

**Scotts Bluff National Monument
Eagle Rock Prescribed Fire**

April 22, 2009

Prepared by andy thorstenson

Burn Unit Summary

The Eagle Rock Prescribed Fire was completed during one operational period on April 22, 2009. It consisted of 45 acres of mixed grass and shrubs in broken terrain. The vegetation type is a mix of native perennial grass, non-native annual grass, and low shrubs.

Personnel

Burn Boss: Eric Allen
Ignition Specialist: Jeff Scott
Holding Specialist: Al Stover
Fire Monitor: andy thorstenson
4 Type 6 Engines
2 ATV's
2 Igniters

Objectives

Reduce herbaceous fuel loading (thatch) in the native prairie by at least 50% immediate postburn.

Decrease non-native herbaceous density and relative cover by at least 20% 2 yr. postburn.



Ignition on the Eagle Rock Prescribed Fire

Weather conditions

The National Weather Service in Cheyenne, Wyoming predicted high temperature of 76°-78° with minimum relative humidity around 20%. Winds were projected to be west and southwest at 10 increasing to 15 after noon. An unforecasted wind shift did occur as topographic feature changed winds from west to east around 1300 hours.

Weather Observations

Date	Time	Temp	RH	Wind Speed	Wind Direction	Comments
22 Apr	1145	73°	38%	2-4	Var/West	Cumulus castellatus to SE
22 Apr	1230	79°	29%	3-6, G-8	W	Puffy Cumulus to SE
22 Apr	1300	79°	26%	6-8, G-15	E	Wind shift 180°
22 Apr	1430	79°	21%	3-8, G-15	W	Exposed site
22 Apr	1445	78°	26%	3-5, G-8	W	Sheltered site

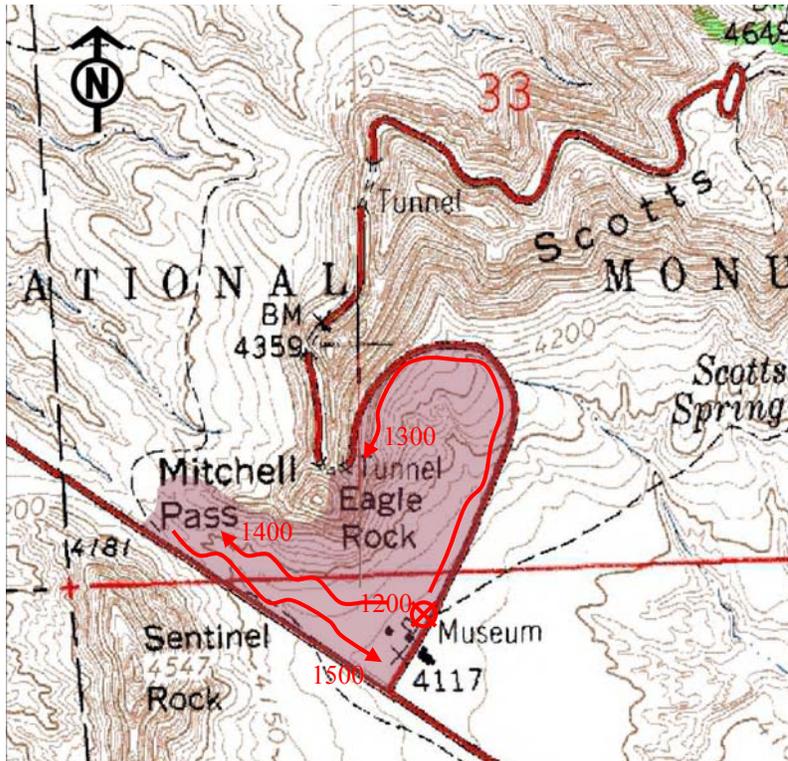
Wind speed in miles per hour, Temperature in degrees Fahrenheit

Fire Behavior

Fire activity was characterized by short duration movements through continuous fuel with broken terrain and fuel limiting spread and intensity in other areas. Fire moved through grass fuels at 20 - 40 chains per hour with flame lengths less than 2 feet. Flame lengths of 6-8 feet were observed in the shrub fuels but with minimal spread due to the discontinuous nature of the vegetation.

Rate of spread measured in chains per hour (1 chain = 66 feet or ≈ 20 meters)

Fire Progression Map



Times listed in red

Smoke Monitoring

The National Weather Service forecast predicted smoke dispersal as “Poor” in the morning increasing to “Excellent” with mixing heights increasing to 10,000 feet above ground level. Due to the limited and broken fuel in the unit, minimal smoke was produced. Smoke reached 100’ to 500’ above ground level before dispersing. With wind direction primarily from the west, smoke drifted east most of the day.

