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Comments: Via email: <https://www.fs.usda.gov/project/?project=56500>

January 22, 2021

Jason Kuiken, Forest Supervisor Stanislaus National Forest 19777 Greenly Road
Sonora, CA 95370

Re: Social and Ecological Resilience Across the Landscape (SERAL) Draft EIS, Project 56500

Dear Jason,

Background:

I appreciate the opportunity to comment on the SERAL Draft Environmental Impact Statement (DEIS).

A short summary of my qualifications to comment on the DEIS follows: I retired from the Forest Service, R5 after serving on five National Forests and the Regional Office. I served as a Regional Forester's Representative for the Timber Sale Administration Certification Program and was a Certified Silviculturalist. I have been coming to the Stanislaus NF with my family since I was in grade school and worked on both the Calaveras RD and Groveland RD during the summers of 1961 & 1962. I also served as the Small Sale Officer on the Calaveras RD from 1969-1971 and have lived on North Tuolumne Road since 2002 and have provided input for forest management issues as they have arisen. I am a member of the Society of American Foresters (SAF), 49er Chapter, and a Registered Professional Forester (RPF #1036) in California.

My comments are in response to the major identified issues and the Summary of Major Conclusions.

The SERAL project includes approximately 120,000 acres centrally located in the Stanislaus National Forest. In summary I support the adoption of Alternative 1, the proposed action with modifications listed below to better meet the objectives of the project. Preparation of the DEIS was guided by using new technology including the use of LIDAR to collect field data and new modeling techniques which led to unprecedented site specific data as shown in the detailed project maps accompanying the DEIS,

Purpose & Need for the Project:

The purpose and need for the project are well documented in the DEIS. A critical need is to increase heterogeneity within forested lands and to reduce stand density of forested stands to reduce the potential for stand replacing fires and insect mortality which has been occurring previous drought years.

The Proposed Action

I believe that the proposed action can be improved by adopting the following recommendations. Salvage of burned stands of timber and/or patches of insect mortality.

The proposed reduction of salvage of insect-, disease-, drought-, and wildfire-killed trees lacks the site- specificity necessary to assess the potential impacts to the environment. There are already an abnormally high amount of dead trees within the landscape. Section 1.01B of the DEIS estimates that over 10 million trees have died on the Forest since 2010 and that the vast majority

of these trees remain on the landscape with additional mortality expected in the future. The direction to retain up to 10 acres of dead timber per occurrence and up to 15% of larger landscape units (pp. 30-31) ignores the excess level of dead trees across the project area, will increase fuel loading, will complicate the planned use of prescribed fire in these units, will forego recovering economic value and job creation that would occur with reasonable salvage operations. In addition, leaving these large patches of dead timber is contrary to the goal of increasing carbon sequestration because dead trees do not sequester carbon, they only will decay and release carbon back to the atmosphere. Reforestation will not be practical in such areas, thus further restricting the capture of carbon by healthy, growing young trees.

It may be that conifer forests on the Stanislaus NF in pre-settlement conditions contained patches of mortality, but the frequent fires reported before management would have tended to burn up stands of dead timber leaving small openings. In any case management of our current forests with almost 40 million people in California can not be the same as conditions pre-settlement. Carbon sequestration alone requires healthy, growing forests and production of some level of timber to support local mills and provide an environmentally sustainable wood supply to Californians.

The restrictions on fire salvage listed on p. 31 including the first two bullet points are unacceptable and unnecessary.

[bull] salvage of wildfire-killed trees may only occur within 7 years of the SERAL decision, and

[bull] acres of fire salvage are limited to a maximum of 500 acres per HUC 6 watershed totaling approximately 3,000 acres within the project area

There is no justification for the 7-year limit unless the whole scope of the SERAL decision is only good for 7 years after which a new analysis would be necessary. It is unclear if this direction applies to an unforeseen catastrophic fire should it occur in the SERAL project area that would require reforestation and salvage as a necessary site preparation measure.

