



BARK

PO Box 12065
Portland, OR 97212
www.bark-out.org
503-331-0374

December 30th, 2013

Dear Andy,

Bark's mission is to bring about a transformation of public lands on and around Mt. Hood into a place where natural processes prevail, where wildlife thrives and where local communities have a social, cultural, and economic investment in its restoration and preservation. Bark has over 7,000 supporters who use the public land forests surrounding Mt. Hood, including the areas proposed for logging in this project, for a wide range of uses including, but not limited to: clean drinking water, hiking, nature study, non-timber forest product collection, spiritual renewal, and recreation. We submit these comments on behalf of our supporters.

Bark is fundamentally at odds with the Forest Service's approach to commercial logging as restoration. Bark knows that the forests of the Cascade Mountain region have self-managed for thousands of years without heavy human interference, and the best way to restore the damage of the last century of industrial forestry is to let the forest restore itself.

The Lava Timber Sale is not a restoration project – it is a commercial timber sale. Restoration projects don't lead to additional degradation and retard achieving Forest Plan standards for wildlife health and habitat for decades to come. We would prefer that the Forest Service also acknowledged the truth of the matter and used more appropriate language in describing this project. As such, we will refer to the project henceforth as the Lava Timber Sale.

Lava would "treat" 1,908 acres within the Middle Fork, West Fork and East Fork Hood River watersheds. This treatment includes thinning of 1781 acres of forest (some of which has never been logged), 127 acres of tree planting (with hazard tree removal), 14.7 miles of temporary road construction, along with 2.1 miles of active road decommissioning.

Through implementation of this project, the Forest Service intends to "improve forest health, improve growing conditions for huckleberry and other understory vegetation, maintain a road system that meets transportation needs while reducing aquatic risk, and provide timber for local and/or regional wood products." After walking much of the area within this sale and reviewing the

Preliminary Assessment (PA), we are concerned that this project will not meet its purpose and need as discussed below.

PUBLIC PARTICIPATION

The Lava Timber Sale will be the first project that the Forest Service has planned under Section 428 of the Consolidated Appropriations Act of 2012, which will use the new pre-decisional objection process (36 CFR 218) for “projects and activities implementing land management plans.”

As the Forest Service emphasizes that this new process will increase the likelihood of resolving concerns by stakeholders in a more efficient and timely fashion, we also hope that this change in the appeals process will increase the likelihood of the agency being willing to engage with us on the issues we present.

In the recent past, many of Bark’s concerns regarding commercial logging and road building have been dismissed by the Forest Service, even during the post-decisional appeal process. Since we will no longer be able to seek higher-level review of unresolved concerns after we read the Lava decision, a greater level of pre-decisional engagement will be especially valuable for both parties and will result in better, more informed decisions. Bark requests more direct responses to public input, including changing the project to address concerns, as this is the only way to maintain meaningful involvement in the decision making process for our public lands.

ROAD CLOSURES, REMOVALS AND IMPACTS TO FOREST HEALTH

The Lava Timber Sale would include construction of 67 temporary road segments, totaling 14.7 miles. 13.7 of these miles would be reconstructed roads, and 1 mile would be newly constructed. In an attempt to reduce aquatic risk within the project area, the Forest Service plans to implement a year round closure of 15.4 miles of system roads, seasonal closure of 7 miles of roads, and active decommissioning of 2.1 miles of roads “as implementation funding becomes available.” Bark is concerned that these roads will not be decommissioned, and that Lava will increase the amount of road mileage within the watershed.

Within Lava, the West Fork of Hood River has been identified by the Forest Service as a Tier 1 Key Watershed. The Northwest Forest Plan (NFP) states that “(t)he amount of existing system and non-system roads within Key Watersheds should be reduced through decommissioning of roads” *NFP at B-19*. While the Forest Service has completed some road decommissioning projects in the watershed since the inception of the NFP, we want to push the Forest Service to reconsider the meaning of the word “decommission” as it was originally intended in the plan. We do not believe this was a word that was meant to be used to refer to roads that are temporarily put in storage for use in the future, which seems to be the strategy for 22.4 miles of roads in Lava (a second entry

to the area in approximately 20 years is the plan according to the Forest Service). While the PA claims that the completion of Lava will result in a 32 percent reduction to the combined road density for the overall project area, this number is misleading because most of the “removed” roads factored into this analysis would only be placed in storage.

In the 2005 Aquatic Restoration Strategy from Region 6, areas with road densities above 2.0 miles per square mile were considered to be indicators for watershed restoration prioritization. The 7th field sub-watersheds of Tony Creek and Bear Creek both have road densities over 2.5 miles per square mile (2.7 road mi/mi² and 4.7 road mi/mi² respectively), and the Middle Fork Hood River (1.8 mi/mi²) and Pinnacle Creek (1.9 mi/mi²) are approaching these high numbers. Knowing this information, any proposal by the Forest Service in the area must be aggressive with decommissioning roads. Instead, the Forest Service is suggesting gate placements restricting 22.4 miles of road, seven of which will merely be closed seasonally. We would encourage the agency to reassess its ability to adequately maintain these 22.4 miles of road and look for more opportunities to actively decommission more road miles as part of this project. This is truly one of the most important things that the Forest Service can be doing to restore these watersheds, and should not be packaged with new road construction, as discussed below.

Road surface as a vector for sediment

Road construction is by far the greatest contributor of sediment to aquatic habitats of any management activity in the forest (Meehan 1991, Robichaud et al. 2010). Even temporary road construction can cause resource damage including erosion and sedimentation (Trombulak and Frissell 2000). Unpaved roads and stream crossings are the major source of erosion from forest lands contributing up to 90% of the total sediment production from forestry operations.

Despite what Lava PA implies on p. 3-68, in addition to construction and reconstruction impacts, elevated road use for log haul also greatly elevates erosion and sediment delivery on unpaved roads. Research on logging roads has consistently documented that roads used by more than four logging trucks per day generated more than seven times the sediment generated from roads with less use and more than 100 times the sediment from abandoned roads (Reid et al., 1981). The Forest Service’s own summary of scientific information on roads (Gucinski et al., 2001) concluded that “rates of sediment delivery from unpaved roads are . . . closely correlated to traffic volume.” Even with a road surface of crushed rock aggregate, (which would be used in Lava’s road maintenance activities with the intent to reduce sediment production from road surfaces), Foltz (1990) documented that elevated truck traffic increased sediment production by 2 to 25 times that on unused roads in western Oregon. Primary mechanisms for increased erosion and sediment production from road use are the production of highly mobile fine sediment on road surfaces, road

prism damage, disruption of gravel or aggregate surfaces, and rutting. The Lava EA should include data regarding the projected increase of sediment from road building and log haul from the Lava Timber Sale.

