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Casey Gatz
6780 Highway 35
Mount Hood/Parkdale, OR 97041
RE: Polallie Cooper EA Official Comments

“Treatments cannot reduce fire severity and consequent impacts, if fire does not affect treated areas while fuels are reduced.” - Rhodes & Baker¹

Dear Casey Gatz,

Bark’s mission is to bring about a transformation of public lands on and around Mt. Hood National Forest 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 supporters² who use the public land lands 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.

Many of these issues were raised in Bark’s two scoping letters. Most of them were unresolved by the Environmental Assessment (EA), and we look forward to a much more thorough vetting of these comments and concerns in the subsequent NEPA documentation and accompanying Response to Comments.

¹ Rhodes, J. and Baker, W. 2008. Fire Probability, Fuel Treatment Effectiveness and Ecological Tradeoffs in Western U.S. Public Forests. The Open Forest Science Journal, 2008.

² Supporters in this case is defined as significant donors and other folks that Bark has identified as being actively engaged with the use and management of Mount Hood National Forest.

FAILURE TO MEET PURPOSE AND NEED

“The overall purpose of this project is to reduce the fire hazard in order to protect life and property and to restore forest to conditions that are more resilient to wildfire on National Forest Lands.” *Environmental Assessment (EA) at 2.*

The underlying needs are (in short):

- reduce or maintain levels of hazardous fuel to reduce the risk of unwanted effects of wildfire;
- Create defensible space in the communities throughout the WUI;
- Move the landscape toward more historic condition to reduce fuel loading and restore forest resiliency;
- Reduce hazardous fuels to protect Cooper Spur ski area recreation objectives and Cloud Cap Historic District special interest area objectives;
- Reduce risk of large stand replacing events;
- Move tree species composition to a higher proportion of fire tolerant ponderosa pine, western larch and Douglas-fir.

Bark recognizes the very real political pressure that the Forest Service experiences around reducing the risk of, and suppressing, wildland fire. However, the Polallie Cooper Timber Sale, as proposed, goes far beyond the scale of project necessary to meet the purpose and need and, in doing so, could create conditions that actually are contrary to the stated purpose and need.

Hood River Community Wildfire Protection Plan

The EA references the Hood River Community Wildfire Protection Plan (CWPP), and suggests that this plan identifies the Polallie Cooper project area as priority for fuels reduction. It is true that the CWPP identified the perimeter around Cooper Spur as a good place for creation of defensible space, fire breaks and tree limbing. To the best of Bark’s knowledge, there is no part of the plan that identifies a need for a commercial logging project on the entire west side of the Highway 35 in this area. Similarly, while the plan identifies a potential “Eastside Plantation Thinning” project, it states: “The objective of plantation thinning is to thin young, overstocked stands to improve forest health and reduce fuels.” The Polallie Cooper project includes an extremely small area of plantation thinning east of the Highway 35, with almost all the proposed logging in mature, native forest. Again, Bark is currently unaware of any section of the plan that that includes recommending logging *non-plantations* on the east side of the 35.

Additionally, the EA describes the Polallie Cooper area as one of the last untreated Wildland Urban Interface (WUI)'s on the eastside of Mt. Hood. While it does appear that a bit less than half of the project area is within this WUI, none of the areas proposed for logging on the east side of HWY 35 are within this WUI.

These are not the forests you're looking for (to effectively reduce fuels)

Logging and road building in mature forests, especially those in Fire Regime Condition Class 1 and 2, does not meet the purpose and need. Approximately 1,800 acres proposed for commercial logging includes mature, old growth or never-logged forest.

Most fire ecologists agree that removal of large, old trees is not ecologically justified and does not reduce fire risks. Such trees contribute to the resistance and resilience of the forest ecosystems of which they are a part. Large, old trees of fire-resistant species are the ones most likely to survive a wildfire and subsequently serve as biological legacies and seed sources for ecosystem recovery. They also are exceptionally important as wildlife habitat, before and after a wildfire event, and as sources of the large snags and logs that are critical components of terrestrial and aquatic habitats. For all practical purposes, they are impossible to replace.³

Indeed, as this project is planned under the auspices of the Healthy Forest Restoration Act (§102(e)(2)), the Forest Service must follow the Act's command:

*The Secretary **shall fully maintain, or contribute toward the restoration of, the structure and composition of old growth stands** according to the pre-fire suppression old growth condition characteristic of the forest type, taking into account the contribution of the stand to landscape fire adaptation and watershed health, and retaining large trees contributing to old growth structure.*

Congress specifically intended for HFRA projects to retain existing older forest structure that existed prior to fire suppression, and Bark strongly suggested in scoping that the Forest Service establish an upper-diameter or age limit on logging, to ensure removal *only of smaller trees may be actual fuel hazards*.

In addressing these stands, the EA references HFRA Section 102(f), which states that "projects *should* be carried out in a manner that "(A) focuses largely on small diameter trees, thinning, strategic fuel breaks, and prescribed fire to modify fire

³ DellaSala, D., Williams, J., Williams, C., Franklin, J., 2006. Beyond Smoke and Mirrors: a Synthesis of Fire Policy and Science. Conservation Biology, Volume 18, Issue 4 976-985.

behavior, as measured by the projected reduction of uncharacteristically severe wildfire effects for the forest type (such as adverse soil impacts, tree mortality or other impacts); and (B) maximizes the retention of large trees, as appropriate for the forest type, to the extent that the trees promote fire-resilient stands.”

Of specific note is the Guide to Fuel Treatments in Dry Forests of the Western United States⁴, published by the Forest Service in 2007, which elaborates on the “thin from below” concept and specifies that an upper diameter limit on tree removal is, in fact, more consistent with the purpose and need for Polallie Cooper project.

In practice, thinning from below often has a DBH limit above which no trees are logged, with that lower limit set to reduce costs and maximize value of harvested material. In Guide scenarios, all stems are harvested starting with trees smaller than 1 in DBH, then proceeding to larger stems. For all thinnings, no trees larger than 18 in DBH are allowed to be harvested. This limit is intended to retain larger, more fire-resistant individuals. In practice, this upper DBH limit could be higher or lower depending on local harvest specifications and resource objectives. (Johnson, et.al. 2007). In every scenario examined by those researchers, an upper diameter limit of 18” DBH was applied to treatments. The USFS has a burden to justify contradicting its own experts, and it fails to do so in the Polallie Cooper EA.

The Polallie Cooper EA states that the proposed treatments meet the HFRA requirement by retaining large trees suitable to the site in mature stands. There is however no diameter limit or definition of “large tree” in the document. Attention should be given to protecting large and old trees. Large fir trees, especially those with heartwood decay, provide important habitat for many species, and efforts to “cleanse” the landscape of true firs should be avoided. It seems inevitable that in heavily cut areas, this project would create a dense young structure across a much larger area than exists now. To remedy this, **no live or dead trees equal to or greater than 18 inches DBH (despite spacing) should be removed from this project area, except for health and safety purposes such as imminent danger trees along open roads in the project area.**

⁴ Johnson, M.C., D.L. Peterson and C.L. Raymond. 2007. Guide to Fuel Treatments in Dry Forests of the Western United States: Assessing Forest Structure and Fire Hazard. USDA For. Serv. Pac. Nor. Res. Sta. Gen. Tech. Rep. PNW-GTR-686. Portland, OR.

An 18-inch diameter limit on trees cut would reduce impacts to existing wildlife habitat, ensure a viable future mixed-conifer seed source, while promoting human safety within all proposed treatment areas. Favoring large tree structure by imposing an 18-inch diameter limit would provide a higher level of resource protection and would differ from the proposed action by retaining the most fire-resistant, mature and old growth trees within the recently unmanaged stand units that currently have no guarantee of being retained.

Much of the forest is within its Fire Regime and should be excluded from the project

According to the EA, historically, fires would have burned in this area every 35 to 200 years. Fire suppression activities in the past 100 years have altered the historical development of the vegetation in some areas. However, 50% of project is in Fire Regime Condition Class (FRCC) #1, which is defined as:

- Fire regimes are within or near their historical range.
- The risk of losing key ecosystem components is low.
- Fire frequencies have departed from historical frequencies (either increased or decreased) by no more than one return interval.
- Vegetation attributes (species composition and structure) are intact and functioning within their historical range.

In treatment blocks 2, 4, 10, 17, and 19, FRCC #1 makes up a significant portion of the area being analyzed. As many of these areas also have significant overlapping concerns, including the adverse impacts of roadbuilding, take of Northern Spotted owls, effects to Crystal Springs, degrading older forests, Riparian Reserves impacts and other site-specific concerns, the Forest Service should remove forest in FRCC #1 from this project.

Thinning can exacerbate fire severity

Bark raised several concerns about the use of commercial thinning to accomplish the project's Purpose and Need in our scoping comments which were unaddressed in the EA. It remains the case that the only support for the unsubstantiated speculation that fuel treatments will reduce crown fire hazard is relegated solely to "... informal observations, nonsystematic inquiry, and simulation modeling..."⁵ In theory, strategic location of fuel treatments may slow

⁵ Graham, R.T., McCaffrey, S., Jain, T.B. (tech. eds.), 2004. Science basis for changing forest structure to modify wildfire behavior and severity. USFS Rocky Mountain Research Station Gen. Tech. Rep. RMRS-GTR-120.

the spread of fire across the landscape, but this concept has been explored only in computer models and needs refinement before being extensively applied.⁶

The fact that the District used historical weather from the Dollar Fire in FOFEM and behave Plus 5 modeling, as well as aspect, slope, and elevation reassure us that the Hood River Ranger District acknowledges that forest fires result from, and are driven by, a multitude of factors: topography, fuel loads, the fire history of the environment in question, and most importantly, weather.⁷ Because weather is often the greatest driving factor of a forest fire, and because the strength and direction of the wildfire is often determined by topography, fuels reduction projects alone cannot guarantee fires of less severity.^{8 9}

In general, large fires are driven by several conditions that can completely overwhelm fuels.¹⁰ It is becoming more and more commonly accepted that reducing fuels does not consistently prevent large fires, and seldom significantly reduces the outcome of these large fires.¹¹ The overwhelming factors driving large blazes are drought, low humidity, high temperatures and most importantly, high winds.

As we cited in our scoping comments, some research suggests that fuel reduction may exacerbate fire severity, as such projects leave behind combustible slash, open the forest canopy to create more ground-level biomass, and increase solar radiation which dries out the understory. Higher wind speeds through thinned stands may also be a consequence of thinning and fuel management, as could the increased amount of available nutrients in the production of fine forest fuels. In the Polallie Cooper EA, the agency cited thinning followed by slash treatment at the Haymen fire and Davis fire sites as evidence for the effectiveness of fuels reduction projects, but failed to mention the risks created by these projects themselves in some instances, including even recent fires on the District.

⁶ Brown, R.T., J.K. Agee and J.F. Franklin. 2004. Forest restoration and fire: principles in the context of place. *Conservation Biology* 18:903-912.

⁷ Wilderness Society, 2003, *Fire & Fuels: Does Thinning Stop Wildfires?*

⁸ Carey, H. and M. Schumann. 2003. *Modifying Wildfire Behavior—the Effectiveness of Fuel Treatments: the Status of our Knowledge*. National Community Forestry Center.

⁹ Rhodes, J. and W. Baker. 2007. *The Watershed Impacts of Forest Treatments to Reduce Fuels and Modify Fire Behavior*. Pacific Rivers Council, Portland Or.

¹⁰ Meyer, G and Pierce, J. 2007. Long-Term Fire History from Alluvial Fan Sediments: The Role of Drought and Climate Variability, and Implications for Management of Rocky Mountain Forests. Jennifer Pierce and Grant Meyer. *International Journal of Wildland Fire* 17(1) 84–95.

¹¹ Lydersen, J., North, M., Collins, B. 2014. Severity of an uncharacteristically large wildfire, the Rim Fire, in forests with relatively restored frequent fire regimes. *Forest Ecology and Management* 328 (2014) 326–334.

Indeed, a US. Forest Service report on the Fourmile Canyon Fire found that “[i]n some cases, treated stands appeared to burn more intensely than adjacent untreated stands, perhaps because of additional surface fuels present as a result of the thinning.”¹² This is also somewhat consistent with the District’s own experience in the N. Fork Mill Creek project area, where the Government Flats fire burned through the canopy of units that were recently thinned. High winds, steep slopes and highly combustible slash contributed to the fire severity. According to this meta-analysis¹³ of fuel reduction effectiveness cited in our scoping comments, in about a third of cases reviewed, mechanical fuel reductions *increased* fire spread.

As implied previously, while the effectiveness of fuels reduction projects can be inconsistent, there are places where they appear to reduce fire spread under *moderate* fire weather conditions but tend to fail under *severe* fire weather. Thus, the EA’s assumption that this project will necessarily meet the Purpose and Need is not corroborated by scientific evidence.

Timely Slash Removal and Disposal is essential

Bark pointed out in scoping that in some areas fuels treatments may actually increase the risk it is proposed to alleviate by amassing slash and fine fuels, especially increasing the likelihood of fire on the east side of Highway 35 where slopes are steepest.

In a recently released article in the USDA’s *Fire Management Today*, authors of a recent study of the Biscuit Fire found greater fire damage to trees occurred in thinned study plots than un-thinned ones. The high level of crown scorch within the thinned plots most likely resulted from convective heat rising from the intense surface fires below. The intensity of these surface fires was exacerbated in the thinned plots where there was more fuel in the form of fine woody debris and dense hardwood sprouts. These fuels were not present in the untreated plots. In forests with mixed-severity fire regimes the authors suggest that removing ladder fuels alone might actually increase damage to the remaining stand in a subsequent wildland fire. Their observations suggest a process to prevent wildfires from crowning in forests with mixed-severity fire regimes that includes treating post-thinning slash and other accumulated surface fuels within the year to confine subsequent fire behavior to a relatively cool surface

¹² Graham, R.T., et al, 2012. Fourmile Canyon Fire Findings, USDA For. Serv. Gen. Tech. Rep. RMRS-GTS-289. Ft. Collins, CO.

¹³ Martinson, Erik J.; Omi, Philip N. 2013. Fuel treatments and fire severity: A meta-analysis. Res. Pap. RMRS-RP-103WWW. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

fire. Although this process is more time consuming and costly than thinning or prescribed burning alone, it appears to be more effective in enhancing suppression efforts and in reducing undesirable damage to overstory trees.

