

**Anderson Fire
Burned Area Emergency Rehabilitation Assessment Report
August 2001**

Introduction

This report summarizes the findings of an initial assessment of the Anderson Fire for Burned Area Emergency Rehabilitation (BAER) efforts. Assessment work was conducted on August 20 and 22, 2001.

The objective of the BAER process is to provide funding to initiate immediate rehabilitation of areas damaged by wildfire to minimize unacceptable damage. BAER teams have the responsibility to:

- 1) Assess on-the-ground conditions and describe the adverse effects of the fire on the watershed.
- 2) Identify and define the emergency created by the effects of the fire on the watersheds.
- 3) Locate any emergency flood source within the burned area.
- 4) Locate the potential emergency treatment measures in relation to the adverse effects of the fire on the watersheds.

In order to qualify for emergency funds, several conditions must be met:

- 1) A watershed emergency exists which, if not treated, poses a high probability of unacceptable watershed damage such as excessive surface erosion, debris flows and sedimentation/water quality changes.
- 2) Rehabilitation measures can be applied which pose a reasonable potential to mitigate the watershed emergency before anticipated damage producing storms.
- 3) The rehabilitation measures are environmentally and socially acceptable and are compatible with long-term restoration needs.
- 4) A benefit/cost ratio clearly demonstrates the treatment measures are economically favorable.

Burned Area Description

The Anderson Fire burned approximately 410 acres in the Upper Henry's Fork Subbasin (6th code HUC 170402020501). The fire burned primarily National Forest land and a small amount of State land. The fire started in the north ½ of Section 29, T10N, R43E, on August 18, 2001, and burned north and east up a moderately steep south aspect, over an east/west ridge and down a gentle north aspect. The fire was contained late the next day. The majority of the fire is found in Section 20 with small portions in Sections 16, 17, 21 and 29.

The fire burned over several Ecological Units (Targhee National Forest Ecological Unit Inventory, 1999). The south half of the fire burned on EU 1592, PSME/SYAL Lagall,

25-50 percent slopes. The north half of the fire burned on EU 1720, ABLA/VAGL, VAGL Flatstone-ABLA/VASC, CARU Koffgo complex, 2 to 15 percent slopes. A narrow, north facing steep slope in the middle of the fire is mapped EU 1594, ABLA/VAGL, VAGL Koffgo, 30-60 percent slopes. Parent material for all soils is rhyolite with loess and volcanic ash on the surface. EU's 1592 and 1594 are highly erodible but due to the large amount of surface gravels and cobbles, good ground cover before fire and short slopes, travel distance of sediment is minimal. EU 1592 is also highly dissected. No live water was seen in the fire perimeter.

Fire Intensity

Fire intensity was measured and mapped according to the criteria in FSH 2509.13 Amendment 95-7, Burned Area Emergency Rehabilitation Handbook. Vantage points within the fire coupled with ground truthing were used to determine the following:

Unburned or low burn intensity	50-60%
Moderate burn intensity	30-40%
High burn intensity	5-10%

Some of the moderate intensity burn does exhibit characteristics of high intensity burn. Much of the litter and duff layer in the moderate intensity burn was consumed. Only small areas of white ash were found and no reddish colored ash or soil. Considerable fresh Douglas fir needle casting was seen. Live roots to the surface were located in most areas. Most of the canopy of the Douglas fir and lodgepole was not consumed although considerable canopy scorching occurred. The south half of the fire had higher burn intensity than the north but the south half still has a mosaic pattern of burn intensity with no large, cleanly burned areas. No soil crusting was observed. Water repellency was observed in both burned and unburned areas. The degree of water repellency in unburned areas is mostly moderate to strong, while in burned areas it is mostly strong. The class of repellency in unburned areas is medium, while in burned areas it is mostly high.

Threats to Life and Property, Water Quality and Long-Term Soil Productivity

There were no structures, Forest System roads or homes in the fire perimeter. The closest live water, the Henry's Fork of the Snake River, is nearly a mile to the north. The topography between the fire and the Henry's Fork is mostly gentle with good ground cover. The fire is not expected to contribute to flood flows in the Henry's Fork.

Little sediment movement is expected beyond the limits of the fire. The short, steep slopes of EU's 1592 and 1594 consistently have unburned vegetation in the draws below that would stop most sediment. Some sheet and rill erosion of the steep slopes may occur before vegetation is reestablished, but no sediment is expected to reach live water.

Both wind and water erosion of the burned area is expected before vegetation is reestablished. The high coarse fragment content of the steeper soils in EU's 1592 and 1594 will limit the movement of sediment. Considerable fresh needle casting from scorched Douglas fir was noted which effectively acts as ground cover. Live roots to the surface were found in most areas. This observation coupled with low intensity burns in root sprouting mountain brush understories at all aspects and slope positions support expectations of rapid revegetation. Extensive Ceanothus dominated brushfields are possible in portions of the burn. Even in the moderate intensity burn areas where shrub recovery will be slower, considerable amounts of charred down woody material remain to slow erosion and provide long-term nutrient release. A high percentage of Douglas fir mortality is expected in the next 3-4 years from crown scorch, Douglas fir beetle and root kill (John Councilman, District Forester, personal communication). Unless these trees are removed with harvest they will contribute to down woody debris amounts as well. No noxious weeds were noted immediately adjacent to or within the fire perimeter.

Suppression Rehabilitation Needs

Although not part of Burned Area Emergency Rehabilitation efforts, the dozer lines surrounding the fire were also reviewed. Recommendations for rehabilitation include using a track hoe with a thumb-bucket to pull soil back on the lines and also place rock and other debris to limit erosion and unauthorized vehicle travel. Rolling dips and water bars should also be constructed at intervals based on slope steepness to effectively move water off the lines. The timing of the work should be before snowfall.

Summary

No emergency watershed situation was found on the Anderson fire. There are no major threats to life and property, water quality or soil productivity. Therefore, the Forest does not need to pursue emergency watershed rehabilitation funding. Implementing suppression related rehabilitation before snowfall is encouraged.

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