Log haul over newly reconstructed or reused stream crossings

On constructed and reconstructed roads, the highly elevated sediment production from roads used for haul is delivered to streams at stream crossings and other points of connectivity between streams and roads, such as gullies and relief drainage features that dump elevated road runoff laden with sediment to areas in relatively close proximity (e.g., less than 300 feet) to streams. This impact of log hauling at stream crossings, alone, will greatly elevate sediment delivery to the stream system.

To fulfill the Lava Purpose and Need, the Forest Service asserts that it must reconstruct 3 existing (presumably rarely used) stream crossings over intermittent streams and “reuse” one crossing over a perennial stream. This existing crossing is on a decommissioned road with access to Unit 27, approximately 3500 feet upstream of listed fish habitat. According to the Forest Service, this crossing was not removed during the original decommissioning work and is creating erosion problems due to water being redirected down the old roadbed. Because this crossing is already experiencing erosion problems, it does not seem prudent to reuse it for log haul, especially because FSR 1612-070 would need to be extended significantly for accessing the unit. To compound this issue, FSR 1630-660 that runs directly along the unit’s western edge is in poor shape, and is just uphill from the perennial stream mentioned above.



Fig.1: FSR 1640-620 with access to Lava units 16, 18, 21

Uncertain future of road decommissioning projects within the Lava project area

What Bark groundtruthers have found is that many of the roads that are planned on being put to use in proposed projects are already starting to passively decommission. Thus, if this timber sale occurs, the condition of the roads will be in a more open state than the documents suggest. For example, we see roads in the Clackamas district that are filling in with alders being set back when the young trees are cut, removed, and the roads resurfaced, brushed and bladed for log haul. This would need to be the case for use of FSR 1640-620, pictured in Fig. 1. Essentially, these projects erase years of recovery, and the roads have to start recovering all over again. This makes the roads more hydrologically

unstable and does not support the purpose and need of “reducing aquatic risk.”

This seems especially relevant as the Lava PA states that the project would decommission 2.1 miles of road, and works from the assumption that these roads will be permanently removed from the landscape. However, throughout the PA it is clear that roads will only be decommissioned when and if funds become available in the future: “Road status changes such as decommissioning or closure of these roads, which has been analyzed under this Proposed Action would be delayed until completion of operations under both proposed actions to avoid waste and inefficient use of government funds”.

Over the past few years, Bark has observed a pattern emerge from the Forest Service’s Incremental Road Decommissioning Process of declining budgets for national forest roads. This does not inspire confidence that the roads within this project area will in fact be closed nor that the preliminary assessment pertaining to roads is accurate. The Hood River Middle and East Fork Watershed Analysis reads: “To minimize erosion and sediment delivery to streams, it is thus crucial to minimize ground disturbance and re-vegetate disturbed areas as quickly as possible (H-6).” This direction applies to temporary road construction and should be taken to heart. Based on this recommendation, we encourage that the Forest Service to 1) not rebuild roads that are already in recovery and 2) create a clear timeline for road removals in Lava so the public can have the assurance that these road closures are moving forth (also if funds are indeed secured for the road decommissioning projects, please make this clear in the EA).

COMMERCIAL LOGGING AS RESTORATION

The Lava Timber Sale is premised on the assumption that thinning grows bigger trees faster and that this outweighs the ecological impacts of increasing soil compaction, sedimentation, and peak flows while decreasing wildlife habitat, down woody debris and snags. This assumption is neither fully supported in scientific literature, nor applies equally to every stand of trees in the Lava project area (consider the 345 landings and 14.7 miles of temporary road construction that must occur to make this “restoration” possible). In the context of these uncertainties, and with a purpose and need that is explicitly focused on ecosystem restoration, Bark offers the following comments to encourage the Forest Service to develop more reasoned and scientifically supported restoration-based alternative for inclusion in the Environmental Assessment.

Current conditions within the Lava project area

One existing condition within the Lava project area which is being used as impetus for restoration logging is that the stands “lack both the structural and species diversity usually present within the area.” Let us consider the age of these stands: 42% of the stands in Lava are less than 80 years old, while 37%

are over 80 years old. Of these 42%, many of these forests are between 20 and 60 years old, according to the Forest Service.

In the Lava PA, the Forest Service fails to recognize that dense, heterogeneous Douglas fir dominated forests are very typical in natural succession, as Douglas fir is a sun-tolerant, early successional tree species. It is well known that in early seral forest stands “a very common occurrence is the development of dense, nearly pure, essentially even-aged stands of *Pseudotsuga menziesii*” (Franklin & Dryness, 1973). With this in mind, it is not hard to imagine that many of the younger stands within Lava lack structural or species diversity, because this is typical for stands of this age. This does not necessarily mean they are unhealthy, unnatural or need to grow up faster.

With Lava, the Forest Service would like to move the stands towards a more properly functioning community (with more space between trees, more developed understory, etc.) but this is NOT necessarily properly functioning for how old the stands are (they’re currently in the stem exclusion stage of forest succession). However, there are stands within Lava that do display natural recovery from disturbance, such as the 100 year old unit 51, or the 130 year old units 52 and 53. These are native stands, and so active management in these units makes no sense; in response to what are they being “restored”?

The Forest Service asserts that the dense, single story conditions present in Lava can lead to stands more susceptible to root disease and decay, and pests such as the Balsam Woody Adelgid or Douglas fir beetles. The PA at 3-11: “It is recognized that root decay and stem decay are natural processes, which contribute downed wood thus creating a variety of structural components in the forest. Though these organisms themselves are a natural and integral part of the ecosystem, the condition of the vegetation across the landscape and within individual stands is in many cases not natural.”

