

Forest Carbon Plan (FCP, Plan) Comments

Submitted on behalf of the Southern California Society of American Foresters and the Northern California Society of American foresters (CaSAF)

Comment 1: In addition to the Actions and Recommendations described in the FCP, the Plan should provide information and data on other key elements. Each Action where implementation targets apply should include data on a) current implementation levels, b) current funding, c) additional funding needed to achieve FCP target levels, d) potential sources for additional funding, e) institutional, policy, infrastructure, revenue generation and regulatory constraints, and workforce limitations, and f) GHG emission/sequestration consequences if targets are not met.

CaSAF FCP Recommendation 1: Actions and targets described in the narrative on pages 3 through 6 of The Forest Carbon Plan (FCP) should also be displayed in a summary table. In addition to displaying the current Actions and targets in the summary table, the FCP should add the following information to the table:

- responsible entity or entities
- target date for full implementation
- current implementation levels
- funding for current activity
- funding needed for full implementation
- existing funding source(s) and/or revenue generation potential
- institutional, regulatory, workforce, or infrastructure barriers
- Greenhouse Gas (GHG) impacts if implementation does not reach target levels

- projected costs of implementing the desired action to the scope and scale indicated in FCP

While CaSAF supports the FCP proposed actions and recommendations, it is also our view that without addressing the needs for additional funding, policy and regulatory reform, infrastructure, and workforce capacity, implementation will fall far short of the target levels in the Plan.

Comment 2: CaSAF is concerned about the negative impacts of a) “Fire Borrowing” on federal resource management budgets and programs and, b) negative impacts of the current Region 5 planning rule diameter limit requirements which constrain application of silvicultural prescriptions and limit revenue generation potential. Without resolution, these two institutional barriers will continue to hamper USFS capacity to meet FCP targets.

Background: The FCP describes the need for improvement of forest health and resilience on federal lands. The FCP also recognizes the importance of increasing the pace and scale of activities on National Forest System Lands (NFS) lands. FCP targets included in Section 3.2.1 call for the Forest Service to increase forest health and resilience treatments from current levels to 500,000 acres per year. An additional target as described in Section 3.2.3, calls for elimination of the Region 5 “reforestation need” balance by 2020.

Potential negative effects of Fire Borrowing: The forest health and resilience targets and the increase in pace and scale targets described in the FCP appear to be unrealistic given current impacts of Fire Borrowing on USFS budgets, staffing, infrastructure and work force capacity.

USDA Agriculture Secretary Vilsack in a 2014 report to Congress summarized the impacts of Fire Borrowing. Has had on USFS programs since 2001 (attachment 1). Secretary Vilsack indicated that since 2001 Forest Service vegetation and watershed management programs have been cut by 22 percent, habitat and fisheries programs have been cut by 17 percent,

and road and bridge improvements programs have been cut by 46 percent. Secretary Vilsack also reported that personnel focused on fire programs since 1998 had increased from 5700 employees to 12,000 by 2014. During the same period, the number of employees overseeing management of Forest Service lands has decreased by 35%.

Fire Borrowing fixes have been proposed in the past. Nationally, the Society of American Foresters (SAF) supported a legislative effort in 2016 which, in the end, fell short. Attachments 2 and 3 include correspondence from the National Society of American Foresters and a Coalition of Environmental stakeholders that were in support of 2016 Congressional efforts to address Fire Borrowing.

CA SAF FCP Recommendation 2, Fire Borrowing: FCP should include a discussion of the impacts of Fire Borrowing on Forest Service Program delivery. The FCP should also include an Action recommendations to:

- work cooperatively with federal legislators and administration to seek a fire funding solution that will end Fire Borrowing, and
- support rebuilding of internal Forest Service work force capacity to facilitate implementation of projects on federal lands.

Potential negative effects of R5 Planning Rules: CaSAF is concerned that current R5 planning guidelines which limit removal of trees greater than 30” in diameter, will likely constrain restoration and fuel treatment activities on federal lands. Additionally, without some resolution, the current planning rules will limit the options for generating revenue from timber sales.

The impact of the R5 current planning rule which limits removal of trees greater than 30” in diameter has been described by the USFS in the Final Sierra National Forest Assessment.

