Hi John,

Thank you for your detailed response. Allow me to address a few misperceptions in your narrative below:

1. Research on Jackson Demonstration State Forest (JDSF) is routinely done independent of timber harvest plans (THP). THPs often do not have any research component. Timber harvesting is routinely done in and of itself, without a research component, to maintain the planned diversity of forest structures, age and size classes associated with a managed, working forest. In order to do the research and demonstrations needed to inform laws and rules for timber harvest on working forests in the State, we need to maintain the characteristics of a working forest.

2. Greater greenhouse gas emission reductions can be achieved in managed forests with regular timber harvests than in reserves. While it is true that it is difficult to beat the amount of carbon sequestered and stored in large old trees, comparing sequestration rates with and without harvest answers the wrong question. It is a given that California's 40 million citizens will get the construction materials they need to build the houses they live in from somewhere. Building these houses out of wood has a significantly lower carbon footprint than steel or concrete. The wood in use in these houses continue to store their carbon for the lifetime of the product, and planting a new crop of trees on the harvested area will sequester additional carbon. Protecting California's forests from harvest will not change that equation; it will simply externalize our environmental footprint to Siberia or Canada. Climate change is a global problem that protecting California redwoods from harvest will do nothing to solve.

The equation is also much more complex than simply comparing the carbon accounting of tree growth under harvest versus no-harvest scenarios. Any such comparison needs to take into account the risk of wildfire. Trees in California are at increasing risk of being killed by wildfire, with the associated loss of all the carbon either in direct emission from the fire or subsequent decomposition of the enormous number of dead trees. Old growth redwoods in protected forests are not immune from today's apocalyptic wildfires, as shown by the fire in Big Basin State Park last year. The total carbon sequestration and storage in living green trees may be somewhat lower in managed forests than in reserves, but it is safer and more resilient to total destruction by wildfire in the long run. Contrasting logging versus forest protection is a false choice. It oversimplifies a hugely challenging and complex problem that we as a State cannot afford to get wrong.

3. Logging slash, including branches, are not the tremendous fire hazard that you claim. There is a short-term increase in fuels, but when the slash is lopped and scattered according to the requirements of the State's Forest Practice Rules, any fires will likely be moderate intensity surface fires, and the fire hazard abates in a few years as the slash decomposes. This is borne out both by the preponderance of evidence when weighing all of the scientific literature, as well as decades of professional experience. The benefit of reducing the stand-replacing crown fire

hazards by increasing the distance between the remaining trees after harvest outweighs the short-term increase in fire hazard from logging slash.

4. The forest the State acquired in 1947 was in fact a moonscape, notably on the west end, which seems to be your area of concern. There is plenty of photographic evidence to back this up. The presence of 15-60 year old regeneration does not change this fact. It is also a verifiable fact that JDSF today has the highest amount of standing biomass per acre and the highest number of large, old trees of any managed forest in the redwood region. This transformation occurred under CAL FIRE's land stewardship, or logging as you call it, occurring every year. I fail to understand how this transformation could have taken place if CAL FIRE was indeed motivated by timber production.

5. Regarding your assertion that continued logging in JDSF to study harvest effects on forest structure, erosion and watercourse siltation is redundant as these issues are well understood and have been studied many times over, nothing could be further from the truth. These issues may have been studied many times over, but they are not well understood. Climate change is changing the goal posts, and quickly making much of what we currently know about forest and land stewardship outdated. With climate change rapidly changing what we thought we knew about forest ecosystems, now more than ever, we need to protect JDSF's status as an experimental forest to research answers to new questions about forest and land stewardship in the face of a changing climate.

6. I am sorry to hear that our online April 8 Town Hall meeting was not to your liking. Our records indicate that you did not attend the meeting, so I am confused about the basis for your statement that CAL FIRE was parroting flowery hackneyed narratives that contained ostensibly false or misleading information, there was a lack of ability for the public to participate, and the Town Hall meeting was generally not well received. Had you attended the meeting, you would have discovered that the chat box was open for participants to ask questions throughout the meeting, and all questions were answered during the meeting. Most of the presentations were delivered by leading scientists in their field, not CAL FIRE. Feedback we have received indicate that the meeting was in fact well received. Had you also attended the field tours for the public that we put on for each of the THPs you are concerned about, you would have discovered the rationale for our silviculture in these timber harvest operations.

7. Since you mention previous CAL FIRE Director Richard Wilson and his interest in a divorce between the forestry and fire protection function of CAL FIRE, I am sure you are familiar with his organization "Why Forests Matter", https://www.whyforestsmatter.org/. Here is a quote from their web site: "Jackson Demonstration State Forest is an example of when the Forest Practice Act Standards are enforced, a forest can return to sustainability. Our goal, using the JDSF model, is to develop the methodologies and blueprints to demonstrate how a forest can support both an ecology and economy."

8. To say that that timber harvesting is intensifying on JDSF is fundamentally inaccurate. Due to intense wildfire activity the last two years, our THP development was delayed. THPs however are only the CEQA planning document. Under the Forest Practice Rules we have 7 years to implement each THP on the ground. Actual on-the-ground timber harvest activity is not changing from the land stewardship business model that took us from the remnants of clear cuts in 1947 to the highest level of carbon storage per acre of any managed forest in the state today.

I do welcome your insights and recognize that JDSF, like any Forest, can be improved. We welcome continued discussions with you and others on how to achieve that.

Respectfully,

Helge Eng, PhD
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