviculture effect would be that some trees on the edge of the skid trail may die due to their root system being impacted by the ripping. Trees not killed by the ripping adjacent to the skid trails would have less growth response to the thinning due to the root system being affected. The reduced growth would be for a short term normally about 5 years until the residual trees can reestablish roots in the ripped areas. With the reduced growth, the affected trees may be subject to increased stress and subsequent less vigor until the rooting system can be reinstated. Silviculturally, the ripping is not the best activity to implement for tree growth and vigor. In the long term, however, the ripping would reduce compaction, increase infiltration of water, and increase the productivity of the site.

Seeding with native vegetation or sterile grasses and mulching 100 feet of the skid trail from the trail's intersect with roadways should not have any effect silviculturally on the unit and should lessen potential sedimentation from the harvest area.

Effects of Proposed Fire Salvaged Trees

Out of the 150 acres that burned with a high or moderate severity, an additional 16 acres of fire killed trees is proposed for salvage. Four trees per acre greater than 16" DBH would be left. 120 lineal feet per acre, 16" X 16' would be left for coarse woody debris. The trees harvested would be removed by means of a helicopter, which would minimize impacts caused by salvage activities. No additional roads or landings would be built to facilitate the salvage. Existing roads and landing would be utilized.

Hydrology

The soils within the fire perimeter are at a high risk for erosion due to the loss of litter and duff. The proposed action is not likely to increase the amount of erosion and subsequent sedimentation downstream.

Soils

The proposed fire salvage on 16 acres by helicopter is expected to be a minimal affect on soil erosion and soil productivity. These trees are dead, their removal is not expected to reduce slope stability or provide for canopy cover in the long term (greater than 5 years). Surface disturbance and subsequent soil erosion is expected to be minimal from helicopter yarding.

Fish

No salvage harvest would occur in Riparian Reserves, and no additional reduction in canopy would occur. There would be no change to the effects on coho salmon or coho Critical Habitat resulting from these actions.

Botany

During the pre-fire surveys, the salvage unit areas were described as mostly mid-seral, moderately moist white fir/douglas fir stands with areas of mature conifers over poles and scattered hardwoods. The shrub layer was light and the forb layer was light to moderate.

Approximately 15-20 acres of the severely burned area is proposed for salvage harvest. Only dead conifer trees would be harvested and removed by helicopter. Two new helicopter landings have been identified. The landing in T32S-R1W-S29 on road 33.01 was created during the fire suppression activities. The second landing in T32S-R1W-S31 is at the end of road 5.4. This area was widened also during fire suppression activities. No additional disturbance to these landing is expected during use. No habitat is now present on these landings for any Special Status or Survey & Manage vascular or non-vascular plants.

Special Status and Survey and Manage Vascular Plants

The proposed fire salvage units are outside the ranges of any Threatened, Endangered or Proposed plant species. The salvage harvest would be “no effect” to any T&E plants. The salvage harvest would also not affect any Special Status or Survey & Manage vascular plant populations because none were found in the proposed salvage units during pre-fire surveys.

Special Status and Survey and Manage Lichens, Bryophytes and Fungi

No surveys for non-vascular plants (lichens and bryophytes) or fungi have been conducted in the proposed salvage units. Under normal conditions, pre-disturbance surveys are required for some lichen and bryophyte species, but all Survey and Manage fungi fall into categories that do not require pre-disturbance surveys. The Wall Creek fire burned through the proposed salvage units at high intensity. Most trees were killed and woody debris, shrubs and herbaceous vegetation burned. All lichens and bryophytes associated with standing and downed trees also burned and may have contributed to first order fire effects (i.e. char height). The proposed salvage units no longer contain suitable habitat for Special Status or Survey & Manage non-vascular plant species. Removing dead conifer trees by helicopter would not adversely affect any Special Status or Survey and Manage lichen or bryophyte species.

Wildlife

Northern Spotted Owl

Harvest of the 16 acres of dead trees by helicopter would minimally impact the adjacent owl pair beyond the existing impact of the burn, plus the impact of harvest of other nearby units in the Trail timber sale. Project Design Features such as leaving four of the largest stems per acre in the salvage patches, and implementing standard nesting seasonal restrictions (March 1 through 30 June) would be followed. No trees would be cut within the 100 acre owl core unless there was an OSHA safety conflict.

The cumulative impact of the salvage, plus the wildfire, plus the burn and salvage on nearby non- federal lands is within the terms and conditions of the programmatic Biological Opinion (#1-7-01-F-032 dated 12 October 2001) issued by the US Fish & Wildlife Service in compliance with the Endangered Species Act.

Salvage logging is currently underway on non-federal lands in section 30 just north of the owl core. None of that area was considered to be suitable owl habitat before the fire. Removal of nearby patches of fire killed trees would have a relatively low additional impact on what was previously analyzed.

Red Tree Vole

Several active red tree vole nests were consumed in the fire, but several hundred remain within the Trail timber sale vicinity. For the identified RTV nests that remain in live trees, a one-tree-length (170 ft) radius no-cut buffer would be maintained as per the interagency Management Recommendations for RTV. Clarification from BLM's Survey and Manage coordinator Mark

Huff indicates that patches of dead trees that fall within the 170 ft radius can be salvaged, since the trees no longer provide habitat for voles. The canopy of the dead trees that touches the nest tree canopy would not be cut. Voles would not be expected to re-nest in a dead tree with no green needles.

Vehicular Access and Human Disturbance

Overgrown road 33-1-5.4 that was opened during the fire would be blocked with a steel pipe gate to minimize vehicle traffic. ATV/OHV users would probably create pathways around such blocks. As for the dozer lines, the blocks, waterbars, debris piles, and ripping already in place should prevent creation of new ATV/OHV paths.

Vegetation

Unit 31-5 (Change from Density Management to Select Harvest)

In the original Trail Creek Proposal, unit 31-5 was proposed as a density management harvest. While the Wall Fire burned through the unit, not all of the conifers within the unit were destroyed. By changing the prescription for this unit from density management to select harvest, the fire killed and damaged conifers can be removed to reduce the possibility of future insect damage and mortality. The select harvest would result in a fully stocked stand with a canopy closure of greater than 40%. The density management harvest was removing smaller diameter conifers with less crown canopy development than the leave trees within the unit. A few larger trees (10-15) killed by the fire would be harvested with the select harvest. The majority of the trees left in the unit are: (1) larger diameter, (2) full crowned trees, and (3) healthy, without disease or insect problems.

New Information

The Trail Creek EA was completed and sent out for review on June 18, 2002. On June 19, 2002 the BLM received the results of the 2001 Survey & Manage Annual Species Review (ASR), including Instructional Memorandum No. OR-2002-064 dated June 14, 2002, which implemented the changes included in the ASR. Two species that were found in the Trail Creek Timber Sale and Fuels area were dropped from the Survey & Manage list - *Bondarzewia mesenterica* (fungi) and *Buxbaumia viridis* (bryophyte). No protection is now required for these species. One site of *Bondarzewia mesenterica* and 62 sites of *Buxbaumia viridis* were documented in the Trail Creek timber sale and fuels area. The *Bondarzewia mesenterica* site is located outside a timber sale unit and will not be affected by the harvest or fuels reduction activities. Of the 62 *Buxbaumia viridis* sites found, 14 are in units or parts of units that were dropped, 1 is within a riparian buffer, 7 were buffered and 40 were not buffered. Persistence of these species is no longer a concern at these sites.



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Date