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TOOLBOX FIRE RECOVERY PROJECT

COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

by

Blue Mountain Biodiversity Project and
League of Wilderness Defenders
Fossil, Oregon
Tel. 541/468-2028

Karen Coulter/ Vega Nunez

November 17, 2003

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1. HABITAT

Habitat destroyed by the fire was "mature" habitat providing sufficient food and shelter for resident species to survive. The "new" habitat created by the fire will be inferior for the purpose of obtaining food and shelter for sometime to come, since deterioration and infestation processes take time to develop. Fire hardens wood and makes it somewhat insect resistent until the deterioration process advances. The Toolbox Fire-created habitat is barely a year and a half old. Therefore, amount of downed logs and especially standing snags left for habitat should be considerable to compensate for thinner pickings and still be sufficient for target populations. Building up wood insect foraging bird (and rodent?) populations also helps fight post-fire insect invasion of live trees which are a more attractive food source to insects for being softer and easier to penetrate.

The habitat provision might be seen as contrasting the prescribed burn provision (2) and the merchantable timber provision (6) as suggested by the DEIS if not applied with restraint. Since the forest is a natural system, the natural components must receive priority treatment. Either the DEIS calls for the protection of habitat, or it calls for reducing fuel loads and getting out the cut.

Since the reduction of fuel loads has in recent history been practiced and NOT produced the predicted results (DEIS Vol. 2, Table A-2, pp. A-5 to A-8; also below point 2. a), it is preferable at this point to manage for the known factor, that of habitat restoration for downed wood dependent and other species, and future forest integrity.

We suggest limiting prescribed burning to areas with the excessive, hazardous fuel load recommended for treatment in the National Fire Plan, and limiting commercial cuts to dead trees below 12" dbh.

SPECIFIC WILDLIFE NEEDS

Bald eagle, goshawk, and peregrine falcon require large contiguous mixed mature to OG conifer forest and open areas of up to 6000 acres (Reynolds 1989, Marshall 1992). Secluded, isolated nest trees of considerable size (bald eagle, goshawk) or high cliffs (peregrine) with all three preferring a water source near nest trees are essential (DEIS Vol. 1, 3:Wildlife). Pileated, threetoed, white-headed, blackbacked, Lewis woodpeckers, etc. and species dependent upon these (e.g. secondary

cavity nesters) as well as non-dependent habitat companions like the brown creeper, William's sapsucker, flammulated owl, hermit thrush, olive-sided flycatcher, rednaped sapsucker, chipping sparrow, etc.) require a certain log density for foraging and reproduction opportunities. Thus, a reduction in downed and standing logs and snags will negatively impact their survival rate. This applies to white-headeds as well who select areas with large snags for nest sites and large trees for insect and cone foraging (DEIS 3-201). Also, "continuous tracts of late successional forests provide higher quality habitat than fragmented areas (Altman 2000 cited in DEIS 3-201). Large snags, dead-topped trees, and live open-limbed trees are also crucial for bald eagle reproduction as is proximity to bodies of water (DEIS 3-183). Much the same habitat requirements, including seclusion, apply to goshawks (Crocker-Bedford 1990)and peregrine falcon (DEIS 3-190). In case of goshawk, studies show that while areas near water are preferred, nesting takes place in old growth or mature growth over 20" dbh whenever possible with above 60% canopy closure (Moore and Henny 1983, Fleming 1987, Patla 1991).
Studies on goshawk and various woodpecker populations also show that the disection of habitat is detrimental to their survival, especially for reproduction (Conner 1979, Bull et al. 1986, Groggans 1987).
The DEIS states (Vol. 1, 3, Wildlife, various species cited) that no specific surveys were conducted for species that were not historically prominent in the project area. However, pre-fire habitats are described as suitable to a number of species generally endemic to Western US (e.g. hermit thrush, chipping sparrow, flammulated owl, others; DEIS Vol. 1, 3-Wildlife). Since some of these bird species were known to be present in the pre-fire project area, and some of them are categorized as sensitive or endangered (flammulated, ...) and are listed in the *Conservation Strategy for Landbirds of the Eastslope of the Cascade Mountains in Oregon and Washington*, it is vital that the specific habitat improvement strategies recommended in this work are incorporated into any recovery plan for the Toolbox Fire Complex (DEISS Vol. 1, 3-206).
These include restoration of herbaceous and shrub understory with interspersed regenerating conifer/ pine patches and restoration of riparian undergrowth in as much of its natural complexity as technologically feasible.
The mixed-conifer late successional habitat qualifies for a number of species as optimum (olive-sided flycatcher, flammulated owl, hermit thrush, brown creeper, Williams' sapsucker). Preserving live trees of large diameter will hasten the re-establishment of this niche.

