

November 21, 2016

Mary D. Nichols, Chair

Members of the Board

California Environmental Protection Agency

Air Resources Board

1001 I Street

Sacramento, CA 95814

**Re: Public Workshop on the 2030 Target Scoping Plan Update: GHG Policy Scenarios, Natural & Working Lands, and Public Health Analysis**

Dear Chair Nichols, Members of the Board, and staff,

Thank you for holding the public workshop on November 7th to discuss the 2030 Target Scoping Plan Update. Our comments focus chiefly on the natural and working lands portion of the workshop.

We raise the following concerns and offer recommendations:

1. Slide 8 of the Natural and Working Lands goals presentation recognizes fuels reduction and prescribed fire as important tools to reach enhancement goals. The slide fails to mention the use of natural ignitions for building forest resilience and improving carbon stability. The federal land partners (Forest Service, National Park Service, Bureau of Land Management) utilize lightning ignitions annually to achieve vegetation resilience and these efforts contribute significantly to long term carbon stability. In FY 2016 the Forest Service had a significant increase in acres treated compared to the past 15-years and it was attributed to the increased use of managed fire (personal communication Region 5, Forest Service, Fire and Aviation Management). While Cal Fire does not currently utilize natural ignitions, the federal land managers in California do and that use should be accounted for in the Scoping Plan Update process.

2. A Fire and Emissions Baseline should be defined using the best available science pertaining to the current natural landscapes of California and their fire regimes and fire frequencies within existing vegetation types. A range of variation for fire and emissions outputs should be agreed upon, driven by scientific consensus. The Fire and Emissions baseline for short and long-terms trends will undoubtedly be impacted by climate change, past management, past fires and future management and vegetation trends and will require monitoring to assess effectiveness of mitigation measures over time.

It is critical that CARB staff get scientific consensus on fire effects and ecological services benchmarks and avoid generalizations about wildfire, a natural and necessary ecological process. Wildfire (as shown in Slide 16) should not be characterized as an environmental negative when wildfires are within the range of natural variation of fire effects based upon the best available scientific information. We recommend that the Scoping Plan Update Natural and Working Landscapes Team engage fire, vegetation and atmospheric scientists to clarify the portion of total wildfire-related C stock-loss attributed to wildfire that is uncharacteristic for the fire regimes where fires occurred. The remaining wildfire acres/c loss/emissions should be considered background effects and resilience generating effects.

On slide 16 of the ARB Natural and Working Lands inventory PPT, wildland fire was depicted as the single largest source of emissions from natural lands, surpassing the combined total of all other sources of emissions. This is misleading and fails to recognize fire as the critical natural disturbance process in the fire-prone environment we live in called California. Wildfire outside the natural range of-variation or outside natural fire regime benchmark parameters is the wildfire condition that should be considered for mitigation, not “good” fire.

3. There is no “no fire” alternative for California, a strongly fire-associated landscape (Baker 2015., Mallek et al. 2015., Marlon et al. 2012, Steel et al. 2015, Stephens et al. 2007, van der Water and Safford 2011, Whitlock et al. 2003). Depending on specific vegetation types, many of California’s historic fire regimes were much more frequent than they are today. While there has been variation in fire frequency and effects, the history of past management practices and fire suppression has, in many cases, resulted in overstocked, homogenous, fire-prone forest stands. Recovery from this landscape fire deficit will take many decades. Treatments should include ecologically appropriate thinning with the key focus on ladder fuels and smaller trees coupled with the use of prescribed fire and managed natural ignitions to restore forests with larger, fire resilient trees and a diversity of age classes and species.

Use of a “fire and emissions baseline” to examine the natural and expected levels of fire on the landscape would help differentiate between characteristic sources of fire and emissions compared to uncharacteristic sources. In this case, we would argue that human-ignited fire planned and used for multiple resources benefits, consistent with the fire regime, be classified as natural background fire (Schweizer and Cisneros 2016). This ecological and historic baseline for fire emissions could encourage a more natural management[[1]](#footnote-1) of fire across all land ownerships and avoid perpetuating the era of fire suppression.

4. Slide 8 identifies the Soil Organic Carbon-Carbon Pool as 500 MMT C in below ground carbon stocks. Slide 16 shows the Natural Lands Stock-Loss Attribution, total loss 2001-2010 but does not include soil carbon stock estimates. The storing or sourcing of soil carbon is an important factor in certain forest management practices such as deep ripping and tilling as part of site preparation in industrial forest practices. Thinning and biomass removal with ground-based equipment entails less ground disturbance and less likelihood of carbon sourcing from intensive site preparation practices. Carbon accounting and carbon crediting should identify in the inventory, carbon “costs” of intensive practices such as deep ripping and tilling and compare them other forest management options.