This report was prepared by as part of the preliminary assessment for development of the Sierra National Forest Draft Land Management Plan. The report specifically discusses the limitations that current diameter limit constraints impose on achieving restoration objectives. As described in the Assessment (Page 139):

“In general, the forest composition is being converted to full tree occupancy. While large individual trees are more resistant to the effects of fire, maintaining full site occupancy in such trees puts the forest at risk from other mortality agents like insect damage.

The current LRMP, as amended by Sierra National Forest Plan Amendments (2001 and 2004), has upper diameter limits for harvest removal of trees 12 inch, 20 inch and 30 inch. These modifications were preceded by the forest plan amendment of 1993, adopting the 1992 California Spotted Owl (CASPO), PSW-GTR-133) interim guidelines. The forest is experiencing re-entry thinning stands where the average stand age, the average stand tree diameter, and average tree growth combine to require removal of trees exceeding these limitations to meet restoration objectives. In other words, in stands where density is great enough to consider thinning, the small potential cut trees, under current standards, would be too large to harvest.

For restoration purposes, in several vegetation types, especially mixed conifer, reforestation implemented in group selection, all-aged silvicultural application can increase stand heterogeneity and manage stands for resiliency and wildlife habitat. These patches would create early seral stage patches or shrub or younger age tree classes. Within the mixed conifer, about 90 percent of the lands are classified as sawtimber stands, eight percent in pole stands and only 3 percent in seedling or sapling stages. Increasing early seral stages would address restoration of vegetative characteristics concerning issues such as hiding cover by providing patches with more diverse understory cover.”

CaSAF FCP Recommendation 2, Planning Rules: It is critical that project level planning and silvicultural treatments on NFS lands support pace and scale of treatments necessary to achieve Forest Carbon Plan targets. CaSAF recommends

the addition of a FCP Action item whereby USFS R5 review the current planning rules related to the 30" diameter limitation for tree removal currently required under the 2001 and 2004 planning rule amendments. Modification

or elimination of current diameter limitations would:

- a) allow removal of larger trees to achieve restoration objectives that are sustainable over time,
- b) generate greater revenue to fund restoration and fuel treatment activities and,
- c) support existing or new community infrastructure and employment.

Initiating any process to modify the planning rule should include a broad range of stakeholders and a closely mediated process during the rule review. Given the urgency of achieving forest health and resilience targets and the desire to increase the pace and scale that support the Forest Carbon Plan, swift action to complete the planning rule review is critical. CaSAF also recommends the planning rule review and revision be completed by 2020.

Comment 3: The FCP recognizes the need to address stocking levels on private and federal non-reserved lands and reduce the reforestation backlog on federal lands. However, the FCP should also provide additional information and data by Ecoregion, forest type, ownership.

Background: The FCP recognizes that improving understocked stands overall and reducing the federal reforestation backlog, particularly on NFS lands, will benefit carbon sequestration. CaSAF concurs with this observation. The FCP also identifies a significant acreage of overstocked forest stands on non-reserved lands and indicates the need for increased forest management. While reduction of stocking in these stands would likely reduce carbon stocks in the short term, thinning will improve the health of remaining trees in the long term and reduce likelihood of carbon emitting mortality.

Understocked forests: Table 2 on page 155 of the FCP indicates there are 4.3 million acres of understocked softwood forest type groups on non-reserved lands in California.

Improving levels of stocking on these lands will be an important objective in relation to improving levels of carbon sequestration. Further, the data in Table 2 shows that 50% of the total understocked acres are in three of the softwood forest type groups listed. These include mixed conifer (1,033,000 acres), ponderosa pine (998,000 acres), and fir/spruce/mountain hemlock (224,000 acres). These stand types are recognized by FCP as having high carbon storage and sequestration potential. This data supports strategies to focus management efforts on regions of the state where these types are located. While the information in the FCP provides a baseline of needed treatment by Ecoregion, the data would be more useful if displayed by landowner group. This would allow for more focused development of strategies unique to a specific landowner group.

CaSAF FCP Recommendation 3(a) - Understocked forests: CaSAF recommends that Table 2 on page 155 be modified and expanded to display the number of acres of understocked non-reserved forest stands by Forest Type Group and Ownership by Ecoregion. This data would assist understanding of the magnitude of the challenge related to understocked timberlands. This more detailed understanding is necessary to achieve targeting appropriate silvicultural prescriptions and prioritizing actions and investment.

