

## Waldo Canyon Fire Burned Area Emergency Response (BAER) Briefing



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### Burned-Area (BAER) Report (FS-2500-8) Overview

#### Fire Background

Waldo Canyon Fire was started on June 23, 2012.

The fire was declared to be human-caused.

The fire burned a total of 18,247 acres (14,422 acres of national forest land) (147 acres of Department of Defense land) (3,678 acres of private land) in El Paso County in the state of Colorado.

The fire burned along the urban interface of the west side of Colorado Springs, Air Force Academy, Manitou Springs, Green Mountain Falls, Cascade, and Chipita Park.

The fire burned as far north as Rampart Reservoir which is a major drinking water conveyance for the City of Colorado Springs.

The fire was 100% contained on July 10, 2012.

The Forest's fire managers have not yet declared a date for the fire to be considered fully controlled.

#### FS-2500-8 Burned-Area Report -- Analysis

A Forest Service Burned-Area Report, that included the BAER assessment team's analysis of the burned area and recommended emergency treatments, was submitted to the Rocky Mountain (Region 2) Regional Forester by the Forest Supervisor for the Pike & San Isabel National Forests and Cimarron & Comanche National Grasslands on July 18, 2012:

There are 96 miles of intermittent streams and 4 miles of perennial streams within the burned area.

There are 21.55 miles of roads and 8.68 miles of trails within the burned area.

There are 3,375 acres of high soil burn severity (22%), 7,286 acres of moderate soil burn severity (41%), and 7,586 acres of low/unburned soil burn severity (37%).

A water repellency of moderate to high severity is widespread in the moderate and high soil burn severity classes (approximately 10,500 acres) and generally occurs from a 1-to-4 inches

depth (1-3 inch thick layer), and is most pronounced in the granitic derived soils. It is expected to have a high watershed runoff response. Widespread rilling and ash/litter/sediment movement was observed from localized rain events in the fire area.

The post-fire area has an erosion potential of 13 tons of material per acre for a 10-year storm event, compared to a pre-fire erosion rate calculated at 2.5 tons/acre across 5 major watersheds: Fountain Creek Headwaters, Cascade-Fountain Creek, Garden of the Gods (Camp Creek), West Monument Creek, and Lower Monument Creek – which is a 341% increase.

Because of the steep slopes and high stream gradients with little topographic opportunity for re-deposit within the fire perimeter area, there is the potential for nearly 100% delivery of soil erosion/sediment yield downstream from the burned area.

The hydrologic design model a 1-hour duration storm with 1.75 inches of rain or the equivalent of a 10-year storm.

It is estimated that the burned area has a 5-7 year recovery period to re-establish vegetation. The major concern for vegetative recovery and, in turn, hydrologic recovery is in the high severity burn areas.

There are two system trails impacted in the burned area: Rampart Reservoir Trail, and Waldo Canyon Trail.

The recreation facilities impacted in the burned area include: South Rampart Shooting Range (temporary closure implemented pre-fire), Thunder Ridge Campground, Meadow Ridge Campground, Promontory Picnic Area, and Aspen Grove Interpretive Trail.

Wildlife species federally listed as threatened that have critical habitats located within and/or in proximity to the fire's burned area include the Mexican spotted owl, and Preble's meadow jumping mouse. There are no records or habitat for any federally endangered, threatened or proposed vegetative species within the proposed emergency treatment areas.

There are many invasive weed areas within the fire perimeter. The burned area is assumed to have a 1% existing infestation of invasive/noxious weeds. The ecological integrity of native plant communities in the burned area is at risk from introduced invasive weeds and expanding invasive weed populations.

### **Identified Values-at-Risk**

Threats to the values-at-risk identified below result from the potential for increased water flows, loss of water control, increase sediment delivery, increased debris flow, establishment of invasive weeds, and habitat degradation for federally threatened species exist.

A risk matrix (Probability of Damage or Loss and the Magnitude of Consequences) was used to evaluate the risk level for each value identified during the BAER assessment:

Life – There is an imminent threat to human life within and adjacent to the burned watersheds in the fire area related to road/stream crossings, residences at the outflow of burned canyons, campgrounds near Rampart Reservoir, and forest users on the Waldo Canyon trail. Hazard trees pose an imminent threat along the road corridor, within the campground facilities, and within the areas where BAER emergency treatments will be implemented.

Property – There is risk to roads and crossings throughout the burn area from increased runoff, associated sediment and debris, and debris flows. There are houses at the outflow of almost every watershed around the burned area. There is an increased risk of hazard trees in close proximity of campgrounds and picnic sites within and adjacent to the burned area. The Aspen Grove interpretive site was damaged by the fire. There is a threat to Forest users from hazard trees, interior hot spots, flooding, and an increased potential of road and trail damage and flooding.

Natural Resources – There is a threat to the ecological integrity of native plant communities due to the risk of new invasive weed occurrences or an expansion of existing populations likely to occur in disturbed sites from introduced to the area during the fire event. The wildfire resulted in a 20% loss of Mexican Spotted Owl critical habitat within the Waldo Canyon area. There is a threat to the remaining critical habitat due to the risk of being damaged or lost. The fire also resulted in a reduction of the extent and suitability of critical habitat for the Preble's Meadow Jumping Mouse. There is a threat to the probability for loss of additional critical habitat.

Cultural Resources – One heritage site is subject to loss of integrity as a result of the fire. This site has features at high risk of damage from erosion and looting.

## **Emergency Stabilization Treatments**

### Treatment Objectives

The treatment objectives focus on the reduction of potential soil erosion/sediment yield and water runoff over steep slopes to attempt lessen the overall threat to downstream life and property; preserve and protect the integrity of Forest Service infrastructure such as roads and trails, and natural and cultural resources; and minimize the increased potential for the spread of invasive weeds by:

- Implement hillslope treatments and coordinate these treatments with the Natural Resources Conservation Service (NRCS).
- Reinforce drainage structures and prepare for storms (clean sediment and debris from the inlets between or during storm events) along roads and trails within the burned area.
- Monitor and remove hazard trees as necessary, post warning signs and install gates and fencing, close campsites as necessary, remove damaged infrastructure at the interpretive site.
- Survey and treat for noxious weeds.

- Continue emergency communication and coordination with other agencies to protect human life and property, and inform the public of the potential hazards resulting from increased post-fire watershed response.
- Develop and implement effectiveness monitoring plans for cultural resources and roads emergency BAER treatments.

### Funded Emergency Treatments

On July 26, the Washington Office approved the following BAER emergency response measures and treatments for the Waldo Canyon Fire:

#### *Land Treatments:*

2,198 acres Aerial Agricultural (Ag) Straw Mulch

1,000 acres Aerial Woodshred Mulch

Invasive weed detection surveys & herbicide treatment

#### *Road and Trail Treatments:*

16 miles Road Storm Proofing

8 miles Trail Stabilization

#### *Protection/Safety Treatments:*

Signs and Closures (Gates, Fencing)

Recreation Sites

Interagency Coordination

#### *Monitoring:*

Cultural Resources Treatment Effectiveness

Road Treatment Effectiveness