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April 3rd, 2014

Jim Roden

Clackamas River Ranger District

595 NW Industrial Way

Estacada, OR 97023

RE: Goat Mountain Timber Sale comments

Dear Jim,

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 25,000 supporters[1] 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.

Through implementation of the Goat Mountain timber sale, a 2,800 acre project within the Middle Clackamas, Lower Clackamas, and Lower Molalla River Watersheds, the Forest Service intends to increase the health and growth of trees, and to provide forest products to the local economy. Since the release of the scoping letter, 8 Bark volunteers have visited the Goat Mountain timber sale, and several of our recommendations arise from issues that we have found while walking the proposed units.

[1] Supporters in this case is defined as significant donors and petition-signees which Bark has identified as being active users of Mount Hood National Forest.

We request that you actively engage with the substance of these comments and use both the scientific and site specific information herein to create a better restoration project for the Middle Clackamas, Lower Clackamas, and Lower Molalla River Watersheds.

PUBLIC PARTICIPATION

We would like to point out that the Goat Mountain comment period overlaps in time with an additional comment period for another large timber sale in the Clackamas district, the Grove Thinning project. This overlap does not foster public participation, especially since the maps for Goat Mountain were only released with the scoping letter, and updated maps for Grove were released during just prior to this comment period as well. With Goat Mountain, we are also faced with interpreting a scoping letter that does not include a "Purpose and Need" section, which is THE way the public can assess the value of a project such as this one.

We do not believe that the public, which is theoretically represented by the Forest Service, has the capacity to be fully engaged simultaneously in these projects, as a total of approximately 4,560 acres are currently up for public comment during a time in which many of these acres are not even physically accessible. As these comment periods are designed to maximize public input during a reasonable amount of time, please keep this in mind when scheduling deadlines for future projects.

As previously mentioned, the scoping period for Goat Mountain is during a time which the majority of the project area is not easily accessible to the public due to deep snow on FSR 45. When we have visited this area in recent weeks, our volunteers have found the junction with road 4550 to be impassible due to snow levels. Unfortunately, the public is not able to respond to this comment period with adequate site specifics at this time. As the project is moving forth under the new appeal regulations (36 CFR 218), this is a crucial 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 initiate when the areas in question are accessible to ensure full public participation.

REOPENING RECENTLY CLOSED ROADS IN THE PROJECT AREA

Bark is puzzled and reasonably concerned about what the Purpose and Need for this project could possibly contain in terms of restoration goals, since we doubt the money generated from this project could pay for the level of road restoration

that has already been done here. And even if it could, this would mean that the funds generated from this project would go towards work that has already been completed in the area.

Bark is also concerned that many of the system roads accessing Goat Mountain units are inaccurately symbolized on the available project maps, and that they will contribute to increased vehicle access and aquatic risk if this project is implemented as proposed. Currently the majority of short spur roads accessing proposed units off FSR 45 (which are symbolized as being open system roads on the scoping map) are very thoroughly decommissioned. It seems this was done mostly to deter the excessive amounts of illegal activity that occurs in the area – illegal target shooting, ATV use and garbage dumping.

Figure 1: Decommissioned road 4500-340, accessing Goat Mountain units 184, 186, 188, 190 & 192

The road closure projects completed recently within the Goat Mountain project area have been effective in reducing target shooting and garbage dumping in the stands proposed for thinning. Restoration actions included boulders being placed along the road, berms, obliteration, re-contouring/decompacting, re-vegetating, and the removal of trash (see Fig. 1, left). In 2009 and 2010 the Clackamas District used about $60,000 in grants from Clackamas County and the Forest Service to restore 28 sites along Memaloose road. This was part of a project named "Memaloose Inappropriate Recreational Shooting Restoration Project", and was planned in 2008.

If these recently decommissioned roads are re-opened for this timber sale, we are very concerned that illegal activity will increase within the project area. We have seen what temporary roads used for unit access elsewhere in the district look like post-implementation, and can say that using this same kind of road closure/decommissioning would not suffice here. This could mean that an additional source of funding may be required for redoing the work that's already been done here, which would be unfortunate both economically and ecologically.

