

**EMC-2017-006 (2/2) - October 20, 2017:** Responses to comments on proposal  
EMC-2017-006 at EMC meeting on 9/22/17

Submitted by Robert A. York

Project title: Tradeoffs among riparian buffer zones, fire hazard, and species composition in the  
Sierra Nevada

**Summary:** I and my collaborators are extremely appreciative for the opportunity to work on this proposal with the EMC, whose mission is well-aligned with the mission of UC Center for Forestry. Our highest priority for research forest lands is to conduct applied research that improves the understanding and management of mixed conifer forestlands in California. After listening to the discussion of the proposal on 9/22/17, I developed it into what I consider to be a full draft of a concept proposal. All of the comments made at the meeting were helpful in improving the proposal into its current form. I have itemized the comments below and explained how they have been addressed. I look forward to continuing the development of this proposal with EMC.

**Comments (paraphrased and in bold) and responses (non-bold):**

**How difficult is it to get experimental status?** Surprisingly, Blodgett Forest has never sought experimental status. All of the research done so far has been done within the bounds of the Forest Practice Rules. This has had some benefit for demonstration purposes. The fact that we go through the same process as every other landowner demonstrates the feasibility of management alternatives. However, this has also been a constraint on experimental capacity. For example, a group selection study that found relationships between group size and regeneration dynamics used group sizes ranging from 0.25 to 2.5 acres (i.e. as defined in the forest practice rules). In retrospect, this study would have been more powerful had it included both smaller and larger sizes that were beyond those defined in the rules.

As we look to create the “Berkeley Forests,” which will include new UC properties and new partnerships with Cal Fire Demonstration and private forests, we are looking to conduct research that applies to the entire Sierra Nevada mixed conifer forest. There have been several research ideas for new projects posited by UC Berkeley and other university faculty. They have been profoundly experimental in nature, incorporating “outside the box” thinking. Thus while the project proposed here is the first one to attempt experimental status, we do not envision it to be the last. We welcome EMC guidance with respect to the timing of presenting this project to the Board in seeking experimental status.

**Options for heavy equipment in riparian areas during forest operations.** I believe there is a relevant distinction between options and regulations that are in place in the Coast versus North/South regions. My understanding is that there is no current allowance for heavy equipment in Class I and II WLPZs in the Sierra Nevada, except via in lieu practices or by explaining and justifying a departure that is to be approved by the Director. From my own experiences writing THP’s and from discussions with other foresters, it appears that it is extremely rare for this to occur. This point was added to the background and justification section of the proposal.

**Substrate quality as a potentially spurious response variable.** We agree that there is potential for stream substrate quality and sediment to be problematic for a sub-watershed study design. Because

substrate quality is a standard measurement on the existing permanent riparian plots, it was included in this proposal because there was no increase in effort to measure it. We have taken it out of the proposal as a response variable, although it will still be measured as part of the standard protocol..

**Suggest that water temperature be measured.** We agree that water temperature would be a highly relevant metric for this study. We have added as a response variable of interest. The measurement should be interesting to analyze as a covariate with light availability and stand structure.

**What is meant by historic fire regime in riparian areas, considering that low severity fire didn't occur in riparian areas?** We developed the literature review on this topic more thoroughly and added references and context to the proposal. We clarified that WLPZs include both moist riparian vegetation, but also vegetation that is more representative of uphill zones. The fire reconstruction studies from riparian areas suggest that fire frequency was either as frequent or somewhat longer than uphill locations. This is likely dependent on the distance from the channel that one considers "riparian." We use the FPR's definition of WLPZ boundary and infer from the literature that fires were, in general, frequent but likely more variable in both occurrence and effects compared to uphill areas.

**Suggest replace substrate quality with NPP.** This is a good suggestion. However, we chose to substitute temperature for substrate quality as a higher priority. This is not because NPP is unimportant, but because we are at a maximum capacity of what we can commit to measuring with this proposal's collaborators and budget. We would welcome a separate proposal to "piggy-back" onto the experimental treatments if another investigator was interested in measuring NPP.