In scoping comments, Bark cited recent projects in which logging-created slash contributed to increased fire intensity, like the N. Fork Mill Creek project, in which the fuel reduction units that contained untreated slash burned severely. We shared experiences from a 2014 field trip to the N. Fork Mill Creek project area, where we passed numerous unburned slash piles in fuels reduction units along the Dalles Watershed that had been logged several years prior. This does not inspire confidence that the Forest Service has the capacity to ensure that slash is treated in a timely manner at Polallie Cooper. At a 2014 Stew Crew meeting, it was suggested that the Forest Service place a deadline on the time in which it should rid these units of slash. While two years is a long time for slash to be present in large quantities within the project area, we encouraged the Forest Service to consider a two-year slash treatment deadline as part of this project, instead of giving themselves a dangerously long five-year window to do such work. **There was no commitment to slash treatment deadlines in EA, leading us to believe that the Forest Service does not take this risk increase seriously despite the wealth of evidence available to them.**

Building roads increases the risk of ignition

The EA states that removing the temporary roads from the proposed action is not a viable alternative because “the less acres that are treated, the less effective fuel reduction treatments can be and would reduce the risk of large stand replacing events.” *EA at 52*. However, if one compares the FRCC map and the No Temporary Roads Alternative map, most areas removed from the Proposed Action through removal of temporary roads are within the FRCC #1 and have the smallest departure from historic conditions and the least risk of uncharacteristic wildfire.

The EA goes on to say that “(b)y not treating these areas, the project would not meet the purpose and need for the project because of the limited fuel reduction occurring along private land.” *Id.* However, again the majority of the acres removed through the No Temporary Roads Alternative are not adjacent to private land. Blocks 2, 3, 4, & 7 would include some removed acres, but other removals are in more remote, intact and roadless areas where increasing road density could actually *increase* risk of human-caused fire.

If the primary purpose and need of the Polallie Cooper project is truly to reduce wildfire risk, the district must recognize that road density is known to increase

fire ignitions. As raised in Bark’s scoping comments, it is well established that roadless areas generally have lower potential for high-intensity fires than roaded areas, in large part because they are less prone to human caused ignitions¹⁴ ¹⁵ ¹⁶. Wildland fire ignition is *almost twice as likely to occur in a roaded area* as in a roadless area, and the median size of large fires on national forests is greater outside of roadless areas.

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.¹⁷ DellaSala and Frost¹⁸ 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 the 2015 fire season on Mt. Hood saw almost 88% of its fires occurring from human caused sources (through August 1, 2015). As noted below, post-project road closures are not always effective, and the new road network is likely to be used by hikers, bikers, OHV riders and others. Please do not gloss over this reality in the final EIS by suggesting that the PDC will ensure the temp roads will all be effectively closed and not lead to increased access. We all know road closures are regularly breached, and this needs to be addressed honestly.

By building roads into roadless areas and logging large trees in FRCC #1 & #2, the Polallie Cooper project is not adhering to the CWPP, and is not meeting its stated purpose and need.

EDITORIAL BIAS RENDERS ACTION AND NO ACTION ANALYSIS INADEQUATE

The Forest Service’s NEPA regulations state that “the EA may document consideration of a no action alternative through the effects analysis by

¹⁴ DellaSala, D.A.; Olson, D.M.; Barth, S.E.; Crane, S.L.; Primm, S.A. 1995. Forest health: Moving beyond the rhetoric to restore healthy landscapes in the inland Northwest. *Wildlife Society Bulletin* 23(3): 346–356.

¹⁵ USDA Forest Service. 2000. Forest Service roadless area conservation. Draft environmental impact statement. Vol. 1. Washington, DC: USDA Forest Service.

¹⁶Weatherspoon, C.P.; Skinner, C.N. 1996. Landscape-level strategies for forest fuel management. Pages 1471–1492, in: Status of the Sierra Nevada: Sierra Nevada Ecosystem Project, final report to Congress. Vol. II. Assessments and Scientific Basis for Management Options. Wildl. Res. Ctr. Rep. No. 37. Davis, CA: University of California– Davis, Center for Water and Wildland Resources.

¹⁷ Johnson, R.F. 1963. The roadside fire problem. *Fire Control Notes* 24: 5-7

¹⁸ DellaSala, D. A., and E. Frost. 2001. An ecologically based strategy for fire and fuel management in national forest roadless areas. *Fire Management Today*, v. 61, no. 2, p. 12-23. http://www.fs.fed.us/fire/fmt/fmt_pdfs/fmn61-2.pdf. Donato, D.C., J.B. Fontaine, J.L. Campbell, W.D. Robinson, J.B. Kauffman, and B.E. Law. 2006. Post-wildfire logging hinders regeneration and increases fire risk. *Science* 311: 352

contrasting the impacts of the proposed action and any alternative(s) with the current condition and expected future condition if the proposed action were not implemented.” 36 C.F.R. § 220.7(b)(2)(ii). The crux of Bark’s concern regarding the current EA is that evaluates the expected future condition of the forest with both Action and No Action as if a severe fire is certain to happen, and that the Polallie Cooper Project will minimize its impacts. The Forest Service ignores the fact the fire is an unpredictable force, the likelihood of a fire occurring in the project area within the timeframe of effective fuels reduction is very small, and that many things besides fuel load effect fire behaviour. This bias renders the No Action analysis far from “fully developed” and overstates the benefits, while underestimating the harms, of the proposed action.

The question of fire probability, fuel treatment effectiveness, and ecological tradeoffs was directly addressed in a 2008 study by Jon Rhodes and William Baker,¹⁹ which was not included in the analysis for the Polallie Cooper EA. In their paper, they “provide a framework for quantitatively bounding the potential effectiveness of fuel treatments and the likelihood of fire affecting untreated watersheds, based on the probability of fire and the duration of treatment effects on fuels. This can be used to statistically estimate the expected value associated with treatments or non-treatment based on the probability of positive outcomes and their associated costs & benefits.”

After analyzing extensive fire records, Rhodes & Baker conclude that fuel treatments have a mean probability of 2-8% of encountering moderate- or high-severity fire during the assumed 20-year period of reduced fuels. Analysis of the likelihood of fire is central to estimating likely risks, costs and benefits incurred with the treatment or non-treatment of fuels.²⁰

If treatments reduce the watershed impacts of severe fire, they may provide benefits that outweigh treatment impacts because high-severity fire can sometimes trigger short term, severe erosion and runoff that can negatively affect soils, water quality and aquatic populations. However fuels treatment systems can also have impacts on aquatic systems . . . 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.²¹

¹⁹ Rhodes, J. and Baker, W. 2008. Fire Probability, Fuel Treatment Effectiveness and Ecological Tradeoffs in Western U.S. Public Forests. The Open Forest Science Journal, 2008, 1.

²⁰ *Id.*

²¹ *Id.*

Where fuel treatments might incur soil and watershed impacts, the risks from treatment and non-treatment should be assessed. Although the respective impacts of treatments and fire are influenced by numerous factors, the occurrence of fire strongly affects the net balance between costs and benefits. If fire does not affect treated areas while fuels are reduced, treatment impacts are not counterbalanced by benefits from reduction in fire impacts.²²

Their results indicate that high-severity fire is far from inevitable in areas left untreated and is, instead, expected to affect only a relatively small fraction of such areas at the broad scale of our analysis. At the scales of their analysis, results indicate that **“even if fuel treatments were very effective when encountering fire of any severity, treatments will rarely encounter fire, and thus are unlikely to substantially reduce effects of high-severity fire.”**²³

This study should inform the Forest Service’s approach to analyzing both the “Action” and the “No Action” alternatives, rather than the blanket assumption that 1) a high-severity fire will occur in the project area over the next 20 years, and 2) the proposed action will necessarily reduce the severity of that fire. The only study to comprehensively address this issue has found these assumptions to be scientifically unsupported.

PROPOSED PROJECT DOES NOT COMPLY WITH NUMEROUS LAND DESIGNATIONS

1,759 acres in B2 Scenic Viewshed, 415 acres in C1 Timber Emphasis

62.1% of acres proposed for logging are in B-2 Scenic Viewshed, where the Forest Plan goal is to “provide attractive, visually appealing forest scenery”. For the Polallie Cooper sale, Highway 35 serves as the main viewer position. According to the agency, within the main corridor of Highway 35, “vegetation should be comprised of primarily multi-age, multi-species stands with a diverse understory of natural plant associations.” A Visual Quality Objective (VQO) of Retention is prescribed for up to 0.5 miles from designated viewpoints along travel ways, waterbodies or public use areas. However, the proposed action includes vegetative removal within this retention area.

The EA states that “(s)hort-term effects from critical viewpoints within the scenic byway (B2), including Highway 35, and recreation sites along Highway 35, would result from opening up stands.” The manipulation of these stands through commercial logging will be apparent on the landscape and visible from the

²² *Id.*

²³ *Id.*

Highway. Since, according to the EA, these types of treatments frequently need regular follow-ups to address new growth, the impacts to these viewpoints will be more long term than suggested in the EA, and require a Forest Plan Amendment or Exception in order to pursue.

Only 14.7% of acres proposed for logging in Polallie Cooper are in C1 timber emphasis, and they are entirely on the east side of the project area. The Polallie Cooper EA reads: “Timber growth, yield, and health west of Highway 35 are currently declining...could cause potential resource loss...” Bark finds this information misleading and practically irrelevant since none of the forest west of the highway are C1 timber emphasis. It is unclear if the Forest Service is referring to any other resources in this statement other than timber, seemingly making an inappropriate statement. The vast majority of land west of HWY 35 is either B2 Scenic Viewshed, or A11 Winter Recreation. It has not been made clear how the existing proposal enhances scenic values and winter recreation in these areas, making it necessary to apply fuels reduction there.

Bark requests that the agency change the project description and prescription to better reflect the management values established by the land designations of the Mt. Hood Forest Plan and the goals of the Hood River CWPP.

Proposed activities within the wild & scenic river corridor

A portion of this project falls within the Wild and Scenic East Fork Hood River corridor, including a segment of new temporary roadbuilding. Congress first enacted the Wild and Scenic Rivers Act to preserve “in free-flowing condition” rivers of the United States that “possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values.” *Id.* It is national policy to protect such rivers’ “immediate environments . . . for the benefit and enjoyment of present and future generations.” The Forest Service must give “[p]articular attention . . . to scheduled timber harvesting, road construction and similar activities which might be contrary to the purposes” of the Wild and Scenic Rivers Act. Bark believes that logging and road construction in the Wild and Scenic East Fork Hood River corridor contradicts protection of the values listed above.

Within Wild, Scenic and Recreational River corridors, management activities must “protect and/or enhance the identified outstandingly remarkable values” for which the segments were designated, as well as the “[r]iver characteristics necessary to support the existing classification” of those segments. For this segment, the geologic/hydrologic values of the East Fork Hood River were found

to be outstandingly remarkable. Within scenic and recreational river segments, regulated timber harvest can occur so long as “recreation opportunity spectrum” classes and “visual quality objectives” are met. In the B2 land use allocation, it has been recognized that these objectives may not be fully met in the short or long term if logging occurs. **New roads are prohibited in wild river corridors.** In the EA the agency has not demonstrated how logging and roadbuilding within this corridor is consistent with the remarkable values identified for this area by Congress. It is still clear that new roads are prohibited in this area. **We therefore request that the agency remove any proposal of new roadbuilding or commercial logging in this Wild and Scenic corridor as part of the Polallie Cooper project.**

Activities within potential wilderness areas

The Polallie Cooper project proposes to conduct a considerable amount roadbuilding and commercial logging in [areas that are eligible for federal wilderness designation](#), including the proposed Tamanawas Falls Wilderness Addition. This type of action is surprising and is unprecedented in Bark’s engagement with the district. Even more surprising is the EA’s failure to acknowledge the proposed wilderness, even though numerous commenters raised it in scoping. Twice the EA states that the planning area contains no potential wilderness areas. *EA at 314, 316.* This is plainly incorrect, and appears to minimize the impact this project will have on the proposed wilderness. How were the effects of logging and road building in proposed wilderness considered by the planning team?

In addition, the area in question includes never-logged forests south of Cooper Spur road, which have very little evidence of past roadbuilding. Building roads and logging in this area may impact its ability to be designated as Wilderness, and is not necessary for “fuels reduction”. The area also contains historic irrigation ditches which would be impacted from ground-based commercial logging operations. Adjacent to the area symbolized as “Plantation” on the Proposed Action map almost directly on the bank of Polallie Creek, there is a remnant, hand-built log structure with a history that is unclear, however it apparently visited by day hikers and campers. Instead of rebuilding the 3512-620 road to access this fascinating area, this old road alignment would make a remarkable road-to-trail conversion, as it connects with trail networks to the south, and is already being used for this purpose.

The forest to the north of Polallie Creek and south of its tributary is symbolized in the EA as “Plantation”, however on the ground there is no evidence of past

logging (stumps, temp roads, etc.). There is a dense, young-looking stand that's between the tributary and the slope down to Polallie Creek, but this stand does appear natural. Bark's field observation was corroborated in an email correspondence with an agency specialist on the Hood River Ranger District, where she stated:

“Based on specialist input and stand recon the area has a unique history in the sense it has not received what we would consider traditional timber harvest activities. It has had several fires go through and some extensive homesteading activities starting at the turn of the century that has resulted in the current stand conditions.”

There is no need to commercially log in this area, as it would require significant roadbuilding, would impact a proposed wilderness, is primarily in Fire Condition Class 1 & 2, and is distant from any current infrastructure.

Proposed activities east of Highway 35

The Proposed Action includes aggressive amounts of logging on steep, roadless forests east of Hwy 35. As emphasized in [our scoping comments](#), east of Hwy 35 and west of the Dog River trail, the agency proposes to conduct “Recently Unmanaged Stand Thinning” on steep slopes which surround Northern Spotted Owl nest patches (this area is entirely designated NSO critical habitat). Bark volunteers measured slopes from 40-60% in areas with many rockslides adjacent to the East Fork of Hood River. This area of forest experiences frequent landslides due to the steep slopes and thin soils. Logging here is a recipe for a landslide, and this was not adequately addressed in the EA.

Along with the steep slopes and effects on trails, many areas identified for “Recently Unmanaged Stand Thinning” are not appropriate for commercial logging. The Dog River trail passes through stands of well-spaced, old growth Douglas fir & ponderosa pine stands (we included photos of these areas in [our scoping comments](#).) We've witnessed extensive use of these forests by woodpeckers, deer and other wildlife, and have found notable species such as *Fomitopsis officinalis*, or Agarikon fungus. This species is rarely found fruiting in Westside forests, and only fruits in mature stands.

Even cable logging would likely not suffice for several areas identified, as these are steep cliffs. The fact that steep slopes west of the Dog River trail would be exposed to more direct sun, be overwhelmed with slash piles for up to 5 years,

and would have an increased upslope road network certainly creates a much more precarious situation in terms of amplified wildfire hazard.

