

# Fuels and Fire Behavior Digital Dictionary

The Fire Behavior Assessment Team

Cedar Fire  
Plot 3

8/24/2016  
Region5/Sequoia NF



Transect 1, Pre, 0-50 ft



Transect 1, Post, 0-50 ft

## Fuels, Topography, Weather

Site Info	
Veg Type	Mixed con, White fir, Incense cedar
Slope (%)	18
Aspect (deg)	220
Elev (ft)	Not recorded

Climatic Variables	
Fire Arrival (Date, Time)	8/24/16, 17:55
Burn End (Date, Time)	8/25/16, 13:12
20ft Wind (mph), 10min avg./gusts	1/7
Onsite wind(mph), eyelevel (10min avg.)	
Wind direction (azimuth)	281
RH (%)	29
Temp (F)	77
ERC/BI	70/56
Drought Index	
Live FM% (Herb/Woody)	39/97
Live FM% taken onsite (woody)	113-131
Dead FM% (1/10/100/1000hr)	6/7/10/9

Fuel Model (low/high)	
181/183	
Surface Fuels - Pre	Tons/ac
1-hour	0.6
10-hour	1.2
100-hour	1.2
1000-hour	7.5
Litter	14.5
Duff	22.1
Total Fuels	47.1

Understory Veg.	Tons/ac
Live/Dead Shrub	0.003 / 0
Live/Dead Herbaceous	0 / 0.001

Canopy & Stand	
Canopy Bulk Density (kg/m <sup>3</sup> )	No data
Canopy Base Height (ft)	No data
Basal Area (ft <sup>2</sup> /ac)	No data
Overstory Trees/ac	16

### Climatic Variable Details

Weather and fuel moisture data taken from WHL/hotsprings RAWS at 1800 hrs using NFDRS2016. ERC and BI are scores not percentiles.

Site History: Mixed stand of tree mortality.

## Fire Behavior

Fire Behavior	
Primary Fire Type	Surface, creeping/patchy
Secondary Fire Type	Isolated torching
ROS - sensor source (ch/hr) (min/max/avg.)	Inadequate sensor data
ROS - video interp. (ch/hr) (min/max/avg.)	n/a
Flame Length (ft) (min/max)	1 / 4
Primary Fire Spread Direction in plot (azimuth)	n/a

Fire Video	Description
	n/a

Fire management actions affecting plot:  
burnout operation



## Fire Effects

Fire Severity	
Substrate Score (1-5)	No data
Understory Vegetation Score (1-5)	No data
Avg. % tree canopy scorch	No data
Avg. % tree canopy torch	No data
Avg. tree bole char (ft)	No dat

Fuel Consumption	%
1-hour	95
10-hour	100
100-hour	100
1000-hour	100
Litter	100
Duff	100

# 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](https://www.fs.fed.us/adaptivemanagement/reports/fbat/Antelope_detail.pdf)