

# Sierra Nevada Adaptive Management and Monitoring Program

Work Plan MOU Partners Meeting: January 13

## Update on Research Design: John Battles



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# Objective

Obtain credible information on the impact of strategic fuel management at the landscape level.

Credible to managers

Credible to policy makers

Credible to public

Credible to scientists

Note: principal inferential reference

Westside mixed conifer forests

USFS lands under SNFPA regime

# Tasks

1. Define fundamental experimental unit

small fireshed on the order of 10,000 acres (40 km<sup>2</sup>)

2. Develop experimental design and analysis

Before-after-impact-control (2-2-1-2)

Formalize meta-replication (sensu Johnson 2002)

3. Plan sampling design

Paired firesheds (1 with accelerated treatments, 1 with current)

Two sites (1 north; 1 south)

4. Integrate

Negotiate comprises among research themes

Optimize available/ongoing research

# Justification

1. Small fireshed was the largest unit that we can reasonably expect to be treated given the need for short-term evaluation.
- 2a. BACI design is the most powerful approach to detect management-related impacts given the constraints on replication. Seven year plan acknowledges reality that treatments at this scale will take several years and that immediate post-harvest function is biased.
- 2b. Formal meta-replication analysis will explicitly incorporate existing/ongoing studies
3. This sampling design is a good example of a science/feasibility trade-off (Tear et al. 2005). Goal of “representative” is replaced with goal of “not an outlier”
4. Internal integration has been an ongoing process but now that the objectives of this project are more defined, we are facing the hard choices. Fire and water are most natural fits; forest health, wildlife, and public participation present greater challenge.

## Responses to December 9 Comments

### Criteria for site selection

Reference 11 criteria in Workplan  
Constrain to fire prone sectors

### Logistical concerns

Extra effort to carefully define terminology  
Make explicit linkages to ongoing research

### Scope and integration of the investigation

Noted that the scope was defined in MOU  
Emphasize integration of research objectives