



December 16, 2016

Rajinder Sahota
Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Discussion Draft of the 2030 Target Scoping Plan Update

Dear Ms. Sahota,

Thank you for this opportunity to comment on the 2030 Target Scoping Plan Update (SPU) discussion draft. The effort to incorporate natural and working lands (NWL) in the document is commendable. We appreciate the acknowledgement that nature is an essential part of our climate mitigation and adaptation strategy and “the most effective way to remove carbon dioxide from the atmosphere”.

While there are strong overarching goals, the document would benefit from additional clarity to maximize gains and resilience over time. We recommend that SPU be refined with the following ideas in mind:

1. Establish a quantifiable goal for the conservation and improved management of forests;
2. Avoided loss is not the same as proactive conservation;
3. Prioritize actions that combine improved land management and stewardship with long-term conservation;
4. Fire needs to be restored on the landscape, not always suppressed;
5. Resilience results from increased complexity, not just fuels reduction.

Establish a quantifiable goal for the conservation and improved management of forests. Table II-2 on page 64 lists goals for various types of land management activities, including forest thinning and reforestation. It does not include a goal for improved forest management – an omission which must be remedied. Long term, binding commitments to manage forests to increase resilient carbon stocks represents the largest opportunity to remove carbon dioxide from the atmosphere. Improving the management of existing forests makes a far greater annual GHG reduction impact than reforestation, and creates benefits far sooner than forest thinning which creates emissions that take decades to recapture. Well-designed improved forest management efforts also improve watershed function and climate adaptation efforts. We recommend that the Scoping Plan and the Lawrence Berkeley National Laboratory modeling effort include acreage targets for permanent commitments to improved forest management.

Avoided loss is not the same as proactive conservation. While the discussion draft does make recommendations around land protection, these are primarily focused on reducing the rate of greenfield development and are framed in terms of reduced rates of conversion. These are important activities, however the focus on the “front lines” of conversion tends to result in piecemeal conservation, with small and scattered plots of land. By measuring progress in terms of avoided conversion, maintaining the status quo becomes the marker of ultimate success. While these goals may be appropriate for the urban fringe, there also needs to be a larger landscape conservation program that can achieve significant GHG benefits and improve landscape resilience for climate adaptation purposes.

Prioritize actions that combine improved land management and stewardship with long-term conservation. By embedding restoration and stewardship activities within a long-term conservation framework, we ensure that gains in carbon storage, wildlife habitat, and water security continue to provide the benefits into the future. As it is critical to ensure that improved land management persists over long, multi-generational periods, we recommend that the SPU go beyond the recommendation that land conservation be “paired with stewardship plans where possible” to actively prioritize projects that do so.

Fire needs to be restored on the landscape, not always suppressed. The “imminent danger” of GHGs and Black Carbon being emitted from fire needs to be put in the appropriate historic and scientific context. The state is currently in a “fire deficit”ⁱ and needs more fire on the landscape, not less.^{ii,iii,iv,v,vi,vii,viii} Restoring fire regimes with mixed severity is critical to improving the resilience of forests to future climate changes, and some emissions are necessary to achieve this.

Resilience results from increased complexity, not just fuels reduction. Improving resilience needs to encompass a broader range of methods than those focused solely on fuels reduction to reduce fire severity. For instance, increasing the size of trees, species diversity, structural heterogeneity, and the variety of age classes within a forest can make it more resilient to climate change and other stressors. Improving resilience at the landscape scale also involves ensuring an ecologically appropriate range of seral stages that provide different habitats. Improved forest management projects can help ensure this diversity, increase the amount of carbon safely stored on the landscape, and improve habitat quality and ecosystem function.

We appreciate this opportunity to comment and look forward to continuing the discussion as the SPU process continues.

Sincerely,

A handwritten signature in black ink that reads "Paul Mason". The signature is fluid and cursive, with the first name "Paul" being larger and more prominent than the last name "Mason".

Paul Mason
V.P. Policy

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- ⁱ 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
- ⁱⁱ 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
- ⁱⁱⁱ 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.
- ^{iv} 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
- ^v 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
- ^{vi} 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
- ^{vii} 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
- ^{viii} 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