We are concerned that the 230 acres of “Logging System Access” adjacent to the Dog River, which includes skid trails, temporary roads, skyline corridors, landings, and thinning, is not included in the total acreage of this project. **Including these 230 acres, the project is expanded to 3,060 acres of active management. Please include this number when describing this Proposed Action in the future (i.e. Table 3).**

Many areas identified for “plantation thinning” on the east side of the Hwy 35 contain large, open gaps or meadows, both natural and seemingly human-created. Bark volunteers have regularly spotted deer foraging in these “plantations”. **Because so much open forest exists in these areas** (which are also adjacent to previously thinned “sapling thinning” areas), **we request that the Forest Service not propose any additional gap creation in this part of the forest.**

AFFECTS TO WILDLIFE SPECIES WITHIN THE PROJECT AREA

Adverse Impacts to Northern Spotted Owls

The Polallie Cooper Timber Sale, as planned, would adversely modify 1,174 acres of Northern Spotted Owl designated Critical Habitat.

Section 7(a)(2) of the Endangered Species Act requires the Forest Service, in consultation with and with the assistance of the Secretaries of the Interior and Commerce, to insure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of critical habitat of such species. (16 U.S.C. 1536(a)(2)). The U.S. Fish & Wildlife Service recently updated the definition of destruction or adverse modification of critical habitat to mean: a direct or indirect alteration that *appreciably diminishes the value of critical habitat for the conservation of a listed species.*

In addition to the ESA’s prohibition on destruction or adverse modification of Critical Habitat, the rule that designated this section of the forest as Critical Habitat determined that **all** of the unoccupied and likely occupied areas in this subunit are **essential** for the conservation of the species to meet the recovery criterion that calls for the continued maintenance and recruitment of northern spotted owl habitat. *EA at 227.* The increase and enhancement of northern spotted owl habitat is necessary to provide for viable populations of northern spotted owls over the long term by providing for population growth, successful dispersal, and buffering from competition with the barred owl. *Id.*

In addition, the MHNH LRMP requires that habitat for threatened, endangered and sensitive plants and animals *shall be protected and/or improved*. FW-175 (emphasis added). Despite the clear direction of the ESA, the Critical Habitat rule, and the LRMP to protect and enhance NSO Critical Habitat, this is the third timber sale the Mt. Hood National Forest has proposed in this specific Critical Habitat sub-unit in the past five years.

There are seven spotted owl home ranges that overlap proposed treatment units in the Polallie Cooper Timber Sale. The 687 acres of nesting, roosting, or foraging habitat have a multi-storied structure, large diameter trees and appropriate levels of snags and down wood required for NSO habitat. The proposed project would adversely modify this essential owl habitat by reducing the forest canopy well below 60% and remove down wood, shrubs and snags, which provide habitat for important prey species.

The EA tries to minimize this impact by labeling the habitat loss as “temporary” and asserting that the habitat will recover from 15-40 years hence. While it is arguable that 40 years of habitat loss is “temporary”, especially for a threatened species in decline, by deeming the loss “temporary” the Forest Service is placing itself in a Catch-22. Either the Forest Service intends to maintain the ecosystem with the more open canopy they assert is needed for crown fire prevention and thus the habitat loss is permanent, or the Forest Service is admitting that it will not be maintaining the treatments and the canopy will grow back to once again provide NSO habitat. It cannot be both ways.

Bark is concerned that the overstated threat of wildfire in the EA is causing equivocation in determining what really will threaten the NSO. On one hand, the No Action Alternative contends wildfire will almost certainly be high intensity and remove habitat, large snags and DWD harming the spotted owl, on the other hand, the action alternative contends that removing the DWD, opening the canopy, and causing adverse impacts for decades to the NSO and its prey is justifiable in order to avoid the threat of fire. The FS is simply proposing to remove and degrade the NSO habitat long before a wildfire may.

The 2011 Recovery Plan for the Northern Spotted Owl, the blueprint for management of this species on federal lands in the region (USFWS 2011), contains the proviso that long-term benefits to spotted owls of forest thinning treatments must **clearly outweigh** adverse impacts from commercial logging for fuels reduction. (USFWS 2011).

A recent study, Effects of Fire and Commercial Thinning on Future Habitat of the Northern Spotted Owl, tackles this issue head on, and concludes that the

long-term benefits of commercial thinning do not clearly outweigh adverse impacts, *even if* much more fire occurs in the future.²⁴

In this study, the authors analyzed fire and forest recruitment trends in 19,000 km² of dry forests in the Klamath and 18,400 km² in the Cascades provinces. Using empirical data, they calculated the future amount of spotted owl habitat that may be maintained with fixed rates of high-severity fire and ongoing forest regrowth rates with and without commercial thinning.

In the scenario most comparable to the current project (one time entry in the dry Cascades), the authors found that fuels-reduction thinning reduced *six times* more NSO habitat than it increased (by preventing it from burning in high-severity fire). If the Forest Service intends to maintain the fuels reduction through maintaining the open canopy, the combination of thinning and maintenance reduced 6.7 times more late-successional forest than it increased.

The authors found:

Even an immediate doubling of fire rates due to climate change or other factors would result in far less habitat affected by high-severity fire than thinning. In addition, much of the high-severity fire might occur regardless of thinning, especially if the efficacy of thinning in reducing high-severity fire is reduced as fire becomes more controlled by climate and weather. **Clearly, the strategy of trying to maintain more dense, late-successional forest habitat by reducing fire does not work if the method for reducing fire adversely affects far more of this forest habitat than would high-severity fire, and the high-severity fire might occur anyway because it is largely controlled by climate and weather.**

In addition to the loss of habitat from thinning being much greater than the loss from a future potential fire, the adverse impact to owls from fire, even high-severity fire, are overstated in the EA. Owls may actually benefit from wildland fire, as recognized out in the NSO Recovery Plan:

- “For spotted owls nesting in burned areas, reproductive rates are generally similar to unburned areas (Gaines et al. 1997, Bond et al. 2002, Clark 2007).” *III-30*.
- “Bond et al. (2009) found owls selecting burned areas, including high-severity burns, over unburned areas for foraging when those areas were within 1.5 kilometers of a nest roost site.” *III-30*.

²⁴ Odion, D., Hanson, C., DellaSala, D., Baker, W., & Bond, M., 2014, The Open Ecology Journal, 7, 37-51.

- “There is evidence of spotted owls occupying territories that have been burned by fires of all severities.” *III-31*.

Unlike commercial logging, spotted owls evolved with fire and they extensively use forests that have burned. Hanson et al (2009) point out that: “Fire has been incorrectly perceived as a risk to NSO [northern spotted owl when in fact it may be a key source of habitat heterogeneity required by the NSO in parts of its range . . . Natural heterogeneity from mixed-severity fires may also offer some insurance against unexpected disturbance or severe effects of climatic change.”²⁵

In addition to reducing the canopy, commercial thinning also decreases the amount of large dead standing and down wood in the present and future, decreasing important habitat for prey species such as the northern flying squirrel, along with the majority of other forest vertebrates. The northern flying squirrel is the principle prey of the northern spotted owl on the west side of the Cascades. There is a serious trade-off in several aspects of thinning to promote spotted owl habitat: the reduction in snags and down wood and the increased spacing of trees can reduce the productivity of the site for the northern flying squirrel for 20-40 years.²⁶

The EA is internally inconsistent regarding how thinning will impact tree growth – the NSO effects analysis suggests that the thinning would improve the growth rate for the remaining trees, and also improve understory recruitment. *EA at 222*. However, Table 74 shows that the QMD of trees under “No Action” will increase more over time than under the Proposed Action, and that understory recruitment is essentially equivalent in the No Action alternative for the first 30 years. *EA at 259*. In addition, No Action provides many more snags over time. There simply isn’t any ecological justification to log in NSO habitat. The adverse impacts of fuels reduction to critical habitat are much greater than the future benefits of possibly reducing the severity of a potential fire, and thus does not comply with the ESA or the NSO Recovery Plan.

EA fails to evaluate the impact of new road construction and road re-building on NSO.

The EA summarily asserts that there would be “no effects to spotted owl CH from road closures or road maintenance”. *EA at 228*. This fails to address the 12 miles of road building, or the impacts of all the new roads on NSO.

²⁵ Hanson, C.T., Odion, D.C., Dellasala, D.A., and W.L. Baker. 2009. More-Comprehensive Recovery Actions for Northern Spotted Owls in Dry Forests: Reply to Spies et al., *Conservation Biology*, Volume 24, No. 1, 334–337.

²⁶ Wilson, T. 2010. Limiting factors For Northern Flying Squirrels in the Pacific Northwest: A Spatio-Temporal Analysis. Union Institute & University, Cincinnati, Ohio.

Northern spotted owls on average create an avoidance buffer of 1,312 feet from “forestry roads”.²⁷ The EA provided **no** maps of the proposed roads for the project, so it was initially hard to assess the impacts of road building. However, using the map provided in the middle of the comment period, it appears that the new road building in Blocks 10, 11, and possibly 19 all overlap with Spotted Owl Critical habitat. The new roads in Block 10 are quite close together. If the owls have a more than 1,000 foot avoidance buffer from roads, how will the logging operations affect their use of the area. And, while Bark knows the Forest Service deems these roads temporary, they will have, at the least, an impact during operations and likely longer. The impact of these roads, and their use, on owls must be assessed.

Lack of cumulative impacts analysis on NSO CHU-7, sub.7

CHU 7, sub-unit 7, is 139,983 acres, mostly in Hood River and Wasco Counties. In the contiguous northern section of the sub-unit, the recent Dalles II project resulted in a total degradation/loss of 785 acres of NSO dispersal and 575 degradation/loss of NSO suitable habitat, for a total of 1,360 acres of habitat degraded for up to 50 years. *Dalles II PA at 3-99*. An additional 365 acres of owl habitat were degraded by the Government Flats fire and the subsequent logging of the North Fork Mill Creek Timber sale. *NFMC EA at 3-28*.

This direct loss of habitat is especially troubling given the likelihood of significant cumulative impacts to the owls from habitat loss nearby in the CHU sub-unit. In the Polallie Cooper EA, the cumulative impacts section does little more than provide a list of some (but not all) of the projects in the area, with no accounting for size of project, proximity to the proposed action, intensity of environmental impact, etc. In the very general list of projects reviewed for the cumulative impacts assessment, the Dalles II thinning project and North Fork Mill Creek timber sale are omitted. Given that these two sales occur in the same Critical Habitat sub-unit as Polallie Cooper, their omission renders the cumulative impacts analysis for NSO inadequate.

Given the sparse information in the EA, there is no way to assess the significance of the cumulative impacts of the incremental critical habitat loss on threatened owls.

Competition from Barred Owls is Understated in the EA

Removing existing spotted owl habitat to address hypothetical fire risk is not appropriate, particularly given the fact that spotted owls are competing with barred owls and require all the suitable, closed canopy forest they can get in order to decrease the chances of competitive exclusion. This is especially

²⁷ Wasser, S.K., K. Bevis, G. King, and E. Hanson. 1997. Noninvasive physiological measures of disturbance in the northern spotted owl. *Conservation Biology* 11(4): 1019–1022.

important because, as confirmed by Bark volunteers in our scoping comments, barred owls were located in the planning area.

As noted in the comprehensive work, Population Demography of Northern Spotted Owls,²⁸ the fact that Barred Owls are increasing and becoming an escalating threat to the persistence of Spotted Owls does not diminish the importance of habitat conservation for Spotted Owls and their prey. In fact, the existence of a new and potential competitor like the Barred Owl makes the protection of habitat even more important, since any loss of habitat will likely increase competitive pressure and result in further reductions in Spotted Owl populations.

The Population Demography found, “[o]ur results and those of others referenced above consistently identify loss of habitat and Barred Owls as important stressors on populations of Northern spotted Owls. In view of the continued decline of Spotted Owls in most study areas, it would be wise to **preserve as much high quality habitat in late-successional forests for Spotted Owls as possible**, distributed over as large an area as possible.”

The Forest Service barely addressed the incursion of barred owls in to the project area and the very real threat they pose to the NSO. After briefly acknowledging that logging may expand the range of barred owls and create habitat that favors barred owls over spotted owls, the EA inexplicably concludes: “Based on these studies [none cited] that showed the small mammal species that have been found to increase most after thinning are not one that are selectively favored by barred owls more than spotted owls, the silvicultural treatments proposed in the PCHFRA would not expand the range of barred owls and would not create habitat favored by barred owls over spotted owls.” *EA at 224.*

Not only does this conclusion contradict its preceding paragraph, the EA does not cite any studies to support its very general assertion. An un-cited study about forage preference does not hold up well against the multitude of studies and anecdotal information regarding the spread and dominance of barred owls into areas impacted by human activity, such as areas fragmented through commercial logging.

The threat of Barred Owl incursion should not be underestimated; even if the critical habitat is functioning again in 15-40 years, it is almost certain that during the time lapse when NSO has not been able to use the habitat, Barred Owls will have moved in. Once NSO are displaced, and Barred Owls are established, it is highly unlikely the area will once again support seven pairs of owls. This could be a permanent loss of suitable habitat, and must be addressed as such.

²⁸ Forsman, et.al, 2011, published for Cooper Ornithological Society.

This is not the time to be gambling with the future of Spotted Owls.

With no action, quality of suitable and dispersal habitat would improve, and non-habitat stands would become dispersal and eventually suitable or nesting habitat in 60-150 years. Conversely, the Proposed Action “may affect, is likely to adversely affect, northern spotted owls” as well as their critical habitat because suitable and foraging habitat would be negatively impacted through commercial logging activities.

With all this in mind, Bark advocates that there be no new road building in critical habitat for northern spotted owl, and that it not be thinned below a canopy cover of 60%.

Loss of Snags, and the impact on snag-dependent species

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. 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.²⁹ Studies show that, “cavity users typically represent 25 to 30% of the terrestrial vertebrate fauna in the forests of the Pacific Northwest.”³⁰ 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 starting place in this project area is one of snag scarcity, and yet this proposal seeks to further decrease the number for available and future snags. This does not further restoration or wildlife management goals. Despite all the assurances in the EA that the Pollalie Cooper that the loss of snags is insignificant, EA table 74 shows that in 100 years, with No Action there will be almost twice as many snags, and that the QMD of “no-action” trees would be two inches *greater* than the thinned trees. *EA at 259.* Taking a closer look at Table 74 has left me confused. *EA at 259.* For Moist Forest, at year zero of the Proposed Action, there are 90 trees per acre. With No Action there are 1,089 trees per acre. **This project will log 999 trees per acre?** How do you define “tree” for the purposes of this model? Does it include 2-inch saplings? Perhaps it does, as under the Proposed Action, at year 10, there will be 210 more “trees” per acre, increasing every year. Does this model not take into account follow-up treatments and underburns? Or, will the Forest Service be allowing treated areas to fill back in to 924 trees per acre in 80 years?

