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January 14, 2020

Chair: Senator Jeff Golden  
Senate Interim Committee on Wildfire Prevention and Recovery  
January 14, 2020 hearing and public testimony follow up

Dear Chairman Golden and members of the Interim Committee:

I am writing to follow up (for the record) on key points I made in my three-minute statement at today's wildfire hearing in Salem given there was not enough time to give the full presentation or discuss my detailed written testimony with the committee. In particular, much of what the committee heard at the hearing was not based on sound science, will not stop or reduce wildfires under most conditions, will not protect homes and fire fighters, and will cause unnecessary harm to the myriad values the public has come to cherish in Oregon's forests at a time of unprecedented climate chaos and cumulative land-use impacts. And while the governor's wildfire council and this committee has heard from scientists before, the materials presented at the hearing and in the governor's wildfire council report do not reflect scientific consensus on what is best for Oregon's forests and people especially since more and more scientists are calling for adapting to wildfire that does not involve massive increases in logging and suppression spending. To sum up, here are 11 points that back my verbal statement (for the record).

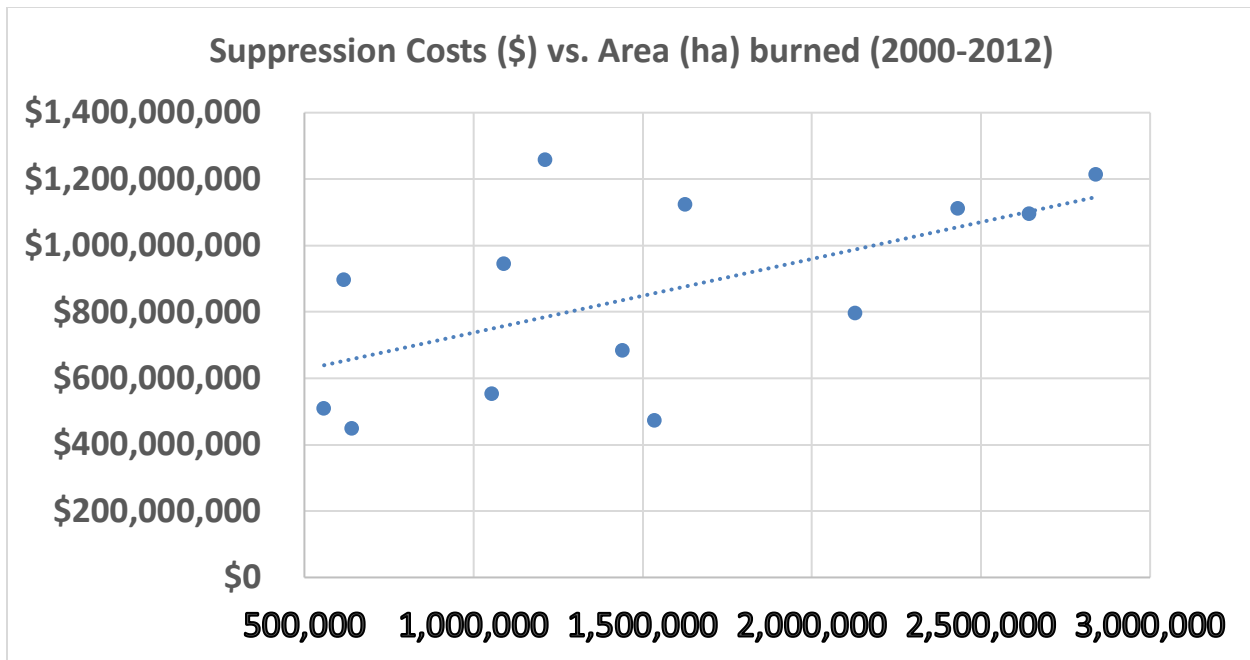
- 1. NEPA projects do nothing for home protection as they are most often designed for backcountry timber sales and NEPA is being weakened by the Trump Administration** – the Forest Service and some lawmakers have for years been proposing and instituting sweeping changes to NEPA via “categorical exclusions” (CEs) and limitations on citizens and scientists involvement (disclosure) in environmental analyses. CEs were never meant for large-scale and cumulative impact analyses and removing these and other safeguards as often proposed by decision makers and/or focusing on “shovel ready” NEPA projects is no guarantee that harm to the environment will be avoided, the proper impact analyses will be conducted and a range of alternatives analyzed and fully disclosed, and the public will have input in the selection of alternatives. Public witnesses from the environmental community and Physicians for Social Responsibility stated today many NEPA ready “fuels reduction” projects are modified clearcuts, take big fire-resistant trees to pay for thinning, open up the canopy excessively, and elevate