The potential for an increase of illegal activity in the area will grow with reopening recently decommissioned roads for logging. Illegal ATV use is a problem in the Goat Mountain project area, and we have heard accounts that soil erosion and run-off from ATVs in some parts of the area are so bad that adjacent stands have dry mud as ground cover. We do not want this kind of activity to escalate and bring more unnecessary damage to the Memaloose area. Trash dumping in the area is also associated with access to the closed spur roads that access the stands proposed for thinning.

The Clackamas County Dump Stoppers program has removed tens-of-thousands of pounds of trash from the spurs off Memaloose road, and has begun to have a lasting connection and visual effect on the area. It baffles us that the agency is willing to undo the great work done here by both its employees and the community for an activity which will surely increase the kind of damage these efforts have sought to reduce.

REQUEST FOR NO NET-INCREASE IN ROAD MILES WITHIN PROJECT AREA

While the Forest Service has completed many road decommissioning projects in the Clackamas since the inception of the Northwest Forest Plan (NFP), we want to request that the Forest Service to reconsider the meaning of the word "decommission" as it was originally intended in the NFP. 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 future use, as seems to be the case for the roads which would need to be re-opened for accessing Goat Mountain units. How many rebuilt road miles are required for the Proposed Action being planned here? How many new road miles are required for this action?

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. According to the agency's available GIS data, the current road density average for the South Fork Clackamas River is 3.66 road miles per square mile. This current road density is far above the Pacific River Council's recommended target road density of less 1.5 miles per square mile in 6th field watersheds (PRC, 2013). The Pacific River Council published these management recommendations after they were reviewed and contributed to by the Western Environmental Law Center, Friends of Mount Hood, Oregon Wild, Crag Law Center, the Columbia River Inter-Tribal Fisheries Commission, Clackamas River Providers, Oregon Trout Unlimited, Bark and several others.

Knowing this information, any proposal by the Forest Service in the area must be aggressive with permanently keeping recently closed roads off the map, and actively removing them from the landscape.

Uncertain future for road decommissioning

Increasing the amount of road decommissioning in the project area would help the agency make progress toward its own national direction to "right size" its current road system to one that can be sustained, from both a fiscal and ecological standpoint, over time. Each project analysis and NEPA decision represents an opportunity to move in that direction.

We do not feel that decommissioning with "entrance management" for the roads used to access Goat Mountain units is adequate to address our concerns of overall risk to soil & water quality in the effected watersheds. Because of this, we request that the agency specify if it is planning to decommission the roads used for unit access to the degree that they currently are decommissioned.

We expect that the Goat Mountain PA will read that the project will re-decommission a number of road miles, and will work from the assumption that these roads will be permanently removed from the landscape. However, throughout the projects Bark has monitored, we have witnessed that roads are only decommissioned when and if funds become available.

In the Goat Mountain PA we request that the Forest Service create a clear timeline for road removals so the public can have the assurance that these removals are moving forth (also, if funds are indeed secured for the road decommissioning projects, please make this clear in the PA).

AGENCY EXEMPTIONS FOR SOIL DISTURBANCE

In all the projects that Bark has recently engaged with on the Clackamas District, non-earthflow soils in proposed units have exceeded the Mount Hood Land and Resource Management Plan (LRMP) standard of 15% detrimental condition. In all of these projects, the agency has granted an exemption for this condition so that additional logging can occur on already severely impacted soils. The reason given is that the stands have continued to "grow well" even with soil damage, and that "in areas not disturbed again" natural recovery would continue.

Other recent timber sales in the area that were similarly exempted from the standards included 2007 Thin, Rethin, Jazz Thin, Grove Thin and Collawash Thin. These projects use the exact same boilerplate language for the detrimental soil exemptions. This clearly shows that the Forest Service is not making a

thorough, site specific determination that this exemption is warranted. Bark is very concerned that the Forest Service will continue to exempt itself from LRMP standards in the case of Goat Mountain, and will be disturbing these areas again. **If units within the Goat Mountain project area exceed LRMP standards for detrimental soils, please include criteria used for determining whether or not these stands may be exempted from these plan standards to allow further damage.** We do not want to see these exemptions transpire if there is not adequate determination of their benignity.