²⁹ 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: 765

³⁰ Bunnell, et. al., 2002, USDA Forest Service Gen. Tech. Rep. PSW-GTR-181.

Cumulative effects analysis on loss of snags on wildlife is inadequate

As discussed in both Bark's Red Hill and the Lava comments, the Forest Service has failed to evaluate the cumulative impacts of reducing snag density simultaneously in the West, Middle and East Forks of Hood River. Combined, the three sales would log approximately 6,400 nearly contiguous acres and decrease snag density across an essential wildlife corridor, which the Polallie Cooper EA never addresses.

The watershed analyses for the West Fork Hood River and combined Middle Fork & East Fork Hood River both discuss the existing lack of snags throughout the watersheds. The issue of snag habitat deficiency is a widespread issue throughout the West Fork Hood River Watershed. Snags within early to mid-seral forests are relatively rare in the watershed. Most stands in the Stem Exclusion phase have few or no snags. Several stands in the Mature Stem Exclusion phase also lack snags. Including private lands (which are managed on a harvest-intensive rotation) over 60% of the watershed has few to no snags. *West Fork Hood River Watershed Analysis (WFHR WA) at 4-20, 21.*

The WFHR Watershed Analysis also noted that the existing snags in the watershed may not be adequately distributed across the watershed to assure connectivity and dispersal needs of several of the cavity-dependent species. WFHR WA at 5-15. Cavity nesters that depend on snags in late successional habitat have a problem in that the available Late Seral Multistory stands are limited to only 19% of the watershed and are concentrated above 3000 feet elevation and limited in distribution primarily to the edges of the National Forest System Lands. *WFHR WA at 4-29.*

Similarly, the Middle Fork & East Fork Hood River Watershed Analysis also found that Late-seral characteristics, like large snags and down logs, are relatively low within the watersheds. *EFHR & MFHR WA, J-6.* Because of the management history of this watershed, there are connectivity concerns for those species dependent upon large trees, as well as those linked to snag/logs for nesting. Species dependent upon large logs or snags are in critical shape throughout the watershed. *MFHR & EFHR WA, J-15.* The Watershed Analysis concluded that, because of the general absence of late seral species and habitat, long term presence of these species in the watershed may be tenuous and strategies for the desired future condition of this watershed should take into account species specific habitat needs for those species. *MFHR & EFHR WA, J-8, J-15.*

The watershed-wide lack of snags has a cumulatively detrimental impact on wildlife connectivity. Though not addressed by the EA, the WFHR WA acknowledges that connectivity, reproduction and dispersal habitat sufficient to

allow gene flow at the metapopulation scale has been broken for several species either within the West Fork watershed or between West Fork and other watersheds. *WFHR WA at 5-17*. Of particular concern are snag dependent species, red tree voles and species with large home ranges, such as northern spotted owl, northern goshawk, pine marten pileated woodpecker and fisher. *WFHR WA at 5-17*. The Polallie Cooper EA acknowledges none of this. While there has been a slight increase in snags in the higher elevation of the watershed because of recent fires, the project area is still low in snag numbers, and the proposed project would further decrease current and future snag recruitment.

In the analysis of the proposed action, the EA acknowledges that snags will be cut during harvest operations, temporary road construction, road decommissioning, road closure, and storm proofing due to safety considerations and that some downed logs would be degraded during project implementation. *EA at 259*. This is exactly the same sentence found in the Red Hill EA at 3-165. However, the Red Hill EA went on to provide the following information, which is lacking in the Polallie Cooper EA: “It is estimated that approximately 2 snags per acre (for a total of 60 snags) would be removed during the creation of landings in order to meet the current Occupational Safety & Health Association (OSHA) standards. The removal of these snags would be distributed across the planning area. With 83 landings, an average of 1.4 snags would be cut per landing” *Red Hill EA at 3-165*. Unlike Red Hill, the Polallie Cooper EA does not provide any estimate of how many landings will be built for the project, and how many snags will be felled to facilitate the building. If the Forest Service was able to produce those numbers for an equivalent project, you should be able to do so again. Please include the number of proposed landings, and their impacts to snags in the final NEPA document.

In addition to all the snags felled for infrastructure and safety reasons, the Red Hill EA also acknowledged that snags left standing after thinning would be more prone to wind damage and snow breakage than they would have been without thinning. There would likely be some loss of the remaining snags within 10 years after harvest which would become down wood. *EA at 259*. Thus, we’re left with the distinct impression that the number of snags lost is far more than just the harvest activities analyzed.

The West Fork Hood River Watershed *AND* the Middle Fork Hood River Watershed *AND* the East Fork Hood River Watershed all experience a lack of snag habitat, while at the same time the Forest Service has planned large timber sales in each watershed that reduce both current and future snags. This is a classic example of a significant cumulative impact that needs to be analyzed in depth. The Polallie Cooper’s single applicable sentence “[o]ther timber harvest activities on Forest Service land would have similar impacts as the Proposed Action” does

not take a hard look at the cumulative impacts to snag-dependent species from the loss of snags over 6,500 acres of land on the north slope of Mt. Hood.

Again, pasting from Red Hill documents, the Polallie Cooper EA also suggests that “blocks of unharvested habitat” will “provide large snags and down wood while the treated areas of the watershed move toward the mature forest state”, concluding that the adjacent untreated areas would allow for snag and down wood-dependent species to recolonize habitat as snags and down wood increase in the treated areas. *EA at 262, Red Hill Wildlife Report at 22*. This conclusion was a much better fit for the Red Hill Sale, which was mainly logging in plantations with a purpose of creating late successional forest faster. In the Polallie Cooper project area, 1,900 acres are *already* in the mature forest state, and this project removes late-successional characteristics like snags.

The cumulative impacts of snag habitat loss across the north slope of Mt. Hood Deserves more than a completely vague sentence about “other projects” and an inapplicable conclusion pasted from another project. This does not provide the hard look at environmental impacts that NEPA requires. A hard look at the impacts to wildlife would answer 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 the current low numbers?
- Given the extent of snag removal across 6,500 acres of the North Slope, will this impact be significant to cavity dependent species?

Bark believes that there are ways to achieve the desired stand conditions while still protecting all habitat-providing snags. OSHA regulations explicitly allow the Forest Service to buffer hazard snags instead of cutting them down,³¹ and the Forest Service can redesign its yarding systems and landings to avoid the need to fell these important habitat trees. **Bark requests that the Forest Service revise its plans to include significantly more snag habitat retention, and provide an adequate cumulative impacts analysis of the loss of snags across the three watersheds on snag-dependent species.**

THE POLALLIE COOPER TIMBER SALE DOES NOT COMPLY WITH THE MANAGEMENT DIRECTIONS OF THE 2009 OMNIBUS BILL.

In 2009, after years of difficult discussions and negotiations between conservation organizations, landowners, the Forest Service, Hood River residents

³¹ “Each danger tree shall be felled, removed or avoided. If the danger tree is not felled or removed, it shall be marked and no work shall be conducted within two tree lengths of the danger tree unless the employer demonstrates that a shorter distance will not create a hazard for an employee.” 29 C.F.R. §1910.266(h)(1)(vi).

& the Oregon congressional delegation, a portion of the 2009 Omnibus Bill was dedicated to creating the Crystal Springs Management Unit, with the dual purposes of:

- ensuring the protection of the quality and quantity of the Crystal Springs watershed as a clean drinking water source for the residents of Hood River County, Oregon; and
- allowing visitors to enjoy the special scenic, natural, cultural, and wildlife values of the Crystal Springs watershed.

The intent of this legislation was to permanently protect this important watershed and aquifer from the impacts of commercial logging and road building that often occur on Forest Service-managed land. While active management was not prohibited, it was limited to occur only in the service of “protect[ing] the water quality, water quantity, and scenic, cultural, natural, and wildlife values of the Management Unit.” Treatments to maintain and restore fire-resilient forest structures containing late successional forest structure characterized by large trees and multistoried canopies, are permitted as ecologically appropriate, with **priority given to activities that restore previously harvested stands**, including the removal of logging slash, smaller diameter material, and ladder fuels.

However, while allowing active management in the service of restoration, the act specifically prohibits constructing new roads, or renovating of existing non-System roads, except as necessary to protect public health and safety, and projects undertaken for the purpose of harvesting commercial timber.

Thus, when assessing the Polallie Cooper project as currently proposed, there are some very important questions that must be answered:

- 1) Is the project protecting the water quality, water quantity, and scenic, cultural, natural, and wildlife values of the Management Unit?
- 2) Is the project building new roads, or renovating of existing non-System roads? If so, are these roads necessary to protect public health and safety?
- 3) Is any of the logging for the purpose of commercial timber, and not simply a byproduct of activities conducted to *further the purposes* of the management unit??

In order to have a project that meets both the letter, and the legislative intent, of the 2009 Omnibus Bill, the Forest Service needs to present clear, and internally coherent, answers to these questions.

- 1) Is the project protecting the water quality, water quantity, and scenic, cultural, natural, and wildlife values of the Management Unit?

These comments amply show how this project has negative impacts to all of the values listed above. Also, this is a good place to weave back in the findings of the Rhodes & Barker study that balance the known impacts from logging and road building with the possible benefits from fuels reduction. As they found, “if treatments reduce the watershed impacts of severe fire, they may provide benefits that outweigh treatment impacts because high-severity fire can sometimes trigger short term, severe erosion and runoff that can negatively affect soils, water quality and aquatic populations. However fuels treatment systems can also have impacts on aquatic systems . . . 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.”³²

They concluded that **if fire does not affect treated areas while fuels are reduced, treatment impacts are not counterbalanced by benefits from reduction in fire impacts.**³³ Thus, it is not clear that the logging is needed to protect the values of the Crystal Springs Management Unit, and, in fact, may impeded these values from being realized.

- 2) Is the project building new roads, or renovating of existing non-System roads? If so, are these roads necessary to protect public health and safety?

Despite the prohibition on road building, the proposed Polallie Cooper Timber Sale would **construct 1.4 miles of new road and renovate 3.26 miles of existing temporary roads** in the Crystal Springs Management Unit. *EA at 50.* In direct contradiction of its own plans, the EA makes the following statement: “For prohibited activities, the Proposed Action *does not include any plans to construct new roads or renovate existing non-System roads.* The agency does not consider temporary roads to be new road construction since the roads would not be included in the road system, and the impacts from temporary road use are minimized through the use of project design criteria and best management practices. *EA at 19.*

At the Open House, Bark learned that the Forest Service believes that by calling a road “temporary” it is somehow no longer is considered a road. However, this is an improper interpretation of the governing statutes, and would not withstand judicial scrutiny. There are two active regulatory definitions of Forest Service roads – one that explicitly includes temporary roads in its definition, and one that implicitly does.

³² Rhodes, J. and Baker, W. 2008. Fire Probability, Fuel Treatment Effectiveness and Ecological Tradeoffs in Western U.S. Public Forests. *The Open Forest Science Journal*, 2008.

³³ *Id.*

As defined by the Roadless Rule, the most comprehensive assessment of roads and their impacts on National Forests, a Road is “a motor vehicle travelway over 50 inches wide, unless designated and managed as a trail. A road may be classified, unclassified, or temporary.” 36 CFR §294.11. Road construction is defined as “Activity that results in the addition of forest classified or temporary road miles.” *Id.*

The Travel Management Rule, incorporated into Forest Service Manual 7705, also contains applicable definitions: A Road is “a motor vehicle travelway over 50 inches wide, unless designated and managed as a trail.” 36 CFR §212.1. Temporary Road or Trail: A road or trail necessary for emergency operations or authorized by contract, permit, lease, or other written authorization that is not a forest road or a forest trail and that is not included in a forest transportation atlas. *Id.* Road Construction or Reconstruction: Supervising, inspecting, actual building, and incurrence of all costs incidental to the construction or reconstruction of a road. *Id.*

While the Travel Management Rule’s definition of road does not explicitly include temporary road, neither does it exclude them. In addition, the definition of “temporary road” begins with affirming that it is, indeed, a road. The 2009 Omnibus Bill prohibits new road building in the Crystal Springs Management unit, period. It does not specify that the road building need be a system road, or be permanent, simply that it be a road.

In addition, the Omnibus Bill also prohibits renovating existing non-system roads. “Existing non-system roads” is a term that is not defined by either the Roadless Rule or the travel Management Rule. A common sense definition is: a road that exists on the landscape and is not part of the Forest Service Road System. This definition would seem to include all the existing temporary roads that the Forest Service plans to renovate in the Crystal Springs Management Unit, despite the clear prohibition on such activity in the Omnibus Bill. **Please explain.**

- 3) Is any of the logging for the purpose of commercial timber, and not simply a byproduct of activities conducted to *further the purposes* of the management unit?

Polallie Cooper **would log 782 acres of commercial timber in the management unit.** Is this logging a byproduct of activities conducted to *further the purposes* of the management unit?

As noted above, the purposes of the Management Unit are:

- to ensure the protection of the quality and quantity of the Crystal Springs watershed as a clean drinking water source for the residents of Hood River County, Oregon; and

- to allow visitors to enjoy the special scenic, natural, cultural, and wildlife values of the Crystal Springs watershed.

According to the Environmental Assessment, of the 782 acres proposed for logging, 119 acres are older, never logged forest, 274 acres are in plantations and 202 are in “sapling management”. Most of the Crystal Springs Management Unit is in Fire Condition Class 1 or 2, which means that it is either within its current fire regime or is moderately altered from its historic regime. *EA at 83.*

The Forest Service proposes to use ground-based methods of fuels reduction, including machine piling, burning of activity fuels, construction and increased use of roads and landings, all which are known to increase soil erosion, compact soils and elevate surface runoff. Elevated sediment delivery to streams contributes to water quality degradation that impairs aquatic ecosystems.³⁴

The Forest Service suggests these impacts are justified because they will reduce the severity of a fire in the watershed. However, study results indicate fuel reduction treatments, on average, would have a mean probability of 2-8% of encountering moderate or high-severity fire during an assumed 20-year period of reduced fuels.³⁵ This is not a high likelihood.

By logging and road building in Crystal Springs Management Unit, the Polallie Cooper Timber Sale will trade adverse impacts to water, wildlife and the natural value of the watershed, for the very slim likelihood of reducing future fire impacts on aquatic systems.

