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May 15th, 2013

Dear Ian,

As you know, Bark works towards transforming Mt Hood National Forest to a place where natural processes prevail, wildlife thrives and local communities have a social, cultural and economic investment in its restoration and preservation. Bark has over 7,000 supporters who use the public forests of 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 scoping comments on behalf of these supporters.

We are writing today to comment on the proposed Lemiti Timber Sale. This sale would log approximately 2,300 acres of the 3,139 acre planning area within the Upper Clackamas watershed. The project proposes "to reduce fuels to minimize resource impacts from fire, provide for enhanced firefighter safety, and treat a sufficient number of acres to meet forest plan goals related to forest product outputs as well as enhance the productive capacity of the forest." We are concerned that this project will not meet its stated purpose and need as discussed below.

We would first like to thank you for setting up the pre-scoping trip last summer. Bark works to ensure that the public can engage in the NEPA process fully and letting the public in as early as possible is very helpful. This allows the public an opportunity to bring up concerns with projects before the Forest Service (FS) expends a great deal of energy toward something the public does want to see move forth. We would encourage the agency to continue this type of field trip in the future.

That said, a lot of new information was released with the official scoping notice and it would be helpful to have this comment period open when the project area is accessible. Unfortunately, the public is not able to respond to this new information with any site specifics during this time. As the project is moving forth under the new appeal regulations (36 CFR 218), this could be the only time the public has an opportunity to suggest adjustments to the project. This

arrangement makes it very difficult for the public to fully engage in the NEPA process. We would encourage all comment periods to ensue when the area is accessible to ensure full public participation.

1.) Roads

One of our biggest concerns with the project is roads. The Lemiti project would construct three miles of new temporary roads and rebuild five miles of roads that are already closed. While the scoping letter does state that these roads will be obliterated after project completion, we believe that roads construction would be a step backwards as it would contribute to sedimentation, compaction, habitat disruption, as well as undermine the economic viability of restoration, as discussed below.

Recently the Increment process of closing roads in Mt Hood was put on hold. In 2007 Increment I worked to decommission roads in this very watershed and established Mt Hood National Forest as a leader in creating a saner road network on National Forests nationwide. Bark worked hard to help obtain Congressional funds through Legacy Roads and Trails Fund to help Mt Hood achieve the 51% percent reduction in its road network forest wide. This 51% is what Mt Hood staff believed to be in the best interest for the forest, and all ecological indicators suggests this is still the case.

Now we are not only seeing the ecologically important process of road decommissioning grind to a halt, but also a pattern in which EAs state that project roads will be closed when and if funds are available. In the case of Lemiti, we are concerned that road decommissioning after logging is completed will not be an option, due to the fact that logging dead Lodgepole Pine [LPP] will most likely not generate much excess revenue. This is a problem we have seen time and again in past projects, and it is especially troubling considering that the analysis is often based on the assumption that roads will be closed, when in reality these closures, and their associated ecological benefits, are wholly dependent upon timber receipts.

It is unfortunate that the scoping letter does not anywhere mention or map where these roads are intended to be constructed. Without this, it is difficult for the public to have a meaningful understanding of potential road impacts. It does mention the new crossing to be put on Slow Creek, so we assume that the 4220-130 road will be extended beyond the existing berm. However, this road is essentially the only existing road in the planning area. Otherwise, Lemiti is largely a roadless area that offers the unique character and beneficial ecological

qualities that come with it. The construction of roads would eradicate the roadless character of this planning area and undue the natural restoration that has occurred already on area roads.

All of the roads that approach the sale from the north – the 4230-034, the 4230-035, and the 4230-037 roads - are passively decommissioning themselves. These roads are all gated and no one has obviously been down these roads in years! These roadways each contain 10 – 20 year old LPP down the majority of the road surface. In fact, when walking through the area we often sought a linear line of dense LPP to figure out where the "road" was. These roads have essentially decommissioned themself, and it would be a shame to undo the ecological work nature has already achieved. Again it would be very helpful for the public to know which roads are being considered for re-construction.