Reforestation Need Backlog: The FCP goal to eliminate the USDA Reforestation Need backlog by 2020, while admirable, does not appear to be feasible. Current nursery production and funding will not support achievement of the objective within the FCP timelines, and there would be significant challenges relative to availability of trained workers.

CaSAF FCP recommendation 3(b) - Reforestation Need Backlog: CaSAF recommends that the FCP report include an analysis of a) current total acres of “reforestation need”, b) the institutional capacity to conduct work, and c) additional USFS funding needed to achieve the FCP targets. This analysis should engage USFS staff and Cal Fire Landowner Assistance staff.

Overstocked Stands: With respect to overstocked stands on reserved and non-reserved lands, CaSAF agrees that high priority should be given to identifying and reducing stocking in stands where stand level index values are approaching a threshold of eminent mortality. Table 3 of the Forest Action Plan displays statewide acreage of overstocked non-reserved forest stands statewide. However, information at this scale would be more useful if it could be displayed at the EcoRegion scale by ownership category and forest type.

CaSAF FCP recommendation 3(c) - Overstocked Stands: CaSAF has two recommendations relative to discussion of overstocked stands.

- 1) CaSAF recommends that Table 3 be modified to display information on overstocked forest type groups by ownership type and Ecoregion.
- 2) CaSAF recommends that FCP include a narrative, and a recommended action and timeline, for treatment of all NFS overstocked non-reserved lands to reduce stocking in stands at or above the threshold of mortality. From a forest management perspective, attainment of more sustainable stands and forests requires as broad a suite of silvicultural options as possible to achieve desired outcomes.
- 3) Further consideration should be given to developing a policy for treatment of overstocked stands on NFS reserved lands which are at or near the threshold of mortality and which pose a threat to private forest lands.

Comment 4: FCP should request a review of USFS policies and procedures which limit post fire salvage of standing dead trees on federal lands. If not addressed effectively, dead standing decomposition will continue to contribute to ongoing carbon emissions and the USFS will struggle with reforestation and restoration of burned acres.

Background: USFS planning requirements associated with post-fire salvage of fire-killed trees on federal lands often result in delaying salvage activities for 12 to 18 months.

Additionally, projects which are approved often result in dead tree removal that cover less than 10% of the burned area.

Given the increasing frequency and severity of fire, there needs to be a programmatic process in place for NFS lands to respond quickly, initiate salvage, recover more of the fire killed trees and begin restoration and reforestation work.

CaSAF FCP Recommendation 4: Given the CO2 emissions associated with post fire decomposition of fire-killed trees, CaSAF recommends the Forest Carbon Plan include an Action item to encourage R5 to facilitate development of programmatic NEPA processes which would support Categorical Exclusions for most fire salvage on NFS lands. The intent of the programmatic NEPA document would be to facilitate fire salvage, maximize recovery of dead trees to minimize future emissions, and generate revenue to support prompt reforestation.

Comment 5: The FCP should place more emphasis on utilizing Good Neighbor Authority in the WUI. Also, the FCP should include an Action item and recommendation for federal land management agencies to develop a statewide Federal Fire Plan which addresses treatment priorities across all federal lands.

Background: CaSAF supports the Plan Actions that specifically address increasing the pace and scale of fuel treatment activities on both SRA and FRA. Table 14 of the Plan provides data on potential treatment acres by Bioregion in the Wildland Urban Interface. The plan identifies almost 2.9 million Tree Dominated treatment acres.

Based on forest modeling cited in the FCP, it is clear the proportion of high-severity fire in California's forests has and will continue to increase, particularly within the Sierra-Cascades Ecoregion, the Klamath/Interior Coast Ecoregion, Central Coast and Interior Ranges Ecoregion and the South Coast an Mountains Ecoregion.

CaSAF also supports prioritizing activities in these areas relative to funding and recognizes the need for developing approaches to facilitate project implementation. It is anticipated that the current Vegetation Management Programmatic EIR, once completed, will assist in implementation of projects on SRA. In order to be effective, fuel treatment activities

should be consistent with an “all lands” approach. This would require incorporation of treatment areas on lands managed by the federal government into planning and execution of fuel treatment projects initiated by non-federal entities. To support this level of implementation, CaSAF recommends increasing use of Good Neighbor Authority by Cal Fire to prioritize and coordinate fuel treatments across all lands. Treatment priorities should reflect Cal Fire Unit Plans, Community Wildfire Protection Plans or other agency fire plans. Stable sources of funding should be sought, starting with funding provided through SRA fees. Less dependence should be placed upon revenue from funding sources tied to Greenhouse Gas sources unless funding can be assured for a long enough period to ensure continuity of program implementation.