5. Emissions from Land Conversion Are Not Included in the Stock-Loss Attribution.

Also on slide 16 of natural stock-loss attribution, we expected to see characterizations of lands lost to conversion. Between 2001 and 2011, California lost over 500,000 acres of natural land to development (Theobald et al. 2013). This represents a significant source of emissions as well as lost future sequestration opportunities. Natural lands conversion should be in the inventory, especially to support retention of natural lands and their carbon sequestration potential.

6. We strongly support efforts to protect resilient natural lands as key to meeting California’s climate change goals. It will take time for degraded forests to regrow older trees that will support carbon stability. The offsets program, conservation easements and supporting forest management practices that promote long term resilience of large trees and carbon stability through increased fire use are critical to achieving California’s carbon sequestration goals.

7.We are concerned that the post-2020 program might consider reducing the role that offsets play in meeting California’s climate goals. Assigning monetary value to carbon benefits of forestlands fosters landowner support for older forests and protection of forest lands from conversion pressures.

There are many benefits of using carbon offsets including increased forest resilience, wildlife habitat, carbon stability, and public health and safety from lower emissions and wildfire risk. Forest carbon offsets need to continue because they are central to securing carbon stability and they reduce the cost of program implementation, support forest conservation, and provide numerous co-benefits including protection of water quality and improved public health.

Thank you for considering these comments and suggestions.

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References:

Baker, W.L., 2015. Are high-severity fires burning at much higher rates recently than historically in dry-forest landscapes of the western USA? PLoS ONE 10. doi:10.1371/journal.pone.0136147

Hurteau, M.D., Bradford, J.B., Fulé, P.Z., Taylor, A.H., Martin, K.L., 2014. Climate change, fire management, and ecological services in the southwestern US. Forest Ecology and Management 327, 280–289.

Mallek, C., Safford, H., Viers, J., Miller, J., 2013. Modern departures in fire severity and area vary by forest type, Sierra Nevada and southern Cascades, California, USA. Ecosphere 4. doi:10.1890/ES13-00217.1

Marlon, J.R., Bartlein, P.J., Gavin, D.G., Long, C.J., Anderson, R.S., Briles, C.E., Brown, K.J., Colombaroli, D., Hallett, D.J., Power, M.J., Scharf, E.A., Walsh, M.K., 2012. Long-term perspective on wildfires in the western USA. PNAS 109, E535–E543. doi:10.1073/pnas.1112839109

Steel, Z.L., Safford, H.D., Viers, J.H., 2015. The fire frequency-severity relationship and the legacy of fire suppression in California forests http://www.esajournals.org/doi/pdf/10.1890/ES14-00224.1. Ecosphere 6. doi:10.1890/ES14-00224.1

Stephens, S.L., Martin, R.E., Clinton, N.E., 2007. Prehistoric fire area and emissions from California’s forests, woodlands, shrublands, and grasslands. Forest Ecology and Management 251, 205–216. doi:10.1016/j.foreco.2007.06.005

Schweizer, D.W. & Cisneros, R. Air Qual Atmos Health (2016). doi:10.1007/s11869-016-0405-4

Theobald DM, Zachmann LJ, Dickson BG, Gray ME, Albano CM, Landau V, and Harrison-Atlas D. 2013. Description of the approach, data, and analytical methods used to estimate natural land loss in the western U.S. For the Project Entitled: The Disappearing West. *The Center for American Progress.*

van de Water, K.M., Safford, H.D., 2011. A summary of fire frequency estimates for California vegetation before Euro-American settlement. Fire Ecology 7, 26–58. doi:10.4996/fireecology.0703026

Whitlock, C., Shafer, S.L., Marlon, J., 2003. The role of climate and vegetation change in shaping past and future fire regimes in the northwestern US and the implications for ecosystem management. Forest Ecology and Management 178, 5–21. doi:10.1016/S0378-1127(03)00051-3

1. Natural management is meant to refer to fires ability to treat surface and ladder fuels which are the portion of the overall fuel profile that makes of 80-90% of the contribution to fire behavior in much of the forested landscape of California (PSW-GTR-220). [↑](#footnote-ref-1)