COMMERCIAL LOGGING AS RESTORATION

The Goat Mountain 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 Goat Mountain project area. In the context of these uncertainties, and with a purpose and need that will undoubtedly include a focus 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 Preliminary Assessment.

The Goat Mountain scoping letter recognizes that mid-aged stands within the project area are experiencing a slowing of growth due to overcrowding and some are experiencing suppression related mortality. However, the agency fails to recognize that dense, heterogeneous Douglas fir dominated forests are very typical in natural succession, as Douglas firs are 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 menziessi*" (Franklin & Dryness, 1973). With this in mind, it is not hard to imagine that many of the younger stands within Goat Mountain 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. Yey the Forest Service maintains that natural processes cannot and will not ever prevail in such "unnatural" conditions created by past management.

The agency describes the Goat Mountain planning area as containing "slowing of growth…susceptible to diseases…insects…reduced vigor…small size." All the mentioned defoliating insects and root diseases naturally fluctuate and have

positive ecological roles in forests--such as thinning, part of the purpose and need identified for this project.

Figure 2: Bark volunteer standing in Goat Mountain unit 192 – showing canopy gap, multi-aged trees and downed logs

The Forest Service would like to move these stands towards a more properly functioning community (with more space between trees, more developed understory, etc.) although 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 several stands within Goat Mountain that display vigorous natural recovery from un-natural disturbance, such as Unit 192 (pictured above, Fig. 2). As visible from the photograph, this unit contains a multilayered structure with a western hemlock dominated understory coming up beneath the Douglas fir-dominated canopy. This unit also contained very steep slopes leading down to stream habitat containing large amounts of western red cedar.

Deer and elk forage enhancement

There is ample reason to believe that thinning will not actually benefit local deer and elk in terms of forage. It has been found that elk avoid contact with areas associated with human traffic such as recently used forest access and logging roads and main throughways, and preferentially seek out areas with increased topographic complexity and distance from open roads (Long et al., 2008). As such, Long et al.'s study in northeast Oregon found unmanaged areas of forest to provide better foraging opportunities for elk in summer and into the fall months. What monitoring, if any, has the Forest Service done to determine whether or not elk are using the gaps created in recent projects, like the 2007 Thin?

The March-April 2002 issue of Rocky Mountain Elk Foundation's Bugle magazine details the adverse effects of roads on elk, providing the results of both current and historic research. This research demonstrates that, although closing roads to motorized access helped elk, bull ratio and herd balance is better in areas that have no roads at all.

The fact that much of the area contained in the proposed units would be open for active logging with a high probability of increased access and disruptive activities, this is not the right area to focus on deer and elk forage enhancements.

Logging in Riparian Reserves

Looking at the Goat Mountain scoping maps, Bark is concerned about the large amount of Riparian Reserve logging included in the project. The watersheds potentially affected by the Proposed Action include late-run Coho (the last remaining viable wild Coho population in Columbia basin) as well as winter steelhead, and spring & fall chinook. All the streams we have seen are shielded in healthy riparian plant species, and most units have a vibrant understory (including western red cedar) growing in riparian areas. We are concerned that the proposed logging will have a detrimental impact on the riparian areas, and will not achieve the project's restoration goals.

As with other Clackamas projects, the Goat Mountain scoping letter implies 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.

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.* The goal of growing bigger trees faster, which in this project will likely 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).

The Environmental Analysis for the Collawash Thinning project, admitted that "thinning within riparian reserves is a ground disturbing activity that has the potential to cause a temporary reduction in water quality by allowing sediment to enter the stream channel from surface erosion or run off."

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 to streams, and we believe that riparian thinning in Goat Mountain simply and directly conflicts with any restoration objectives.**

Unnecessary loss of snags, and effects on wildlife

Standing dead trees (snags) are important resources for vertebrate and invertebrate species in forested ecosystems worldwide. 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). 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."