Forest Road 4220-130 is open and in decent order, at least until it connects with 4220-125. From the 4220-125 juncture until where the road is bermed, there are many points in which 4 inch deep ruts are running along the surface of the road, and the percentage of gravel in the roadway drops drastically. This road would require a significant amount of work to be used as a haul road even in the areas where the map shows that it is open. This, along with the potential re-opening of overgrown roads to the north indicates that perhaps this project is rebuilding more roads than the scoping letter suggests.

Figure 14220-130 Road contains little to no gravel and deep ruts.

Additionally, the scoping letter notes that the project would install a stream crossing on Slow Creek, but it does not provide any details as to what that would look like. Will this stream get a new culvert? Will it be a temporary log crossing? Slow Creek, as the name suggests, is a slow moving waterway and therefore could take longer to recover from and flush the increase in sedimentation from logging. Further, this waterway balloons out in many locations to form ecologically diverse wet meadows along its course and we are concerned that installing this stream crossing could compromise the stream's integrity. Due to the diversity of

habitat along this waterway and the roadless character of the area no crossing should be constructed over Slow Creek.

It is clear that new road construction and road re-construction would be necessary to access the planning area. As mentioned, many of the roads that run along the north of the planning area are gated and passively decommissioned. Road 4220-130 only extends half of the distance suggested on the map. Outside this phantom road, there are no roads that go through the eastern portion of the planning area. Rebuilding all these roads would be an enormous ecological setback, not to mention a huge expense to taxpayers since it is unlikely that harvesting dead trees would generate all the funds necessary to open, close, and potentially build all the roads needed to access the area. Furthermore, this proposal robs the area of the roadless character that is so lacking across the forest. For all these reasons, and especially in light of the Forest Service's forestwide goal of a 51% road reduction, we are very concerned with the implementation of the Lemiti Project.

2.) Forest succession

All along Forest Road 4220 heading south along the west edge of planning area the edges of the roadway have been logged, presumably as a safety precaution. Amongst the downed trees is an exclusive, dense stand of young LPP. It begs the question: wouldn't this project create the exact same conditions that created the beetle kill present in the area in the first place? Would salvage logging the area simply give way to another even aged stand of exclusively LPP? Wouldn't the project simply create the very conditions it is claiming to remedy? Wouldn't this make it harder to meet the objective to "reduce potential wildfire hazards?" Is not a young dense stand of LPP just as much of a fire risk? Does a dog hair thicket of LPP create just as much of a safety risk for the ingress and egress of firefighters in the area?

The Scoping Notice notes, "In the lodgepole pine stand type, it is very unlikely that stands would transition to old growth because of the cyclic nature of the interaction of beetles and fire." Yet much of the proposal west of Forest Road 4220 already contains a mix of tree species, including Lodgepole Pine. This forest likely went through the early seral stage of LPP to move toward a more mature stand type (see picture below). And still the scoping notice proposes to log in these same diverse forests that have not been affected by "the cyclical nature of fire". These stands are very different from the rest of the proposal and should be removed from further consideration.

Another item the Scoping Notice does not address is that the stands immediately along road 4220-130 are diverse and growing into a forest of primarily Mountain Hemlock in the understory of the dead trees, with some Noble Fir, Western White Pine, Doug-fir, and Western Hemlock present. Many of these trees are 10' to 20' tall. There is also LPP, but these are only 2' – 3' tall. Logging would tip the advantage back to LPP, especially since many of these trees returning would be damaged by a salvage sale. It would be in the best ecological interest to allow this diverse, shade tolerant community to arise beneath the dead trees and potentially extend the fire regime from the standard 80 year fire return interval of LPP to the 200 year fire return interval of Mountain Hemlock. This seems preferable to creating a dog hair stand of LPP that could be subject to another insect attack and/or increased fire risk.

Figure 2 Old growth trees within the planning area west of Road 4220

Additionally, surrounding Lemiti Butte itself is a healthy, diverse stand of trees. It seems that the natural order has created a community that included LPP but because they were amongst other species of trees, the LPP was able to avoid the beetle outbreak. We are pleased to see that Lemiti Butte itself was excluded from the project, and we would again encourage all the stands west of 4220 be dropped from further consideration as these are outside the 100 year fire regime, contain a diverse conifer community, and are adjacent to the Sisi Wilderness. These stands are so similar to the excluded top of Lemiti Butte that it only makes sense to remove everything west of 4220 from further consideration as well.