The Forest Service maintains that natural processes cannot and will not ever prevail in such “unnatural” conditions. With the exception of the Balsam Woody Adelgid, all of these defoliating insects and root diseases naturally fluctuate and have positive ecological roles in the ecosystem--such as thinning the forest, part of the purpose and need identified for this project.

Scientific uncertainties of thinning

The science and implementation of restoration treatments in young-managed forest landscapes is in its infancy. As recognized by the Pacific Northwest Forest Restoration Learning Network, while retrospective studies and models suggest active restoration is warranted, there are few long-term studies which help managers clearly identify "best management practices" for thinning projects. (Davis, 2008). In fact, a common debate is whether forests should be actively restored (e.g., thinned) and how management of road systems interact with thinning to affect ecosystem recovery at watershed and landscape scales. Moreover, as forest managers begin to implement active restoration in degraded

forest landscapes, specific prescriptions for treatments have been extremely diverse. With limited practical experience, managers often are struggling to interpret the scientific literature and develop treatments that are both operationally feasible and consistent with long-term ecological objectives. (Davis, 2008).

In addition, other research on thinning urges forest managers to approach such projects cautiously, acknowledging their uncertainty and ecological tradeoffs. A team of six scientists recently considered large scale thinning and identified many concerns about the practice. They found that even when confined to previously harvested stands, thinning treatments must be evaluated carefully and implemented in such a way as to avoid negative impacts. (Carroll, 2009). Ground based methods and associated machine piling, burning of activity fuels, construction and increased use of roads and landings can increase soil erosion, compact soils, and elevate surface runoff. (Carroll, 2009).

The study concluded that no evidence exists to support the contention that an extensive thinning program will hasten restoration of historic patterns of forest heterogeneity on a landscape scale. Hence, thinning treatments should be applied cautiously and only where ecologically warranted. Thinning should not be considered a cure-all for forests degraded by fire exclusion or other human activities. (Carroll, 2009).

Even the Middle Fork Hood River Watershed Analysis (MFHRWA) p. J-6 acknowledges the problem of unanswered questions about thinning. It mentions that designing timber sales that will move forests to late-seral stands faster is complicated by the fact that snags and downed logs are sorely lacking within the watershed. Commercial logging systems require the felling of many snags and disruption of Course Woody Debris (CWD) to remove commercial product from the forest. In an area that is already lacking in snags and CWD, the best way to remedy the situation would be to allow the stand to resume the natural competitive process to create the suppression mortality that will create snags and down logs. This will help provide much needed habitat and build old growth soil horizons, by the decomposition of wood, the erosion barriers created by downed logs across the landscape, and the nitrogen fixing abilities of downed wood.

It is not clear how restoration treatments may interact with or change disturbance regimes or alter hydrologic regimes. For example, it is possible that thinned trees may become wind-firm and reduce the amount of windthrow patches in the future stand. Or, as suggested in the Lava PA, there could be an increased risk of bending and breakage of small diameter residual trees from snow loading or windthrow, not to mention equipment strikes. Thinning could encourage increases in forest pathogens (e.g., Annossus root rot in western hemlock) that may prevent the stand from reaching a late-seral state. In

addition, thinning can alter wildlife behavior (e.g., increase bear damage, alter ungulate browse). These may have unanticipated impacts on stand development and should be considered from the outset.

We are not certain how stands will develop if they are left un-thinned. Because so much of the landscape remains in a younger condition (under 80 years), we still have little empirical data on the development of unthinned stands. Often, the decision to thin or not thin a stand is a decision based on operational logistics, economics, and expectations of improving ecological conditions of the system. Bark would argue that with units 51 and 54 progressing in a way that seems more aligned with natural succession –with understory initiation, suppression mortality, and shade tolerant tree growth commencing – these stands may offer us such an opportunity.

Knowledge on the impacts of variable density thinning and the inclusion of skips and gaps, including size and spatial arrangement, is still unknown. Results from most studies that have investigated these are still in early stages of development, so long-term trends remain clouded. The tradeoffs of one entry versus multiple entries are also unclear. Many believe that multiple entries may be necessary to achieve late-successional habitat, especially where western hemlock is prevalent. However, the repeated disturbance from tree felling and harvesting equipment on other elements of stand structure and composition are not known. (Davis, 2008).

Bark echoes these uncertainties about thinning and asks the Forest Service to not discount this scientific ambiguity. Rather than making unsupported, sweeping conclusions about the unequivocal benefits of thinning, we request that the Forest Service provide data that compares stand conditions/composition (tree species, structural complexity, soil productivity, wildlife habitat, etc.) between actively (thinned) and passively (un-thinned) managed forest stands over several decades. If the Forest Service asserts that thinning for forest restoration is a scientifically valid approach, this type of data should exist and be included in the EA.

HUCKLEBERRY ENHANCEMENT UNITS

While Huckleberry Enhancement units 49 and 50 were dropped from the Lava project area between scoping and the release of the Lava PA, 52 and 53 were two of four units that the Hood River Collaborative Stewardship Group (Stew Crew) voted unanimously to remove from the Red Hill project because they were situated on the top of a ridge that would be subject to blowdown. The Hood River Collaborative Stewardship Group Recommendations for the Lava Planning Area reads: “These units had been included and were dropped from the Red Hill project which we felt was a positive collaborative compromise, seeing them again in this project did not encourage trust.”

Reasons for the Huckleberry units to be placed in Lava instead of Red Hill were as follows: There was a requirement to complete botanical surveys in the units over two years that would not allow for Red Hill to be implemented on schedule, and still include the units. Also the huckleberry units fit better in the Lava Purpose and Need, as huckleberries are much more prevalent in this planning area. Lastly, this gave the Stew Crew more time to discuss the units, although they had already agreed to recommend dropping them.

After discussing the units again as part of Lava, some Stew Crew members advocated logging 1 or 2 of the four units, and others advocated not logging any (Oregon Wild, Bark). The two units dropped between scoping and the PA (49, 50) were less accessible than 52, 53. Unit 52 however is directly adjacent to the Mount Hood Wilderness Area, and it's on steeper slopes than 53, which made it more a priority for being dropped from the sale by some Stew Crew members. However, these two units continue to be part of the Lava Proposed Action.

