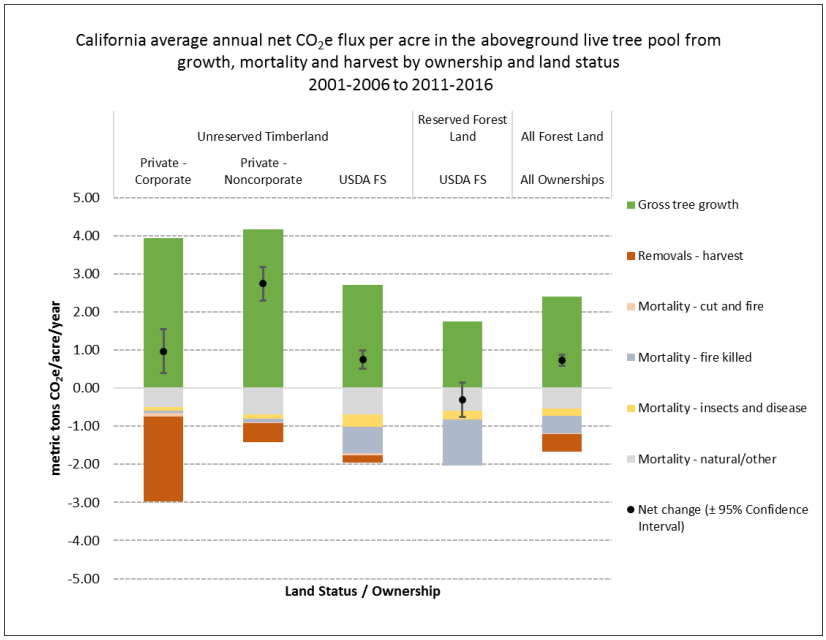
Shelby Livingston
Air Resources Board
1001 I Street
Sacramento, CA 95814

June 12, 2018

Dear Shelby Livingston,

Now that voters passed Proposition 68 on June 5, 2018 there will be more state funds going to natural lands conservation, restoration and management activities. Given the lack of good analytical tools for estimating climate benefits, this should be the focus of any CALAND (or other new accounting and modeling system that the State is proposing to develop) acreage tracking for ARB's Natural and Working Lands Climate Change Implementation Plan. Parallel to ARB's plan to the shift from using CALAND to model farms to using the USDA's COMET-Farm, http://cometfarm.nrel.colostate.edu/, to describe 'best' farm and ranch management practices under alternative scenarios, the implementation plan would be far better off to also shift to the robust empirical results based on the more than 6,000 remeasured forest growth Forest Inventory and Analysis (FIA) plots presented in the Forest Carbon Plan (May 2018). As shown in the figure below from the most recent legislatively required AB 1504 that is required to be used by the California Board of Forestry and Fire Protection to guide forest policy on non-federal lands in the State, it is very clear that private forest lands are doing a great job at initially capturing carbon (the green bar), keeping mortality losses to a minimum (the gray and yellow bars), and producing wood products (the brown bar) that we used to build our homes with and also use to generate renewable energy. It is clear that wildfire (the dark gray bar) is a major source of carbon loss. The AB 1504 reports do estimate the state totals as well as the per acre estimates shown below. On page 2 of the Concept Paper (May 2018), there is stress on the importance of wood products that we use in buildings (and therefore displace cement and steel) and for energy (and therefore display natural gas for heat and most electricity). Trying to simply use acreage targets to estimate the climate benefits from forested acres will miss a large portion of the climate related benefits that show up mainly as reduced emissions in the cement, steel, natural gas, and plastic sectors. Fortunately the legislatively required AB 1504 reports also track in great detail the composition of harvested wood products and what they are used for. The implementation plan should build on the explicit legislation requirements of AB 1504.



Source: AB 1504 California Forest Ecosystem and Harvested Wood Products Carbon Inventory: 2007-2016 data update. Available at http://bof.fire.ca.gov/board_committees/ab_1504_process/

Separating NWL into NL (natural lands) and WL (working lands) components, and focusing any CALAND generated acreage targets on the NL side would have many benefits related to accuracy of the overall

results. Using USDA tools to measure all farmlands (COMET) as well as all forest lands (the AB 1504 data based on the USDA FS FIA data), and then combining these accurate estimates with the new CALAND estimates for 'Natural Lands' would avoid corrupting good data sources and end up with better overall estimates. It would also avoid using CALAND's proposed acreage estimates for just a small subset of 'best practices' used in sustainable forestry ("Fuel reduction; understory treatment; prescribed burning; reforestation; enhanced biomass utilization ") as well as for two forest management practices that are regulated under California's Forest Practice Regulations ("less-intensive forest management; partial cut (thinning)") as an accurate measure of climate benefits. Attempting to use a brand new and unfinished model such as CALAND to model the many diverse practices with a few 'one size fits all' definitions in CALAND makes little sense now, and will make less and less sense with each passing decade. Any legitimate approach to modeling the climate benefits of forests and forest products will require accounting for the growth and mortality that occurs in the forest (including the ever increasing losses when wildfires sweep through forests with too much dry fuel) as well as how efficiently the harvested wood products are used. There are many international and domestic forest growth and forest product models that integrate forest growth, wildfire and other mortality vectors, treatment costs and output, transportation components – but the thinly documented CALAND model does not appear to be one of them.

Because so many of the practices proposed are a subset of best practices used in sustainable forestry, only tracking the specific acres that will get funds from Calfire's CFIP programs will be a big undercount. It is unclear what added benefit will come from ARB hiring its own staff and bringing on its own consultants to simply copy and paste Calfire's documentation. Because many of the named practices are 'best practices' within a broader set of forest management activities, the data will not include all the acres that will be treated by landowners who do it all with their own investments. It will also miss all the acres that will be treated because they got cost share from the Natural Resource Conservation Service (NRCS) https://www.nrcs.usda.gov/wps/portal/nrcs/site/ca/home/ with their EQIP or other programs. Given that the State of California wants to get an honest estimate for all lands in the state with respect to full system climate benefits (including forest products to be in line with IPCC accounting guidelines), it would be misguided to ignore the legislatively required AB 1504 data based on remeasured forest plots and instead substitute a totally different approach that will try to generate a 'big picture view' from a very small subset of the land that gets state funding (e.g. lands with CFIP grants which will already be tracked by Calfire) and then blowing up the small estimate to a statewide estimate of the climate benefits from all forest lands via a number of algorithms in CALAND that are still 'in process'. Many observers have noted that CALAND's last published estimates of the carbon balance of forests showed large declines from current forest practices, while the AB 1504 data shows large increases with current private lands practices over the past decade. This remains very problematic, as it suggests the model is poorly calibrated to reality.

Focusing further investments in CALAND on the complicate world of estimating the benefits from new projects in wetlands, riparian areas, sea grass, and rangelands would truly add new information. It would also avoid duplicative funding to generate estimates for resources such as forest for which the state already has a legislatively mandated approach (AB 1504).

Thank you for considering these comments. I would be happy to provide more detailed technical comments as the implementation plan tries to use the best information available as well as create robust and reasonable estimates for those sectors yet to be measured and monitored – the vast extent of California that IS NOT irrigated crop land or forest land.

Sincerely,
/s/
William Stewart
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