We should also note that the stands experiencing the heavy beetle kill are moving toward a forest that mirrors the community on Lemiti Butte and west of 4220, and if allowed to grow into a mature, diverse forest, will likely avoid future Mountain Pine Beetle outbreaks. Within these stands are Mountain Hemlock, Doug-Fir, Western Hemlock, Noble Fir, and Western White Pine. If this diverse forest is able to transition through the insect attack and mature, it will experience a much extended fire regime. It is therefore worth considering that there are other possible outcomes in this area besides fire. There are many possibilities in this complex forest.

Figure 3Here amongst the dead LPP are Doug-firs, Mt Hemlock, Western Hemlock, Western White Pine, and Noble Fir.

Another possibility to consider is the ecological benefit of a fire in the planning area. This natural cycle of beetle-kill followed by fire is something that the forest has evolved with, and conditions on the ground suggest that the area has experienced this in its previous cycle. However, because this area has not been logged in the past, we are unsure of its coping abilities to contend with salvage logging. Any environmental analysis needs to include both of these perspectives to determine the pros and cons of moving forth with Lemiti as a salvage project versus allowing the forest to continue as it has evolved to do, which includes the potential of fire.

Lastly, the planning area is in a frost pocket. This means that many species of trees will have more trouble reestablishing themselves in the area, which speaks to the fact that the more tolerant LPP is so prevalent in these stands. Again, as we see along the west side of 4220 a diverse community can develop in the area, but will need the LPP to mitigate the effects of reestablishing themselves in a frost pocket.

3.) Fire at Lemiti

Mountain Hemlock is coming up in the understory of the dead LPP in the project area. If these trees are allowed to return, the Fire regime will shift from a 100 to 200 year return cycle. This process is clearly demonstrated west of Forest Service Road 4220, and is a very real possibility of what could happen within the rest of the area. In fact, that plant community developing beneath the beetle-killed LPP suggests this cycle is well underway. The possibility that the forest can and is reestablishing itself needs to be considered when looking at the proposal.

If the area is salvage logged young trees will continue to fill in at high densities, and increase fire risk. Logging the area would damage the regenerating understory and create another stand of exclusive LPP. As mentioned earlier this is what occurred along 4220 after harvest. If the mixed forest community is allowed to arise we will see a more varied stand that is better able to withstand insect or disease, as well as have a mixed canopy that will be less of a fire risk than an even aged stand of LPP.

It is hard to see that this project will result in the long-term net benefits to fire proofing our forests. The relatively long fire return interval makes the fire-modification benefits of treatment highly speculative. Many more acres will be degraded than will benefit with this proposal. The fire regime in the project area is relatively infrequent which means that most treatments are unlikely to ever be affected by fire and have a chance to modify fire behavior before the forest regrows and becomes dense LPP again. These treatments are therefore unnecessary and unlikely to serve their intended purpose.

Another aspect that needs to be explored is the impact that increasing road density has on fire susceptibility. Areienti and others (2009) found increased fire frequency in "road-saturated" areas: “We found a positive association between lightning fire frequency and road density; this association was consistent at both spatial resolutions. We suggest this occurs owing to increased availability of flammable fine fuels near roads. The effect was attributable neither to increased detectability of fires proximal to roads by human observers, nor to increased lightning strikes due to metallic infrastructure alongside roads or the topographic characteristics of road location. Our results suggest that, in the face of projected road developments in the region, the potential exists for important changes to the regional fire regime.”

In his study of the effects of roads on wildfires in National Forests in California, Robert F. Johnson concluded that over 52 percent of human-caused fires occurred within 33 feet of a road edge (Johnson, R.F. 1963. The roadside fire

problem. Fire Control Notes 24: 5-7.). Other studies showed similar results, reinforcing the correlation between roads and wildfire. (*See* Show, S.B., C.A. Abell, R.L. Deering, and P.D. Itchson. 1941. A planning basis for adequate fire control on the southern California national forests. Fire Control Notes 5: 1-59; *see also* California Division of Forestry and USDA Forest Service, Region 5. 1968. Fire hazard reduction guide for roadsides. Calif. Dep. Conserv. and USDA (concluding that showed that 74 percent of all fires on national forests in California occurred within 10 feet of a road edge). *See also* Stephens, Scott L. 2005. Forest fire causes and extent on United States Forest Service lands. *International Journal of Wildland Fire* 14:213-222 ("Human-caused fires commonly occur near transportation corridors.").