Recommendations:

* Defer control burning in all areas, at least until micro and macro -flora and -fauna have recovered as determined by the best of our most recent assessment possibilities and scientific findings. This most likely will depend on the amount of moisture available over the next 2-3 growing seasons. In regard to habitat recovery, we find it especially necessary that snags and live trees of over 12" dbh be left to encourage re-population of cavity nesting and downed wood dependent endangered, sensitive, and other species, and to help prevent drying of the soil which is in extreme need for moisture to restore microscopic organisms that are essential for forest health.
* Conduct surveys to assess management needs for indicator species known to have existed in the pre-fire period as per National Forest Management Plan (DEIS Vol. 1, 3-Wildlife).

2. REDUCE FUTURE SURFACE FUEL LOADING

Information provided shows that the Toolbox Fire Complex has been subjected to substantial underburning for a number of years. DEIS Vol. 2, Table A-3, pp. A-9-10 provide a 20-year history of underburn treatment beginning in 1980 through 1999. Burning was done every four to five years in different section of the project area, in what seem to be regular intervals. Underburning seems to have been a necessary component of any other treatment (e.g. thinning, clearcutting, and even planting).

Management of the project area, thus, according to the underburn theory and its promise to reduce or prevent catastrophic fires, has been perfect. However, in retrospect, it appears that underburning has done very little to prevent the massive dimensions of the 2002 fire. It would seem a blind man's doing to now continue a methodology which has disproved itself as a foolproof technique to controlling future fires over re-thinking the issue to identify alternative mixed approaches.

While underburning certainly has its place in forest management, we strongly disrecommend its overuse in the rehabilitative process, especially in accompaniment to other vegetation-reduction treatments (e.g. logging) that promote the drying of the forest floor and destruction of microflora through opening up of canopy. (It is a fallacy to believe that because a tree is dead it does not provide canopy cover though naturally in smaller proportion than a live tree.)

It also appears that prior to the 2002 fire, bark beetle levels had reached a near epidemic proportion (DEIS Vol. 1, 1-15).

Drastic commercially motivated vegetation reduction has indeed taken place over the past century on the private and public lands in the wider project area. This is reflected in Table A-13, DEIS Vol. 2, p. A-24 which shows a history of logging on adjacent private lands dating from 1970 and beginning with a cut of mature trees above 24" dbh to cutting trees with a 15" dbh thirty years later (DEIS, Vol. 2, App. A-24). This means at the time of the fire, we were looking at a mainly ponderosa pine forest with very few trees of the puzzlebark stage, i.e. the relatively fire resistant bark stage, and "areas of marginal timber with widely scattered trees [and] cattle grazing as primary use" (ibid.).

In addition to opening up the forest floor to drying agents due to canopy loss, and removing relatively fire-resistent mature OG conifers, mainly ponderosa pine, the forest floor was subjected to relatively heavy grazing pressure further reducing soil moisture levels and green vegetation (DEIS Vol. 2, Table A-8, pp. A-16-18). From our research, then, and taking into account the drought cycle in which the NW region finds itself, it appears that at the time of the 2002 fire, we were dealing with a use-weakened degraded forest ecosystem highly susceptible to fire.