PDC A-19: “No fuel would be stored within 1,000 feet of streams” is insufficient

The Salminen memo identifies fuel spills in the ZOC is a greater threat than wildfires. *EA at 139.* Water from Crystal Springs is provided by the underlying aquifer; this aquifer is shallow, is highly permeable to the vertical movement of water, and is unconfined, meaning it is not protected by an impervious layer of material above it. The nature of the aquifer means that whatever runs across the surface of the land will not have a barrier to protect the underlying water.

Thus, the threat is not just that the spilled fuel could harm the surface water; fuel spilled anywhere in the Zone of Contribution can seep through the shallow, porous soils and could contaminate the underlying aquifer. As spilled fuel is an even greater risk to the aquifer than wild fire, the PDC should adequately prevent

³⁴ Rhodes, J. and Baker, W. 2008. Fire Probability, Fuel Treatment Effectiveness and Ecological Tradeoffs in Western U.S. Public Forests. *The Open Forest Science Journal*, 2008.

³⁵*Id at 5.*

this risk. **Please change PDC A-19 to prohibit fuel storage *anywhere* within the Crystal Springs Zone of Contribution.**

PROPOSED ROADBUILDING, NEEDED CLOSURES AND DECOMMISSIONING

Bark believes that the best way to truly pursue the purpose and need in this project area is to remove roads that provide pathways to human-caused ignitions and impacts to clean water and wildlife. Being eligible for Key Watershed designation, the East Fork Hood River should be a priority area for right-sizing its road system. The Hood River Stewardship Group, which provided recommendations for this timber sale, also agreed in these recommendations to include a request for an overall reduction in road density within the project area. In this project however, the Forest Service has opted to include *zero* road decommissioning, but approximately 1.6 miles of road closures.

Meanwhile, Polallie Cooper Timber Sale's Proposed Action calls for building **12 miles of roads** (4 miles rebuilt and 8 miles newly built) in order to facilitate logging activity (the original cancelled Polallie Cooper included only *4.1 miles* of roadbuilding).

In Bark's second set of scoping comments, submitted in August of 2015, we mentioned a **proposed temporary road alignment extending from the end of 4400-624** where we believed the condition and structure of the second half of this stand did not necessitate fuels reduction logging, and requested that the explicitly new portion of this road be deleted from consideration. Since that time the agency has removed this road from the proposed action. Bark supports this decision.

Bark is pleased to see the **removal of the new temporary road extending between 4400-624 and 4400-015** in the new Proposed Action, and supports this change being incorporated in the final decision.

Bark also commented on the **proposed "new" roads extending southwest off 4400-622**. We found the forest accessed by this road to be mostly made up of grand and Douglas fir, and included stands of mature forest. This area off the 622 spur did not appear to have ever experienced extensive roadbuilding in the past, and included several steep west-facing slopes. On the map it appears that these proposed roads would intersect a trail included in the Dog River mountain biking loop twice. We have major concerns about both logging in mature forests and over popular trails, which we will elaborate further in these comments.

On the “existing” road off the 3512-640 road, we noted that this supposed road overlaps an existing volunteer-maintained foot trail to the Cooper Spur warming shelter and beyond, ending at Tilly Jane Creek. This road is proposed to be built directly on top of this trail, and close to Tilly Jane Creek at its intersection with Cooper Spur road. This creek includes listed steelhead and cutthroat trout populations, and could be impacted by its proximity to logging and roadbuilding. Bark uses this trail annually for our winter wildlife tracking hike in collaboration with Cascadia Wild. While forests surrounding the warming shelter are dense (although do not appear to be uniform plantations as the Proposed Action map suggests), some individuals have participated in reducing fuels around this warming shelter. Nevertheless, the cedar shingle roof and wooden frame would make fire-proofing this structure very difficult under severe fire conditions. **Under low to moderate fire conditions however, a ~50 foot fuel break (hand thinned) around this structure could be beneficial, and would not require roadbuilding or heavy machinery.**

Accessing this area on road 3512-640, we previously noted an opportunity for a road-to-trail conversion. This road is in significant need of maintenance, and poses aquatic risks at two stream crossings. The road is visibly dumping excessive amounts of fill off the north side towards Doe Creek. Currently a low-use road, it ends at the trailhead to the warming shelter. **Bark supports the closure and stormproofing of this road as proposed in the Polallie Cooper EA.** We further request that work on this road include erosion control measures such as waterbar placement, diversion ditch creation, piling slash on the first few hundred feet of the road, and placing boulders at the entrance to units from main road.

The lengthy **“new” road heading south off 3510** after the 3510 rounds its most northerly hairpin turn and heads south would be cut into forest that is currently roadless, natural and considered beautiful by Bark’s supporters. This area includes pockets of old growth forest (i.e. 45°25.534’, 121°35.119’) which would not benefit from variable-density thinning, as they are already quite variable and complex. **Bark will challenge roads being proposed through this part of the forest**, as we consider this area to have wilderness qualities (namely being intact, roadless, visually impressive and adjacent to an existing wilderness area).

The status for **FSR 3512-011** is symbolized on the Proposed Action map as “Basic Custodial Care”, we saw the 3512-011 road to be passively decommissioned, and would require significant tree cutting and re-contouring to rebuild. Bark asked if this road would be actively decommissioned in our scoping

comments, but did not see a response in the EA. **Bark requests that FSR 3512-011 be actively decommissioned as part of this project.**

The **3512-620 road** heading south towards Polallie Creek has been decommissioned shortly after it enters National Forest from private land. Currently used as a foot-trail, the road alignment passes through never-logged forest containing old growth trees, remnant historic irrigation ditches and two natural meadows. It also accesses some of the most remote sections of this project. **It is not clear if this road included in the four miles of rebuilt roads mentioned in the EA.** To not include rebuilding this road in the road mileage presented in the scoping letter seems disingenuous after walking this alignment.

In scoping comments, Bark highlighted the **4400-620 road** as an opportunity for a road-to-trail conversion. This road, which extends past the trailhead for Trail 678, provides a great opportunity for mountain bikers accessing the Dog River trail to the northwest. The road is already used by mountain bikers for this very reason, and has low motorized vehicle traffic. However, there is pothole and erosion-related maintenance if this road is to be left open, or used for log haul. **A closure to motorized vehicles on this road would complete a loop connecting the Dog River and Zigzag trails, while increasing safety from motorized vehicles, target shooting and hunting.**

“Temporary Roads” have a long-term impact on ecosystem

The EA states that “Road density within the analysis area would change in some areas for the short period of time that temporary roads would be in use. These temporary roads would be decommissioned immediately following vegetation treatment operations.” *EA at 144.* It is extremely well-documented that road construction vastly elevates erosion for many years, particularly in the first two years when the construction causes a persistent increase in erosion relative to areas in a natural condition.^{36,37,38} Specifically, major reconstruction of unused

³⁶ Potyondy, J.P., Cole, G.F., Megahan, W.F., 1991. A procedure for estimating sediment yields from forested watersheds. Proceedings: Fifth Federal Interagency Sedimentation Conf., pp. 12-46 to 12-54, Federal Energy Regulatory Comm., Washington, D.C.

³⁷ 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.

³⁸ Beschta, R.L., Rhodes, J.J., Kauffman, J.B., Gresswell, R.E., Minshall, G.W., Karr, J.R., Perry, D.A., Hauer, F.R., and Frissell, C.A., 2004. Postfire Management on Forested Public Lands of the Western USA. *Cons. Bio.*, 18: 957-967.

roads can increase erosion for several years and potentially reverse reductions in sediment yields that occurred with non-use. *Id.*

Road construction is by far the greatest contributor of sediment to aquatic habitats of any management activity.^{39,40} Even temporary road construction can cause resource damage including erosion and sedimentation, exotic species spread and disruption of wildlife.⁴¹ 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.

Terrestrial wildlife is also greatly influenced by road density. Roads impact wildlife in a variety of ways including direct mortality from vehicle collisions; increased poaching, over-hunting, and over-trapping facilitated by access; reduced numbers of snags and down logs; increased negative edge effects; facilitated or hindered movement depending on species; and chronic negative interactions with humans.⁴²

Much of the Forest Service's claim that the road building will not significantly impact the environment is built around its claim that the temporary roads would be decommissioned and revegetated immediately following completion of harvest operations. These claims are not reassuring. First off, Bark's post-logging monitoring has found numerous instances of temporary roads left open, with no erosion control measures, many seasons after logging had been completed, such as in the Swag, Dry, and Jazz timber sales in the Clackamas River Ranger District. The problem is so systemic that when NMFS assessed the Jazz Timber Sale, it estimated that "...approximately 21% of the roads may not be decommissioned after project completion" based on the MHN's decommissioning track record. *Jazz LOC at 25*. This does not provide much assurance that the Forest Service will, in fact, follow-through with the minimal decommissioning the BMPs require.

³⁹ Meehan, W.R. (ed.). 1991. Influences of Forest and Rangeland Management on Salmonid Fishes and Their Habitats. Am. Fish. Soc. Special Publication 19.

⁴⁰ Robichaud, P.R., L.H. MacDonald and R.B. Foltz. 2010. Fuel management and erosion. Ch. 5 in: W.J. Elliot, I.S. Miller and L. Audin (eds.). Cumulative Watershed Effects of Fuel Management in the Western United States. USDA For. Serv. Rocky Mtn. Res. Sta. Gen. Tech. Rep. RMRS-GTR-231. Fort Collins, CO.

⁴¹ Trombulak, S.C. and C.A. Frissell. 2000. Review of ecological effects of roads on terrestrial and aquatic communities. *Conservation Biology* 14:18-30.

⁴² Wisdom MJ, Holthausen RS, Wales BC, et al. 2000. Source habitats for terrestrial vertebrates of focus in the interior Columbia basin: broad-scale trends and management implications. Volume 1 – Overview. Portland, OR: US Department of Agriculture, Forest Service, Pacific Northwest Research Station. General Technical Report PNW-GTR-485.

Second, the term “decommissioning” is an overstatement of what the Forest Service actually plans to do to these rebuilt roads. The commonly accepted definition of road decommissioning in scientific literature is defined as the physical treatment of a roadbed with a variety of methods to restore the integrity of associated hillslopes and flood plains and their related processes and properties⁴³. The most common forms of road decommissioning include ripping the roadbed, restoring stream crossings, and fully recontouring the hillside.

In contrast, the temp road treatment in Polallie Cooper states: “Culverts would be removed and cross-drain ditches or water bars would be installed as needed. Disturbed ground should be seeded and mulched and available logging slash, logs, or root wads should be placed across the road or landing surface. Post-harvest motorized access would be prevented through the construction of a berm, placement of large boulders, or other approved techniques.” *EA at 40*. Other than within the CSWSRMU, there is no commitment to decompaction of any kind. It is important to differentiate between the scientific studies evaluating the effectiveness of road decommissioning in restoring hydrologic functions, and the Forest Service’s proposed minimal treatments, which are more akin to road closure, than decommissioning or obliteration. Finally, revegetation always takes time to establish, especially when the road surface has not been fully decompacted. While closure may be “immediate”, revegetation is not.

Available scientific information shows that Polallie Cooper’s road activities, including reconstruction of closed and abandoned roads, could persistently elevate erosion and sediment delivery in several ways. Reconstructed roads cause elevated erosion and sediment for many years after decommissioning.⁴⁴ The USFS Region 5 method for estimating cumulative watershed effects indicates that even 10 years after road decommissioning, a mile of decommissioned road is equivalent to 0.2 miles of new road in terms of adverse cumulative effects.⁴⁵ After 50 years, a mile of obliterated road has still has impacts equivalent to 0.1 mile of new road. Thus, it is apparent that decommissioning does not instantaneously eliminate the persistent impacts of roads on erosion and

⁴³ Switalski, T.A., J.A. Bissonette, T.H. DeLuca, C.H. Luce, and M.A. Madej. 2004. Benefits and impacts of road removal. *Frontiers in Ecology and the Environment*. 2(1): 21-28. Available at: http://www.fs.fed.us/rm/pubs_other/rmrs_2004_switalski_t001.pdf

⁴⁴ Beschta, R.L., Rhodes, J.J., Kauffman, J.B., Gresswell, R.E, Minshall, G.W., Karr, J.R, Perry, D.A., Hauer, F.R., and Frissell, C.A., 2004. Postfire Management on Forested Public Lands of the Western USA. *Cons. Bio.*, 18: 957-967.

⁴⁵ Menning, K. M., D. C. Erman, K. N. Johnson, and J. Sessions, 1996. Aquatic and riparian systems, cumulative watershed effects, and limitations to watershed disturbance. *Sierra Nevada Ecosystem Project: Final Report to Congress, Addendum*, pp. 33-52. Wildland Resources Center Report No. 39, Centers for Water and Wildland Resources, University of California, Davis.

sediment delivery, building these roads will have adverse impacts to the aquatic and terrestrial environment.

Roadless areas over 1,000 acres

Currently, MHNH operates under the Roadless Area Conservation Rule, which prohibits road construction, reconstruction and maintenance in inventoried roadless areas 5,000 acres or larger. In a recently released white paper on water quality in Mt. Hood National Forest, The Pacific River Council [published key 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.⁴⁶ The paper recommends that a road-building moratorium should be embedded into the Forest Plan to protect roadless areas greater than 1,000 acres. Several of these 1,000 acre areas have been identified across MHNH and should receive the same protections as 5,000 acre roadless areas to maximize the amount of landscape not contributing sedimentation to watersheds.

The east side of Highway 35 contains a significant chunk of forest that is over 1,000 acres, roadless, Critical Habitat and mostly unmanaged. **Please consider moving forward with this project in a way that does not require building roads into significantly large roadless areas (1,000 acres or larger).** As precious aquatic, terrestrial and airborne species rely on these forests, it is essential that the ecological integrity of the area be preserved and that potential effects on the environment be avoided, including effects of the loss of roadless areas 1,000 acres or greater in size.

IMPACTS ANALYSIS BASED ON ERRONEOUS ASSUMPTION THAT ALL BMP AND PDC WOULD BE FOLLOWED

Much of the impacts analysis rely on the assumption that: “All Best Management Practices (BMP) and Project Design Criteria (PDC) listed in Environmental Assessment (EA), Chapter 2 Section 2.3 would be implemented and effective as described in the BMP Table in Appendix 2.” *See e.g. EA at 128.* This, then, results in findings like “with the implementation of above-mentioned PDC and BMP new temporary roads, landings, skid trails, yarding corridors, road maintenance, log

⁴⁶ 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>

hauling and road repair work are expected to have minimal effect on sedimentation.” *EA at 149.*

While BMP and PDC are often implemented and effective, there is also a known margin of error that the EA needs to account for. Two studies cited in the EA regarding BMP implementation and effectiveness nationwide found that in one, BMPs were 91% implemented, 80% effective; and in the other, BMPs were 89% implemented, 87% effective. *EA at 147.* Thus, there is a 13-20% likelihood that the BMP & PDC will *not* be effective at minimizing the environmental impact as expected. Nowhere in the EA analyzes what that means for the impacts analysis.

