



Forest Health Protection

Northeastern California Shared Services Area
2550 Riverside Drive, Susanville, CA 96130

Sheri L. Smith
Supervisory Entomologist
ssmith@fs.fed.us
530-252-6667

Daniel R. Cluck
Entomologist
dcluck@fs.fed.us
530-252-6431

Special Project Report

Date: February 20, 2007

File Code: 3440

To: District Ranger, American River Ranger District, Tahoe National Forest

Subject: Star Fire – Survivability of Fire-Injured Trees (NE-SPR-07-02)

Thank you for allowing Forest Health Protection (FHP) to implement and monitor fire-injured trees in the 2001 Star Fire. We have now completed the monitoring of 288 trees, which were included as part of our larger FHP data set for fire-injured California conifers. With this data set we have since developed and published probability of mortality models which will be incorporated into the First Order Fire Effects Model (FOFEM), Forest Vegetation Simulator-Fire and Fuels Extension (FVS-FFE) and BehavePlus and are the basis for the FHP fire salvage marking guidelines currently being utilized by three National Forests in Region 5.

We greatly appreciated the cooperation of District personnel in setting up and completing the study. Our most recent District contact for the project was Karen Jones. Enclosed please find a summary of data collected from 2002 to 2006 and a map of tree locations.

The General Technical Report can be found online at:

http://www.fs.fed.us/psw/publications/documents/psw_gtr203/psw_gtr203_019hood.pdf

The latest version of the salvage marking guidelines is available upon request. Please contact me if you have any questions.

/s/ Danny Cluck

Danny Cluck
NESA Entomologist

Summary of data for the 2001 Star Fire

Table 1. Total number of trees and mortality by year.

Species	# of trees evaluated in 2002 (all live)	2002 Mortality	2003 Mortality	2004 Mortality	2005 Mortality	2006 Mortality	Total Mortality
White fir	191	2	90	55	2	0	149
Sugar pine	74	2	50	16	0	1	69
TOTAL	265	4	140	71	2	1	218

Table 2. Number of trees and % survival by percent remaining live crown.

Live Crown (%)	# of white fir	% survival	# of sugar pine	% survival
0<10	26	8%	1	0%
10<20	52	2%	9	0%
20<30	44	16%	18	0%
30<40	34	44%	17	12%
40<50	17	47%	11	0%
50+	18	44%	18	28%

Table 3. Number of trees and % survival by cambium scorch rating.

Cambium Scorch Rating	# of white fir	% survival	# of sugar pine	% survival
0	26	46%	3	0%
1	38	32%	7	29%
2	53	17%	13	23%
3	43	16%	18	6%
4	30	3%	33	3%

- Rating of 0-4 is based on a cambium sample taken in each of four equally spaced directions near ground level. A rating of 0 is equal to no fire damage for any sample and 4 is dead cambium at each sample location.

Table 4. Number of trees and % survival by diameter breast height.

DBH (inches)	# of white fir	% survival	# of sugar pine	% survival
20-30	142	25%	40	13%
30+	47	15%	34	6%

Location: Star Fire, American River Ranger District, Tahoe National Forest

