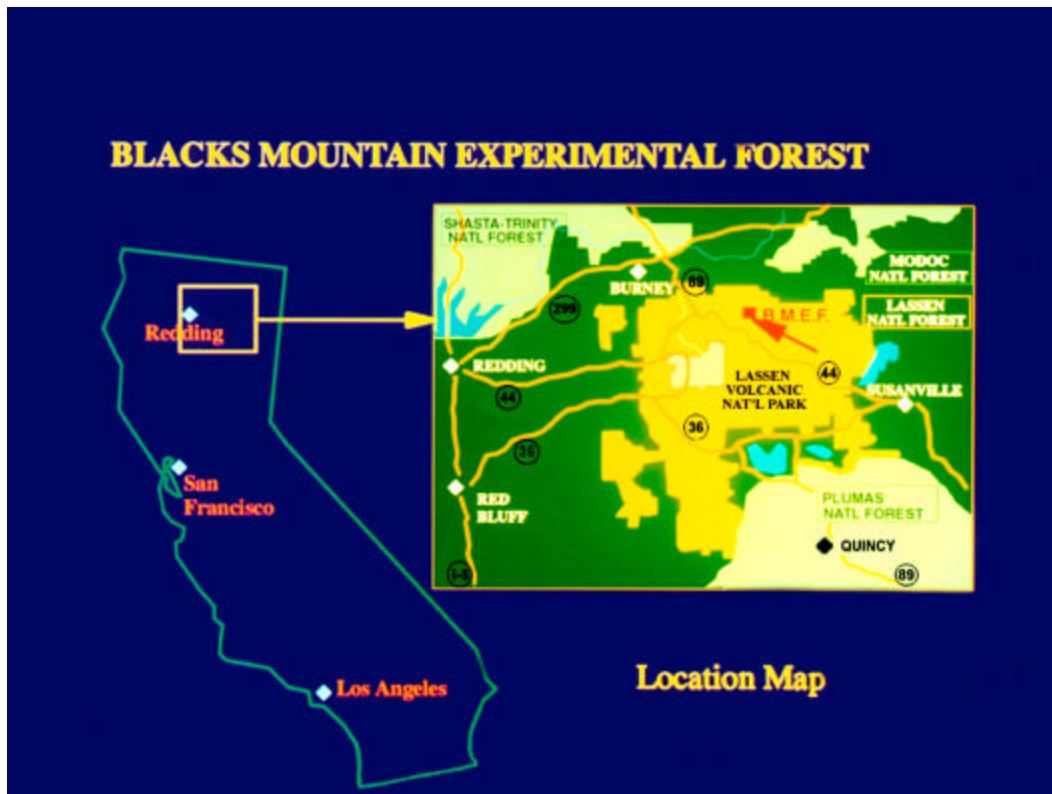


Healthy Forests Restoration Act Projects Title IV-Accelerated Information Gathering

Project Title: Blacks Mountain Interdisciplinary Research Project – Cone Fire Assessment

Significance: Researchers tested a study that was originally designed to assess the ecological responses to stand structure manipulations on the Cone Fire in Northern California in September 2002. The research was initiated prior to the passage of the Healthy Forests Restoration Act of 2003 (HFRA) but since the Act was passed, researchers are examining the impacts, under HFRA, of the treatments that they had imposed for another purpose on the wildfire. Each of the three manipulations significantly reduced fire behavior. While little information exists on the effectiveness of fuel treatments for reducing the severity of wildfires, even less information exists from wildfires that have burned into existing research projects designed to study effects of manipulating stand structure and other fuel treatments. Due to the study, we have pre-fire data that provides quantitative description of the stands and are able to quantitatively describe the influence of the treatments on fire severity.

Approach: With the help of a grant from the USDI-USDA Joint Fire Science Program we are investigating: 1) patterns of severity in the Cone Fire that burned into existing treatment areas, 2) immediate and long-term post-salvage stand and fuel conditions for severely burned areas of the Cone Fire, 3) patterns of beetle and woodpecker use in areas of varying fire severity and in salvaged areas, and 4) patterns of soil compaction associated with varying levels of salvage harvesting.



Outcome(s): Treated stands experienced dramatically lower fire severity than untreated stands. Additionally, stands thinned without follow-up prescribed fire appear to have experienced somewhat higher fire severity than those where thinning was followed by prescribed fire. However, in the case of both treatments, the fire dropped quickly out of the crowns to become a surface fire upon entering the treated areas. The Cone Fire died out immediately in two of the three stands that had received a prescribed fire treatment following thinning and within a 100 yards of the edge in the third. Where the thinning had not been followed by prescribe fire, the Cone Fire dropped to the ground and became a surface fire with mixed mortality patterns in the thinned stand. Our continued monitoring of these stands is providing data on secondary mortality in treated areas. This will give us a better understanding sustainability of survival from the original fire event and the effects of varying levels of fire salvage.

Benefits: The rapidity of apparent change from a high-intensity, severe crown fire to a much lower-intensity surface fire have significant implications for management of wildland/urban interface zones as well as wildlands in general. This study shows how dramatically wildfire under severe conditions can be altered with stand structural treatments that have been quantitatively described.

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