The EA also cites the executive summary detailing the results of the 2014 BMP monitoring on the Mt. Hood National Forest (U.S. Forest Service 2015), that “indicates that two vegetation treatment projects were monitored and all BMP were fully implemented and fully effective. Additional project-level BMP monitoring by hydrologists and soil scientists has occurred as part of project implementation on the MHNH and is incorporated in professional judgment.” *EA at 147.*



However, in the same executive summary, BMPs for road work were found to be **not** fully implemented. This is consistent with Bark’s recent post-logging monitoring work at the Jazz Timber Sale in the Clackamas River Ranger District, where we found several violations of PDC relating to improper road closures and lack of winterization.

For example, the road above (at Jazz Unit 18) was supposed to be bermed, water-barred and decompacted. None of this occurred. When Bark brought this to MHNH’s attention, Forest Supervisor Northrop confirmed that this road was not de-compacted as specified by the PDC and contract.

Bark found several other roads in the Jazz timber sale that were not closed or winterized according to the PDC relied upon by the EA. As a result, roads (like this one in Unit 14) had waterbars driven over, which severely decreased their effectiveness.



These are but a few recent examples of the results of Bark's own program of monitoring for compliance with BMP and PDC throughout the Mt. Hood National Forest.

Over the past few years, Bark's investigation of the Forest Service's compliance with Best Management Practices (BMPs) and Project Design Criteria/Mitigation Measures (PDCs) throughout the Mt. hood National Forest has led us to conclude that there are systemic problems with the application of BMPs and PDCs that result in projects consistently having greater environmental impacts than anticipated in the NEPA analysis.

We have raised this issue consistently in our comments and pre-decisional objections, listing multiple violations of BMPs/PDCs observed in the field, both by the Forest Service and by Bark volunteers, and sharing the following observations:

- 1) There is a pattern and practice of unreliable implementation of BMP/PDCs by timber sale contractors, in part, because it is difficult for the Forest Service to transfer all PDC into contract terms, and because the agency has so few contact administrators.
- 2) This leads to environmental impacts on the ground that are greater than anticipated in environmental analyses and consultation; and
- 3) 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.

In the Polallie Cooper 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. Also, the chart in Appendix B looks like an exercise in cutting and pasting information, not a real, thorough assessment of how likely the BMP/PDC were to be implemented and effective.

For example, the Monitoring Requirements section of the PA lists a general monitoring protocol, which is then relied on for every single BMP. These very

general requirements, which include little more than the possibility that the project may be selected to be monitored, and the expectation that the sale administrator would monitor contact implementation, do nothing to disrupt the problematic patterns that Bark is finding in its post-logging monitoring.

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.⁴⁷ 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.⁴⁸

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.” Activities implemented with somewhat effective BMPs still often contribute to negative cumulative effects on aquatic systems. Aquatic habitats can be 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.⁴⁹

Finally, 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”. 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 Polallie Cooper final EIS, please change all those “should” to “shalls” and create BMPs/PDCs that have enforceable, quantifiable standards.**

⁴⁷ 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.

⁴⁸ (GLEC) Great Lakes Environmental Center, 2008. National Level Assessment of Water Quality Impairments Related to Forest Roads and Their Prevention by Best Management Practices. Final Report. Report prepared for US Environmental Protection Agency, Office of Water, Contract No. EP-C-05-066, Task Order 002, 250 p.

⁴⁹ 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.

LOGGING AND ROADBUILDING IN RIPARIAN RESERVES DOES NOT COMPLY WITH THE AQUATIC CONSERVATION STRATEGY AND CONTRADICTS THE RECOMMENDATIONS OF THE BEST AVAILABLE SCIENCE

The Northwest Forest Plan established the Aquatic Conservation Strategy to “restore and maintain the ecological health of watersheds and aquatic ecosystems” and established land use designations, such as Riparian Reserves, to ensure heightened protection of ecologically sensitive lands. *NFP at B-9*. The Aquatic Conservation Strategy Objectives require that Forest Service-administered lands be managed to “[m]aintain and restore” nine indicators of watershed health, such as the physical integrity of the aquatic system, water quality, in-stream flows, and habitat for riparian-dependent species. *NFP at B-10*. The Northwest Forest Plan provides that “[c]omplying with the Aquatic Conservation Strategy objectives means that an agency must manage the riparian dependent resources to maintain the existing condition or implement actions to restore conditions.” *NFP at B-10*. By contrast, “[m]anagement actions that do not maintain the existing condition and lead to improved conditions in the long-term do not ‘meet’ the intent of the Aquatic Conservation Strategy and should not be implemented.

The NFP’s Timber Management standards and guidelines “[p]rohibit timber harvest . . . in Riparian Reserves, except as described [in three exceptions].” *NFP at C-31*. The relevant exception allows logging to “acquire desired vegetation characteristics **needed** to attain [ACSOs].” *Id.* (emphasis added). Thus, the starting place is that commercial logging in Riparian Reserves is prohibited, unless the Forest Service makes an affirmative finding that it is needed to attain the ACS Objectives. As detailed below, the best available science shows that the logging and roadbuilding in Riparian Reserves in Polallie Cooper is not be needed to achieve the ACS objectives, in fact, these actions may retard such compliance. It is the agency’s burden to demonstrate the contrary if they are to log in Riparian Reserves.

In its analysis of compliance with the ACS Objectives, the EA improperly rewrites the NFP by removing the phrase “and restore” from each of the nine objectives. *EA at 213*. This system was established to “restore and maintain the ecological health of watersheds and aquatic ecosystems.” *Klamath Siskiyou Wildlands Ctr. v. U.S. Forest Serv.*, 373 F. Supp. 2d 1069, 1092 (E.D. Cal. 2004). Omitting the restoration component of the ACS violates both the letter and the spirit of the ACS. Indeed, “[m]anagement actions that do not maintain the existing condition and lead to improved conditions in the long-term do not ‘meet’

the intent of the Aquatic Conservation Strategy and should not be implemented. *NFP B-10*.

Specifically, as regards compliance with ACS #3, the EA suggests that PDC would limit the amount of soil compaction and erosion, as compared to doing the same action without the PDC, but this does not mean the project “maintains [and restores]” the Objective. PDC only decrease the extent of adverse impacts of ground disturbing work, they do not neutralize the impacts. Also, the EA states “the lack of any new or reconstructed road crossings on perennial or intermittent streams would greatly reduce the risk of sedimentation, peak flow, and resulting bank erosion and channel bed scour.” *EA at 213*. Bark agrees. However there is NOT a lack of such stream crossings in the proposed project. The EA anticipates “that three existing stream crossings over intermittent streams would need to be rebuilt and one existing stream crossing over a perennial spring would need to be reused.” *EA at 35*. The EA should not be so internally inconsistent as to premise compliance with the ACS on a factually incorrect statement. **Will stream crossings be needed and rebuilt?**

The EA repeats this inconsistency in the EA in its analysis of sediment and water quality: “The 804 feet of temporary road proposed to be reopened represents 2 different incursions into Riparian Reserves that are approximately 315 feet to 489 feet in length. No new or existing stream crossings would need to be constructed or reconstructed for this project.” *EA at 143*. The EA also suggests that sediment will be minimal because “new roads decommissioned and revegetated immediately following completion of operations.” *EA at 145*. While the PDC does call for re-seeding of scarified road beds, the term “revegetated immediately” is misleading. The EA must take into account the time lag which will most likely happen over the wettest period of the year, between the re-seeding of the temporary roads and the vegetation being established to the point that it successfully prevents further erosion.

Also the EA fails to explain how building a helicopter landing in the Riparian Reserve near the confluence of Polallie Creek and East Fork Hood River, despite PDC R-14,⁵⁰ meets the ACS. *EA at 142*. An average helicopter landing size is approximately 100-feet wide by 200-feet long with some additional trees removed for the flight path coming into the landing. *EA at 32*. This is a fairly large area to be disturbed in a Riparian Reserve.

Bark’s concerns regarding commercial logging in Riparian Reserves is based both on the clear direction of the Northwest Forest Plan and on new and developing

⁵⁰ PDC R-14: new temporary roads and landings should be located outside of Riparian Reserves. *EA at 41*.

science as synthesized in *Conservation of Aquatic and Fishery Resources in the Pacific Northwest: Implications of New Science for the Aquatic Conservation Strategy of the Northwest Forest Plan*⁵¹, recently published by the Coast Range Association. Collectively, the report's authors and science panel members not only represent the best available science, but have developed much of the relevant science over the course of their professional careers. In these key findings, the authors recommend that "(t)hinning and fuels reduction by means of mechanized equipment or for commercial log removal purposes should be generally prohibited in Riparian Reserves and Key Watersheds." This final report is the best synthesis of aquatic science related to the Northwest Forest Plan (NFP) since the development of the NFP in 1994.

Several sources are now pointing to passive management as the best approach to achieve ACSOs in Riparian Reserves. Pollock and Beechie⁵² reviewed the sizes of deadwood and live trees used by different vertebrate species to understand which species are likely to benefit from different thinning treatments. They then examined how riparian thinning affects the long-term development of both large diameter live trees and dead wood. Ultimately, they used a forest growth model to examine how different forest thinning intensities might affect the long-term production and abundance of live trees and dead wood. In Pollock and Beechie's study, passive management created dense forests that produced large volumes of large diameter deadwood over extended time periods as overstory tree densities slowly declined.

Pollock and Beechie's results showed that the few species that utilize large diameter live trees exclusively may benefit from heavy thinning, whereas species that utilize large diameter dead wood can benefit most from light or no thinning: "because far more vertebrate species utilize large deadwood rather than large live trees, allowing riparian forests to naturally develop may result in the most rapid and sustained development of structural features important to most terrestrial and aquatic vertebrates."

⁵¹ Frissell, Christopher A., R. J. Baker, D. DellaSala, R. M. Hughes, J.R. Karr, D. A. McCullough, R. K. Nawa, J. Rhodes, M.C. Scurlock, R. C. Wissmar. 2014. *Conservation of Aquatic and Fishery Resources in the Pacific Northwest: Implications of New Science for the Aquatic Conservation Strategy of the Northwest Forest Plan*. Coast Range Association, Corvallis, OR. 44 pp. (<http://coastrange.org/documents/ACS-Finalreport-44pp-0808.pdf>)

⁵² Pollock, Michael M. and Timothy J. Beechie, 2014. Does Riparian Forest Restoration Thinning Enhance Biodiversity? The Ecological Importance of Large Wood. *Journal of the American Water Resources Association (JAWRA)* 50(3): 543-559. DOI: 10.1111/jawr.12206

Similarly, Spies et al.⁵³ concluded that thinning produces unusually low-stem-density forests and causes long-term depletion of snag and wood recruitment that is likely detrimental in most Riparian Reserves. According to this work, thinning with removal of trees will generally produce fewer large dead trees across a range of sizes over the several decades following thinning and the lifetime of the stand relative to equivalent stands that are not thinned. Generally, recruitment of dead wood to streams would likewise be reduced in conventionally thinned stands relative to un-thinned stands.

The topic of riparian thinning generally being at odds with the ACS has been far-reaching, with a recently circulated [sign-on letter](#) sent to the Secretary of Interior and the Secretary of Agriculture. This letter was signed by 31 organizations and urged careful consideration of any efforts to weaken aquatic protections in the area of the Northwest Forest Plan. This letter is significant to this comment because it demonstrates strong support for generally keeping timber harvest out of Riparian Reserves. One of the “key ecological reasons” cited in this letter was that ***“Recent research underscores the original ACS presumption against timber harvest in aquatic emphasis areas, and now more clearly indicates that even harvest in the form of thinning and fuels reduction generally is inconsistent with attainment of aquatic objectives.”***

A specific area of concern is the riparian area around **Buck Creek**. This creek ducks below ground, fans out in several places, and is generally unpredictable in its flow & presence underground. Bark volunteers have seen areas like this in previous timber sales be crushed under ground-based logging and slash piles because the cruiser and operators misunderstood the complex nature of the stream and its boundaries. Even members of the Hood River Stew Crew expressed this groundwater concern on a field trip while simultaneously calling out that fuels reduction was not needed in the particular area we were in due to its moist conifer plant associations and overall density.

After submitting our concerns regarding Buck Creek (expressed in our first scoping comments), we still have a high level of unease around other nearby wet areas, some of them seemingly unmapped. One of these areas includes a mapped but unnamed stream flowing into the East Fork, between Buck and Doe Creeks. This very dynamic stream is within a Riparian Reserve on the north side of 3510, and meanders above and below ground. The surrounding water table is

⁵³ Spies, T., M. Pollock, G. Reeves, and T. Beechie. 2013. Effects of riparian thinning on wood recruitment: A scientific synthesis. Science Review Team, Wood Recruitment Subgroup, Forestry Sciences Laboratory, Corvallis, OR, and Northwest Fisheries Science Center, Seattle, WA. 28 January 2013. 46pp. <http://www.mediate.com/DSConsulting/docs/FINAL%20wood%20recruitment%20document.pdf>

high, and the soils are sensitive to ground-based disturbance. Surrounding this stream are several legacy Western redcedars) and several large snags. Soils in this area appear to be healthy and supporting a diverse array of organisms, including *Sarcosphaera coronaria* (violet crown cup). This fungus is a monotypic genus, easily recognizable, and was only recently removed from the Survey and Manage list.

Just across the 3510, there is another proposed “New” road which wraps around an area where Bark volunteers have found the source of the unnamed stream below – several seeps and springs which channelize at times, and are completely unmapped and not within a Riparian Reserve. **Bark would like to see this area dropped from planning (as it was from the 1998 Polallie Cooper Decision), as it could disrupt the very source of streamflow across the 3510.** In addition, the proposed “New” road which to access this area is never-before-logged grand fir and Doug fir, with remnant old growth trees up to a 50 in. DBH. We witnessed extensive use of this area by pileated woodpeckers, deer and burrowing mammals.

For all of these reasons, Bark does not support and will challenge an alternative that includes logging, roadbuilding, and helicopter landings in Riparian Reserves. We request that the Forest Service provide a detailed analysis of an alternative that does not include logging in Riparian Reserves.

