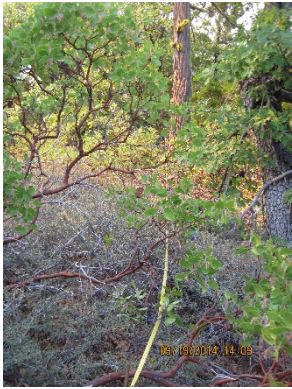


Fuels and Fire Behavior Digital Dictionary

The Fire Behavior Assessment Team

King Fire
Plot #6

9/19/2014
Region5/Eldorado NF



Transect 1, Pre, 0-50 ft



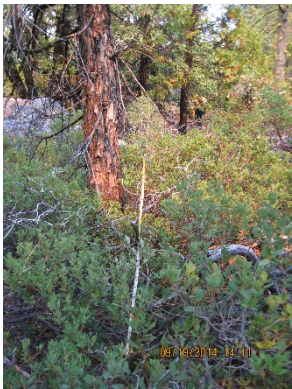
Transect 1, Post, 0-50 ft



Transect 1, Pre, 50-0 ft



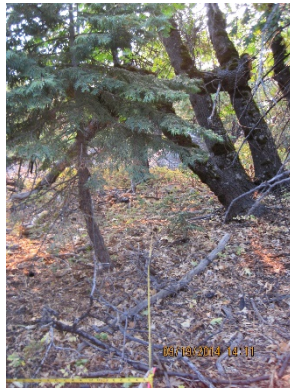
Transect 1, Post, 50-0 ft



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

King Fire, Plot6, 2014

Fuels, Topography, Weather

Site Info	
Veg Type	Mixed conifer and shrub
Slope (%)	4
Aspect (deg)	0
Elev (ft)	3569

Climatic Variables	
Fire Arrival (Date, Time)	9/19/14, 17:35
Burn End (Date, Time)	9/19/14, 18:00
20ft Wind (mph), 10min avg./gusts	3/5
Onsite wind(mph), eyelevel (10min avg.)	3 to 4
Wind direction (azimuth)	270
RH (%)	67
Temp (F)	63
ERC/BI	49/26
Drought Index	n/a
Live FM% (Herb/Woody)	46/74
Dead FM% (1/10/100/1000hr)	13/12/16/11

Fuel Model (low/high)
142/165

Surface Fuels - Pre	Tons/acre
1-hour	0.2
10-hour	0.7
100-hour	0.4
1000-hour	0.7
Litter	9.9
Duff	30.5
Total Fuels	42.4

Understory Veg.	Tons/ac
Live/Dead Shrub	1.21/<0.005
Live/Dead Herbaceous	0/<0.005

Canopy & Stand	
Canopy Bulk Density (kg/m ³)	0.16
Canopy Base Height (ft)	1
Basal Area (ft ² /ac)	512
Overstory Trees/ac	1346

Climatic Variable Sources

Weather and fuel moisture taken from the Bald Mountain RAWS using NFDRS2016. Onsite wind was collected from an anemometer. ERC and BI are scores not percentiles.

Site History: No information on site history.

Fire Behavior

Fire Behavior	
Primary Fire Type	Surface
Fire Type (max)	Group torching
ROS - sensor source (ch/hr) (min/max/avg.)	n/a
ROS - video interp. (ch/hr) (min/max/avg.)	2.5/60/4
Flame Length (ft) (min/max/avg)	2/20/4
Direction fire spread is going. (azimuth)	~180

Fire Video	Description

Fire management actions affecting plot:
Plot area burned as part of larger burnout operation.



Plot6: Crown fire



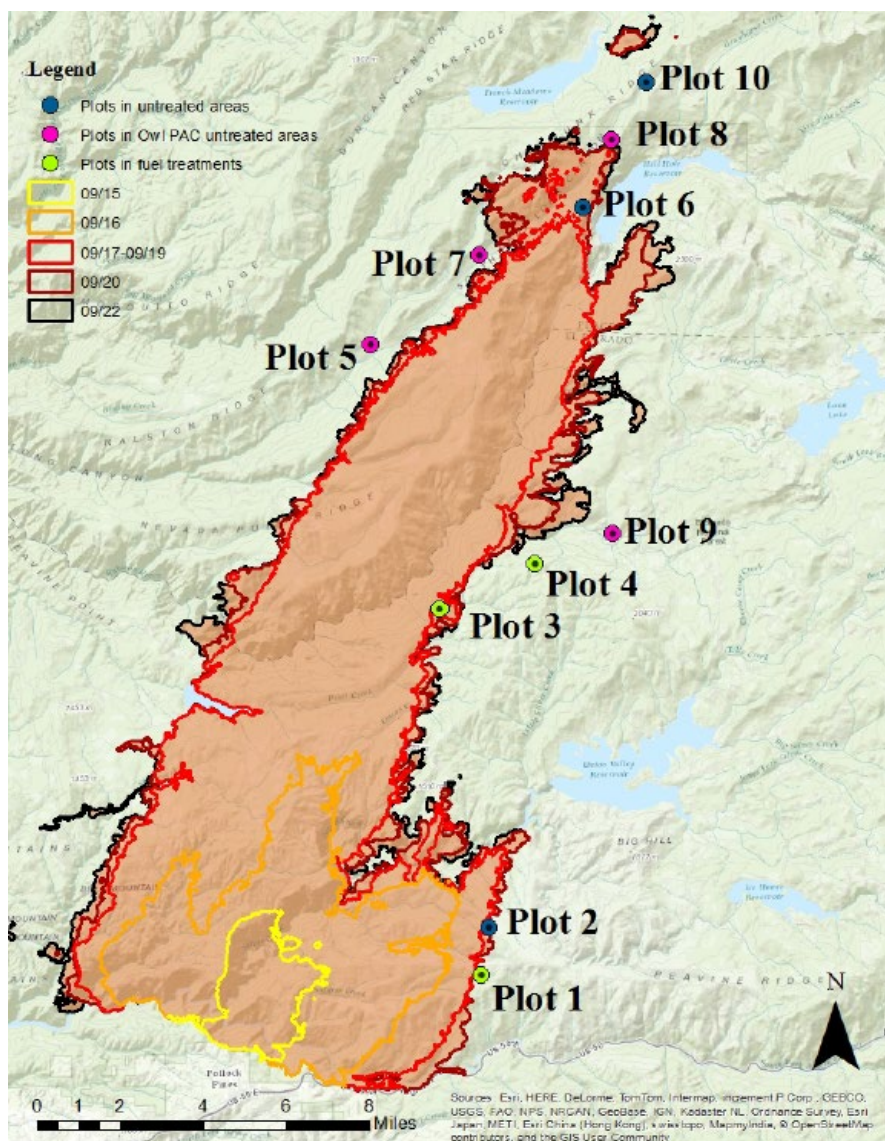
Plot6: After crown fire passed

Fire Effects

Fire Severity	
Substrate Score (1-5)	4
Understory Vegetation Score (1-5)	4.7
Avg. % tree canopy scorch	78
Avg. % tree canopy torch	22
Avg. tree bole char (ft)	11

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

Fuel Consumption	%
1-hour	92
10-hour	89
100-hour	0
1000-hour	100
Litter	97
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