Recommendations:

* Reduce reliance on control burns as the only means of wildfire prevention. We would like to see burning only where an overload of ground fuel exists (overload to be backed by sound science), and thinning only of live trees below 8"dbh.
* Regenerate a live forest ecosystem and prevent future overuse. We would point out that given the detailed fire and planned burn history of the project area, there is a sound basis to conclude that like the

100-year flood which is unpredictable, so is the 100-year fire. The best preventive measures at this point is reduction in extractive use.
* Retain standing live trees of OG replacement value (12"dbh and greater), the future OG stands, that will be essential in re-creating a sound forest ecosystem.
* Research forest health indicator species according to the National Forest Management Plan as a means of providing guidelines as to recovery management.

Query:
If we speak of 'historic' fire patterns, we should be able to figure out retrospectively at what stage in a forest ecosystem's cycle they occurred, what happened subsequently in the absence of management (presumably, pre-1900s?), and, if identification is possible, adopt such natural processes as management tools (DEIS, Vol. 2, 'Literature Cited,' cites Everett 1993, Agee 1993, and Miller 2001 for pre-1900 fire patterns. BMBP is not familiar with these studies and would like to learn more about them. We would be interested in learning of the authors' methods of data collection and interpretation.)

3. Restoration of Riparian Areas

Since it is a contradiction to proclaim the restoration of riparian areas damaged by fire, and simultaneously suggest to harvest burnt or damaged trees in riparian areas, those Alternatives should be ruled out without further consideration. Under 'normal' non-burnt conditions, restrictions apply to the harvest of timber in the vicinity of moving water. Such restrictions must be intensified where after fire, soil stability considerations are paramount.

As stated above, it is a fallacy to believe that snags do not provide overhead cover. Thus, even burnt and dead trees assist in
1. shading fish habitat and helping cool water,
2. helping prevent soil erosion through their root system and by helping break the force of precipitation and wind,
3. prevent nutrient loading of creeks due to blocking debris, and
4. provide thermal cover for larger mammals.

Standing snags and downed logs of all diameters also assist in the re-establishment of riparian vegetation be it through planting or natural revegetation.

Recommendations:

* Restore and promote mixed conifer stands with understory where they occurred before the fire to benefit streamside and aquatic species, as well as raptors, and other mixed conifer dependent species known to exist or have existed in the project area.
* Reduce road density in watersheds to less than 1 mile per square mile
* Provide for understory regeneration by allowing fuel load to remain until such is established(DEIS 3-213).
* Protect live trees of any size especially on upper stream runs due to their potential to naturally seed down-slope, down-stream areas.
* Defer grazing allotments in which stock has the need to trod destabilized stream banks for water.
* Defer grazing where soil stability is an issue anywhere in riparian areas.

4. INSECT INFESTATION REDUCTION

Since insects represent food base for many forest bird species, a fine balance has to be achieved between providing favorable post-fire habitat for forest insectivore bird species and aiming to reduce the spread of bark beetle infestation in dead and decaying wood. Removing breeding habitat for bark beetles removes food base and nesting opportunities for a number of primary and secondary cavity nesters and rodents, all of which in turn provide a food base for raptors.

We are concerned that this objective may be overstated and that the fire itself killed a majority of beetles in existence at the time which, according to the DEIS, had a notable increase of beetle activity prior to the fire (Vol. 1, 1-15), suggesting a substandard forest ecosystem. Following destruction by fire, it would seem to take some time for the beetle population to build up again.

Also, we need a reliable accounting of extant insectivore bird populations to assess the need for logging as a means of insect control, and the application especially of chemical agents. It is highly improbable that logging will solve the insect problem.

It makes little ecological sense to cut a tree to prevent bark beetle since the beetles stay in the forest while the tree leaves, with the same result as the fire. The Crater Lake National Park example has shown that repeated logging only reduces the tree cover but not the insect problem. On the other hand, fire hardens wood and the burned but standing trees may be less susceptible to beetle attack due to charring than would appear.

It has been shown that woodpecker populations congregate in areas of heavy infestation. Blackbackeds and Threetoeds have been found to proliferate in areas of heavy bark beetle infestation (Blackford 1955, Crocket and Hansley 1978, Groggans 1986).