RECREATION AND VISUALS

As a resident of the Hood River valley told Bark staff at a recent meeting, “I have substantive and considerable concerns about the new, larger proposed Polallie-Cooper Timber Sale. If there ever was an intent to do harm to the largest number of types of forest uses, this would be a contender.” Bark concurs. When describing the Existing Condition for recreation, the EA states, “[d]ue to the variety of activities available, and its proximity to Hood River, a popular tourist destination, recreation as a whole consistently grows in this location annually.” *EA at 282.* Further, “[t]hese trails are close to the City of Hood River and relatively close to Portland and draw large numbers of visitors annually. Tamanawas Falls, Dog River, and Tilly Jane trails are some of the most popular trails in the Hood River Ranger District.” *EA at 284.* In light of the popularity of this area for scenic recreation, the proposed logging and skimpy trail buffers are rather astounding. The proposed logging is in direct conflict with public recreation activities and in all likelihood will degrade the recreation experience on the affected trails.

Trails

Popular, high quality trails will be impacted - The proposed project will impact some of the most heavily used trails in the Hood River Ranger District. A long-time Hood River resident and trail advocate told Bark, “[t]here are only a limited number of low and mid-elevation trails in the Mt. Hood National Forest within easy driving distance from Hood River. Five of these trails — Dog River 675, Zigzag 678, Zigzag Vista 678A, Elk Meadows 645 and East Fork 650 — are threatened by a Forest Service plan to log 2,830 acres in the "Polallie-Cooper" area.”

The high quality recreation experiences provided by these trails must be protected. The fact that the Dog River trail is used for the Dog River Super D Bike Race is evidence that this is a great trail for mountain biking, a rapidly growing forest recreation activity that is currently underserved in MHNH.

Are the proposed buffers sufficient to protect these important trails?

The retention of soil moisture is a key concern of the 44 Trails Association and the USFS trail specialist for the eastside of MHNH. Both sources stated during a summer 2015 Stew Crew field trip that past logging near trails has increased the cost of trail maintenance. It make no sense to take actions that are likely to increase costs at a time when the agency’s budget for trail maintenance is so limited. 44 Trails Association stated clearly in the Stew Crew’s July 2014 meetings that they would like a “completely undisturbed trail corridor 100’ either side” of the trails to protect the trail and viewshed.

The effectiveness of the proposed, uniform 55-foot wide buffer is likely to vary throughout the project area due to slope aspect, position on the landscape (ridgetop vs. wind sheltered), forest density, etc. The trails and landscape are anything but uniform. Did the planning team enter site specific data for key segments of each trail into the Shadow Model? Why aren’t the results of the model runs included in the EA? There is not even a summary of the results let alone enough detail for us to assess the recommendation that 55 feet will protect the public’s investment in our trail infrastructure. The Shadow Model is being given a great deal of credence but the agency has provided no evidence that the buffer width, based on the model output, will produce the desired results.

During the Feb. 10, 2016 public meeting, Whitney Olsker stated that live trees up to 12-inch dbh will be removed from within the buffers. The removal of understory trees is likely to open up the forest and result in more air movement which would increase drying and thus decrease soil moisture. That could lead to

a deterioration of the trail tread and increased maintenance costs. Why is the agency proposing actions that are likely to increase trail maintenance costs?

How will trees that are cut within the buffer be yarded out? The PDC RC-1 states explicitly, “There would be no ground based yarding within the 55-foot buffer.” (EA at 46) How close to the trail itself, ie. the trail tread, will the cutting of understory trees be permitted? How will leave trees, within the buffer, be protected from damage during yarding? How will leave trees, within the buffer, be marked to guarantee that they aren’t cut? The protection of trees within the buffer must be a high priority because the purpose of the buffer is to protect the trail itself and the recreation experience of people using the trail. It seems self-defeating to plan to remove trees from within the buffer; doing so puts leave trees and the function of the buffer at risk.

Will the proposed buffers protect the recreation experience of trail users?

It is unlikely that the 55-foot wide buffers will be sufficient to protect, and maintain, the high quality recreation and visual experiences currently provided by these popular trails. During the Feb. 10, 2016 public meeting, Claire Pitner stated that there are no visual or social variables in the Shadow Model. Did the staff make any attempt to include the recreation and visual experience in a purely physical model? Did the planning team modify the model results to incorporate the recreation experience? If yes, how was that done and how did that alter the model results? If no, why not? Mount Hood NF is a heavily used forest within an hour’s drive of more than one million people. Recreation is a growing, important economic sector in Hood River and other gateway communities around the mountain. It is incumbent upon the Forest Service to protect the quality of the existing recreation facilities in the forest. Logging close to trails and leaving minimal buffers is not in the public interest.

The removal of understory trees will open up the forest, increase sight distances, and increase the likelihood that trail users will be able to see through the narrow “beauty strips” into the nearby heavily thinned areas. This seems inconsistent with the LRMP VQOs for the Sensitivity Level I (Retention) and Level II (Partial Retention) trails within the project area. *LRMP at Four-116*. Blow down of trees at the edge or interior of the buffers is likely to further reduce the effectiveness of the buffers. How was this taken into account particularly on ridges or other sites where the trees comprising the buffer are likely to be exposed to increased winds?

The recreation experience is an important part of why people choose particular trails. For example, does the trail provide scenic vistas of a natural landscape?

The high use on the trails within the project area, and the comments we've heard from trail user groups, is evidence that people prefer these trails in their current, unlogged condition.

There is conflicting information regarding how trails will be protected, the degree to which they'll be protected, and the proximity of "treatments" to trails. *See, eg. EA at 299*: "Treatment would not occur in the near foreground or foreground views of Sensitivity Level I trails." Near foreground is defined as 660 feet from each side of the trail unless screened by topography. *EA at 297*. Does that mean there will be no logging units within 660 feet of any of the four Level I trails listed in Table 82 on p. 297? It's difficult to tell from the maps in the EA.

An exception may be the Elk Meadows Trail 645; the recreation map appears to show the north end of the trail passing through a yellow area, noted in legend as "proposed hazardous fuels reduction," near the Polallie trailhead. *EA at 285*. Is any logging planned within 660 feet of this section of the Elk Meadows Trail?

Why did the agency use a physical model designed for stream shading?

It seems very inappropriate to rely so heavily on a model designed for a much different purpose. The planning team relied entirely on the Shade Model to calculate the width of buffers for trails. Protecting the trail infrastructure and recreation experience is important to Bark's supporters, members of 44 Trails Association, and many other trail users. Why then is there no explanation in the specialist reports for recreation, visuals, or hydrology of: how the model was used; the field data that was entered into the model; or the results of the model runs? The agency is asking the trail user community to take a huge leap of faith and accept that the results of a non-transparent, "black box" process will protect the trails they love. That is completely unacceptable and aises serious doubts about the credibility of the analysis of the Polallie-Cooper project.

Why did the agency choose to not follow the recommendations of the 44 Trails Association?

The members of 44 Trails have on-the-ground experience managing and maintaining mountain bike trails in the project area. That is valuable, local knowledge that should have been respected and utilized by the planning team. The Stew Crew's Recommendations (from July 2014 meetings, p. 5) indicate that "44 Trails Group would like completely undisturbed trail corridor 100' either side." The Stew Crew also recommended a very light touch within 100 ft. of trails to protect the viewshed along trails on the east side of Hwy. 35. There seems to be no explanation in the EA as to why the agency chose to not adopt the

recommendations of 44 Trails or the Stew Crew. It seems unreasonable to not even discuss the rationale for using the model rather than local knowledge.

The representatives of 44 Trails made it clear during the Stew Crew's meetings and the summer 2015 field trip, to look at buffers along trails, that based on their experience they recommend 100 foot "completely undisturbed" buffers on both sides of trails to retain soil moisture and protect the viewshed and recreation experience. Their knowledge of the area is a more valid basis for decisions re: buffer widths than a purely physical shade model developed to protect fish. What good is a fish on a mountain bike on a dusty trail?

Was any attempt made to create a "hybrid" buffer width combining the experience of the local single track riders with the results of the Stream Shade Model? For example, if the model recommended 55 feet it would seem prudent to increase that width to incorporate the local knowledge and to help counter the loss of buffer trees to blowdown. If you start with an 80 foot wide buffer the wind may reduce it to 60 feet; if you start with a 55-footbuffer and lose trees to blowdown that increases the risk of losing soil moisture and thus increasing the cost of trail maintenance.

Bark opposes logging along any of the trails in the planning area. If the Forest Service moves forward with the proposed logging it must leave 100 foot wide buffers on each side of the trails. We have more confidence in the experience of 44 Trails Assoc. than the Stream Shade model.

We also question the agency's statements, in the EA and on the Stew Crew trails field trip, that trails may be lost to fire if the project is not implemented. A veteran member of 44 Trails told the Stew Crew during the trails field trip that in 20 years of mountain biking on the east side of Hood he's only seen approx. 100 feet of trail impacted by fire. He said he'd take the risk of fire rather than the known impact that logging has on trails.

Why use the Shadow Model rather than follow the Visual Quality Standards in the LRMP?

The use of Visual Quality Objectives (VQO) in the LRMP (LRMP at Four – 115 – 117) indicates that the recreation experience of trail users needs to be considered and maintained in project planning and implementation. The Dog River trail is Sensitivity Level II trail. Level I trails are supposed to have a Retention VQO and Level II are supposed to have a Partial Retention VQO in the Near-Foreground, ie. 660 feet from the trail. Given those standards for a 660 foot distance how can the planning team propose that a uniform, 55 foot-wide buffer is sufficient to

protect both Level I and II trails? The way the EA is written it implies that there won't be logging along the Level I trails but as pointed out earlier it seems there may be logging along part of the Elk Meadows trail.

The LRMP standards call for a Partial Retention VQO for Level II trails such as Dog River. An objective to maintain 660 feet of Partial Retention is much wider than a 55-foot buffer within which some of the live trees are removed. It may be possible that the 55 feet will meet Partial Retention on a specific segment of a trail IF not many trees are cut out of the buffer. It is difficult to believe that a narrow, 55-foot buffer will adequately screen heavily thinned areas that are adjacent to the buffer. What ground truthing did the staff do to field test the validity of a 55-foot buffer and what were the results? It seems likely that the view of heavily thinned areas, from the edge of the buffer out to the boundary of the Near-Foreground at 660 feet, will exceed the Partial Retention standard and thus be out of compliance with the LRMP.

To what degree did real or perceived pressure to reduce fuel loading drive the decision to use the Shadow Model rather than the LRMP standards that would seem to offer more protection for trails (a 660 foot area of Partial Retention)? Did the line officer make the decision to use the model rather than the LRMP? It was clear during the Stew Crew summer 2015 field trip that there was some tension around the topic of trail buffer width.

We contacted trail managers at two large recreation groups in the eastern U.S. who work with the FS on trail management in four different National Forests. They said they currently use VQO's to determine how to protect trails in timber sales. Would the LRMP standards, for MHNf, have resulted in wider buffers than recommended by the Shade Model? It seems inconsistent to use VQO's for the seen area from Highway 35 but not for trails.

The EA describes the Visual Quality Existing Condition and Effects Analysis for trails. *EA at 297-99.* To our knowledge, MHNf no longer has a landscape architect (LA) on staff. When the LRMP was developed, in the '80's, and adopted in 1990 the agency had LA's on staff. The plan's VQO language presumes that someone with landscape architect or scenic management skills will be involved in designing logging units that will meet the VQO's. In the absence of in-house LA capacity who will design the logging units?

The map of land allocations, Fig. 5 shows the Dog River trail within the planning area is either in the B-2 Scenic Viewshed or B-1 Wild, Scenic, and Recreational Rivers land allocation. *EA at 12.* The proposed actions to heavily thin in the majority of the Near-Foreground (55 feet out to the boundary at 660 feet) along

trails, build two new roads across the Dog River trail, and additional roads at a close distance to the trail seem inconsistent with the LRMP. FW-560 (Four-113) “1. Timber harvest units (within all distance zones) should not dominate over natural landscape character ... in areas where VQOs of Retention and Partial Retention are prescribed.” And FW-576 (Four-114) “1. New roads should not dominate natural landscape character ... where Retention and Partial Retention VQOs are prescribed.” Does the planning team think that heavy thinning along almost two-thirds of the length of Dog River trail will not adversely impact the visual and recreation experience of trail users?

How can the agency propose to build two new roads across the trail and say that action will not dominate over the natural landscape character on that section of the trail? Is this action consistent with the LRMP Standards? The roads will be very evident while they are in use and even after decommissioning; they will definitely impact the visual and recreation experience of trail users. And what about the proposed roads built parallel to the trail on the east side of it?

Does the staff feel that the LRMP no longer provides adequate or relevant direction for protecting trails? Is the decision to use the Stream Shade Model, rather than the LRMP Standards, another indication of the urgent need to revise the LRMP so the MHNH can be managed using current science and understanding of forest ecosystems, processes, values, and evolving public expectations re: forest management?

Surveyor’s Ridge Trailhead – the EA is confusing re: what will actually happen at this trailhead. PDC RC-2 says “No trailheads would be used as landings...” (EA at 46) but EA contradicts that; ““Design criteria also address rehabilitation to Surveyor’s Ridge trailhead which would be bisected by a haul route and used as a landing during project implementation. The trailhead would be fully restored to existing conditions at the conclusion of project activities.” EA at 287. Which is correct? Will the trailhead become a landing? We suggest revising RC-2 to reflect what will actually happen and to specify that any trailhead used as a landing will be fully restored. At present the PDC does NOT protect the trailhead. How large a landing will be needed at this particular site and will any standing trees be removed to create the landing? If so, then it will be impossible to “fully” restore the trailhead.

If this trailhead has a haul route (road or skid trail) through it and is also used as a landing the degree of disruption and amount of activity is likely to be significant. Will that mean the trailhead will remain closed for a longer period of time and thus mean a longer closure of Dog River trail too? How will the trailhead be restored and how will the sale administrator ensure that the purchaser “fully restores” the trailhead?

Rock Climbing Areas – There are two popular rock climbing areas within the project area. What will be done to protect the viewshed that is part of the attraction of these climbing areas? And what will be done to protect the foreground seen area at the climbing sites?

Recreation Economy

The word economy comes up only once in the entire EA; in an historic context in Cultural Resources. *EA at 305*. Economists have documented the connection between employers in the science, technology, engineering, and mathematics sectors and access to recreation opportunities like we have in Mt. Hood National Forest. Insitu and other businesses are attracted to the Hood River area because of the quality of life for the owners and their employees.

There are at least eight businesses in downtown Hood River that depend on customers who buy equipment for their outdoor adventures. The four bike shops alone employ approx. 30 people during the summer. People love the Cooper Spur area; it makes no sense to kill the goose that is part of our golden egg.