Not surprisingly, we are still in opposition to logging these units, which are native stands up to 130 years old. The units are next to the wilderness area, and are potential wilderness themselves. To promote huckleberries, the canopy would have to be reduced in parts to 20% (with 2-5 acre "gaps"), which would surely increase wind speed on this exposed ridgeline and worsen the blowdown potential. This section of forest is very high elevation and if logged, would not quickly recover. There is clear evidence of this contained in the nearby clearcuts, which have not recovered for decades.

On a Forest Service-sponsored field trip, we visited some stands adjacent to the Huckleberry Enhancement units and noted that re-vegetation was slow to non-existent. These units are located around 4500 feet, on thin mid-elevation soils. If sections of these units are thinned to the recommended 20% and a wind event takes out the rest, this stand will not only be bad for huckleberries, it will



Fig.2: "Yaka" unit 12, directly adjacent to Lava units 33, 43

be bad for forests. We would encourage analysis of stand recovery adjacent to the huckleberry units in the EA, so that the potential recovery and risk for the proposed units are addressed.

While the Forest Service is proposing to thin Lava units to promote huckleberries and other understory plants, one can look to the nearby Yaka Timber Sale, which was logged several years ago to see how this strategy has not

worked well in this area (see fig. 2). There are more damaged soils, invasive plants and dried out slash than healthy understory in these units, and some are directly adjacent to proposed Lava units. In addition, and relating to the current blowdown risk, it is worth noting that several nearby Yaka units suffered severe blowdown events shortly after being logged. In less than one year, blowdown events affected several hundred trees within Yaka units, as Greg Dyson noted in a formal letter to the former Hood River District Ranger, Kim Titus (for this record, see attached letter at the end of this document).

We would also like to point out that logging at the Vista Ridge trailhead is in direct conflict with local recreational activities, and will certainly degrade the trail-user experience. The Vista Ridge trail runs along the south boundary of huckleberry unit 52. As stated in the PA, hikers on this trail will experience “sights and sounds of logging activities”, except of course, when this trail would likely be closed to hikers while helicopter operations are being carried out in unit 52.

Lastly, we would like to highlight the two recent fires in the vicinity – Gnarl Ridge and the Dollar Lake fires. The Stew Crew also recommended the Forest Service look to the burn to see how the huckleberries are responding and whether there are enhancement opportunities in the burn area. We request that the EA investigate whether this habitat was made more locally available with the recent fires. As indigenous communities often used fire as the tool for managing huckleberries, it makes sense to start here before trying to create habitat that may only exist until the canopy closes again. Huckleberries could be much more reproductively successful in numerous stands within or near this project area which are far less controversial.

Bark strenuously suggests that the Forest Service drop all remaining Huckleberry Enhancement units from the Lava Timber Sale. The risks of heavily thinning these stands are far greater than all possible benefits.

REMOVAL OF UNITS 51& 54 FROM THE LAVA TIMBER SALE

Along with the Huckleberry Enhancement units, there are two other units in particular that we request being dropped from the Lava Timber Sale: Firewood Removal Unit 51 and Plantation Thinning Unit 54.

Firewood Removal Unit 51

Unit 51 is a stand which has never been harvested before, and is within its understory stand-reinitiation stage. At 100 years old, this unit is the most diverse in terms of tree species, containing lodgepole pine, douglas fir, noble fir, silver fir and western hemlock. The unit also has the most open canopy (50% cover) of all the units contained in the Proposed Action, and contains an enormous amount of snag habitat, at about 20 snags per acre.

Instead of allowing this unique stand to continue to provide exceptional snag habitat, and to also continue its natural trajectory through forest succession, the Forest Service proposes to reduce the amount of snags in the unit by nearly half to provide commercial firewood. We do not think this project area needs a reduction in its already deficient snag habitat so firewood can be provided. Especially in such an unfrequented and out-of-the-way area which would require a huge amount of road maintenance to access.

The area that the Forest Service proposed to use for firewood removal is down FSR 1630-660, which is a poorly maintained road that would be difficult for the Forest Service to monitor if wood gathering commences. This has a high potential of individuals inadvertently going into the wilderness area to remove trees during wood gathering when the treatment is complete. FSR 1630-660 also extends well beyond the commercial firewood unit, skirting the Mount Hood Wilderness area for another ½ mile. We sincerely hope this section of road would be closed post-Lava treatments.

Lastly, we want to highlight that the unit is directly adjacent to the Mount Hood Wilderness area and FSR 1630-660 that accesses the unit ends at Perry Lake. It has been suggested by members of the Stew Crew that perhaps FSR 1630-660 should be closed and converted to a trail that leads to Perry Lake. We would support this action as an alternative to destroying snag habitat in native forest.

Plantation Thinning Unit 54

In pre-scoping conversations, Unit 54 was considered a naturally regrown stand, but the scoping letter placed it with the plantation units. Unit 54 is much older than other stands (average age is around 80 years) and it is questionable as to whether this area was ever logged. Only 9% of the Middle Fork Hood River watershed is in late-seral condition, and the Middle Fork Hood River contains the lowest amount of late-seral forest in all of Mt Hood. (MFHRWA p. J-1). Things aren't much better next door as only 19% of the West Fork is in late-seral condition (WFHRWA p. 4-29). This stand is within its understory re-initiation stage, with much more late-seral and snag habitat than the surrounding forest.

While there are a few stumps in the area, this appears to be an old, healthy stand of trees with a pocket of legacy trees within the northwest part of the unit. This forest is moving in the right direction toward developed late successional characteristics. On the Stew Crew field trip, we noticed that the canopy was closing and that tree mortality was commencing. We also counted seven species of conifers in the unit. The Forest Service mentioned that there was no history of management within the unit, and that the stand was recovering from a fire that occurred around 90 years ago. In other words, the forest structure is on its way to progressing uninterruptedly toward old growth, and should be allowed to continue on its natural trajectory, especially in a

watershed with so few late-seral stands left and where the science does not support restoration thinning as a way to create old growth forests.

Bark echoes Oregon Wild's position in the Stew Crew for no cutting in this unit, as evidenced in the Stew Crew recommendations: "Oregon Wild does not see any ecological benefit to logging this never-before-logged stand. This native forest is more complex than much of the surrounding forest. As most of the surrounding forests in this sub-watershed have been logged in the past, Oregon Wild believes that it's important to retain some intact untreated stands."