DellaSala and Frost (2001:13) also argue that "in the Western United States, most of the more than 378,000 miles of National Forest roads traverse heavily managed forests with the greatest potential for fire. According to the Forest Service, more than 90 percent of wildland fires are the result of human activity, and ignitions are almost twice as likely to occur in roaded areas as they are in roadless areas (USDA Forest Service 1998, 2000). Even the scoping notice mentions that "the area has a high risk of human caused ignitions." Although it can be argued that roads improve access for fire suppression, this benefit is offset by much lower probabilities of fire starts in roadless areas.

Overall, the scientific literature suggests that forests in areas without roads are less altered from historical conditions and present a lower fire hazard than forests in intensively managed areas, for three reasons:

1. Timber management activities often increase fuel loads and reduce a forest's resilience to fire.
2. Areas without roads have been less influenced by fire suppression than intensively managed lands.
3. Widespread road access associated with intensively managed lands raises the risk of human caused ignitions.

Land managers and policy makers advocate the widespread use of silvicultural treatments in western roadless areas to reduce fuel loads and tree stocking levels and thereby decrease the probability of large, intense fires. Few empirical studies have tested the relationship, even on a limited basis, between thinning or other fuels treatments and fire behavior. These studies, supported by anecdotal information and the analysis of recent fires, suggest that treatments have highly variable results. In some instances, treatments intended to reduce the fire hazard appeared to have the opposite effect (Huff and others 1995; van Wagtendonk 1996; Weatherspoon 1996). This proposal might reduce fuel loads, but it also allows more solar radiation and wind to reach the forest floor. The net effect is often reduced fuel moisture and increased flammability.

It is relevant that on a field trip to the planning area it was discussed that most of the fires in the area occur on Warm Springs Reservation, which conversely, is where more silvicultural treatments intended to mitigate the effects of fire take place. Experimentation with mechanical treatments for fire hazard reduction should proceed primarily in areas with road access and adjacent to private lands, where the ecological risks are lower and the threat of fire to human lives is far greater.

We need to accept the fact that we can not fire proof our forests and instead craft a proposal that protects intact ecosystems and ecological processes while truly working to protect human lives. Salvage logging has already occurred on Forest Roads 4220 and 4690. These cleared areas could provide the firebreak that could allow firefighters the opportunity to work if a fire takes place and would allow folks to leave the Olallie lakes area.

4.) Habitat

The majority of the Lodgepole snags in Lemiti are close in dbh to 16." A snag with a dbh of 16" is when these dead trees become effective habitat for many of the critters who depend on them. Considering Mt Hood as a whole is a snag deficient landscape, it seems apparent that a snag-habitat forest is desperately needed to fulfill this ecological void. Many studies have shown that snags are more important ecologically than living trees and contain more living biomass dead than alive. The FS should recognize the importance of snags and not be dismissive of their ecological function.

"Snag forest habitat" (generally, stands with 75-80% or greater tree mortality) that have not been salvage logged are one of the most ecologically-important and biodiverse forest habitat types in western U.S. conifer forests (Lindenmayer and Franklin 2002, Noss et al. 2006, Hutto 2008). Noss et al. (2006) observed overall species diversity, measured as the number of species – in regards to higher plants and vertebrates – is often highest following a natural stand-replacement disturbance…" Snag forest habitat is comprised of abundant standing snags of all sizes, as well as patches of montane chaparral (dominated by flowering shrubs whose germination is facilitated by fire), dense pockets of natural conifer regeneration, large downed logs, and numerous wildflowers.

Noss et al. (2006) observed that "early-successional forests (naturally disturbed areas with a full array of legacies, i.e. not subject to post-disturbance logging) and forests experiencing natural regeneration (i.e. not seeded or replanted), are among the most scarce habitat conditions in many regions." The scarcity of this important natural habitat type is the result of fire suppression and post-fire logging.