I appreciate the extensive literature reviewed and cited in the DEIS, but new information is being published frequently and emphasizes the critical role of stocked, relatively young forests in sequestering carbon. For instance, a recent issue of The Forestry Source, January 22/ Vol. 27 No. 1 Published by the SAF is largely devoted to the topic. Two of several references to newly published literature support the need for healthy, growing forest and listed here:

Domke, G.M. S.N. Oswalt. B.F. Walters and R.S. Morin, 2020 [ldquo]Tree planting has the Potential to Increase Carbon Sequestration Capacity of Forest in the United States.[rdquo] Proceedings of the National Academy of Sciences, 117: 24.649-24.651 <https://doi.10.1073/pnas.2010840117>.

Quirion. B.R. C.M.Domke, B.F.Walters. G.M. Lovett. J.E. Fargione, L.C. Greenwood, K.Serbesoff-King. J.M. Randall,and S.Fei. 2021. Insect and Disease Disturbance Correlate with Reduced Carbon Sequestration in Forests of the Continuous United States[rdquo] Frontiers in Forests and

Global Change 4: 716.582. <https://doi.Org/10.3389/ffgc.2021.716582>.

I also note that there are over 300,000 acres of proclaimed Wilderness and Roadless areas on the Stanislaus which are being managed for a desired condition which leaves extensive areas of snags and mortality patches resulting from insects, diseases, and managed wildfires. It is probable that these areas will reach a [ldquo]steady state[rdquo] over time in which carbon sequestration equals carbon release back to the atmosphere, providing no net benefit to reducing global warming.

I recommend that an interdisciplinary team evaluate patches of mortality killed by fire or insects in the project area on a case-by-case basis and recommend the appropriate management action, which may include leaving some of such areas untreated.

DBH Limits and Economics

The arbitrary imposition of diameter limits has no basis in silvicultural science and is not justified by any other cited research. The 30-inch DBH limit was originally adopted on an interim basis and has been retained as a political expedient. The proposed DBH limits will inhibit the ability to meet the purpose and need of the project by leaving some stands too dense to effectively reduce susceptibility to wildfire-, drought-, and insect and disease-related mortality. Language on pages 13-14 of the DEIS acknowledges that some stands will remain overly dense and subject to insect mortality by retaining all trees over 30- inch DBH (or 34-inch DBH in a few cases). It is well documented that when large, old trees are drought stressed they are often targeted and killed in groups by bark beetles and other diseases. Recent history shows that bark beetle attack disproportionately targets the largest diameter trees. This outcome is contrary to the objective of the project to retain the largest trees on the landscape. The Forest Service can retain the largest trees in such groups by reducing stand density to the levels specified in other sections of the DEIS. As the DEIS states on p. 13 when recounting the effects of the drought from 2014 to 2017, mortality of conifer trees increased to unprecedented levels. [ldquo]The vast majority of these millions of dead trees remain on the landscape, and tens of thousands of acres of live trees in the SERAL project area remain at risk to insect outbreaks and associated widespread, ecosystem-altering mortality due to current density of live trees. Prevention strategies for minimizing further tree mortality by reducing water stress and competition are critical.[rdquo]

I support creating diverse fire and insect resilient timber stands by reducing their densities (e.g., basal area). The DEIS states that desired basal areas will be 100 to 150 square feet per acre (sqft/ac). This may be too high in certain areas to meet the stated purpose and need. A new paper by Malcom North, et al. 2022 Makes the case that SDI and other methods of describing [ldquo]Desired Condition[rdquo] overstates the carrying capacity of the land. Due to drought, beetles, and high-severity fire, they suggest a [ldquo]minimal competition[rdquo] approach is more appropriate. Therefore, much less density on the landscape is desired than a [ldquo]full competition[rdquo] approach to the [ldquo]Desired Condition.[rdquo]

Malcom P. North, Ryan E. Tompkins, Alexis A. Bernal, Brandon M. Collins, Scott I. Stephens, Robert A. York. Forest Ecology and Management. 507 (2022) 120004.