While the stand in unit 54 may be at a stage where tree growth is not commencing at the desired rate for the Forest Service, there are very few forests of this age which are allowed to naturally reselect in a single story forest. This stand will not stop growing altogether based on the fundamentals of forest ecology, and should not be tampered with to accelerate growth. A perspective of non-active management is what Bark advocates. We recommend that this unit be removed from further consideration.

UNNECESSARY LOSS OF SNAGS AND EFFECTS ON WILDLIFE

Standing dead trees (snags) are important resources for vertebrate and invertebrate species worldwide and to forested ecosystems. They return essential nutrients to the soil and increase soil fertility. In the Douglas-fir and western hemlock forests of the Pacific Northwest, over 100 vertebrate species utilize snags for some part of their life cycle. Approximately 20 percent (34 species) of all bird species in the Pacific Northwest depend on snags for nesting and feeding and the abundance of snag-dependent birds is correlated with the density of suitable snags. (Boleyn, et. al., 2002).

The current condition of this project area is one of snag scarcity: On average the proposed treatment units are below Mt. Hood Land and Resource Management Plan (Forest Plan), FW-215 and 216 standards for snags. Currently, there are roughly 0.2 snags per acre 20 inches DBH and greater across all dominant plant associations. Forest Plan standards require for Western hemlock 2.2 snags per acre and Pacific silver fir 2.4 snags per acre. The Forest Plan requires that wildlife trees be maintained to support 60% of maximum biological potential of cavity nesting species. According to the Lava PA, this minimum cannot be met because of the "on-the-ground conditions present within the stands." *PA at 2-38.*

In the analysis of the proposed action, the PA acknowledges that snags will be cut during harvest operations, temporary road construction, road decommissioning, road closure, and storm proofing due to safety considerations. Yet, the PA does not provide any solid estimate of how many snags will be lost, or acknowledge that most of the trees that would have become new snags will be logged – leaving fewer trees with less competition

that will not die for decades. The EA should ask questions like: In a landscape that is already denuded of snags, what would be the impact on snag dependent species during the time lag when there are even fewer snags in the forest than there are now?

Snags are already deficient within the watershed, and yet this proposal seeks to exempt itself from snag density standards. This cannot further restoration goals. Studies show that, “cavity users typically represent 25 to 30% of the terrestrial vertebrate fauna in the forests of the Pacific Northwest.” (Bunnell et al. 1999). This study goes on to note that a “lack of cavity sites is the most frequently reported threat to “at-risk” species in the Pacific Northwest.”

The WFHRWA notes that the watershed “provides a connection between eastside populations and westside populations of plants and animals.” (5-15). This important wildlife corridor would be heavily impacted because Red Hill, Lava, and Polallie-Cooper fill the entire area between the Bull Run Watershed and the Badger Creek Wilderness. The Forest Service also exempted the Red Hill Timber Sale from the Forest Plan snag standards – what is the cumulative impact of not meeting these standards across thousands of contiguous acres?

The WFHRWA (5-17) notes that the lack of snags in younger stands may have broken connections throughout the watershed. It discusses how this has affected gene flow between snag-dependent species. This is significant because thinning proposals not only remove many snags because of OSHA safety regulations, but they also remove the trees that would become snags in the near future by capturing mortality through thinning. The PA mentions that the project will not be maintaining snags at Forest Plan levels, which are: “in sufficient quality and quantity to support over time at least 60% of the maximum biological potential of primary cavity nesters.” There is a corresponding NFP standard to maintain snags in sufficient quality and quantity to support over time at least 40% of the maximum biological potential of primary cavity nesters. *NFP Standards & Guidelines, C-42*. Please provide accurate numbers of snags per acre throughout the sale area with the cumulative area of the three planned sales, to determine how great an impact the loss of snags will be on cavity dependent species.

In the context of an already snag-depleted ecosystem, a restoration project that removes even more snags is more than troubling. This is especially the case considering the No Action Alternative’s effect on snags. Under this alternative, “(s)nags per acre would remain low but over time the untreated condition would produce slightly more snag habitat than the treated scenario.”

The PA tries to downplay this by saying that “there would be little direct effects on existing conditions because suitable snags would be maintained unless they pose a health and safety risk.” *PA at 3-17*. It seems that a fairly high number

of snags might fall into the category of “health and safety risk” – please provide more accurate information in the EA.

Bark disagrees with the PA’s conclusion that “because of the very small number of snags expected to be cut, there would not be a reduction in the percentage of biological potential being provided for species dependent on snags and down wood.” *PA at 3-181*. This timber sale will eliminate an unknown (but possibly significant) number of snags from the landscape for safety reasons or firewood cutting, and remove most of the trees that are on their way to dying from insects and disease and becoming snags. In these two ways, this project will further retard attainment of the Forest Plan standards.

Lastly, under the proposed action suitable snags within the firewood removal area in Unit 51 would be reduced from 20 snags per acre to 10.5 snags per acre. Stands 51 and 54 are excluded from the snag analysis Table 3-35 (*PA at 3-105*) because they are in the stand re-initiation stage with many more wildlife trees per acre than other stands in the project area. Including these units in the table on this page, or creating an additional table which shows the effects of logging on snags within these two stands, would give a more realistic picture of Lava’s impacts to snags over time. Please include one or both of these tables in the EA.

LOGGING IN RIPARIAN AREAS AND EFFECTS ON STREAM HABITAT

As stated in the NFP, commercial logging in Riparian Reserves is allowed only when necessary to “acquire the desired vegetation characteristics needed to attain Aquatic Conservation Strategy (ACS) objectives.” *NFP at C-33*. In the Lava PA, the Forest Service asserts that riparian thinning, along with tree felling for log placements in ESA listed streams will help the watersheds within the project area achieve these objectives.

In general, the Forest Plan has a standard of 106 pieces of suitable large wood per mile of stream (FW- 095). None of the stream reaches surveyed by the Forest Service in the action area currently meet this standard. Similarly, pool frequency in streams is also below Forest Plan standards within the project area.

