GIFFORD PINCHOT TASK FORCE

Main: 4506 SE Belmont Street, Suite 230A, Portland, OR 97215 • 2700 E Evergreen Boulevard, Vancouver, WA 98661
(503) 222-0055 • www.gptaskforce.org

November 17, 2015

Todd Welker, Southeast Region Manager
WA Department of Natural Resources SEPA Center
P.O. Box 47015
Olympia, WA 98504
Via e-mail to sepacenter@dnr.wa.gov

RE: SEPA File No. 15-110303, Cougar Salvage FIT Sorts Timber Sale #93169 and Forest Practice Application #2705971

Dear Mr. Welker:

Thank you for the opportunity to comment on the proposed Cougar Salvage FIT Sorts Timber Sale (Cougar Salvage TS). The Gifford Pinchot Task Force's (Task Force) mission is to protect and sustain the forests, streams, wildlife, and communities in the heart of the Cascades through conservation, education, and advocacy. We represent 6,000 members and supporters who share our vision of conserving and restoring healthy aquatic and terrestrial ecosystems throughout the forest.

The Task Force is concerned with several aspects of this proposal. First, there are a number of flaws in the SEPA checklist that need to be remedied. In addition, salvage harvest of 921 acres will have probable significant adverse impacts on the environment due to the direct, indirect, and cumulative effects of the proposed action. As such, we request that DNR withdraw the mitigated determination of nonsignificance and prepare an Environmental Impact Statement (EIS) pursuant to RCW 43.21C.030(c), including a cumulative effects analysis. Our detailed comments are as follows.

I. This FPA should be classified as a Class IV Special, subject to SEPA.

The Cougar Salvage TS should be classified as Class IV Special under WAC 222-16-050(1)(b) since the proposal contains multiple units within Northern spotted owl (NSO) critical habitat and will have substantial impacts on the environment. Consequently, the proposed action is subject to the State Environmental Policy Act (SEPA) and does not qualify for a categorical exemption.

II. There are significant errors in the SEPA checklist that need to be remedied.

a. Flawed objectives

DNR's first stated objective for this timber sale is to "[p]roduce revenue for the three affected trust owners…through the production of saw logs killed or damaged during the Cougar Creek Fire." See SEPA Checklist p. 6. However, this salvage sale will not achieve this objective. The majority of the burned trees in the project area are small, as many of the larger trees survived the burn, especially in the low to moderate burn areas. The burned trees would likely only be sold for pulp, yielding a minimal economic benefit at best. That benefit is far outweighed by the irreparable damage to soil structure, water quality, and wildlife habitat from salvage logging in the project area.

DNR's second goal is to "[p]rovide for wildlife habitat by developing vertical stand structure and age class distribution in the future stands." See SEPA Checklist p. 6. DNR fails to recognize that the *current* burned stands are biologically diverse and contain important wildlife habitat for a variety of species, including the black-backed woodpecker—a WA State candidate species. Black-backed woodpeckers are early post-fire specialists that depend on recently burned forest for their habitat. Black-backed woodpeckers reach their highest densities in burned forest stands and "play a keystone ecological role in burned forests by excavating nest cavities that are later used by secondary cavity nesting birds," as well as a plethora of forest invertebrates and mammals. See Bond et al, 2012. A New Forest Fire Paradigm: the need for high-severity fires. Wildlife Prof. 6, 46-49. In addition, according to DNR's website:

> The species strongly prefers burns that have not been salvaged logged. Individuals were most common at sites with the highest level of snag retention (15-32 snags/ac) in salvage-logged stands in the Washington Cascades (Haggard and Gaines 2001). Birds did not nest in stands with low densities of retained snags (0-5 snags/ac). In burned ponderosa pine/Douglas-fir forest in southwestern Idaho, Saab and Dudley (1998) noted that black-backed woodpeckers favored units that had not been salvage-logged, and nest sites were typically in unlogged units with a relatively high density of small hard snags (>50 snags [>9"dbh]/ac).
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> See http://wdfw.wa.gov/conservation/endangered/species/black-backed_woodpecker.pdf.