CaSAF FCP Recommendations: First, given the elevated risk to natural landscapes outside of WUI areas, CaSAF recommends the FCP include an action item that would expand the use of Good Neighbor Authority on non-reserved federal lands. The objective of this action would be to allow non-the State to implement strategically placed fuel treatments on federal lands for the protection of private property. Second, to facilitate strategic use and expansion of Good Neighbor Authority, CaSAF also recommends initiation of a cooperative strategic “All Lands” planning process to be completed by 2020. The objective of this planning process would be development of a statewide plan for treatment of federal lands. Planning should consider impacts to privately owned timberlands and include approaches possibly including use of Good Neighbor authority for implementation of components of the plan where implementation is needed to reduce risk to private forests.

Comment 6: FCA should use tables and graphs to account for net carbon sequestration achieved through wood products utilization such as products in use, or products in landfills.

Background: Graphs presented on page 151 which are attributed to Christensen do not reflect the sequestration associated with the utilization of wood products. An additional graphic which reflects wood products in use and in landfills would be appropriate. While the report discusses wood projects, the Christensen graphic would lead a casual reader to

infer that annual volume removed is emission, when in fact 70% or more of the removed volume is sequestered in long-term products and landfills.

CaSAF FCP Recommendation 6: Given the important carbon sequestration contribution of wood products in-use and wood products in landfills, CaSAF recommends that the Christensen graph on page 151 either be replaced or that a graph is created and included in the FCAT discussion that reflects the component of harvested volume that is sequestered.

Comment 7: FCP should analyze the feasibility of increasing pace and scale in the context of existing and needed infrastructure and community based workforce capacity.

Background: While recognizing that current sawmill and biomass infrastructure capacity is limited, it is clear that if restoration efforts are to proceed at a meaningful pace and scale, existing infrastructure must be maintained and additional biomass and sawlog utilization capacity should be encouraged.

In addition to the analysis of wood utilization infrastructure there should also be an evaluation of needs for and number of skills and number of skilled workers required to meet the increased level of fuel and forest restoration treatments.

To be most effective, the FCP should evaluate EcoRegion variation in workforce capacity, community support and processing infrastructure.

CaSAF FCP Recommendation 7: CaSAF recommends that additional analyses and narrative be directed at assessing existing infrastructure and skilled workforce resources at the EcoRegion level. These analyses should be conducted with the intent of identifying needs and priorities for additional infrastructure by type (biomass, biofuels, sawmills, etc.) and location. This is particularly critical with respect to biomass facilities in the Klamath/Interior Ecoregion and the northern half of the Sierra/Cascade Ecoregion. For the southern portion of the Sierra/Cascade Ecoregion mountain areas of the South Coast and Mountains Ecoregion, both

biomass and sawmill capacity is needed. Factors to be considered should include the volume supply of biomass and sawlogs, availability and certainty of raw materials, and transportation of raw material to production facilities.

Comment 8: In light of climate change and changing site suitability. The FCP should address the need for an assisted migration strategy to aid in tailoring choices of planting stock when utilized in reforestation/restoration

Background: As reflected in Appendix 2, the Forest Carbon Plan recognizes that predicting the outcomes of global warming in terms of anticipating effects on vegetation is less than an exact science. It is also recognized that there are a number of potential climate/vegetation modeling outcomes based on assumptions of CO2 levels. Given the likelihood that future conditions impacting vegetation will change, there is need for an additional level of analyses for policy direction that uses current knowledge and modeling to predict where and what type of management activities would be most cost effective to achieve restoration or reforestation goals.

This would necessitate scaling down the climate modeling to a project level scale in order to accommodate evaluation of the long term success of a proposed management activity at the project level. The goals would be to develop approaches to assisted migration designed to 1) increase resilience of existing forests to changing conditions and, 2) to ensure that restoration through afforestation or reforestation do not perpetuate establishment of forests that will be maladapted to the site as climatic conditions change.

