



Research Brief for Resource Managers

Release:

June 2013

Contact:

Jon E. Keeley
Liz van Mantgem
Hugh D. Safford

Phone:

(559) 565-3170

(707) 562-8934

Email:

jon_keeley@usgs.gov
evanmantgem@usgs.gov
hughsafford@fs.fed.us

Central and Southern California Team, USGS Sequoia and Kings Canyon Field Station, Three Rivers, CA 93271
Sierra Nevada Team, One Shields Avenue, Davis, CA 95616

Forest Management vs. Fighting Fire with Fire in 1912

Boerker, R. H. 1912. Light burning versus forest management in Northern California. Forest Quarterly 10(2):184-194.

The “so-called” Indian practice of “light burning” was considered the oldest and most damaging forest management tool by Richard Boerker in 1912, as evidenced by “2,000,000 acres of useless brush in this State alone [bearing] witness to this fact.”

In support of the USFS fire suppression practices of the time, Boerker dutifully itemized and quantified the damage that he thought “light burning” practices caused in California. His examples include, 1) the 2,000,000 acres of useless brush (like chaparral) could have been growing timber worth \$50 to \$100/acre; 2) The remaining forests were considered over thinned and not nearly up to maximum timber harvest potential; 3) Roughly 30% to 50% of the trees left standing in fire opened forests were injured and therefore more susceptible to insects and fungi; 4) Fire damaged the soil and stunted the growth of future trees; 5) Fire prepared the forest to burn more vigorously in future fires; 6) Boerker calculated that light burning costs more than other fire management tools (\$1/acre vs. \$0.02/acre suppression); and 7) He claimed that light burning was completely incompatible with timber for profit goals and the “selection system” of timber management.

He recommended the use of fire for only three reasons: 1) for burning the tops and branches

Management Implications

- Richard Boerker believed that California shrublands and open, mature forests were fire damaged lands that sub-optimally produced merchantable lumber as a result of repeated light burning.
- He calculated that the cost of light burning alone prohibited its use at \$1.00/acre compared to fire suppression management at \$0.02/acre.
- Boerker further claimed that the timber for profit methods & goals used by the Forest Service were in direct conflict with the light burning method, which burned up all the valuable young trees and ruined the soil for future timber crops.
- It was admitted that prescribed burning could be useful, but only under specific conditions and as long as it didn't damage any young trees.

after logging; 2) for reproduction aid in Douglas fir types of the Northwest; and 3) for backfiring in fighting fire. And he recommended that these prescribed burns should be conducted only if the fire danger was very great, only when there were no young trees, and only with fire-resistant species.