There are many more recent studies that reach the same conclusion. According to Bond et al, "[n]umerous studies on the widespread practice of post high-severity fire salvage logging have documented adverse effects on the black-backed woodpecker and other cavity-nesting bird species (e.g., Hutto and Gallo 2006, Hutto 2006, Hanson and North 2008, Cahall and Hayes 2009, Saab et al. 2007, 2009, 2011)." As such, contrary to the stated goal, salvage logging the project area would remove this important post-fire habitat rather than create wildlife habitat.

Additionally, if the area were salvaged logged, DNR only proposes to leave 4-6 snags per acre "where operationally safe to comply" in NSO dispersal habitat, and 2-4 snags per acre in upland PPDFC habitat. This is wholly inadequate to maintain habitat for post-fire dependent species like the black-backed woodpecker and NSO, which require higher snag densities.

DNR's third and fourth objectives are to retain/create critical habitat elements in NSO dispersal habitat and maintain large legacy structure. It is unclear how salvage logging, while maintaining solely 2-6 snags per acre (depending on habitat type) and a minimum of 2 downed logs per acre, will achieve those goals. It is also unclear how logging old trees – dead or alive – would maintain critical habitat elements and large legacy structure. A few of the units have trees 100 years or older, so the prescription conflicts with these objectives.

We will further discuss the significant adverse impacts of salvage logging the project area in the next section, but wanted to note these important discrepancies at the outset.

b. Soil Instability

The SEPA checklist states that there are no surface indications or history of unstable soils in the proposal area. See SEPA Checklist p. 10 and 14. However, we saw evidence of significant erosion and sedimentation occurring, especially along the road and in the draw in unit 6, during our site visit to the project area on November 6, 2015. A DNR staffer was moving large amounts of earth to prevent additional erosion and fix a road washout adjacent to that particular unit (See Photo #1 below). Salvage logging will only exacerbate soil instability and erosion in the project area. We have seen this occur in other DNR salvage logging projects, such as the Carlton Complex timber sale, where storms washed out a road and caused serious erosion and water quality impacts post logging. See https://www.youtube.com/watch?v=ZYtFNhggRIs.

Photo #1: Culvert in Unit 6, post rocking and clean up.

c. Water quality

The SEPA checklist grossly underestimates water quality impacts from salvage logging in the proposal area and on adjacent lands in the WAU and subbasins. In the checklist, DNR states that there is no known potential for surface water erosion or mass wasting in the project area despite physical evidence of erosion occurring now, as well as potential impacts that can be gleaned from similar DNR post-salvage logging projects. See SEPA Checklist p. 14 and https://www.youtube.com/watch?v=NJKkbUYePbY.

Further, the checklist states that the proposal could introduce small amounts of sediment into streams, but fails to take into account the cumulative effects of sediment delivery from this proposal, other salvage logging operations in the watershed (including those currently occurring on the portion of Yakama Nation lands in the Cougar Creek Fire area and adjacent private lands), and livestock grazing. Combined, these activities will result in significant water quality impacts.

In addition, we do not believe than buffers less than 100 feet on both fish-bearing and non fish-bearing streams are adequate in mitigating impacts. Increased riparian buffers are necessary to maintain sufficient dead down wood, snag recruitment, and other key habitat features, and protect water quality. In addition to extensive scientific studies, arguments have recently been made for riparian buffers of at least 90-100 feet on <u>both</u> fish-bearing and non fish-bearing streams by NOAA Fisheries. See Phil Roni, NOAA Fisheries Testimony before the OR Department of Forestry, June 3, 2015; Timothy Beechie letter to OR Board of Forestry, July 21, 2015.

In arguing that the science supports 90-100 foot buffers on both fish-bearing and non-fish bearing streams, Roni states,

> [N]on-fish bearing streams provide important sources of wood, sediment, nutrients and gravels to fish-bearing streams and are drivers of productivity of downstream fish habitat and a watershed. The stream network is similar to your circulatory system. It would be a mistake to only protect your arteries and ignore your capillaries or assume that anything injected into your arterioles or capillaries would have no effect on your body or wouldn't be transmitted to your major arteries. It is similar with non-fish bearing streams and fish bearing streams. They are interconnected and interdependent and protecting both non-fish bearing and fish bearing streams is important.
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> Phil Roni, NOAA Fisheries Testimony before the OR Department of Forestry, June 3, 2015.