While it is recognized that the concept of assisted migration is controversial, there is a clear need to include recommendations in the Forest Carbon Plan for CAL FIRE's FRAP Unit in cooperation with the USFS and PSW to conduct a science review and analysis to inform private and federal land managers related to choice of planting stock that best meets the predicted conditions at the planning site. Part of this evaluation should include an assessment of plant species with limited ranges or isolated populations that may be a risk of

extirpation entirely or over a significant enough portion of the range to raise concerns of loss of genetic variability. The objective of the analysis should be to provide tools in addition to the existing seed zones map to assist in selection of planting stock and to provide a strategic approach to preserving or maintaining genetic diversity for plant species or isolated subpopulations.

CaSAF FCP Recommendation 8: CaSAF recommends that the FCP report include Actions for 1) a cooperative science based approach to development of a process to evaluate current seed zone maps based on an assisted migration strategy, and 2) develop an assessment of plant species at risk of extirpation across a portion or all of their range and actions necessary to preserve species or genetic variability.

Comment 9: The FCP should include an Action item supporting development of a strategy to offset future emissions from decomposition of dead trees in the central and southern Sierras.

Background: The most recent estimate of the total number of dead trees in the southern Sierras is over 102 million. Due to lack of funding, lack of milling infrastructure, and lack of skilled workforce in part, it is likely that less than 1 percent of these trees will be removed. From a carbon emissions standpoint, the number of dead trees represents a significant future emission source whether through black carbon emissions with wildfires which burn through these impacted landscapes or through emissions associated with decomposition of the dead trees. In total 51.8 million metric tons of CO₂ will be emitted as these dead trees decompose (Forest Carbon Plan page 60)

CaSAF FCP Recommendation 9: Given the emissions from these dead trees, CaSAF recommends that the Forest Carbon Plan include an Action item to develop a strategic approach for implementation of mitigation measures focused on restoration of sufficient sequestration capacity to offset these emissions by 2075. Strategies should be designed to manage the emissions associated with the tree

mortality through a) use of managed fire, b) on-site restoration of sequestration capability where appropriate, c) implementation of a landscape level fuel treatment and maintenance strategy that will allow containment of wildfires to a predetermined target size, and d) funding for additional fuel treatment/suppression resources to achieve objectives.

Comment 10: The FCP needs to include additional approaches to incentivizing small landowners to manage their forest land to the benefit of carbon programs through consideration of tax incentives, providing short or long term loans to facilitate forest health improvement or fuel treatment, simplifying federal and state grant procedures and reporting requirements, etc.

Background: Statistics developed by the Forest Service FIA process using data from the National Woodland Owners Survey indicate that there are over 190 thousand Family Forest owners of 1 or more acres who collectively own approximately 7.9 million acres of forest land in California.

The percentage of Family Forests having written Management Plans continues to be less than 10% in spite of efforts through State and Private Forestry programs delivered by Cal Fire and private incentive programs such and the California Tree Farm Program which is delivered by volunteers and coordinated through the American Forest Foundation.

The reasons for not having a written Management Plan, as stated by Family Forest landowners who responded to the National Woodland Owners Survey, are many. However, a substantial number of respondents cite expense and processes which are to complex. Many are of the opinion that they do not want or need a management plan or they are simply too busy, while at the same time indicating that they do have plans for future use of their Forest.

Increasing the number of ownerships within the Family Forest ownership category is key to implementing management practices that will maintain, enhance, or restore carbon stocks in support of the Forest Carbon Plan objectives.

CaSAF FCP Recommendation 10: Given the importance of this landowner group, CaSAF recommends that the list of proposed Actions include a provision to:

- coordinate and expand existing programs to assist landowners in creation of Land Management Plans with the goal of doubling the acreage covered by Land Management Plans by 2030.
- Identify opportunities for loans, tax credits, or other monetary incentives to help defray cost of Management Plan Preparation.
- Evaluate and streamline current grant reporting procedures to the extent feasible.

References:

Long et.al, 2013, *“Science Synthesis to Promote Resilience of Social-ecological Systems in the Sierra Nevada and Southern Cascades”*, Final Draft, USDA Forest Service, Pacific Southwest Research Station.

North et al.,2009, *“An Ecosystem Management Strategy for Sierran Mixed-Conifer Forests”*, USDA Forest Service, Pacific Southwest Research station, General Technical Report PSW-GTR-220.

North et al.,2012, *“Managing Sierra Nevada Forests”*, USDA Forest Service, Pacific Southwest Research Station, General Technical Report PSW-GTR-237.

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