Bark beetle built up has occurred over the past three or more decades of monocultural management where, clearcuts were created and replanted in either ponderosa pine or Douglas fir in an industrial type forest mangagement strategy. Bark beetle will exist as long as food sources exist. For combatting future bark beetle and other insect infestations, mixed stands must be promoted wherever they were found prior to the fire and where a sound HRV would put them. Maintaining diversity is a forest's best biological control...and therefore, a forester's best friend.

We would pose the following questions:

What is the estimated build-up time of a damaging insect population, after a massive fire like the Toolbox Fire Complex, which could spread from dead timber to healthy stands and/or isolated trees and small clusters?

What is the scientific basis for such estimates?

Would promoting woodpecker and related insectivore bird populations (and rodents) be a feasible and preferable alternative considering overall post-fire forest health restoration?

What biological controls have been suggested for the Toolbox Fire Complex? What is the scientific research on such? Would such control(s) be targeted to a single insect species, i.e. bark beetle?

Has the role of downed wood and cavity dwelling small rodents (chipmonks and the like) been studied in regard to insect control?

Has diversity planting been considered as 'biological prevention' of bark beetle attacks?

Recommendation:

* No chemical control for bark beetle or other insects. Chemical agents are difficult to target and endanger insectivore bird species whose activities are essential on the long-term for forest health, and other forest species as well. They are also residual and damaging to microflora and -fauna.
* No cutting trees with any showing of green, and dead trees above 12" to 15" dbh depending on site characteristics.
*Promote proliferation of insectivores in areas of heavy bark beetle presence as 'biological control.'

5. DEVELOP LONG-TERM SUSTAINABLE FOREST

From an ecological perspective, a future management strategy of creating a multi-age, multi-species forest seems to be the most effective control of species-specific insect attacks and fires, and a valuable tool in working toward sustainability of forest ecosystems. While a monoculture of same-aged same-species trees may be beneficial to commercial exploitation, it is not a natural occurrence over as large and varied an ecosystem as the Toolbox project.

Any planting of seedlings thus should keep species diversity in mind as the apple-a-day for forest health. While it is most likely not harmful and perhaps within the HRV to plant fifteen acres in only ponderosa pine, the seeding of 28,000 acres to a single species (DEIS, Vol.1, 1-17) is inviting disaster in through the back door. As mentioned under the section on insects, in the present restoration efforts, Douglas fir and white fir must be promoted wherever they occurred historically in order to provide the needed species variation. Encroachment of lodgepole pine has its reasons (disturbance? degradation of soil? grazing?) and should be observed and studied rather than neglected outright as should any occurrence of larch/tamarack.

A hypothetical concept like that of Historic Range of Variability must be applied with caution given that present-day conditions may vary from historic conditions in crucial aspects (mean temperature, edaphic conditions, etc.) and thus not be fully applicable.

Prescribed fire is a treatment which has seen ample and regular application in the Toolbox Fire Complex prior to the 2002 disaster. Prescribed burn has not been able to prevent the '100-year fire' and may have contributed to its magnitude in offering a weakened forest ecosystem. 'Prescribed burning' had become the 'buzz'word of forest treatments and the alternative to 'natural fire' which is something uncontrolled and therefore feared. The question arises as to when do we begin with allowing natural fires to do their work, and end prescribed burning? We don't believe our weakened forest ecosystems can handle both simultaneously. Since the natural fires are spontaneous, we have to stop planned burning as soon as natural fires are 'in.'

Prescribed burning, as long as it is used, should be conducted only late in the fall or in early spring before snow melt since otherwise it can cause more damage than benefit on forest flora and fauna, killing and damaging feeder roots, new shoots, ground-nesting birds, small mammals, beneficial insects, etc. It should in no case be employed as a blanket prescription, across the board, without special consideration of microniches, or recognizing different circumstances and needs in different parts of the complex, and it should be used in a mosaic pattern.

6. SALVAGE TIMBER FOR MERCHANTABLE VALUE

We are concerned that due to the unpredictability of tree survival, potentially life trees may be cut, especially in high-cut alternatives. Also, the terminology for selection is vague; e.g. 'live green crown' stands opposed to 'bright green crown' (cf. DEIS 1-18-1-19). Vagueness makes for poor science, poor science is unsatisfactory for sound management decisions.