III. DNR should prepare an EIS because this proposal has probable significant adverse impacts on the environment.

a. Importance of post-fire ecosystems and impacts of salvage logging

Post-fire ecosystems are incredibly important habitat for a wide array of species. Species diversity is often the highest after a natural stand replacement fire due to "an abundance of biological legacies, such as living organisms and dead tree structures, the migration and establishment of additional organisms adapted to the disturbed, early-successional environment, and temporary release of other plants on the site from dominance by trees." Further, "naturally disturbed areas with a full array of legacies (i.e., not subject to post-fire logging) and experiencing natural recovery processes (i.e., not seeded or planted)—are among the scarcest habitat condition in some regions, such as the Pacific Northwest." Noss, Reed F (editor), Jerry F. Franklin, William L. Baker, Tania Schoennagel, and Peter B. Moyle. Ecology and Management of Fire-prone Forests of the Western United States. Society for Conservation Biology, August 2006.

Many researchers have found that post-fire landscapes often recover naturally and that salvage logging negatively impacts their natural recovery processes. For example, scientists in the above-referenced paper found that:

- **"Post-fire (often called "salvage") logging does not contribute to ecological recovery; rather it negatively impacts recovery processes, with the intensity of such impacts depending upon the nature of the logging activity.** Post-fire logging in naturally disturbed forest landscapes generally has no direct ecological benefits and many potential negative impacts from an ecological standpoint. Trees that survive the fire for even a short period of time are critical as seed sources and as habitat that will sustain many elements of biodiversity both above and below ground. The dead wood, including large snags and logs, is second only to live trees in overall ecological importance. Removal of these structural legacies—living and dead—is inconsistent with our scientific understanding of natural disturbance regimes and short- and long-term recovery processes.
- **Post-fire logging destroys much of whatever natural tree regeneration is occurring on a burned site.** This is a fundamental concern since these tree seedlings are derived from local seed sources, which are most likely the best adapted to the site. Furthermore, environmental variables, such as moisture and temperature conditions, are major selective factors in determining which natural tree seedlings survive, which favors genotypes more tolerant of environmental stresses than are nursery- or greenhouse-grown seedlings.
- **Evidence from empirical studies is that post-fire logging typically generates significant short- to mid-term increases in fine and medium fuels.** In some cases this may result in increased reburn potential rather than a decreased reburn potential, as is often claimed. In any case, from an ecological perspective large wood is of demonstrated importance in ecological recovery; removing this wood in an attempt to influence the behavior of a potential reburn event has little scientific support.
- **In forests subjected to severe fire and post-fire logging, streams and other aquatic ecosystems will take longer to return to historic conditions or may switch to a different (and often less desirable) state altogether.** Following a severe fire the biggest impacts on aquatic ecosystems are often increased sedimentation caused by runoff from roads. High sediment loads from roads may continue for years, greatly increasing the time for recovery.
- **Post-fire seeding of non-native plants generally damages natural ecological values, such as reducing the recovery of native plant cover and biodiversity, including tree**

regeneration. Non-native plants typically compete with native species, reducing both native plant diversity and cover. Reductions in natural tree regeneration as a result of seeding of non-native plants have also been reported in numerous studies.

- **Post-fire seeding of non-native plants is often ineffective at reducing soil erosion…[**and]
- **There is no scientific or operational linkage between reforestation and post-fire logging; potential ecological impacts of reforestation are varied and may be either positive or negative depending upon the specifics of activity, site conditions, and management objectives. On the other hand, ecological impacts of post-fire logging appear to be consistently negative.** Salvage and reforestation are often presented as though they are interdependent activities, which they are not from either a scientific or operational perspective. From a scientific perspective, policy and practice should consider each activity separately. As noted above, post-fire logging is a consistently negative practice from the standpoint of ecological recovery…."

Id. at 9.

Many other scientists have reached the same conclusion.