Why is there no description of the current economy in the Hood River valley? And no analysis of the potential effects of the proposed action on the economy, especially the recreation-based economy? What about the effect on local lodging and restaurant businesses, of the potential cancellation of the Dog River Super D bike race that likely attracts racers from out of the area? The EA says, "... race may be cancelled if logging is underway. This could be a financial hardship on the event coordinator and an inconvenience for racers who enjoy this event annually." *EA at 289*. It seems that the effect of the potential cancellation of an annual event warrants some further analysis and discussion in the EA.

Wild and Scenic Rivers

The East Fork Hood River is designated as a Recreational River in the Wild and Scenic River system. The EA states that, "There would be no direct or indirect effects to the wild and scenic qualities of the East Fork Hood River under the ... Proposed Action Alternative" but does not describe what steps will be taken to ensure that the logging meets the Partial Retention VQO. *EA at 293*. What will be done during the sale layout and marking phases to ensure that the post-logging residual forest will meet Partial Retention? Who will develop the marking rules to ensure that the Partial Retention standard is met?

Why isn't there a PDC, re: Visuals, for the Wild and Scenic River? At the least, it should be mentioned as one of the viewer positions in V-8 re: the marking of

leave trees. Boaters on the river will be closer to the logged areas than drivers in vehicles on Highway 35.

Will access to the river be restricted during logging, especially helicopter yarding across the river? It seems likely given the EA contemplates potential closures, or delays, on Highway 35. It also seems the statement "... and there would be no negative impact to recreational opportunities within the Wild and Scenic River Corridor" is not entirely accurate during the period when logging is underway. *EA at 289.*

Fire and recreation

The EA attempts to describe both the benefits of fire to recreation opportunities and the downsides. "The area burned by the Dollar Lake Fire has no overstory, and receives a lot of snow most years making some of the steeper aspects desirable for some skiers." *EA at 283.* Some snowboarders have told us that no overstory means no tree wells and thus a much more uniform and fun to ride snowpack. In contrast, "No Action – Over time, there would be an increased risk of loss of recreation opportunity to fire by not treating dense vegetation and fuel within the planning area." *EA at 286.* The EA also implies that older mixed conifer forests are not positive for recreation, though most Bark members prefer to recreate in natural, older forests, rather than logged-over areas. *Id.*

When one of our staff hiked the Vista Ridge trail, two years ago, there was no obvious damage to the trail tread as a result of the fire there. The evidence from the May 1980 eruption of Mt. St. Helens is that volcanic eruptions cause a huge amount of damage to existing recreation facilities and opportunities but they also create exciting new opportunities because people are excited, and curious, to visit the area. Instead of logging to protect trails from fires that might occur someday, perhaps the agency should put some energy into preventing the next eruption of Mt. Hood; it's sure to do lots of damage!

INADEQUATE CLIMATE CHANGE ANALYSIS

In 2008, the Forest Service released its Strategic Framework for Responding to Climate Change, followed in January 2009 by a directive on the importance of addressing climate change in NEPA analysis. In this document, then Forest Service Chief Abigail R. Kimbell characterized the Agency's response to the challenges presented by climate change as "one of the most urgent tasks facing the Forest Service" and stressed that "as a science-based organization, we need to be aware of this information and to consider it any time we make a decision

regarding resource management, technical assistance, business operations, or any other aspect of our mission.”

The evolving analysis on climate change within the EA process is an important benchmark in the future of public involvement. This has become a major point of concern, not just for the scientific community, but an issue that has squarely fallen within the public interest.

The FS cites the Intergovernmental Panel on Climate Change’s Fifth Assessment Report which lists “Forestry and other land uses” as contributing 12% of anthropogenic greenhouse gas emissions. However, [a new report](#) released by the Center for Sustainable Economy, Geos Institute and Oregon Wild cites greenhouse gas accounting trick other sectors cannot make use of – taking credit for the emissions reductions achieved by others. In particular, the timber industry claims that the carbon dioxide absorbed by forests conserved by non-profits, small landowners, and government exceed what it emits and therefore net emissions from what they call the “forest sector” are less than what they should be recorded as being.

These emissions have averaged between 9.75 and 19.35 million metric tons carbon dioxide equivalent (MMT CO₂-e) per year since 2000 on State and private forestlands in western Oregon. This represents between 16% and 32% of the 60.8 million MMT CO₂-e “in-boundary” emissions estimated for the Oregon by the latest (2012) GHG inventory (Making the forestry sector the State’s #2 contributor to greenhouse gas emissions).

Removal of biomass from any forest limits said forest’s ability to sequester carbon for a period after the disturbance and can even turn the forest into a carbon source.⁵⁴ Not only has that, but the act of removing trees required carbon emission. *Id.* Moreover, reducing tree densities increases weatherization of dead biomass, which would increase carbon emissions from the forest more. Current enthusiasm for wide-scale fuel reduction must be tempered with a realization that removing too much fuel makes forests hotter, dryer, and windier which increases fire hazard and increases decomposition rates, both of which conflict with carbon storage and other objectives.

Certainly, forest fires do release CO₂, but only a small fraction of the total forest biomass is lost to the atmosphere. Due to the incomplete combustion of large

⁵⁴ Mitchell SR, Harmon ME, O’Connell KEB. 2009. Forest fuel reduction alters fire severity and long-term carbon storage in three Pacific Northwest Ecosystems. *Ecological Applications*, 19:3; 643-655.

wood, 70-80 percent of the carbon in tree stems remains after forest fires and, globally, 23 times more carbon is captured by photosynthesis than is emitted by fires.^{55, 56, 57}

The Forest Service insists that the scale of climate impact is inherently global, missing the fact that local actions have an impact on global climate trends. However, it is absolutely possible to quantify the amount of carbon sequestered in the project area at Polallie Cooper (see, for example, the [BLM's Airstrip Thinning EA](#) in which it attempted to do just that). How many tons of carbon will the Polallie Cooper emit into the atmosphere during and after project implementation?

The Forest Service should be quantifying climate change emissions from its projects. Then it could take it a step further and provide active mitigation measures to offset the carbon emitted and the loss of carbon sequestered by the sale.

FOREST SERVICE MUST PREPARE AN EIS

To determine whether an action requires an Environmental Impact Statement (EIS), an action agency may prepare an EA. 40 C.F.R §§ 1501.4(b), 1508.9. An EA is supposed to be a “concise document” that “briefly” describes the impacts to the environment in enough detail provide the agency with sufficient evidence and analysis for determining whether to prepare an EIS or to issue a FONSI. *Metcalf v. Daley*, 214 F.3d 1135, 1143 (9th Cir. 2000). The Forest Service must prepare an EIS if “the agency’s action *may* have a significant impact upon the environment.” *Nat’l Parks & Conservation Ass’n. v. Babbitt*, 241 F.3d 722, 730 (9th Cir. 2001). (emphasis in original).

NEPA regulations define the term “significantly” as requiring analysis of both the “context” and the “intensity” of a proposed action. 40 C.F.R. § 1508.27. The context of the action includes “society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting

⁵⁵ Smith, J.E., L.S. Heath, K.E. Skog, and R.A. Birdsey. 2006. Methods for Calculating Forest Ecosystem and Harvested Carbon with Standard Estimates for Forest Types of the United States. U.S. Department of Agriculture, Forest Service, General Technical Report NE-343. Newtown Square, PA: Northeastern Research Station.

⁵⁶ Gower, S.T., A. McKeon-Ruediger, A. Reitter, M. Bradley, D. Refkin, T. Tollefson, F.J. Souba, Jr., A. Taup, L. Embury-Williams, S. Schiavone, J. Weinbauer, A.C. Janetos, and R. Jarvis. 2006. Following the Paper Trail: The Impact of Magazine and Dimensional Lumber Production on Greenhouse Gas Emissions. Washington, D.C.:The H. John Heinz III Center for Science, Economics and the Environment

⁵⁷ Wayburn, L.A, F.J. Franklin, J.C.Gordon, C.S. Binkley, D.J. Mlandenoff, and N.L. Christian, Jr. 2000. Forest Carbon in the United States: Opportunities & Options for Private Lands. The Pacific Forest Trust, Inc., Santa Rosa, CA.

of the proposed action. . . Both short- and long-term effects are relevant.” *Id.* § 1508.27(a). The regulation lists ten, non-exclusive intensity factors. *Id.* § 1508.27(b). The potential presence of even one significance factor is sufficient to require the preparation of an EIS. *Ocean Advocates v. U.S. Army Corps of Eng’rs*, 402 F.3d 846, 865 (9th Cir. 2005). Several factors in this project point to significance.

In this project, perhaps more than any Bark has worked on, its context renders it significant. The area is imbued with historical significance, including the recent history of the last fifteen years of community work to protect the Polallie Cooper area, culminating in the Forest Service cancelling the first Pollalie Cooper timber sale, and the 2009 Omnibus Bill. This sale is also located in an area of high aesthetic and recreational significance to the local population, as amply evidenced by the high amount of public comment on the sale, and as recorded on Bark’s Community Mapping Project.⁵⁸



Additionally, there are many overlapping “intensity” factors associated with the project. First, when “the unique characteristics of the geographic area in which the proposed activity is to occur involves proximity to ecologically critical areas, the impact of the action may be considered significant.” *Ocean Mammal Inst. v. Gates*, 546 F. Supp. 2d 960, 978 (D. Haw. 2008). Unique characteristics of the geographic area include “proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas” is one of the significance factors. 40 C.F.R. § 1508.27(b)(3). As described in details in the above sections, many of these factors are present in the project area, including proximity to historic or cultural resources, wild and scenic rivers, and ecologically critical areas.

Second, another intensity factor is whether the effects on the human environment are “likely to be highly controversial,” 40 C.F.R. § 1508.27(b)(4). “A proposal is highly controversial when there is “a substantial dispute [about] the

⁵⁸ We will be sending in a hard copy of our community map separately to be included in the Project Record.

size, nature, or effect of the major Federal action rather than the existence of opposition to a use.” *Anderson*, 371 F.3d at 489. While there is substantial public controversy and opposition to this project, the high degree of controversy for significance purposes stems from the Forest Service’s scientifically unsupported assumptions around the degree of high-severity fire risk, and the belief that this benefits from the fuels reduction necessarily outweigh the known adverse impacts of logging and road building.

Third, an action may be significant if it is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts. 40 C.F.R. § 1508.27(b)(7).

Cumulative impact results when the “incremental impact of the action [is] added to other past, present, and reasonably foreseeable future actions” undertaken by any person or agency. *Id.* § 1508.7. As described by the Ninth Circuit:

Cumulative impacts of multiple projects can be significant in different ways . . . Sometimes the total impact from a set of actions may be greater than the sum of the parts. For example, the addition of a small amount of sediment to a creek may have only a limited impact on salmon survival, or perhaps no impact at all. But the addition of a small amount here, a small amount there, and still more at another point could add up to some-thing with a much greater impact, until there comes a point where even a marginal increase will mean that no salmon survive.

- *Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 993 (9th Cir. Or. 2004) (“*KS Wild*”).

Looking at the 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 (which has also experience recent logging) in the east. Instead of providing a strong cumulative impacts analysis in the Polallie Cooper EA, it simply lists the names of projects, with no specifics or analysis. *EA at 58*.

Also, this mere listing of projects, with no additional information, is not sufficient analysis. A proper consideration of the cumulative impacts of a project requires "some quantified or detailed information . . . general statements about possible

effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided." *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372, 1379-80 (9th Cir. 1998). The analysis "must be more than perfunctory; it must provide a useful analysis of the cumulative impacts of past, present, and future projects." *KS Wild*, 387 F.3d at 993.

Finally, significance exists when an action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973. 40 C.F.R. § 1508.27(b)(9). As noted extensively above, this project will adversely impact the threatened (and declining) Northern Spotted Owl, and may permanently extirpate it from the project area. In light of all the significant factors present, it is hard to imagine what type of project does have a significant impact on the environment, if the proposed Polallie Cooper Timber Sale does not. We anticipate that the Forest Service will concur and prepare an Environmental Impact Statement for the project.

While the presence of a single context or intensity factor is sufficient to require preparation of an EIS, the presence of multiple factors intensifies the project's potential impacts and, collectively, may warrant an EIS even if individually the factors might not. *Ocean Advocates v. U.S. Army Corps of Eng'rs*, 402 F.3d 846, 865 (9th Cir. 2005); see *Cascadia Wildlands v. U.S. Forest Serv.*, 937 F. Supp. 2d 1271, 1274, 1283-84 (D. Or. 2013).

Although the Polallie Cooper EA2 is far from the "concise" document envisioned by NEPA and is more akin to an EIS in terms of its scope of topics, its length does not replace the need for an EIS. "[G]irth is not a measure of the analytical soundness of an environmental assessment. No matter how thorough, an EA can never substitute for preparation of an EIS, if the proposed action could significantly affect the environment." *Anderson v. Evans*, 314 F.3d 1006, 1023 (9th Cir. 2002). NEPA guidance provides that "[a]gencies should avoid preparing lengthy EAs except in unusual cases In most cases, however, a lengthy EA indicates that an EIS is needed." *Council on Envtl. Quality, Forty Most Asked Questions Concerning CEQ's National Policy Act Regulation*, 46 Fed. Reg. 18026, 18037 (Mar. 23, 1981); see also *Sierra Club v. Marsh*, 769 F.2d 868, 874 (1st Cir. 1985) (Breyer, J.) ("[t]o announce that these documents—despite their length and complexity—demonstrate no need for an EIS is rather like the mathematics teacher who, after filling three blackboards with equations, announces to the class 'you see, it is obvious'").

The Forest Service produced a long EA and still failed to supply important information about the impacts of this project. That many questions remain about the project's effects is due in part to the lack of standards guiding the quality and quantity of information in an EA. See 40 C.F.R. § 1508.9. In contrast, the detailed substantive requirements for an EIS under the NEPA regulations are

meant to “obviate the need for speculation by insuring that available data are gathered and analyzed prior to the implementation of the proposed action.” *Nat’l Parks & Conservation Ass’n v. Babbitt*, 241 F.3d 722, 731 (9th Cir. 2001) (citations and internal quotations omitted). For a large, multi-year project that may significantly impact a sensitive drinking watershed, owl critical habitat, and a popular recreation area, the appropriate NEPA document is an EIS.

CONCLUSION

Bark’s scoping comments provided 14 different recommendations for changing the project for the better, and in this comment we provided many suggestions. However, upon reflection of the project as a whole, and these comments on it, Bark believes the best course of action is to follow your predecessor and cancel the project in its entirety. Then, perhaps, we can all start over with a non-controversial fuels reduction project focused on small diameter fuels close-in to structures and private land. For all the reasons described above, the Polallie Cooper project is simply not the right project to meet the Forest Service’s stated Purpose and Need. Please save us all the trouble of fighting for the next few years by cancelling the Polallie Cooper project and starting over.

Thank you,



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