PACIFIC FOREST TRUST
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13 January 2017

RE: Public Workshop on Carbon Sequestration Modeling Methods and Initial Results for the Natural & Working Lands Sector in the 2030 Target Scoping Plan

Dear Claire Jahns and Rajinder Sahota,

Thank you for this opportunity to comment on the modeling workshop for Natural and Working Lands (NWL) held on December 14th, 2016. This modeling effort recognizes the importance of understanding how policies might change the carbon storage and resilience of NWLs. We recognize the inherent difficulties of modeling the diversity and scale of different land uses for the state of California. In these early stages of the modeling process, and without much information about the baseline and assumptions, our comments focus on the opportunities for this modeling effort going forward.

We recommend that the model incorporates the synergistic effects of protecting the land base and managing it to increase resilience. Building on the model's assessment that gains can be made separately in improved management and protection, the next iteration of the model should integrate this into a coherent approach that combines improved management with land protection. The combined approach synergistically increases carbon gains. For example, the McCloud Dogwood Butte project between Hancock Timber Resource Group and Pacific Forest Trust conserved 20 square miles of well-managed productive private forest. This conserved working forest is not a forest offset project, yet its carbon stocks will double in just 50 years – removing 1.8 million metric tons of CO_2 from the atmosphere, equivalent to the annual emissions of 380,000 cars. Melding improved management with conservation not only increases carbon stores and forest resilience, but it also benefits adaptation efforts for the many imperiled species that rely on this crucial habitat, provides critical cold water for the McCloud River, and maintains the timber flows that support the rural economy. It also creates permanent connectivity between 2.15 million acres of public lands that benefit the state's wildlife adaptation goals. Incorporating changes in forest management with the benefits and reliability of a conserved land base – a modeling scenario that blends improved management and conservation – is an approach that certainly has recognized precedent.

We appreciate that this initial version of the model focuses on reducing the rate of loss at the front-lines of conversion; however, it is equally, if not more, important to ensure that large, intact forest carbon sinks remain so. By measuring the rate of land loss, the model takes a traditional approach to protecting land in peri-urban areas where the small parcels of land have already lost substantial ecological function. Instead, conservation efforts should focus on maintaining and increasing forest carbon stocks from intact, highly functional, and resilient forests. Conserving these well-managed working forests will aid adaptation efforts, increase carbon stores, and improve forest resilience, all at a fraction of the cost per acre compared to those lands currently at imminent risk of

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conversion. Therefore, we recommend that land protection is modeled in terms of acres of land conserved instead of avoided loss.

Providing more information about the model, assumptions, and baseline will facilitate deeper stakeholder engagement. We are eager to participate in substantive discussions about the model and help provide feedback, but the lack of information makes this difficult. In any model, determining the baseline and assumptions are critical to the output. We encourage ARB to publish a working version of the model (the excel sheets and R code) for comment, with all of the inputs and assumptions clearly defined in a technical appendix. To ease comparison between different practices, land types, and ownerships, the results should be disaggregated and presented in terms of the annual carbon gains per acre, the number of acres treated under the different scenarios, and how long that gain is expected to persist. As it is inherently challenging to apply linear assumptions to complex non-linear ecological systems, providing the information about which processes are and are not included is critical to understanding this model and its limitations.

If Business as Usual (BAU) practices are included as strategies, this will not create additional carbon stores to help achieve climate goals. The presentation left some uncertainty as to what practices are included in the forest management scenarios and the assumptions about these practices. For instance, neither clearcutting nor the reforestation following harvest already required under the Forest Practice Act[i] are practices that can be expected to increase forest carbon stores from a BAU scenario. On the other hand, when former forest soils (such as abandoned agricultural land) are returned to forest conditions, this reforestation increases carbon stores compared to a BAU scenario and merits inclusion in the model. Improved forest management practices such as letting trees grow older represent one of the largest opportunities for increased carbon stores compared to BAU. Clarifying the parameters for each practice is also necessary to determine its carbon impact. For instance, a recent study found that thinning from below and retaining older larger trees resulted in a much quicker recovery of carbon stores than overstory thinning of larger trees.[ii] We recommend that the parameters for these activities are clearly defined and that only those activities that ultimately result in net carbon gains compared to a BAU scenario are included in the high and low management scenarios.

Thank you for considering these comments on the modeling workshop. We would be pleased to work with you further in any of these areas.

Sincerely,

Laurie Wayburn
President

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[i] http://calfire.ca.gov/resource_mgt/downloads/2016_ForestPracticeRules-Act.pdf
[ii] Wiechmann, M.L., Hurteau, M.D., North, M.P., Koch, G.W., Jerabkova, L., 2015. The carbon balance of reducing wildfire risk and restoring process: an analysis of 10-year post-treatment carbon dynamics in a mixed-conifer forest. Climatic Change 132, 709–719. doi:10.1007/s10584-015-1450-y