Fuels and Fire Behavior Digital Dictionary

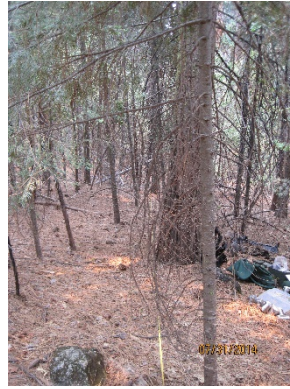## The Fire Behavior Assessment Team

French Fire
Plot #2

8/1/2014
Region5/Sierra NF

Transect 1, Pre, 0-50 ft

Transect 1, Post, 0-50 ft
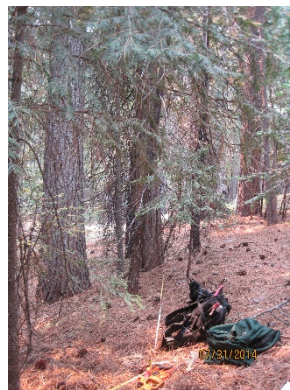

Transect 1, Pre, 50-0 ft

Transect 1, Post, 50-0 ft

Transect 2, Pre, 0-50 ft

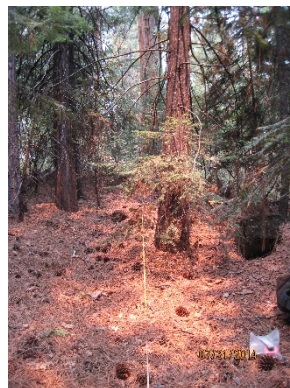Transect 2, Post, 0-50 ft

Transect 2, Pre, 50-0 ft

Transect 2, Post, 50-0 ft

Transect 3, Pre, 0-50 ft

Transect 3, Post, 0-50 ft

Transect 3, Pre, 50-0 ft

Transect 3, Post, 50-0 ft

Fuels, Topography, Weather

Site Info

Site Info	
Veg Type	Mixed conifer, bear clover
Slope (%)	25
Aspect (deg)	130
Elev (ft)	4261

Climatic Variables

Climatic Variables	
Fire Arrival (Date, Time)	8/1/14, 16:52
Burn End (Date, Time)	8/1/14, 17:23
20ft Wind (mph), 10min avg./gusts	3/5
Onsite wind(mph), eyelevel (10min avg.)	2 to 6
Wind direction (azimuth)	3
RH (%)	0 15
Temp (F)	86
ERC/BI	64/36
Drought Index	n/a
Live FM% (Herb/Woody)	30/107
Dead FM% (1/10/100/1000hr)	5/6/9/11

Fuel Model (min/max)

Fuel Model (min/max)
188/165

Surface Fuels - Pre	Tons/ac
1-hour	0.9
10-hour	1.2
100-hour	1.5
1000-hour	0.2
Litter	7.2
Duff	36.6
Total Fuels	47.6

Understory Vegetation	Tons/ac
Live/Dead Shrub	0.1/0.04
Live/Dead Herbaceous	<0.005/0

Canopy & Stand	
Canopy Bulk Density (kg/m^3)	0.12
Canopy Base Height (ft)	5
Basal Area (ft^2/ac)	437
Overstory Trees/ac (pre/post)	474/90

Climatic Variable Details
Weeather and fuel moisture taken from Minaret RAWS utilizing NFDRS2016. Onsite wind was collected from an anemometer. ERC and BI are scores, not percentiles.

Site History: Plot 2 was located in an area of no known recent fuel treatments or fire history.

Fire Behavior

Fire Behavior	
Primary Fire Type	Surface
Secondary Fire Type	Single torching
ROS - sensor source (ch/hr) (min/max/avg.)	0.68/0.95/0.8
ROS - video interp. (ch/hr) (min/max/avg.)	1.8/ 1.8/ 1.8
Flame Length (ft) (min/max/avg.)	1/ 25/ 3
Direction fire spread is going. (azimuth)	350

Fire Video	Description
	n/a

Fire management actions affecting plot:

Low intensity surface fire

High intensity surface fire
moving into crown

Fire Effects

Fire Severity	
Substrate Score (1-5)	4
Understory Vegetation Score (1-5)	4.6
Avg. % tree canopy scorch	79
Avg. % tree canopy torch	5
Avg. tree bole char (ft)	Unkn

Severity category definitions: 1= unburned, 2=low, 3=moderate, 4=high, 5=very high

