

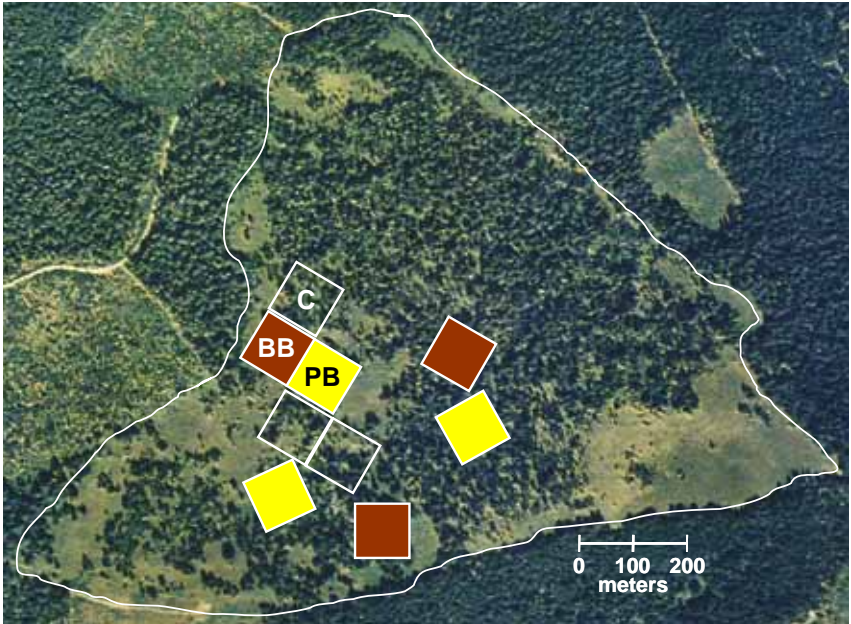
## Experimental Design

The design consists of three replicates of three treatments randomly assigned to nine 1-ha (2.5 acre) experimental units (Fig. 21). Replication and the untreated control enable us to make strong inferences about the effects of the restoration treatments across the backdrop of natural variation in vegetation composition in space and time. Treatments include:

- Control (C): no treatment
- Tree removal with slash piled and burned (PB)
- Tree removal with slash broadcast burned (BB)

Comparisons between unburned (PB) and burned (BB) treatments allow us to address our second question: Is fire necessary for restoration or is tree removal sufficient?

**Fig. 21.** Arrangement of the experimental treatments at Bunchgrass Ridge.



Within experimental units, a range of habitats including areas with few trees, recent invasion (<75 yr), and older forest (95-200 yr) allows us to address our third question: Does the potential for restoration depend on the stage of encroachment? (Fig. 22).



**Fig. 22.** Responses to treatments may differ in areas with few trees, in dense young forests, and in older forests.