

3.14) Prescribed Fire and Heavy Fuel Effects on Mature Giant Sequoia Trees

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OBJECTIVES

This study was designed to assess the relationship between the amount of fuel surrounding giant sequoias prior to burning and the resulting fire effects (**Fig. 3.12-1**). The specific objectives of the study are to: 1) determine the amount of heavy fuels surrounding giant sequoia trees prior to and following prescribed burning, and measure the resulting fire effects characteristics; 2) from these measurements, determine the relationship between the amount of large fuel and duff surrounding giant sequoia trees and resulting changes in fire effects characteristics (bark char, crown scorch, fire scars, and mortality); 3) provide the fire management staff with the study results to assist in making decisions regarding heavy fuel clearance in giant sequoia groves. As a result of public concern about the visual effects of fire, giant sequoia trees located in SMA (special management areas) restoration burn units are subject to prefire fuel removal as specified in Appendix H of the SEKI Fire Management Plan. The appendix states that unnaturally high fuel levels around sequoia trees must be removed prior burning to limit bark char and crown scorch in trees greater than four feet in diameter. This study will provide information to managers about the actual impacts of burning these unnatural fuels are on sequoias. A waiver of Appendix H requirements was obtained for this research project in 1995. In 1996 Appendix H was amended to relax this internal SEKI policy requirement. For the complete study plan for this investigation see Keifer (1995) Appendix 1 in the MKRRP 1995 Annual Report.

WORK COMPLETED IN 1997

All 60 trees in the giant sequoia fuel and fire effects study located in segment #3 were revisited 2-years postfire and changes in new fire scar size was recorded. Results for the giant sequoia fuel and fire effects study are still being processed, however, no mortality occurred in any of the 60 study trees within 2-years following the fire.



Figure 3.14-1. Measuring preburn giant sequoia scar.