fuel hazards, climate risks, and fire risks. Without sideboards in legislation or policies, this will very likely continue.

- 2. Throwing more money at fire suppression will not stop or reduce the smoke of fire occurrence** – the chart below represents the tight association between increasing area burned (hectares = 2.47 acres) and increasing suppression costs of the USDA Forest Service for fiscal years 2000-2012 (not adjusted for inflation)<sup>1</sup>. The simple message is this – as area burned increases mainly from climate chaos, so too does suppression costs. Costs for individual wildfires has risen dramatically in recent years mainly because more homes are built in unsafe places resulting in more pressure to put fires out even when they are burning safely in the backcountry. There is no indication that costs per fire or total suppression costs will level off in a changing climate, and so you will never have enough money to stop all fire starts nor should you. This is why scientists have increasingly been recommending getting to coexistence with wildfires through managing more wildfires for ecosystem benefits and fuel reduction purposes (when safe) and focusing on home hardening and defensible space<sup>2</sup>. It is disingenuous for anyone to claim that because Oregon is increasing its fire suppression budget and intends to “get on every fire start” that will stop or reduce smoke and wildfires. Not only is this not plausible it will compound wildfire effects when fires do eventually occur and endanger the myriad other ecosystem, economic, and recreational benefits we get from forests that need periodic wildfires. Surely there is a better way than repeating the mistakes of the past.

<sup>1</sup>Data compiled by Ingalsbee and Roja (2015): The rising costs of wildfire suppression and the case for ecological fire use, pp. 344-365, in D.A. DellaSala and C.T. Hanson, *The ecological importance of mixed-severity fires: nature’s phoenix* (Elsevier, Boston).

<sup>2</sup>Schoennagel, T. et al. 2017. Adapt to wildfire in western North America forests as climate changes. *Proceedings of the National Academy of Sciences*. Adapt to more wildfire in western North American forests as climate changes. PNAS [www.pnas.org/cgi/doi/10.1073/pnas.1617464114](http://www.pnas.org/cgi/doi/10.1073/pnas.1617464114)



3. **Smoke in southwest Oregon and Portland will not be prevented or reduced by thinning/logging and more fire suppression** – 2017 and 2018 (drought years) were very active fire seasons; 2019 was not because of cooler, wetter weather patterns, which had nothing to do with thinning or suppression efficacy. In 2017-18, smoke poured into the Rogue and Willamette valleys and elsewhere not only from nearby fires (some of which were human caused) but from climate-driven fires under extreme fire weather hundreds of miles away in BC and California. The Rogue Valley, for instance, is in a box canyon surrounded by mountain ranges that trap stagnant air masses during summertime temperature inversions. Smoke from these areas remained in the valley for weeks until the jet stream changed direction. Please do not promise what you cannot deliver – smoke management is much more complex than the panelists were stating and regional smoke patterns are influenced by global weather patterns that we have no control over other than making the situation worse through climate chaos.
4. **Thinning and suppression are not a panacea, they will not stop fires or smoke in changing climate** – while thinning is discussed by the panelists and presenters as remedial actions, there are limitations and substantial consequences to ecosystems. There is no one-size fits all solution that you can implement regarding forest treatments. Every forest type is different and so are fire regimes. For instance, most of the fire-risk assessment models that managers base thinning treatments on are built on a house-of-cards of flawed modeling assumptions (usually never ground truthed) that create implementation uncertainties and increase impacts to ecosystems from inappropriate treatments. An example is the Klamath-Siskiyou ecoregion of southwest Oregon and northern California. Fire risk models and biased fire scar sampling by The Nature Conservancy and used by the Southern Oregon Forest Restoration Collaborative claim the region is predominately in a low-moderate frequent fire system, historically, and is now burning out of bounds. This is

