

Thank you for this opportunity to comment during the scoping process for SERAL 2.0

This project is on unceded Central Sierra Me-Wuk Land.

1. Consult early and extensively with the Tribes. Providing a session with the Cultural Resource lead, someone with GIS skills, and possibly someone from fire, particularly a fire archaeologist could enable GIS in areas of concern for Tribes and might garner comments and wisdom that could be utilized in species and fire management. The season and manner of burning are important to enhance basketry materials, medicinal plants, and items of food or utilitarian use. Tribes, due to millennia of land management, know a lot about fire regimes and plant species.

Base the proposed action on indigenous knowledge. The Native people have managed the land sustainably for thousands of years. Their management provides baseline conditions from the time of first European contact, and this baseline is a value to which we might aspire.

Please see the following links for how others are benefiting from working with Tribes in land management:

<https://www.fs.usda.gov/features/we-live-fire>

<https://www.universityofcalifornia.edu/news/how-indigenous-practice-good-fire-can-help-our-forests-thrive>

<https://news.mongabay.com/2022/11/tribe-and-partners-light-up-a-forest-to-restore-landscape-in-california/>

<https://news.stanford.edu/2019/08/27/traditional-fire-management-help-revitalize-american-indian-cultures>

https://www.americanbar.org/groups/environment_energy_resources/publications/nar/tribal-co-management/

<https://www.fs.usda.gov/features/working-with-tribes-oak-groves-meadows>

2. Please reply to all scoping comments. For the initial SERAL project at least two people did not receive responses to their scoping comments.

3. Ensure that fire does not get to the North Fork Tuolumne. That was a huge concern during the Rim Fire. It could quickly carry fire to many communities along Highway 108. With increasing grass with each successive fire and the series of fires that have happened at low elevation in this project (Stanislaus complex, Rogge, Rim, and others), fire in annual grasses can spread quickly under even fairly high moisture situations. Keeping fire out of the North Fork Tuolumne must be a guiding concern for this project, particularly at the lower elevations.

4. Botany concerns

a. *Lomatium stebbinsii* (LOST5) A large portion of the known occurrences of this species are in this project and many are on the ridges where fuelbreaks are proposed. There has been no monitoring of this species since the droughts over the last decade or more and the decreased

snow at lower elevations. A large portion of the known occurrences of this species are in this project and many are on the ridges where fuelbreaks are proposed. There has been no monitoring of this species since the droughts over the last decade or more and the decreased snow at lower elevations. One quick field check found that it is absent at lower elevation sites, but there has been no follow-up. It is thought that the species may be on a downward trend, but the speed and extent of that trend are not known. Snow holds moisture released over weeks. Without that and reliable rain, this species is not likely to persist. In addition, it is now near the southern edges of lava caps where there is more shade and leaf litter to hold moisture, yet previously LOST5 was not there due to the risk of fire.

b. Other lava cap species: *Allium tribracteatum* (ALTR2), *Lewisia kelloggii* ssp. *Hutchisonii* (LEKEH). ALTR2 also relies on snow pack to persist during drought when water from rock outcrops is concentrated. These species occur in open habitat where impacts can occur. What has been learned from monitoring of these species in areas in the first SERAL? Has there been effectiveness monitoring to learn from that project and make positive changes here?

As a reminder- do not burn across lava caps. Start ignitions on the edges of lava caps to prevent an increase in nonnative annual grasses which can carry fire across this habitat. Also protect the ring of shrubs often on the edges of this habitat to keep vehicles from gaining access. Do not put burn piles on this habitat. Stay off this habitat!

Work closely with a botanist who knows these species to ensure these fuelbreaks do not allow the indirect effects of weed spread and vehicle access. Prevent the spread of *Erodium* spp., which competes with these species because of its long taproot that extracts more water (PG&E monitoring).

c. There is only one known occurrence of *Cypripedium montanum* in this project. Although this species can survive light fire, the fire would remove the branches that protect the plant from cattle. For this reason and its proximity to the cut bank, exclude fire from this occurrence.