A recent study by Swanson et al. (2010) shows the importance of early seral habitat, and how this is one of the most sorely lacking features in north west forests. Land managers tend to overemphasize the value of trees, while dismissing the early seral habitat that many species require. Removing fire from an area takes away the opportunity for this area to become important early seral habitat.

Salvage logging robs the area of other important ecological processes too. As one example, ceanothus spp. which comes in after fire, fixes nitrogen and prepares the ground for the next seral stage. Nitrogen is one of the key elements plants need to thrive, and removing this species from the area robs it the early seral stage that sets the way for the next successional stage. By logging and suppressing fire, we would be thwarting the natural process of succession that has driven the ecological processes of Lemiti Butte.

There is perhaps no vertebrate more strongly representative of the snag forest habitat type than the Black-backed Woodpecker (Picoides arcticus) (Hutto 1995, Hanson 2007, Hanson and North 2008). This species is a federally designated Management Indicator Species, acting as a bellwether for the viability of dozens of other species associated with snag forests (USDA 2004). One of only two woodpecker species globally with three toes instead of four, the Black-backed Woodpecker is able to deliver exceptionally hard blows due to added heel mobility resulting from the lack of a fourth toe and it can reach beetle larvae that other woodpecker species cannot (Dixon and Saab 2000). One bird eats an astounding 13,500 beetle larvae per year (Hutto, unpublished data).

It is mentioned in the scoping notice that jackstrawed trees increase fire risk, but it does not mention that jackstrawed trees provide a matrix of habitat for fisher, martin, lynx, and cougar that use these downed trees for such uses as thermal cover, hiding cover and hunting areas. Other critters like many small rodents use these downed logs for cover as well. Smaller downed logs benefit amphibians which would be of great use in this hot microclimate. Red-backed voles utilize the fungi and lichens associated with downed wood.

Downed logs are also extremely important for nitrogen fixation. Many studies in the Andrews Experimental Forest have shown that significant amounts of nitrogen enter the forests from the decay process of downed logs. As the fruiting bodies of fungi decompose they release stored nitrogen from their

bodies which in turn feed the soil. If the Forest Service proceeds to remove the majority of the decay features from the landscape we will lose this associated nitrogen.

Similar studies have also shown that nitrogen fixing species are better able to fix nitrogen when they are in close proximity to downed wood, likely due to the moister microclimate from the stored moisture of downed wood which keeps the fungi active longer into the summer.

Finally, we would like to address the habitat implications of fire. If fire suppression policies and projects such as Lemiti achieve their stated goal, many wildlife species that depend upon habitat created by high-intensity fire will be put at risk of extinction. Since the FS has been operating under the 10am policy for nearly a century this outcome is very real.

Dr. Richard Hutto, one of the nation's top ornithologists, recently concluded "Besides the growing body of evidence that large, infrequent fires are ecologically significant and not out of the range of natural variation an evolutionary perspective yields some insight into the 'naturalness' of severely burned forests… The dramatic positive response of so many plant and animal species to severe fire and the absence of such responses to low-severity fire in conifer forests throughout the U.S. West argue strongly against the idea that severe fire is unnatural. The biological uniqueness associated with severe fires could emerge only from a long evolutionary history between a severe-fire environment and the organisms that have become relatively restricted in distribution to such fires. The retention of those unique qualities associated with severely burned forest should, therefore, be of highest importance in management circles" (Hutto 2006).

There is strong consensus among ecologists that high-intensity fire, and resulting snag forest habitat, is something that must be preserved and facilitated, not prevented or destroyed. Lindenmayer et al. (2004) noted the following with regard to wildland fire: "…natural disturbances are key ecosystem processes rather than ecological disasters that require human repair. Recent ecological paradigms emphasize the dynamic, nonequilibrial nature of ecological systems in which disturbance is a normal feature… and how natural disturbance regimes and the maintenance of biodiversity and productivity are interrelated…" Smucker et al. (2005) concluded: "Because different bird species responded positively to different fire severities, our results suggest a need to manage public lands for the maintenance of all kinds of fires." Kotliar et al. (2007) observed that the results of their study

"demonstrated that many species tolerate or capitalize on the ecological changes resulting from severe fires…", and concluded that: "Fire management that includes a broad range of natural variability (Allen et al. 2002), including areas of severe fire, is more likely to preserve a broad range of ecological functions than restoration objectives based on narrowly defined historic fire regimes (Schoennagel et al. 2004)."

