



MOUNT SHASTA BIOREGIONAL ECOLOGY CENTER

We are a community of people inspired to preserve, protect and restore our world-renowned mountain environment

March 16, 2017

California Forest Climate Action Team
fcata.calfire@fire.ca.gov

Re: Draft Carbon Forest Plan

Dear FCAT,

The Mount Shasta Bioregional Ecology Center is a 501c3 nonprofit organization dedicated to protecting and restoring the outstanding natural environment and cultural values around Mount Shasta, California. The Mount Shasta bioregion is of great importance locally, nationally and internationally. It provides water to millions of Californians locally and downstream, millions of acres of public and private forest lands, habitat for plant and wildlife, remarkable recreational opportunities, and areas of high significance to Native American and other cultures near and far. The Ecology Center is considered a local voice for grassroots citizens and has represented public interests in natural resource decision-making process in the region for more than 25 years.

The Ecology Center is writing in response to the Draft Carbon Forest Plan released for public comment by the California Forest Climate Action Team. We are concerned with the strategies proposed in this plan and do not feel that they agree with the plan's vision to "secure California's forests as a healthy, resilient net sink of carbon, while conferring a range of ecosystem and societal benefits, and minimizing the GHG and black carbon emissions associated with management activities, conversion, wildfire events and other disturbances."

In particular, we disagree with the assumption that fuels treatments will result in less carbon emissions and increased sequestration in the remaining forest. In section 2.3, the plan asserts that fuels reduction treatments (thinning) are an effective way to transfer carbon stocks from small, fire-vulnerable trees into resilient large trees and that the amount of carbon removed from the forest by treatment can be sequestered back into the remaining trees in the stand in as little as 10 years (p. 19).

This assertion relies on the results of one study, while other scientific papers on the subject indicate a trade-off between fuels treatments to reduce wildfire risk and carbon sequestration.

In their paper, *Can fuel-reduction treatments really increase forest carbon storage in the western US by reducing future fire emissions?*, Campbell, et. al (2012) conclude that:

"forest management plans aimed solely at ameliorating increases in atmospheric CO2 should forgo fuel reduction treatments in these ecosystems, with the possible exception of some east Cascades ponderosa pine stands with uncharacteristic levels of understory fuel accumulation." (Campbell, et. al., 2012)



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Likewise, a review of how fuel treatments, wildfire, and their interactions affect forest C stocks across a wide range of spatial and temporal scales by Mitchell, et. al., 2009 concludes that it is extremely unlikely that thinning and other fuel-reduction treatments are consistent with efforts to keep carbon sequestered in the forest. Their review reveals:

“high C losses associated with fuel treatment, only modest differences in the combustive losses associated with high-severity fire and the low-severity fire that fuel treatment is meant to encourage, and a low likelihood that treated forests will be exposed to fire.

Although fuel-reduction treatments may be necessary to restore historical functionality to fire-suppressed ecosystems, we found little credible evidence that such efforts have the added benefit of increasing terrestrial C stocks (Mitchell, et. al., 2009).

The Draft Carbon Forest Plan’s emphasis on thinning and increased logging as a method to increase carbon sequestration does not present a convincing strategy to ensure that combined forest harvesting and thinning will not turn California’s forests into a carbon source.

The plan proposes an increase in fuels treatment to up to 500,000 acres per year, however does not include specific targets for fuels-reduction burns, which are essential for fuels reduction, avoidance of stand-replacing wildfire and forest health. If the problem is more than a century of fire suppression, prescribed burns must be part of the solution.

In order to manage forests to be resilient to climate change, drought, and insects, as well as sequestering as much carbon as possible, the plan should include the following changes:

1. Significantly reduce clearcutting and replace it with selective logging.

Clearcutting creates the forest conditions that the plan now seeks to correct with thinning. *A clearcut site is a net emitter of carbon dioxide for 20-30 years even if a plantation is installed.* In addition, plantations, with their dense young trees of the same age and species, increase fire risk.

The clearcut operation reduces the ability of the soil to retain water, carbon, and nutrients. The removal of so much non-commercial biomass from a site creates a disposal problem. Disposal is less of a problem with selective logging because the amount of material to remove is less in relation to the size of the area logged so leaves and small branches can be chopped up and left on the site to rebuild the soil.

2. Safeguard and prioritize large trees.

Large trees sequester more carbon faster than smaller trees. The plan acknowledges that a “300-plus-year-old sugar pine contains more carbon than one hundred 30-year old white firs”, but sets no targets or incentives to encourage forest managers to allow trees to grow longer before harvesting them.

Additionally, large trees are more fire resistant than small trees.

3. Prioritize and increase forest diversity as it is well-established that more diversity leads to greater resilience.

A diverse forest has many types and ages of trees as well as other vegetation.

4. Value carbon in dead trees.

The plan assumes that dead trees release carbon immediately and are a huge fire and safety hazard. However, dead trees retain carbon for as many as 100 years and are good wildlife habitat and replenishing the soil. Once the needles have fallen of a dead tree, they are not especially fire prone. Of course, dead trees can be a hazard if they are located near a structure or a highway.



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We at the Ecology Center strongly feel that California's forests are a precious part of the living landscape and crucially important ecosystems necessary for the environmental health of our state and its water supply. Truly sustainable forest management should prioritize these ecosystem functions over the commercial value of forest timber. Preserving forests in California is essential to sequestering carbon, therefore the carbon forest plan should focus more on activities to improve forest health and increase rather than logging, thinning, and development of biomass industries.

Sincerely yours,

Richard Lucas
President of the Board of Directors

Phoenix Lawhon Isler
Senior Program Director

Mount Shasta Bioregional Ecology Center

References

Campbell, J. L., Harmon, M. E. and Mitchell, S. R. (2012), Can fuel-reduction treatments really increase forest carbon storage in the western US by reducing future fire emissions?. *Frontiers in Ecology and the Environment*, 10: 83–90. doi:10.1890/110057

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