This species is another that is on a downward trend here. The population was greatly reduced during the Rim Fire.

d. Tuolumne fawnlily (*Erythronium tuolumnense*) There was extensive application of herbicides after the Stanislaus Complex Fire and while the only previously known occurrences were protected, we do not know where the species occurred outside of its mapped area. The plant is impacted by grazing cattle because those spring bulbs are high in nitrogen. Fawnlily is also impacted by encroaching Armenian blackberry, abundant in this area. The lily is shaded out by the blackberry at Dyer Creek and at other locations. Target treatment of the blackberry in areas near this species.

e. Watchlist: *Taxus brevifolia*. The stand of Pacific yew in this project is the southernmost known in the Sierra (Willits and Day 2014). There are few known occurrences on this forest. It is an NFMA concern.

The stand of Pacific yew in this project is the southernmost known in the Sierra (Willits and Day 2014). There are few known occurrences on this forest. It is an NFMA concern.

Pacific yew has thin bark and is very sensitive to fire (Minore 1979, Crawford 1983, Spies 1991, Scher and Jimerson 1989). I have seen it killed when a broadcast burn in a clearcut was

allowed to back down out of the unit into a riparian area. It was the only species killed by that level of fire (personal observation).

It is in a burn unit. Do not burn within 50' of this species. It tolerates heavy shade and has branches that spread widely low to the ground.

In addition, a portion of this occurrence is in a fuelbreak that is proposed along Cottonwood Road. Remove that area from the fuelbreak. Do not remove the canopy over the Pacific yew or the yew trees. Pacific yew becomes chlorotic and can die when the canopy is removed (personal observation)

This stand follows the ideas of Camp *et al.* 1997 with the largest trees near the confluence with a tributary and the smallest trees out of the inner gorge where there had been recent fire. Please draw on that and subsequent literature on fire refugia to enable this project to increase the likelihood that this stand will survive in the year ahead. Actions were taken on the Calaveras district to reduce fuels near the yew trees there long ago.

Pacific yew was a very important tree species to Native Americans, particularly important for manufacture of their bows. This specific location of Pacific yew is close to a male ceremonial area, to other species of concern, and to travel networks. (S Davis-King, personal communication)

f. Please also consider *Notholithocarpus densiflora* var. *echinoides* in the botany report. Very little is known in Tuolumne County. (<https://www.calflora.org/app/taxon?crn=11882>) NFMA.

g. The area south and also somewhat west of Thompson Meadow is also unusual with phantom orchid (*Cephalanthera austini*) (very uncommon here <https://www.calflora.org/app/taxon?crn=1867>); *Ledum glandulosum*/ *Rhododendron columbianum* at an unusually low elevation; bleeding hearts, and other delightful plants. This is an area with high duff and is in a burn unit. The orchid would be impacted by fire and the habitat would no longer hold the moisture that supports this unusual mix of species (NFMA concern). Exclude this area from burning.

h. cut banks- (*Perideridia bacigalupii*, *Clarkia biloba* ssp. *australis*, and others) These are now refugia for species which formerly grew on formerly open ridges. Those ridges have since been deep tilled and planted as plantations. Carefully consider any herbiciding and other impacts to these areas.

I. Weeds- Much of the weed data used in this analysis is more than eight years old. That is insufficient information to base a proposed action that would be effective for weeds. Weed surveys are quickly outdated within three years. Newly introduced species previously unknown could easily be spread substantially. Weed Risk Assessments begin with an evaluation of the extent surveyed. Good information is needed to do that risk assessment. At a minimum there should be surveys along roads for weeds before the Weed Risk Assessment is written; otherwise this would not meet the Forest Plan on prevention of weed spread. (Yes, weed introduction is mitigated by equipment cleaning. I am talking about weed spread here.)

Ensure that weed treatment happens before implementation when they are near or in units along roads to be used.

The low elevation portion of this project has a high concentration of weeds, particularly Between Rogge Ranch and the neighboring private land.

4. Monitoring. SERAL was compromised by implementation that did not match the description that was analyzed in the NEPA document. Monitoring by those disciplines with management requirements should be required at least monthly during the first year of a contract. After Year One, monitoring might appropriately drop to twice a year and thereafter to once a year. There must be feedback when the project is this large. We are faulted if we do not address issues with those we supervise early in the process. Sale administrators are out there a lot for that same reason. It is very important to ensure that process for keeping things working well and as planned happens with SERAL 2.0.

Monitoring is essential for the feedback to keep things on track and matters even more in large projects like this. It must be required as part of the project.

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