The increase in available nutrients following fire, particularly higher-intensity fire, can lead to substantial growth pulses (Brown and Swetnam 1994 [Fig. 3], Mutch and Swetnam 1995 [Fig. 4]). This includes post-fire shrub growth, conifer regeneration, and release of surviving trees. The conifer seedling/sapling regeneration is very vigorous in high-intensity patches (see, e.g., Donato et al. 2006, Hanson 2007b, Shatford et al. 2007.

5.) Meadows and medicinals

When groundtruthers walked down Forest Road 4220-125 we found a wetland just north of this road. On the map, it is where the unnamed creek peters out just north of this road. These are the headwaters of the creek, and at many points along this waterway the it diffuses into a meadow. These meadows are rich with plant species such as Gentian, Osha, Pedicularis, Spirea, Goldenrod, etc.

Along 4220-131 there is another meadow that is wedged between this road and the creek that parallels it. We are concerned that by utilizing road 4220 -131 or 4220-125 that there would be damage to these meadows. In fact, moving further down 4220-131 there are a few different spots where the creek diffuses into meadows. The pre-scoping notice mentions that one of the reasons for the project is to protect medicinal plants for the Warm Springs Reservation. These meadows often have the richest flora and are sites for numerous medicinal plants. In fact, many of the plants would probably have more habitat available if a fire did move through the area.

It would be good to analyze exactly which medicinal plants the Forest Service is working to protect for Warm Springs so that the proposal can be sure to protect these resources, especially since most of the abovementioned plants thrive in wet meadows where fire risk is reduced. In fact, most medicinals that I am aware of in the project area are shrub and forb plants that would be more severely impacted by logging than fire.

6.) Treaty rights

While we want the agency to respect tribal wishes, this project is awash with secrecy that makes it hard for the public to know what treaty rights are being respected with this proposal. We are well aware that relations between the US government and indigenous peoples have been, and continue to be horrific, and there is much we as a nation need to do to address this problem. We are concerned, however, that this project does not achieve the goal of reducing fire in Warm Springs, nor does it recognize the role of fire in this landscape. As outlined in the Scoping Notice fire is still a reality on the reservation despite an aggressive fuels treatment program being implemented there.

7.) Invasives.

St. Johns Wort, Tansy, and Ox-eye Daisy are all growing strong along the road sections along the north side of the planning area. There are also patches of invasives further in the roadways where Lodge Pole Pine (LPP) has not yet grown in on the road surface. According to recent discussions of the Project Committee of the Clackamas Stewardship Partners, there is a great need to determine how we can get control invasive plants in the post-logging environment.

Bark has recently been engaging in surveys to look at Best Management Practices (BMP) monitoring and effectiveness in Mt Hood, and we have found problems with invasives in the majority of stands post-logging. In fact, the presence of invasive plants is one of the clearest demonstrations of a BMP that does not function for its intended purpose. Each year I seem to find a new invasive plant moving into the Clackamas District. There was Vinca one year (up Fish Creek), Hounds Tongue next (4640 road), and then this last season Lesser Celadine (also near Fish Creek). Logging and the associated road building allow these invasive plants to get a stronger toehold in our forests. Even if logging does not actively spread these species, it certainly creates the conditions for them to thrive. Additionally, we need to recognize that we do not understand how this shift in plant communities will affect the evolution of these stands.

I was recently up visiting some of the Biscuit fire area in the Siskiyous. I visited some stands that were salvage logged and some that were not. In areas that were salvage logged I observed many invasive plants, while those that were allowed to naturally recover contained much greater species diversity with madrone, manzanita, three species of ceanothus, etc. all moving back into the area. These plants are all native vegetation that get the soil ready for the next

generation. These are all plants that could be lost if we continually mange our forests for trees and do not allow these early seral species such as ceanothus to have a role in forests' development.