The PA acknowledges that riparian conditions and pathways for recruitment are recovering in much of the action area; however, short-term wood recruitment is limited because most trees are not yet of an age and/or size to fall in great numbers on their own. Bark believes this to be true, but is entirely confused as to why the solution to this problem is to take more trees out of the ecosystem before they reach the age/size to fall on their own. Removing the trees that are most likely to die naturally necessarily decreases the amount of trees in the Riparian Reserves that would become in-stream coarse woody debris.

While the PA suggests that even though there would be a longer time delay for riparian woody debris, that because the future trees will be bigger they will be better. Again, the increased growth rate seems far from significant – definitely not enough to make a huge difference in timeline for decay.

The PA also states that riparian logging will impact rearing habitat for listed fish by reducing the rate of instream wood recruitment potential for next 50 years! “The decrease in potential large wood resulting from silviculture treatments in Riparian Reserves could result in fewer pieces of large wood in the small, steep tributaries to larger fish bearing streams. As existing pool forming wood decays there could be gap in time where fewer trees are falling into channels to replace this wood.” *PA at 3-119.*

In the short-term, “(s)light reductions in pool quantity could occur in some areas resulting from decreased amounts of pool forming large wood resulting from Lava Restoration Project thinning coupled with past timber harvest.” *PA at 3-132.* This however, is perfectly fine with the agency since larger wood will eventually form, and they do plan on felling larger trees into certain streams to offset this reduction.

The goal of “growing bigger trees faster,” which seems to be the main justification for logging in the Riparian Reserves, is not necessary to attain any of the ACS objectives. Additionally, there are many possibilities for ecological damage from commercial logging and yarding in Riparian Reserves. Logging, yarding, landings, and roads in riparian zones degrade aquatic environments by lessening the amount of large wood in streams, elevating water temperature, altering near-stream hydrology, and increasing sedimentation (Karr et al. 2004).



Fig. 3: Mature western redcedar within riparian area of Bear Creek, adjacent to Lava unit 3

There is very little data on the impacts and benefits of riparian thinning, and what is available is highly ambivalent or indicates net harm to water quality (Reeves et al. 2006). This suggests that the risk of inadvertent adverse effects on water quality and aquatic biodiversity from an extensive mechanized thinning program is high (Rhodes et al. 2008). In this project, Bark is specifically concerned about sediment delivery and loss of wood recruitment, and we believe that riparian thinning in the case of

Lava simply and directly conflicts with its restoration objectives.

The Forest Service has failed to establish the need for commercial thinning to attain ACS objectives – aside from stating that the riparian vegetation is “overstocked” with relatively uniform trees with low levels of diversity. What Bark groundtruthers have found so far in Lava suggests that this may not even consistently be the case (see Fig. 3). Even if the Forest Service’s generalization were true, this still doesn’t support the need to log in Riparian Reserves, as the PA never shows why logging is needed to attain ACS objectives. Bark requests that the Forest Service remove all commercial logging from Riparian Reserves, as it is well-documented to lead to adverse watershed impacts and is not necessary to attain ACS objectives.

PROJECT DESIGN CRITERIA & BEST MANAGEMENT PRACTICES: IMPLEMENTATION AND MONITORING

Over the past year, Bark’s investigation of the Forest Service’s compliance with Best Management Practices (BMPs) and Project Design Criteria/Mitigation Measures (PDCs) throughout the Clackamas River Ranger District has led us to conclude that BMPs and PDCs contain problematic issues which are neither sufficiently monitored nor addressed by the Forest Service. Bark has documented a pattern of recurrent problems within the areas we regularly visit which strongly suggest that these issues are not isolated incidents, and the Forest Service has offered no data to argue the contrary.

In our recent comments and appeals for the Jazz and Red Hill Timber Sales we listed multiple violations of BMPs/PDCs observed in the field, both by the Forest Service and by Bark volunteers. And one year into our BMP/PDC monitoring program we concluded the following:

- 1) There is a pattern and practice of unreliable implementation of BMP/PDCs by timber sale contractors.
 - a. This leads to impacts on the ground that are greater than anticipated in environmental analyses and consultation; and
 - b. Future determinations of significance cannot rely on BMPs/PDCs to effectively mitigate impacts because field data shows that projects are not being implemented as planned.
- 2) The action agency does not perform regular post-project monitoring on timber sales to ensure that the BMP/PDCs are implemented and/or effective.

In the Lava PA, Bark appreciates the Forest Service's attempts to describe BMPs in accord with Mt. Hood Forest Plan's Appendix H for Best Management Practices, however, there are still many unresolved questions as to how, or if, BMPs will actually be monitored for implementation and effectiveness.

For example, the Monitoring Requirements section of the PA lists a general monitoring protocol, which is then relied on for every single BMP. To the best of Bark's knowledge (specifically in regards to timber sales), "project level BMPs implementation and effectiveness monitoring as per the National BMP Monitoring Protocol" has not occurred on Mt. Hood National Forest since 2004, and there is absolutely no assurance that it will happen for the Lava Timber Sale. The Mt. Hood National Forest hasn't even done its Forestwide Annual Monitoring Report since fiscal year 2010, when the Forest Service defunded it. This does not give very much assurance that this kind of information will be available to the public, or contribute to adaptive management, in the future.

Not only is the Forest Service unable to assure that the BMPs will, in fact, be followed and/or mitigate the adverse impacts, recent studies disclose that even if followed, BMPs do not consistently reduce adverse environmental effects. In the context of road construction BMPs, there is reliable data indicating that BMPs cannot always reduce the adverse impacts of road building on aquatic resources to ecologically negligible levels, especially within the context of currently pervasive watershed and aquatic degradation (Ziemer and Lisle, 1993; Espinosa et al., 1997; USFS and USBLM, 1997; GLEC, 2008). The nationwide assessment of BMP effectiveness commissioned by the USEPA performed by the Great Lakes Environmental Center (GLEC) specifically noted that BMPs aimed at reducing road impacts are not 100% effective, and, in particular, that efforts to prevent road drainage to streams have considerable potential for failure, especially in the Pacific Northwest. (GLEC, 2008).