Growth rates of dominant and co-dominant trees in the Seral project area can often attain an inch of radial growth in five years (5 rings per inch) at DBH equaling 2 inches of diameter growth in five years or 4 inches of diameter growth in the 10-year planning period for the SERAL project. This means that a 26-inch tree that can be thinned today, will exceed the 30-inch diameter limit by the end of 10 years, resulting in stands that are eligible for thinning now will not be in the future and will remain too dense.

Setting rigid diameter limits now with the requirement to leave the largest trees while thinning smaller trees to meet the Desired Condition means that, over time, nearly all the trees in a stand will grow to over 30 inches and further management of stand density will not be possible. Although a new EIS may change management direction in the future, the proposed diameter limits do not make silvicultural sense.

An additional and related concern is that given the size, planning effort, and publicity of the SERAL project thus far, it is likely (and in my experience probable) that these adopted diameter limits will be applied to other vegetation management projects on the Stanislaus NF and even to projects on adjacent forests in the Sierra Nevada Mountains. This would not be defensible on any silvicultural basis and would cause endless appeals and controversy.

Since it may be necessary to harvest larger trees to create a condition where tree crowns are not interlocking, and to meet the desired conditions for stand density, it will be necessary to thin some trees greater than the listed diameter limits during the plan period. Therefore, I support an adaptive approach with either no tree diameter limits (e.g., delete Alt 1, Table 12), or by providing for exceptions, and allowing USFS Certified Silviculturists with interdisciplinary team (IDT) input to determine the silviculture method and the tree sizes for cutting in site specific areas to meet the stated purpose and need.

As a reference point, the Inyo NF in their newly adopted forest plan allows an exception to their listed diameter limits on a case-by-case basis when necessary to meet the objectives of the plan.

Temporary roads

The proposed limits of temporary road construction and use are too rigid to allow for sound environmental vegetative treatments. There is no [ldquo]science[rdquo] that restricts the use of a temporary road to 500 feet in length vs 550 or 600 feet if necessary to accomplish the objectives of the stand treatments being planned. It can be less damaging to the environment to move logs and chips on a truck than to ground skid them for extended distances. Our last AFRC field trip to look at proposed units in the SERAL project west of Mt. Elizabeth showed that an extension of the temporary road right on top of the ridge was necessary to accomplish the thinning on both sides of the ridge and for access to follow-up prescribed burns.

The direction to limit temporary roads to 10% grade (pp. 31-32) needs to be clarified. Is the intent not to allow temp roads in units with slopes over 10 percent? Temporary roads on up to 15 % road gradient have been successfully used on the Forest.

AFRC recommends that guidance for the use of temporary roads be generally limited to that needed to provide for the most environmentally sound vegetation treatments.

Fuelbreaks

I support the construction and maintenance of the planned fuelbreak network for the reasons stated in the DEIS. However, the requirement that the two largest snags be retained in the outer zone of the fuelbreak may invalidate the purpose of the fuelbreak in that, under active fire conditions those retained snags will be a hazard to suppression forces working in the fuelbreak. We also know that when wildfire hits retained snags they often become [ldquo]torches[rdquo] several hundred feet high, spreading embers and burning brands across the fuelbreak, hampering the suppression effort.

I recommend that snags to be retained in a fuelbreak be evaluated by the ID team on a case-by-case basis depending on size, location, and other factors. Please consider the level of snags across the project area to determine the need for additional snags on each treated acre.

Summary of Support for Plan

I fully agree with the Purpose and Need for this proposed project. I strongly support implementing this project as described in Alternative 1, with the exceptions to provide flexibility in the diameter restrictions (or provide exceptions), sanitation-salvage limitations, use of temporary roads and fuelbreak standards.

Sincerely,

//Jerry Jensen//

Jerry Jensen

Registered Professional Forester, No. 1036

cc: AFRC Members

Steve Brink, Vice President, CFA 49er Chapter SAF

Mike Albrecht, ACL dy Hanvelt