Fuels and Fire Behavior Digital Dictionary

The Fire Behavior Assessment Team

Antelope Fire	7/10/2007
Plot 12	Region5/Plumas NF

Transect 1, Pre, 0-50 ft

Transect 1, Post, 0-50 ft

Fuels, Topography, Weather

Site Info	
Veg Type	Open yellow pine, mixed shrub understory
Slope (%)	22
Aspect (deg)	No data
Elev (ft)	No data

Fuel Model (low/high)
161/142

Surface Fuels - Pre	Tons/ac
1-hour	.1
10-hour	0
100-hour	3
1000-hour	0
Litter	1.6
Duff	15.2
Total Fuels	19.9

Climatic Variables	
Fire Arrival (Date, Time)	7/10/07
Burn End (Date, Time)	unknown
20ft Wind, 10min avg./ gusts (mph)	7/14
Onsite wind, eyelevel (10min avg.) (mph)	n/a
Wind direction (azimuth)	204
RH (%)	14
Temp (F)	87
ERC/BI	55/36
Drought Index	n/a
Live FM% (Herb/Woody)	30/60
Dead FM% (1/10/100/1000hr)	5/10/10/10

Understory Veg.	Tons/ac
Live&Dead Shrub	19.45
Live&Dead Herbaceous	0.02

Canopy & Stand	
Canopy Bulk Density (kg/m^3)	0.21
Canopy Base Height (ft)	11
Basal Area (ft^2/ac)	15
Overstory Trees/ac	456

Climatic Variable Details
Weather and Fuel moistures taken from Coyote RAWS at 1300hrs Using NFDRS2016. ERC and BI are scores, not percentiles.

Site History: n/a

Fire Behavior

Fire Behavior	
Primary Fire Type	Surface, low intensity
Secondary Fire Type	Same as above
ROS - sensor source (ch/hr) (min/max/avg.)	No data
ROS - video interp. (ch/hr) (min/max/avg.)	0.3
Flame Length (ft) (min/max)	2.5
Direction Fire Spread is going (azimuth)	~130

Fire Video	Description
n/a	n/a
n/a	n/a
n/a	n/a

Fire management actions affecting plot:n/a

No video in plot. Can see fire in distance.
Surface fire, low intensity

Fire Effects

Fire Severity	
Substrate Score (1-5)	2.2
Understory Vegetation Score (1-5)	2
Avg. % tree canopy scorch	60
Avg. % tree canopy torch	0
Avg. tree bole char (ft)	No data

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

Fuel Consumption	%
1-hour	0
10-hour	0
100-hour	100
1000-hour	0
Litter	50
Duff	25

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

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