Fuel Consumption	%
1-hour	100
10-hour	100
100-hour	66
1000-hour	19
Litter	100
Duff	100
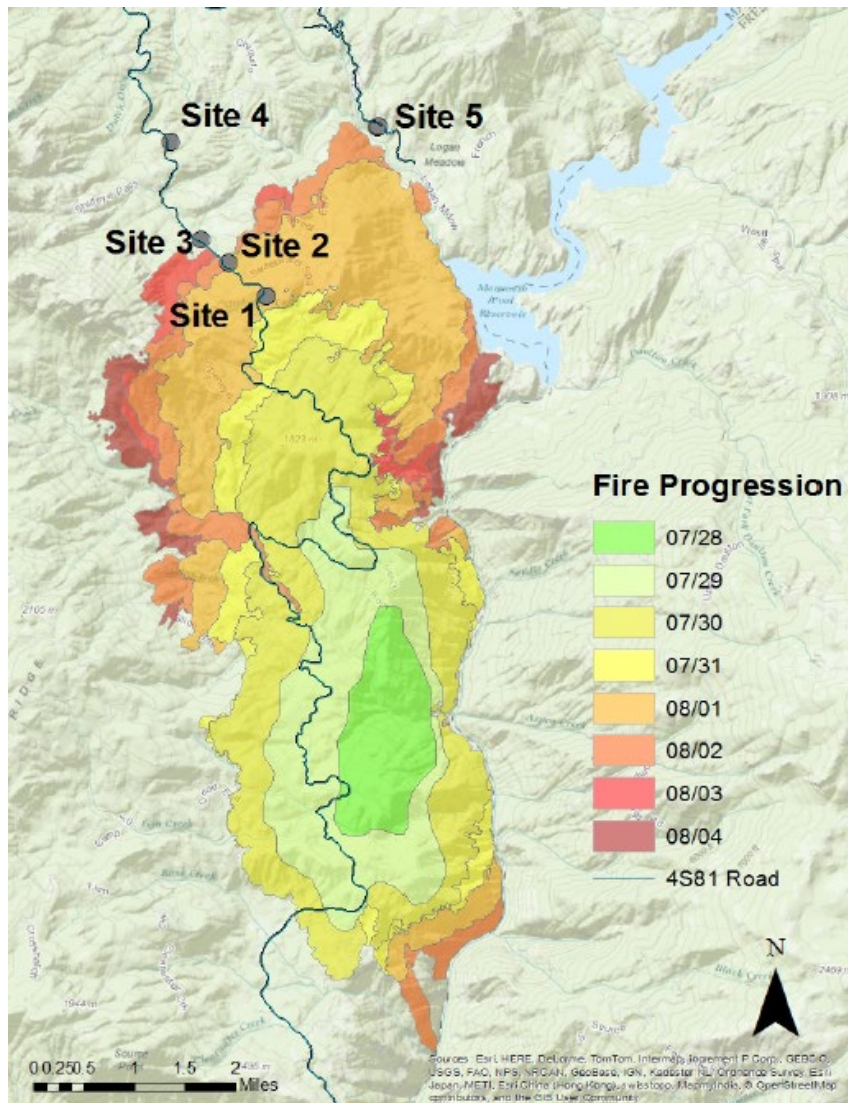
French Fire, Plot2, 2014

About the Fire Behavior Assessment Team (FBAT)

Abstract

Despite the scope of the US wildfire problem, capabilities for monitoring active wildfires to answer pressing questions about fire behavior and personnel safety are severely limited. The **Fire Behavior Assessment Team (FBAT)** is the only team currently collecting applied science data on active wildfires. FBAT functions in collaboration with land managers and interested research groups.   In coordination with incident management, sites are placed opportunistically ahead of the fire accounting for current and expected fire behavior, safe access, and fire management tactics.

FBAT can collect standard weather, fire behavior and fire severity observations as well as set up dataloggers which store wind speed, direction, temperature and RH. FBAT can also take plot data which includes:
- Heat resistant fire behavior equipment left on-site (video camera, 5-foot anemometer, sensor array for rate of spread/temperature profile through time, heat flux sensor).
- Fuels data collected on canopy, surface and ground fuels before and after the fire, and fire severity assessment post-fire. Fuel moisture data is often collected prior to the fire.

More information about methods and data can be found on the FBAT website:
https://www.frames.gov/fbat/home

The report for this fire which includes field methods and other background can be found at:
https://www.fs.fed.us/adaptivemanagement/reports/fbat/Antelope_detail.pdf