The National Fire Plan implemented under Pres. Clinton does not call for commercial salvage of merchantable timber in burned areas. It stresses foremost the safety and future of the forest environment through rehabilitative activities, research, and technology transfer. Only hazardous fuel reduction is required.

At the local level, the Fremont LRMP has been amended to accomodate the need for LOS characteristics and established priorities superseding commercial output of burned areas which must be incorporated into any post-fire management plan.

The concern with timber harvest in burned areas relates to soil instability especially in watersheds which this fire area has a number of. The sections under riparian areas and fuel reduction efforts apply here. INFISH requirements protecting habitat and populations of native fish must also be accounted for.

In addition, the Beschta report has shown that there should be no rush toward resource extraction following fires since the longer a rest the soil obtains in burned areas, the more stability it will have which directly benefits watersheds and associated fish populations. In California, Sierra Nevada district, the USFS has ruled out logging of trees with any sign of green in burned areas for this reason and the low commercial value compared to cost. Likewise, in Oregon's Deschutes NF, Crescent district, Davis fire, policy has been to leave trees with any sign of green.

We are concerned that substantial logging will negatively affect the recovery potential of the area. Logging implies heavy machinery even in the case of helicopter logging where soil compaction would be limited to landing areas and extraction roads.

Logging opens up the canopy even more, especially the taking of trees which are still partly alive, promoting future fire danger through drying out of the forest floor.

We also disbelieve that the economics of minor logging in selected areas will counterbalance the biological cost of the recovery process.

Another reason to restrict logging in burned areas is that it creates a mentality where fire means windfall logging opportunities. This has in the past caused job/income-motivated arson fires. This is not a trend that needs promotion.

Thus, in a voluminous fire complex like the Toolbox and Silver, we are concerned that extensive logging will invite developments that prove negative for the rehabilitation process on the long run.

We suggest to defer this component in favor of wildlife and forest floor rehabilitation. Standing snags and live trees though damaged still provide thermal cover and wind breaks for large mammals like mule deer and elk. Snags also promote establishment of viable understory which in turn promotes repopulation and growth of climax species. Snags deteriorate slowly, releasing biomass to the forest floor for decomposition and soil enrichment. Their benefit to cavity nesters has already been mentioned.

MANAGEMENT AREAS

We believe that the concept of management areas, while perhaps a valuable administrative tool, contradicts forest ecological reality. That it is an administrative tool geared toward resource extraction is illustrated by the fact that the largest MA (74% of project area) is dedicated to commercial timber production and grazing.
We are concerned that such rigid division of a natural ecosystem will impede optimum equal rehabilitation of the entire burned project area. It is unrealistic, for example, to tell a group of Lewis' woodpeckers that they are presently in the mule deer management area and have to leave. Or conversely to cut old growth because it is in the mule deer summer range and mule deer don't require old growth for survival. Certainly prior to the fire, but especially following the fire and its environment-altering effects, wildlife freely migrate to where the most favorable circumstances for survival are found. We expect that the effects of the 2002 fire will alter the boundaries of the MAs or move the entire MA. We thus strongly recommend to do away with the idea of separate MAs and manage the entire area as one integrated unit allowing only for treatment differences dictated by special natural features.

ACTION ALTERNATIVES: Alternative D

We would opt for Alternative D as by far the most favorable to forest environment and its speedy natural and supported recovery. We would cancel the logging component for reasons mentioned above.

Otherwise, Alternative D closes a good number of roads, replants, avoids any logging in riparian corridors, leaves sufficient amounts of downed logs and standing snags.

In addition to the factors cited in the DEIS in favor of road closures (with associated damage including human-caused fires: less road maintenance, less impact on adjacent forest, less motorized recreation), less roads also represent a cost reduction on part of the FS in terms of man power in the field and bureaucratic expenses.

This alternative also addresses our concern regarding the human factor in forest fires.