9.) Climate Change

In the EA the FS also needs to address the role of climate change in regards to this project, including an examination of how climate change could effect and be effected by the different scenarios of logging versus allowing the forest to progress naturally, either to the next seral stage or to burn. In either of the latter scenarios, carbon bound up in dead trees would gradually return and be stored in the soil - either through the decay of down logs or the release of carbon into the soil through fire. Logging, however, is guaranteed to release this stored carbon.

Predictions vary about how global warming and climate change will impact forest fire, but the most recent projections indicate reduced fire activity in most forests due to changes in combustible vegetation, and increased precipitation in many areas (aw witnessed in this area the previous two seasons). Regardless of the impact of climate change on fire, our forests ecosystems are currently experiencing deep deficit of fire, which would most likely not be rectified even in the climate change scenarios that reflect the greatest possible increase in fire.

Northwest forests, including old-growth forests, are carbon sinks, meaning that they absorb more of the greenhouse gas CO2 than they emit. High-intensity wild fire actually promotes high levels of carbon sequestration, and old-growth conifer forests cannot function as carbon sinks without fire. (Hanson 2006) Researchers recently found that the highest carbon sequestration levels occur in forests that had previously experienced considerable occurrence of high-intensity fire (Keith et al. 2009). They concluded the following: "Fire can kill but not combust all of the material in trees, leading to much of the biomass carbon changing from the living biomass pool to the standing dead and fallen dead biomass pools… The dead biomass then decays as the stand grows… Slow decomposition rates can therefore result in large total carbon stocks of dead biomass and regrown living biomass." (Keith et al. 2009). The authors noted that the results of their study, which was conducted in Australia, are broadly applicable to other temperate forests globally, including U.S. conifer forests. Conversely, as forest stands grow and become ancient, in the long absence of high-intensity fire effects, they can transition from carbon sinks (net carbon sequestration) to carbon sources (net carbon emission) after about 600 years of age (Luyssaert et al. 2008, S. Luyssaert 2009 pers. comm.).

10.) Recreation

The pre-scoping letter notes that "A large scale wildfire could impact scenery, recreation opportunities, forest ecosystems, watersheds, and wildlife habitat." This statement fails to acknowledge that logging will have these same negative qualities, with the key difference being that logging would guarantee these are created, while a fire is not necessarily inevitable, making this a purely speculative scenario.

Lastly, the project area includes logging along portions of road 220-120 which leads up to the lookout tower on Sisi Butte. Sisi Butte has recently been designated as wilderness, and we are concerned that logging will impact the wilderness characteristics that such a designation is meant to protect.

One of the biggest arguments in favor of this project is providing evacuation of the Olallie Lakes area should fire occur. Again, we reiterate that there are already treeless buffers along the roads in the beetle kill area that creates a defensible space for firefighters and an opportunity to leave the area. Logging in the roadless areas does nothing to protect the people who are south of the planning area.

11.) Economics

The second Purpose and Need for Lemiti mentions the need "to provide sustainable forest products now and in the future". We are skeptical that the project will meet this Purpose and Need. This area is in a frost pocket, where the cold sits and lingers, making the establishment of stands difficult. The trees are debarked and show many signs of decay and woodpecker activity, making it seem unlikely that the project will generate enough funds to close roads post-logging. Lastly, would it not be more beneficial for the long term value of these forests to allow the area to progress to a more diverse plant community as seen west of 4220 in the planning area?

The Forest Service's Fiscal Year 2014 Budget Overview states that recreation in National Forests provides more jobs and contributes more to the GDP than does logging. Although the data is not available for Mt. Hood National Forest, we can surmise that this statistic remains true in Mt Hood, which receives about 4 million visits annually.

In conclusion, Bark does not feel that this project addresses the Purpose and Need, nor does it respect the ecological realities of the Lemiti area. We would

like to see the immediate exclusion of the planning area west of 4220 as this area is outside the ecological conditions of the rest of the planning area. We would also like to see no new roads, even temporary ones, put on the landscape to facilitate this project. We encourage the Forest Service to explore other means of protecting the resources of the tribal communities and recreation users in the area.

Thank you so much for your time. Please let us know if you have any questions, or would like to discuss the project more.

/s/ Gradey Proctor
Forest Watch Coordinator, Bark

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