> In short, by adding another stressor to burned watersheds, postfire salvage logging worsens degraded aquatic conditions accumulated from a century of human activity (CWWR 1996, NRC 1996, 2002, McIntosh et al. 2000). The additional damage impedes the recovery and restoration of aquatic systems, lowers water quality, shrinks the distribution and abundance of native aquatic species, and compromises the flow of economic benefits to human communities that depend on aquatic resources (Beschta et al. 2004).
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> Karr, J. R., et.al. 2004. The Effects of Postfire Salvage Logging on Aquatic Ecosystems in the American West. Bioscience 54, 1029-1033.
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> [S]alvage logging often impairs key ecosystem processes such as hydrological regimes (e.g., soil erosion and consequent in-stream sedimentation; Helvey 1980; Karr et al. 2004; Reeves et al. 2006 [this issue]), cavity-tree formation, soil profile development, and nutrient cycling. In contrast to the natural recovery of a disturbed ecosystem, salvage harvesting has the potential to "convert a relatively intact system to a strongly modified site in which ecosystem control is reduced" (Cooper-Ellis et al. 1999:2693).
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> Lindenmayer, D.B., and R.F. Noss. 2006. Salvage Logging, Ecosystem Processes, and Biodiversity Conservation. Conservation Biology 20(4): 949–958.
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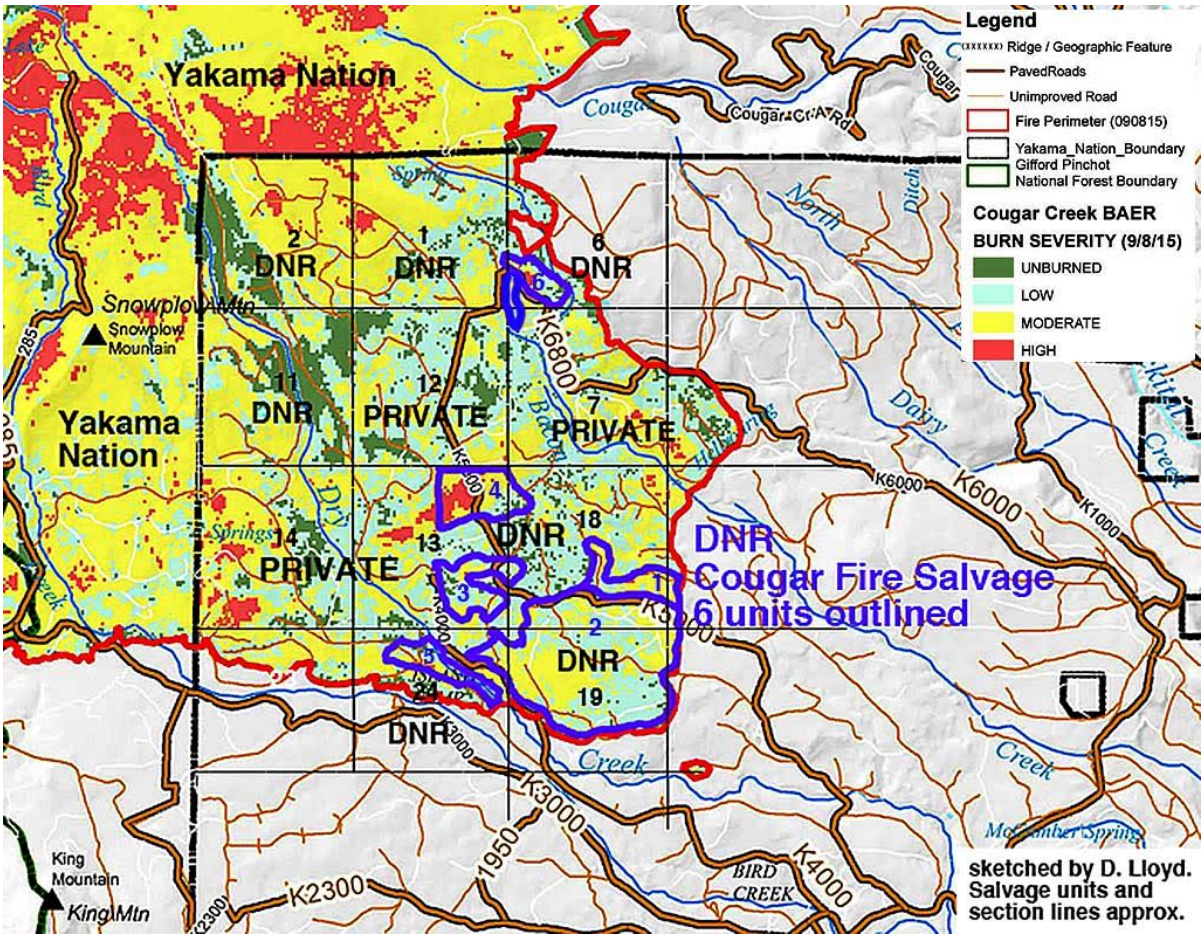
> Salvage harvesting may have impacts on biodiversity in ways other than through structural alteration of stands. For example, postdisturbance plant recovery can be changed (e.g., levels of resprouting; Cooper-Ellis et al. 1999; Lindenmayer & Ough 2006), leading to altered composition of plant species and abundance of plant life forms (Stuart et al. 1993).