completely false as this region has been shown numerous times to be in a much more complex pattern of mixed-severity fire regimes (unburned, low, moderate, and high severity burn patches) that have historically tilted the balance toward closed canopy forests with scattered patches of open canopy forests, shrublands, and oak woodlands based on differing fire effects, topography, and microclimate. The fire risk models and fire scar sampling methodologies used to identify priority areas have sampling biases, do not account for long-term fire cycles, overpredict fire risks, ignore on the ground studies that conflict with their assumptions, and have completely ignored historical photos that document exceptional variability in forest types and fire regimes that do not comport with their treatment priorities (see my testimony for details). The reason this is important is it leads to false conclusions that overly dense forests are now outside historic bounds and need thinning to “restore” historical conditions. The scientific community is not in agreement with the risk maps you saw at the hearing and the treatments being proposed by the Southern Oregon Forest Restoration Collaborative have been overly aggressive, recommended in conservation priority areas with no connection to home defense, and controversial.

5. **Site selection for treatments should be surgical and based on published studies to increase odds of success** - there’s scientific consensus and broad public support for treating existing plantations and avoiding new ones (see my written testimony). Why then are you not targeting the industrial landscape as the highest treatment need and need for forestry reforms? Importantly, as industry continues to clearcut forests, the landscape has likely reached a tipping point of perpetual fire risks – this is known in the scientific literature as a “landscape trap” – i.e., the landscape flips to a different disturbance dynamic due to compounding alterations and starts to “behave” unexpectedly – exactly the situation in most of Oregon created by industrial logging and road building over decades. As indicated in my written testimony, the odds of a wildfire encountering a thinned forest are <1 in 100 based on empirical evidence. No amount of logging will improve these odds as we cannot predict precisely where and when a fire will occur – so increasing the pace and scale of thinning will not work to achieve smoke or fire reductions (this was being overstated at the hearing). And while costs of thinning were also discussed (“how will we pay for this?”), you need to consider the fact that no “fuel treatment” is permanent – they last at best 10-20 years (depending on site conditions and if done properly) and each time you treat a stand there is less and less merchantable timber available (which is why most of the private landscape plantations currently lack merchantable trees to “pay for the costs of thinning”) and its costly to reduce the slash build up. The high costs of large-scale thinning puts pressure on managers to remove large fire-resistant trees (to reduce costs) as often occurs on BLM and Forest Service lands, which does nothing to lower fire risks and everything to elevate conflict and impacts. By far the most cost-effective way to treat fuels is to work with fire for ecosystem benefits (I’ve attached a chapter from my book by Ingalsbee and Roja that includes cost estimates and ways to work safely with wildland fires to reduce fuels over large areas with cost savings).
6. **Largest (>20 in dbh) fire-resistant trees (biggest biomass loss from logging) most often are used to pay for thinning but this increases fire hazards** –there was a statement at the hearing that our forests have too much biomass. This is completely false. Approximately 90% of Oregon’s older forests (the most biomass) were logged

decades ago and the landscape was type converted to industrial fire bombs (mostly small flammable trees) of today<sup>3</sup>. The largest trees have the most biomass and highest ecological and climate mitigation value. Today's forests lack this significant component of biomass and recent studies have shown that most of the carbon stored in forests is by the largest trees. If we have a forest biomass problem it was caused by industrial logging that has removed most of the old growth and created the situation we are in today (see my testimony).