In every analysis of proposed actions for thinning projects, the agency acknowledges that snags will be cut during harvest operations and temporary road construction due to safety considerations. Past evidence also suggests that thinning lowers snag density relative to un-harvested stands. (Windom and Bate 2008). Plantation stands contain few large snags, and snag densities in the Goat Mountain project area are likely far below historic levels. Although the agency admits that timber harvest has undisputed negative effects on standing dead trees, it also has the audacity to claim that thinning will produce more structural diversity in the future. This claim is inherently inaccurate in regards to snag habitat.

Because snags which are artificially created (through girdling) take years to provide any potential habitat (and the quality of this artificial habitat is uncertain), the Goat Mountain Timber Sale would result in an immediate net

reduction of snags across the landscape, and contribute to the larger issue of a regional snag deficit resulting from previous Forest Service management. Since large snags are required for the habitat requirements of Westside indicator species (Cline et al. 2008) but are in short supply due to past and present management the Forest Service should **exclude stands with high snag densities from harvest and apply buffers on key snags.** Also in the PA, **please include a full analysis of this project's effect on snag habitat containing an estimate of snags removed per acre, and design criteria used to reduce the unnecessary taking of these snags.**

PROJECT DESIGN CRITERIA & BEST MANAGEMENT PRACTICES: IMPLEMENTATION AND MONITORING

Over the past year and a half, 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.

After examining recent Preliminary Assessments (Lava PA, Grove 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 and the National

Core BMP Technical Guide, however, there are still many unresolved questions as to how, or if, BMPs will actually be monitored for implementation and effectiveness.

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 Goat Mountain Timber Sale. The Mt. Hood National Forest hasn't done its Forest-wide 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.

We recently acquired (through FOIA) the Forest's most recent small-scale BMP evaluation based on three randomly selected timber sales in 2013. Of these sales, the Dry timber sale was one that we had done BMP monitoring and had visited the same unit that is discussed in this document. We found that there was a temporary road that was not properly obliterated as planned.

The agency document reads: *"Problem: Temporary road was to have been obliterated. The road was not decompacted and had an inadequate amount of waterbars constructed, improperly constructed waterbars, and an inadequate amount of ground cover applied, although some piles of slash were placed at numerous places. The sale administrator failed to notify the contractor that the contract requirements were not met prior to the final approval of the sale. Observation: sheet erosion was evident on the temporary road (needle dams present) where waterbar spacing was inadequate, and water was traveling down the road through one waterbar where it was not constructed properly."*

We cannot support an assumption that roads in Goat Mountain will be properly obliterated based on this evaluation, and also based on roads we have seen in other timber sales in the Clackamas which have had minimal to no obliteration work done post-logging. The evaluation reads, "Sale Administrator was not available when unit was completed… Funding to accomplish the temporary road obliteration needs to be located… Tighter enforcement of sale contract provisions." We would like to echo the fact that funds for properly accomplishing implementation of BMPs do need to be located, and enforcement does need to be tighter if these BMPs are assumed to be implemented in the future.

The agency admits that PDCs are not designed to eliminate all impact but merely minimize effects, and that BMPs are written in a deliberately general and non-descriptive manner, since so many mitigation techniques are "fit in the field".

The agency also claims that PDCs are implemented and effective at least 75% of the time, which equates to moderate to low effectiveness, but provides no supporting data to elaborate on this number. 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; Endicott, 2008).

In the Goat Mountain PA, please include enforceable, quantifiable BMPs and PDCs with a categorization of their ability to be implemented. This should be based on lessons learned in past Clackamas timber projects. If there is a higher likelihood of resource damage due to a particular design criteria not being implemented/effective, please make this clear in further analysis.

