Final Report

Project Title: The value of Fuel Management in reducing wildfire damage to overstory trees

Principle Investigator: Kenneth W. Outcalt
Contact Information: 706-559-4309, koutcalt @fs.fed.us

Abstract: The objective was to determine the effectiveness of a regular prescribed burning program for reducing tree mortality in southern pine forests burned by wildfire. This study was conducted on public and industry lands in northeast Florida. On the Osceola National Forest, mean mortality was 35% in natural stands and 43% in plantations 2 growing seasons after a June 1998 wildfire. Burn history significantly affected mortality with those stands prescribe burned 1.5 yr prior to the wildfire having the lowest mortality, while stands prescribe burned 2 or more years prior had higher mortality. Although significant tree mortality did occur on the Osceola National Forest, with all trees killed in some stands, many trees in other burned stands did survive. The overall mortality was lower in both plantations and natural stands on the Osceola than at Tiger Bay where prescribed burning had been less frequent. The highest mortality rates occurred on the Lake Butler Forest where prescribed burning had not been used since plantation establishment. Thus, a regular prescribed burning program will reduce mortality following wildfires in both natural and planted stands of southern pines on flatwoods sites, even when wildfires occur under severe drought conditions.

This study was funded as a rapid response to wildfire. The funding requested and granted was $40,000 of which I actually spent $7,851. The remainder should have been returned to BLM. It was not possible to do the growth portion of the study because of difficulties with obtaining outside growth rings. Thus, the much lower study cost. The results of this study and the previous work following the 1998 Florida wildfires were combined into a publication for the Southern Journal of Forestry, abstract above. This publication summarizes all pertinent findings and along with this cover page should serve as the final report. In addition to this publication a presentation were made at regional Biennial Silviculture Conference and field tours have been given to students and other interested groups by both P.I. and staff of Osceola Ranger District.