7. **Comparing nonfederal with federal lands acres burning is a red herring** – at the hearing it was mentioned that most acres burning are on federal lands. This is an apples-to-oranges comparison as most nonfederal lands are in low elevations, have better access, and are not in remote unsafe areas that threaten the lives of fire fighters. Federal lands, on the other hand, are in steeper more inaccessible areas where fire fighter safety, resource conservation, water quality, fish habitat, endangered species management, carbon storage all need to be factored into the multiple use decision space. An example is many fires in southwest Oregon have occurred in steep, inaccessible terrain under extreme fire weather where fire fighter safety would be placed at risk if the state of Oregon were in charge of putting all fire starts out regardless of the costs. It is wrong to compare the two ownerships given different conditions and landowner priorities unless you want to open the discussion up to how most of the severe fires are burning on private lands (see below).
8. **Inaction is not being discussed by anyone in my circle** – no-one that I work with is calling for “doing nothing” as there are millions of acres of industrial young plantations where we know fire risks are greatest that need treatment and there are way too many roads on the landscape causing problems for water quality, fish habitat, wildlife habitat and elevating fire risks through human-caused ignitions (some 50% of fires in Oregon are caused by people and studies show those risks increase in heavily roaded-populated areas (cited in my testimony). Focusing just on fuels and not the only ignition source you can limit (people/roads) is incomplete policy.
9. **Stay out of roadless, national monuments, reserves, critical habitat, old forests, riparian areas, and key conservation areas (see my testimony)** – it is absolutely important that these areas be excluded from any treatment as they are not a priority compared to flammable plantations. Unfortunately, The Nature Conservancy has proposed logging in these and other key conservation priority areas in southwest Oregon at the repeat opposition of many conservation groups and scientists and this has created unnecessary conflict around the Southern Oregon Forest Restoration Collaborative.
10. **Wilderness and unlogged areas burn less severely in fires – logged landscapes burn most severely (roads, slash, plantations)** – one of your panelists blamed fire increases on unlogged forests without providing any documentation to support this claim. Please see my testimony, as my colleagues and I provided the largest dataset ever examined across 11 western states using over 4 decades of fire data obtained from the government. We found the opposite – heavily logged landscapes burned in higher amounts of high severity compared to wilderness and other protected areas that burned the way nature designed them.

<sup>3</sup> Strittholt, J.R., D.A. DellaSala, and H. Jiang. 2006. Status of mature and old-growth forests in the Pacific Northwest, USA. *Conservation Biology* 20:363-374.

**11. Australia and western North America similarities**– I am currently working with university researchers to explore the causative agents of Australia’s recent fires. Our preliminary work/discussions point to a similar ‘landscape trap’ emerging in Australia. The issue is not fire per se but rather the causative agents of wildfire behavior change in both regions (western NA and Australia). To reiterate, these are logging related wildlife habitat losses and type conversions to plantations, climate change, human ignitions, and homes built in unsafe places that have created a new fire regime and cumulative impacts in Australia just like is now occurring in much of western NA. What these cross regional comparisons teach us is not to focus solely on the effects (recent wildfire increases) but rather the causal agents of change must be addressed. I see nothing in the legislative proposals, governor’s wildfire council report, or at this hearing – other than discussed by public witnesses – dealing with the true causal agents of change in how fires are now behaving as described herein.

I caution that ignoring a more complete scientific record of causal factors could lead to credibility and accountability problems for the legislature and the governor, particularly when smoke is pouring into our valleys during a climate-driven event (extreme fire weather) while land managers continue to tinker in the backcountry with actions that will not work, or worse, may do more harm. The state will not solve climate-driven and logging-related wildfire increases by failing to reduce emissions from all sectors including unsafe forestry operations. Storing more carbon in forests and reducing emissions from all sectors is the only way to reduce climate mitigation costs and I urge you to consider this along with homeowner protections, fire fighter safety, and smoke preparation as your set legislative priorities.

Sincerely,

Dominick A. DellaSala, Ph. D  
Chief Scientist  
Supplemental to my written testimony and slide show