



8 April 2016

**Re: California Forest Carbon Plan Concept Paper: Managing our Forest Landscapes in a Changing Climate**

Dear Forest Climate Action Team members:

We appreciate this opportunity to comment on the California Forest Carbon Plan Concept Paper and welcome continued conversation as the plan develops. We support the broader vision for resilient forests that store significant amounts of carbon and provide important co-benefits for wildlife, water, and communities. However, this document focusses almost exclusively on short-term actions, which while necessary, cannot be sufficient as resiliency is a process and achieved overtime. We believe that a greater focus on long-term forest conditions throughout the concept paper will help make these goals an enduring reality. Achieving and sustaining resilient forests for the long-term underpins our recommendations on the description of current forest conditions, identification of priority areas, management actions, planning targets, and investment. In addition to supporting and sustaining more resilient forests, we believe this paper must embrace a goal of steadily increasing net carbon stores over time in our productive California forest, aiding in achieving their ecological potential, and contributing to essential climate solutions.

**Accurate portrayal of human influence on forests**

It is important to take the proper time perspective on the historic conditions of forests as this informs future forest management decisions. In the concept paper, the effects of human influence on forest conditions are understated. The statement, “past human activities, such as fire suppression and logging, influence acres burned, but the impacts are small when compared to drought, wind, and temperature” (page 4) is not born out by reality. While there may be some truth to the statement over timeframes of thousands of years, it fundamentally glosses over the very real changes that have been made to forest structure in the last hundred years:

- Historical management patterns have created young, dense, homogenous forests.
- Fire suppression and over-planting result in excessively dense forests.
- Fragmentation and development increase fire ignition sites and decrease forest resilience. Intactness is prime factor in supporting forest health and ecological function.

See Marlon et al. 2011<sup>1</sup> for counter-arguments such as: “current levels of fire activity are clearly out of equilibrium with contemporary climate conditions.”

### **Identification of priority areas should take into account broader time scales**

The identification of priority areas as described in the *Analytical Approach* section would benefit from a stronger recognition that forests need time to realize their ecological potential for carbon sequestration, watershed function, and wildlife habitat. This involves: (1) recognizing areas of opportunity for carbon sequestration and adaptation (as well as threat of emissions), (2) a long-term perspective on future stressors such as climate change, and (3) a commitment to revisit and refine priority areas over time.

The identification of priority areas is narrowly defined by the current tree mortality crisis. We cannot achieve resilient forests with only a reactionary, crisis-oriented approach. We also need robust plans to address forest function in the long-term. The criteria for priority areas is described as “high hazard areas” characterized by “unique resource values.” This intersection focuses on areas under threat while neglecting areas of opportunity that should be considered. These opportunity areas are those that provide important ecosystem services and co-benefits such as water provision, have the potential to store significant amounts of carbon, and could be managed for an older stand structure. Both objectives can be achieved by: (1) nesting near-term restoration activities to address threats within long-term plans for improved management and (2) sustaining forests over time through specific conservation tools or other equally enduring means.

Utilizing climate models and other tools can help identify which areas of the state will become increasingly important for their ecological functions. For instance, the Shasta and Oroville reservoirs currently provide drinking water for 25 million Californians. As the state population increases and hotter temperatures increase water stress – these watersheds, which are projected to remain cooler and wetter relative to the rest of the state, will become increasingly important. The identification of priority areas should take a proactive approach to identifying key areas of current and future ecological importance.

Even with the best modeling technology, the reality is that the landscape will change over time. The identification of priority areas should dynamically reflect these changes. We appreciate the recognition that the Forest Carbon Plan should be reviewed and adjusted periodically, and hope that in doing so the identification of priority areas will not become a fixed metric, but one that can adapt to changing conditions.

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<sup>1</sup> 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

## **Management actions should promote long-term improved management and resilience**

There are commendable larger goals about achieving resilient forests that provide for healthy watersheds, are protected from fragmentation, and store significant amounts of carbon. However, there is a misalignment between the heavy focus on near-term management actions such as fuel reduction and a nominal discussion of mechanisms for long-term management and conservation commitments needed to accomplish these goals.

There is a need to clearly articulate pathways to achieve the older, well-spaced stands which include larger, fire-resistant trees and make up resilient forest landscapes. Growing and retaining those larger, fire resistant trees has a cost to the landowner and is unlikely to happen without a policy intervention. Without a long-term framework, it is likely that many of intended benefits of the actions and investments will be reversed by future management or land use conversion. As is appropriately recognized by the “protect” management strategy, there is a significant need to increase protection on managed forested lands, through mechanisms such as conservation easements.