In its report, GLEC found that in the Pacific Northwest, "conventional BMPs for road construction may not be sufficient to prevent adverse effects on stream channels and fish habitat." (GLEC, 2008). Activities implemented with somewhat effective BMPs still often contribute to negative cumulative effects on aquatic systems (Ziemer et al., 1993; Rhodes et al., 1994; Espinosa et al. 1997;; GLEC, 2008). Espinosa et al. (1997) documented that aquatic habitats were severely damaged by roads and logging in several watersheds despite BMP application, and that blind reliance on BMPs in lieu of limiting or avoiding activities that cause aquatic damage serves to increase aquatic damage.

In recent timber sale analyses, Bark has watched the Forest Service's list of BMPs and PDCs become more and more subjective, with the inclusion of flexible terms like "may", "generally", "should" and "where feasible". Similarly, the Lava PDC that reads "(a)ll skid trails would be rehabilitated immediately after harvest activities are completed" gives no definition of what "rehabilitated" actually means, and leaves this up to the imagination of the public. This kind

of language goes against the very purpose of a BMP or PDC, and turns them into unenforceable suggested management practices, upon which neither the agency nor the public can rely to assess the level of impact. In preparing the Lava EA, please only rely on BMPs/PDCs that have enforceable, quantifiable standards.

High risk of invasive plant species introduction by the proposed alternative

The Lava PA admits to a “(h)igh risk of introducing and/spreading noxious weeds directly and indirectly via machinery and equipment used during all ground disturbing activities proposed under the Proposed Action”. The PA then suggests that implementation of the PDCs specifically for prevention and control of noxious weeds would reduce the risk. However, we note that similar design criteria have been applied to many other thinning projects in the Clackamas watershed and they have not been successful at curbing the spread of invasive species.

Bark volunteers recently monitored post-logging units in the Clackamas for presence of invasive plants. Of the units surveyed – within two years of logging, 85% of visited sites had invasive species present; they were especially prevalent in the landings and skid trails. Clearly, the PDCs did not work in similar projects to curb the spread of invasive species, and the Forest Service has given no assurance that in the case of Lava the outcome will be any different. Therefore any risk, especially a high risk, of spreading noxious weeds should not be discounted by asserting the effectiveness of these PDCs.

We would like to request that the agency provide a specific explanation of how the measures planned for Lava (e.g. enhanced PDC’s based on lessons from recent sales; more stringent sale administration, etc.) will be more effective than those used during past timber sales.

CUMULATIVE IMPACTS OF LAVA AND OTHER NORTH SLOPE SALES

When assessing the significance of a project, NEPA requires that an agency consider "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions . . . Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7. Significance exists if reasonable to anticipate a cumulatively significant impact in the environment, which cannot be avoided by terming an action temporary or breaking it down into small component parts. 40 C.F.R. §1508.27(b)(7).

With this as the legal context with which to view the impacts of Lava cumulatively with past, present and reasonably foreseeable projects, the Lava PA falls woefully short of taking a “hard look” at the cumulative impacts and making a reasoned analysis as to the significance of the Lava Timber Sale.

In Bark's scoping comments, we raised concerns that the Forest Service may fail to prepare a cumulative analysis of the impacts of the Lava Timber Sale that also analyzes impacts of the proposed Red Hill and Polallie-Cooper Timber Sales. In response, the Lava PA does include brief discussion of Red Hill in the cumulative effects sections of the document, but does not mention Polallie-Cooper once. The Forest Service has communicated to us several times that Polallie-Cooper is being considered and developed through collaborative group discussions and preliminary field surveys. But it still insists, "(w)ithout a proposed action, the direct and indirect effects of these projects cannot be considered in the cumulative effects analysis...because there is no way to determine whether or not the effects overlap in time and space." *RtC at 3-6.*

The Polallie-Cooper Timber Sale is absolutely a "reasonably foreseeable" future project that must be considered cumulatively with Red Hill and Lava. From communications made with the Stew Crew, it appears that the Forest Service has a good sense of what the project will look like on the ground, especially as it is a resurrected timber sale that was already planned, mapped, and analyzed.

Looking at Red Hill, Lava and Polallie-Cooper together means that every fork of the Hood River – the West, Middle and East Forks – will have active timber sales spanning thousands of acres. Viewed on a map, this is the whole north side of Mt. Hood, wedged between heavily managed private lands and the higher elevation Mt. Hood Wilderness Area. Including the recently logged Lakebranch Timber Sales, the Forest Service has logged, or is planning to log, the entire north slope from the Bull Run Management Unit in the west to the Dalles Watershed Management Unit in the east.

Reading through the Watershed Analysis for all the branches of the Hood River, it is clear that there are many existing ecosystem issues on the north side of the mountain. In fact, the WFHRWA p. J-1 notes that the Middle Fork is the most fragmented watershed in all of Mt Hood (78% of the watershed has been previously logged).

Just one example issues that need to be addressed on a landscape scale is the potential for rain-on-snow events increasing peak flows: The Middle Fork Hood River watershed is highly susceptible to rain-on-snow events, and has experienced a number of debris torrents associated with these events. Just two years ago, two road crossings of the West Fork Hood River underwent serious repair because of increased flow and debris. With a number of units concentrated on creeks already in an impaired state, such as Tony and Bear Creek, there are real concerns that these current impaired conditions would be exacerbated by logging across these watersheds.

The reduction in canopy allows a greater amount of snow to accrue on the forest floor, while a closed canopy catches much of the snow fall in the canopy

and helps it slowly trickle down and be absorbed by the stand. A significant reduction in canopy will allow more snow to accumulate on the ground and more rain in to send it down slope. Please include a detailed analysis of the rain-on-snow risk to the Middle Fork, West Fork and East Fork Hood River watersheds, and how this risk (and others) could be exacerbated by three sales overlapping in time.

CONCLUSION

Bark's main suggestions for moving forward with this project are as follows:

1. Remove units that require new road construction, rebuilding of decommissioned roads, or log haul over rebuilt/reused stream crossings;
2. Include additional active road-decommissioning miles to the project and provide a clear implementation timeline;
3. Remove the Huckleberry Enhancement units, and units 51 & 54 from the project;
4. Provide a more candid analysis of the proposed alternative's impact on snag habitat in the form of requested tables and number estimates of snags removed per area;
5. Remove Riparian Reserve logging from the project;
6. Ensure quantifiable, enforceable BMPs/PDCs; and
7. Fully analyze the cumulative impacts of all proposed projects on the district, including the Red Hill and Polallie-Cooper timber sales.