Id. at 953.

We discussed some additional species-specific adverse impacts from salvage logging in section II (a) above, including the black-backed woodpecker and Northern spotted owl. Salvage logging in NSO critical habitat within the project area would likely downgrade dispersal habitat to non-habitat, further reducing suitable habitat for dispersal of fledglings and adults from nearby nesting areas. This is especially concerning due to the cumulative effects of salvage logging across the entire Cougar Creek Fire area. Scientific studies show that spotted owls "will continue to nest in mixed-severity patches *provided* territories are not "salvage" logged following a burn." See Dellasala, Ecosystem Benefits of Wildfire vs. Post-Fire Logging Impacts, *citing* Clark, D. A., et al. 2011. Survival rates of northern spotted owls in post-fire landscapes of southwest Oregon. Journal of Raptor Research 45:38–47. Clark, D.A., et al. 2013. Relationship between wildfire salvage logging, and occupancy of nesting territories by Northern Spotted Owls. J. Wildlife Manage. 77:672–688. Bond M.L., et al. 2009 (emphasis added).

b. Cumulative effects

The Cougar Creek Fire burned over 53,000 acres of lands across multiple land ownerships, including DNR, Yakama Nation, National Forest, and private lands. The fire was mixed severity, and the DNR portion ranged from low to high severity, as illustrated on the map below.



Due to the substantial scientific evidence regarding the negative impacts of post-fire salvage logging, is incumbent upon DNR to not only look at the direct and indirect effects of this proposal, but also the cumulative effects of the proposed action in combination with similar actions across the Cougar Creek burn area, as well as livestock grazing. This is particularly important since the Yakama Nation is currently salvage logging its portion of the burn area, with plans to log roughly 13,000 acres total just north and west of this project area. In addition, the U.S. Forest Service is considering a proposal to conduct salvage harvest on lands that burned in the fire just west of this area. Further, adjacent private lands have already been clearcut and are in poor condition.

All of these lands include NSO critical habitat and serve as important habitat for a wide array of other species. In addition, salvage harvest could have significant adverse impacts on water quality and watershed health due to soil compaction, high erosion potential, and sedimentation. Both Dry Creek and Bird Creek flow through or adjacent to the project area and Yakama Nation lands. The cumulative effects of the combined harvest activities on these rivers and seasonal streams must be taken into account.

Additionally, the impacts of salvage logging on water quality may be even more pronounced in this area due to high road density. Road density in the Bird Creek WAU and Klickitat-Bacon Creek WAU is 4.2mi/mi2. Road densities within a subbasin that exceed 3.0 miles per square mile of area are considered “red flags” and indicate where road related water quality problems are most likely to occur.

IV. Conclusion

In summary, we believe that this project proposal will have significant environmental impacts and that an EIS is required under SEPA. We respectfully request that DNR withdraw the mitigated determination of nonsignificance and conduct a more thorough analysis of this proposed action in an EIS, including an analysis of cumulative effects and a reasonable range of alternatives.

Sincerely,

Laurele Fulkerson
Policy Director