



Forest Service
U.S. DEPARTMENT OF AGRICULTURE

COCONINO NATIONAL FOREST

NEWS RELEASE

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BAER team completes Soil Burn Severity map for Haywire Fire

FLAGSTAFF, Ariz., July 5, 2022– A soil analysis conducted within the perimeter of the recent Haywire Fire has revealed the extent of soil burn severity caused by the fire.

Forest Service Burned Area Emergency Response (BAER) specialists recently completed their field data evaluation to produce the soil burn severity (SBS) map for the Haywire Fire, which delineates unburned, low, moderate and high SBS categories.

The BAER team determined that approximately 474 acres (8%) of the fire's footprint is unburned, approximately 4,512 acres (81%) have low soil burn severity, approximately 561 acres (10%) sustained a moderate SBS and approximately 53 acres (1%) were identified as having high SBS.

The SBS map product is an estimate of fire effects to soils both surface-level and below ground, not fire effects to vegetation. Fire effects to vegetation would include an estimate of vegetation mortality and does not always correlate with degree of soil burn severity.

Moderate and high soil burn severity can alter or damage physical, chemical and biological soil properties, such as hydrophobicity (water repellency), soil organic matter content, soil pore space, soil cover (effective litter), and soil structure (degree of aggregation). This damage can result in increased runoff, a heightened risk of monsoonal rain damage, erosion and negative effects to soil productivity.

Changes to these soil properties determine the degree of soil burn severity. Water repellency often occurs naturally in soils, and it changes as a function of fire. It is frequently discussed as a post-fire effect. Fire can increase the strength and thickness (or depth) of water repellent layers in soil, considerably affecting post-fire water runoff and possibly extending time for recovery of the burned area.

The Haywire Fire BAER team used remote sensing imagery with field-validated soils data to produce the final SBS map. The BAER team will use the SBS map as an analysis tool to estimate post-fire erosion with subsequent sediment delivery, stream

flows and debris flow probabilities. The map is also being shared with cooperating agencies.

The Haywire Fire soil burn severity map can be downloaded from the [Haywire Fire BAER InciWeb](#) site as a JPEG or PDF version under the *Maps* tab.

The BAER team that conducted the SBS analysis of the Haywire Fire recently concluded similar field data collection and evaluation on the nearby Pipeline Fire.

As a reminder, the Coconino National Forest has instituted a forest closure order for areas affected by both the [Pipeline and Haywire fires](#).

BAER SAFETY MESSAGE: *Everyone near and downstream from the burned areas should remain alert and stay updated on weather conditions that may result in heavy rains and increased water runoff. Flash flooding may occur quickly during heavy rain events-be prepared to act. Current weather and emergency notifications can be found at the **National Weather Service** website: <https://www.weather.gov/fgz/>. Additionally, the [Flagstaff Alert Data Display website](#) contains near real-time data of rain gauges in the area of Flagstaff.*