As the Forest Service is considering the optimal method of accomplishing the purpose and need for the Lava Timber Sale, please consider that active management is not always the best avenue to achieve forest health. In the comments above, Bark has provided ample suggestions to improve this project – based on our survey of both the project area and the scientific literature pertaining to thinning, roads, and forest health. We anticipate a thorough review of these comments and look forward to the necessary changes made to both the forthcoming EA and the project itself.

Thank you,

/s/Michael Krochta

Michael Krochta
Forest Watch Coordinator, Bark

BIBLIOGRAPHY

Boleyn, P., Wold, E., and Byford, K., Created Snag Monitoring on the Willamette National Forest, USDA Forest Service Gen. Tech. Rep. PSW-GTR-181. 2002

Bunnell, F.L., Kremsater, L.L., and Wind, E. 1999. Managing to sustain vertebrate richness in forests of the Pacific Northwest: relationships within stands. *Environmental Review*, 7: 97-146. Reeves et al. 2006b

Carroll, C., Odion, D., Frissell, C, Dellasala, D. Noon, B., & Noss, R., 2009. Conservation Implications of Coarse Scale versus Fine Scale Management of Forest Ecosystems: Are Reserves Still Relevant? Klamath Center for Conservation Research, Orleans, CA.

Davis, L. Restoration of Young Forests with an Emphasis on Pre-Commercial Thinning. Pacific Northwest Forest Restoration Cooperative – Technical Paper No. 1, August, 2008.

Espinosa, F.A., Rhodes, J.J. and McCullough, D.A. 1997. The failure of existing plans to protect salmon habitat on the Clearwater National Forest in Idaho. *J. Env. Management* 49(2):205-230. USFS and USBLM, 1997

Endicott, D. 2008. National Level Assessment of Water Quality Impairments Related to Forest Roads and Their Prevention by Best Management Practices. Final report to U.S. Environmental Protection Agency, Contract No. EP-C-05-066, Task Order 002. Great Lakes Environmental Ctr.: Traverse City, MI. December. 259 pp.

Foltz, R.B. and Burroughs, E.R., Jr. 1990. Sediment production from forest roads with wheel ruts. In: *Proceedings from Watershed Planning and Analysis in Action*. Symposium Proceedings of IR Conference, Watershed Mgt, IR Div, American Society of Civil Engineers, Durango, CO, July 9-11, 1990. pp. 266-275.

Franklin & Dryness, 1973, *Natural Vegetation of Oregon and Washington*, Pacific Northwest Forest and Range Experiment Station, USDA Technical Report.

Gucinski, H., M.J. Furniss, R.R. Ziemer, and M.H. Brookes. 2001. Forest roads: a synthesis of scientific information. General Technical Report PNW-GTR-509. Portland, OR: U.S.Department of Agriculture, Forest Service, Pacific

Northwest Research Station. 103p. Available online at:
http://www.fs.fed.us/eng/road_mgt/science.pdf

Karr, J.R., Rhodes, J.J., Minshall, G.W., Hauer, F.R., Beschta, R.L., Frissell, C.A., and Perry, D.A., 2004. Postfire salvage logging's effects on aquatic ecosystems in the American West. *BioScience*, 54: 1029-1033.

Meehan, W.R. (ed.), 1991. Influences of Forest and Rangeland Management on Salmonid Fishes and Their Habitats. *Am. Fish. Soc. Special Publication* 19.

Reid, L.M., Dunne, T., and C.J. Cederholm, 1981. Application of sediment budget studies to the evaluation of logging road impact. *J. Hydrol (NZ)*, 29: 49-62.

Rhodes, J.J. and Baker, W.L., 2008. Fire probability, fuel treatment effectiveness and ecological tradeoffs in western U.S. public forests. *Open Forest Science Journal*, 1: 1-7.

Rhodes, J.J., McCullough, D.A., and Espinosa Jr., F.A., 1994. A Coarse Screening Process for Evaluation of the Effects of Land Management Activities on Salmon Spawning and Rearing Habitat in ESA Consultations. CRITFC Tech. Rept. 94-4, Portland, Or. Trombulak, S.C., and C.A. Frissell. 2000. Review of ecological effects of roads on terrestrial and aquatic communities. *Conservation Biology* 14: 18-30.

Robichaud, P.R.; Ashmun, L.E.; Sims, B.D. 2010. Post-fire treatment effectiveness for hillslope stabilization. General Technical Report RMRS-GTR-240. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 62 p.

Walkowiak, R., Hanken, D., Crossley, K. 1996. East Fork Hood River and Middle Fork Hood River Watershed Analyses. United States Department of Agriculture, Pacific Northwest Region

Ziemer, R.R., and Lisle, T.E., 1993. Evaluating sediment production by activities related to forest uses--A Northwest Perspective. *Proceedings: Technical Workshop on Sediments*, Feb., 1992, Corvallis, Oregon. pp. 71-74. Terrene Inst., Washington, D.C.

GREG DYSON'S LETTER TO KIM TITUS REGARDING YAKA TIMBER SALE

Re: Yaka EA Timber Sales

July 26, 2000

Dear Ms. Titus:

I am writing to express serious concern over blowdown on the four Yaka EA timber sales, individually known as Yaka, Yaka 22/23, Chee & Stick.

Recently I was walking the logged units of the Yaka sale and I noticed a substantial amount of blowdown in the logged units. As you are no doubt aware, logging is not yet complete on Yaka, and logging commenced only last year. Thus, in less than one year, several hundred trees have blown down in the logged units of the sale. More will undoubtedly follow since some units have only just been logged.

Upon reviewing the Yaka EA and associated analysis files, I do not even find the word "blowdown," let alone an analysis of blowdown effects.

Due to this substantial unforeseen environmental impact, Bark requests that you prepare a Supplemental EA on the remaining Yaka EA sales: Yaka 22/23, Chee & Stick.

I would be happy to meet to further discuss this matter, perhaps by conducting a joint field trip to the Yaka sale to look at the extensive blowdown. I look forward to your response on this important matter.

Sincerely,

Gregory J. Dyson, Bark

cc: Senator Ron Wyden