High risk of invasive plant species introduction by the Proposed Action

Figure 3: Scotch Broom is prevalent on road 4500-320 at Goat Mountain unit 182

On the roads leading to and on the boundaries of proposed Goat Mountain units, our volunteers have observed high numbers of invasive weeds, namely Scotch Broom (pictured left, Fig. 3) Bark volunteers also 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 not only present along roads and landings but also within units along skid trails. Clearly, the PDCs did not work in similar projects to Goat Mountain to curb the spread of invasive species,

and the Forest Service has given no assurance that in the case of Goat Mountain 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.

PDCs for preventing spread and establishment of invasive weeds include minimizing soil disturbance, preventing erosion, weed-free erosion control methods, and cleaning of equipment. These methods are all designated as being "moderately effective" by the agency. We would like to request that the agency **provide a specific explanation of how the measures planned for Goat Mountain (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

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 it is 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).

Along with the Proposed Action, past, current and foreseeable future impacts to the Goat Mountain project area include damage from OHV use, damage from illegal target shooting and dumping, the lasting effects from the South Fork Thinning Timber Sale, management of private lands which abut the project area, and management of BLM parcels which also surround the western project area. The project area also contains the Memaloose Lake and South Fork Clackamas portions of the designated Clackamas Wilderness areas. Some proposed Goat Mountain units even directly border the South Fork Clackamas wilderness. How will a large scale commercial logging project, along with the above mentioned activities, affect the suitability of these wilderness areas for species dependent on undisrupted, un-fragmented contiguous forest?

We request that Goat Mountain units which border the South Fork Clackamas wilderness area be removed from consideration, and that a full cumulative impacts assessment is included in the Goat Mountain PA which

consists of the full suite of local damaging activities existing currently or in the future.

ECONOMIC VIABILITY OF PROPOSED ALTERNATIVE

A key question for Bark and our supporters is the economic viability of this project. The scoping letter acknowledges that trees targeted for thinning are relatively small and of low value. It is the harvest these low value trees that must fund the backlog of road repairs and maintenance needed for this project.

Most of the units we've seen in this sale are only accessible by doing significant work to rebuild already decommissioned roads. We would request that in the coming PA, the Forest Service include an accurate economic analysis of this project, including the costs of rebuilding these roads and reclosing these roads, compared to the revenue from selling the timber. Based on roads we have seen that have been given prescriptions of "obliteration" post-logging, we would like some additional assurance that there will be sufficient funding to do quality restoration work on these roads that is akin to work that has already been done here.

CONCLUSION

Bark has several suggestions for moving forward with the Goat Mountain timber sale, and request that the agency review these suggestions as *separate* alternatives which the agency can assess for economic feasibility and ecological benefit:

1. Plan road decommissioning miles in the Goat Mountain project area that do not include already actively decommissioned roads rebuilt for proposed unit access, and provide a clear implementation timeline;
2. Plan a post-implementation restoration project which has a high probability of restricting illegal activities to the degree they are restricted now or greater;
3. Remove units that would require new road construction, rebuilding of actively decommissioned roads, or log haul over rebuilt/reused stream crossings;
4. Remove units which directly border the South Fork Clackamas Wilderness area

As the Forest Service is considering the optimal method of accomplishing the largely undefined purpose and need for the Goat Mountain Timber Sale, please consider that active management is not always the best avenue to achieve forest

health. In the comments above, Bark has provided our initial 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 their responses in both the forthcoming PA and in the project implementation 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.

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.

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

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.

Long RA, Rachlow JL, Kie JG. 2008. Effects of Season and Scale on Response of Elk and Mule Deer to Habitat Manipulation. Journal of Wildlife Management, 72(5); 1133-1142.

Pacific Rivers Council, 2013. Protecting Freshwater Resources on Mt. Hood National Forest: Recommendations for Policy Changes. Available online at: http://pacificrivers.org/prc-mt-hood-report-1

Reeves, G.H., J.E. Williams, K.Gallo, and K.M.Burnett. 2006b. The aquatic conservation strategy of the Northwest Forest Plan. Conservation Biology. 20: 319-329

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.

Windom, M. and Bates, L. 2008. Snag density varies with intensity of timber harvest and human access. Forest Ecology and Management 255(7) pp. 2085-2093.

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.