However, the “enhance” management strategy does not adequately address the long time horizon needed to meet its goal of a growing and resilient living carbon store in large trees. This section recognizes that there are many forests well below their ecological potential for carbon sequestration, watershed function, and wildlife habitat. However, harnessing the ecological potential of these forests involves not just short-term restoration activities, but also acknowledging that these forests need time to realize this potential. As there is a monetary value to that time that competes with other economic pressures, it is necessary to secure the commitment to manage the land for the long-term, via conservation easements or other equally enduring means.

Similarly, the management actions that follow from the identification of priority areas also need to take into account a longer time horizon. The 10-year time horizon suggested on page 27 could lead to a focus on the near-term management goals, with the potential for net increased emissions. Instead, management should focus on nested short, medium, and long-term goals which insure that investments will be durable over time. Nesting these goals will allow decisions to more effectively create the desirable forest characteristics – well spaced stands with big trees, snags, and large downed logs – that take time to develop.

## **Planning targets could be refined**

The planning targets need to be refined with a greater focus on forest resilience, which will help ensure that carbon stores are more dynamically stable. For instance, the target under the “enhance” strategy to place 500,000 acres/year of non-federal forest land under plans and to manage these lands for improved forest health. It is unclear what the concept paper means by: “this acreage target will include capture the carbon outcomes of commercial timber harvesting” (page 23). Carbon products

from the forest are the residue of the carbon that was in the stand. While these remaining carbon stores are important, our focus should primarily be on increasing net carbon stocks in the forest. Commercial timber products do contribute to overall goals. Instead, targets should focus on promoting more carbon rich older, complex, diverse stands which are more resilient. This approach allows for continued timber harvest that sustains rural economies, while shifting management practices to enhance carbon storage and other co-benefits.

A sharper focus on creating resilient forests will also involve a shift in the specific strategies used to achieve the “enhance” management goal. The strategies currently mentioned focus on fuel management, which is a much-needed, but short-term management action. Achieving forests that embody more resilient carbon stocks will involve both near-term thinning activities and long-term commitments to older trees, diverse species, complex stand structure, and a secured land base. To this end, a specific management activity could be added on page 24 that reads along the lines of: “9. Develop tools to achieve older forest characteristics that represent healthy, resilient stands.” Including this type of management strategy that captures the time component needed for resilience to develop will help meet the outlined goals around achieving older, more resilient forests.

As with the management strategies just discussed, other strategies need to be up to the task of meeting the goals outlined in the concept paper. For instance, the existing “habitat conservation plans, Nonindustrial Timber Management Plans, Program Timberland Environmental Impact Reports,” and others are not adequate “implementation mechanisms.” First, these plans are often in place for decades and not easily mutable. More importantly, these plans are not designed around carbon storage and climate goals and so would likely be ineffective at meeting these goals. Finally, they were not designed to specifically enhance or increase carbon stores, rather they meet a regulatory permitting function (or functional equivalent) for other purposes. We need a comprehensive climate plan on an appropriate landscape scale.

### **Investment opportunities**

As we have emphasized throughout this letter, the need for improved management of forest lands for the long-term is paramount in ensuring enduring carbon stores. However, the historic bond funding that has supported forest conservation and improved management projects is nearly exhausted. While some funds from the GGRF have been made available through the Forest Legacy Program, the need vastly exceeds this modest allocation. Further, there is an important role for working forest easements that secure existing carbon and enshrine high standards of forest stewardship across the landscape, often in areas that are not immediately threatened by residential development. Forest Legacy targets those more discrete areas already fragmented and in the WUI; an important objective but not sufficient to secure more carbon rich resilient landscapes.

We strongly support an investment plan that includes investments both in short-term activities to address imminent threats and opportunities, as well as investments that

create benefits over the long-term by ensuring the development of healthy resilient forests for future generations.

To this end, the investment mechanisms laid out in the concept paper for private lands (page 30) should include mechanisms for *increasing net carbon stores* on private lands through improved management. Private forests have enormous potential to hold stores of carbon beyond current “business as usual”. Making appropriate incentives available for willing landowners, such as conservation easements that secure high levels of stewardship above the regulatory floor (not just for lands at risk of conversion), can help harness the untapped ecological potential of private forest land to meet climate goals.

We applaud your recognition of new finance mechanisms such as the possibility for collaboration between California’s forested watersheds and the downstream beneficiaries of the improved water quality. Forested watersheds are a critical resource for the state, yet their maintenance has been long neglected.

**A forest climate plan, not just a forest carbon plan**

The concept paper does a decent job of recognizing that forests are important for more than just carbon, but the title does not currently reflect this. Shifting the title from a “forest carbon plan” to a “forest climate plan” will help broaden the framing of the plan to reflect a more holistic perspective on the benefits of forest for both climate change mitigation and adaptation.

We look forward to discussing the suggestions outlined in these comments and providing further input as the Forest Carbon Plan progresses.