

Colville National Forest
Burned Area Emergency Response (BAER)
 Post-Fire BAER Assessment



BAER Information: (415) 881-1871

GRAVES MOUNTAIN POST-FIRE BAER ASSESSMENT REPORT SUMMARY



FS-2500-8 Burned-Area Report: Watershed Analysis, Condition, and Response

The Graves Mountain Fire was 1 of 3 lightning-caused wildfires comprised within the [Kettle Complex](#), and burned about 8,600 acres 10 miles west of Kettle Falls and just north of Highway 20. Hot, windy conditions combined with very dry fuels caused the fire to grow extremely fast. Approximately 8,500 acres burned on the [Coleville National Forest](#) (NF). The remaining acres burned were state lands.

A [Forest Service \(FS\) Burned-Area Report](#), which included the BAER assessment team's analysis of the burned areas within the Renner Fire and recommended emergency treatments, was submitted to the Pacific Northwest Region by the Forest Supervisor for the Colville NF:

- ✓ 2 sub-watersheds were analyzed and modeled to compare pre-fire conditions to post-fire predicted response: Deadman Creek and Upper Sherman Creek watersheds.
- ✓ There are 10 miles of intermittent streams and 14 miles of perennial streams within the burned areas.
- ✓ There are 35 miles of NF roads; and 2 miles of snowmobile trails within the burned area.
- ✓ There are 1,524 acres of water repellent soil.
- ✓ There are 300 acres of high soil burn severity (4%), 1,200 acres of moderate soil burn severity (14%), and 7,000 acres of low/unburned soil burn severity (82%) on National Forest System lands.

The different BAER soil burn severity categories are areas and classes of impaired soil functions and are the key element BAER specialists use to determine if threats exist, whether fire-caused changes in soil characteristics exist that affect the soil hydrologic function, and at what level. The identified soil burn severity levels in the burned areas of a wildfire become a baseline for resource specialists to monitor changes in soil hydrologic function and vegetative productivity as the burned watersheds recover.

High and moderate soil burn severity classes have evidence of severe soil heating. Across wildfire burned areas, these generally occur in a patchy distribution, with some concentrated zones of high burn severity. Soil seedbank and water infiltration characteristics are impacted in areas that have burned at high or moderate severity, especially where there were extended or multiple burning periods. Natural recovery is slower where little or no vegetative ground cover remains, and increased surface water runoff will result in increased soil erosion at these sites. The low to very low soil burn severity areas still have good surface soil structure, intact fine roots and organic matter, and should recover more quickly once revegetation begins and the soil cover is re-established.

Identified Values-at-Risk, Threats, and Emergency Conditions

Threats to the values-at-risk identified below result from the potential for increased water flows, loss of water control, increased sediment delivery, increased debris flows, the establishment of invasive weeds, falling hazard trees, and rock-fall. Emergency post-fire conditions for these identified values-at-risk were assessed by the BAER team.

Human Life and Safety – There is varying degrees of increased risk to forest visitors, cooperators, and NF workers within and adjacent to the burned areas along forest roads, snowmobile routes, dispersed recreation sites, Hoodoo Trail Foot Bridge, and a historical heritage site due to the increased threat of falling trees, rock-fall, avalanche potential, increased run-off, flooding, erosion, sedimentation, and debris flows.

Property: Roads – Forest roads and associated infrastructure that are downslope of high and moderate soil burned severity areas, especially under road #2000386 where two culverts drain Elbow Creek and an un-named tributary, are at an increased risk from hazard trees, debris flows, water run-off, and erosion during rain storm events. Flooding and sedimentation can plug road culverts; erode the roadbed, and cause channel loss to Milk Creek and culvert loss at Highway 20 at the Milk Creek drainage area.

Natural Resources: Soil Productivity – There is an increased risk to soil productivity from increased soil erosion, and mud flows within the fire perimeter that burned at moderate to high soil burn severity due to the unique type of soils that burned in those areas such as glacial till covered with Mount St. Helen's ash. Disturbance of the new deposited litter on the burned soils will result in additional soil erosions. Natural recovery is recommended. Additional intrusions such as OHV use and other disturbances need to be eliminated until natural recovery occurs.

Natural Resources: Ecosystem Stability and Vegetation Recovery – A low risk is expected to native and naturalized plant communities along roads, hand lines and dozer lines used during fire suppression activities since these use areas are fairly small and isolated across the burned area. The slower natural regeneration following moderate to high soil burn severity also leaves some burned areas at risk. Natural recovery is recommended.

Cultural Resources – Increased risk exists to newly exposed heritage features and artifacts from vandalism and looting due to the burning removal of ground vegetation covering.

Emergency Stabilization Treatments

Treatment Objectives

The BAER assessment team's emergency stabilization objectives for the Graves Mountain burned area are to:

- Reduce threats to human life and safety of forest visitors using roads, snowmobile routes, and Hoodoo Trail Foot Bridge by installing warning signs within the Graves Mountain burned area and conducting road storm inspection and response.
- Prevent damage and erosion to any existing heritage sites, and irretrievable loss of archeological information.

In addition to on-Forest efforts to reduce the threats to National Forest values and resources, the BAER team and the Forest will warn users of NF roads and trails of hazards present in the burned area, and communicate and coordinate with other agencies such as the National Resources Conservation Service (NRCS) to assist private entities and communities including private residents, domestic water suppliers and public utilities to achieve post-fire recovery and protection objectives.

The following post-fire emergency stabilizations measures and treatments have been approved:

- Conduct storm patrols to monitor roads and drainage structures at-risk, maintain and/or repair any damage to road and trail surfaces, remove sediment and debris from drainage and treatment structures within the burned area.
- Stabilize the soils and protect high risk cultural resources sites from erosion, damage and vandalism by establishing temporary ground cover with weed free shredded mulch or seeding until regeneration occurs naturally.
- Mitigate hazard trees at BAER treatment locations to provide for worker safety.
- Install burned area warning signs on roads, Hoodoo Trail Foot Bridge, and snowmobile routes to caution forest visitors entering and recreating within the burned area.
- Consider temporary forest closures to protect public users of NF lands.
- Continue to communicate risks to the public, community groups, and cooperating agencies.
- Continue to work and coordinate with interagency cooperators, partners, and affected parties and stakeholders.
- Assist cooperators, including local, state, and federal agencies with the interpretation of BAER assessment findings to identify potential post-fire impacts to communities and other private lands.

SPECIAL NOTE: *Everyone near and downstream from the **Graves Mountain Fire** burned area should remain alert and stay updated on weather conditions that may result in heavy rains over the burn scar. Flash flooding may occur quickly during heavy rain events. Current weather and emergency notifications can be found at the **National Weather Service, Spokane Office** (www.wrh.noaa.gov/otx/) website.*

Colville NF Post-Fire BAER Assessment & Implementation information is available at <http://inciweb.nwcg.gov/incident/4646/>.

