

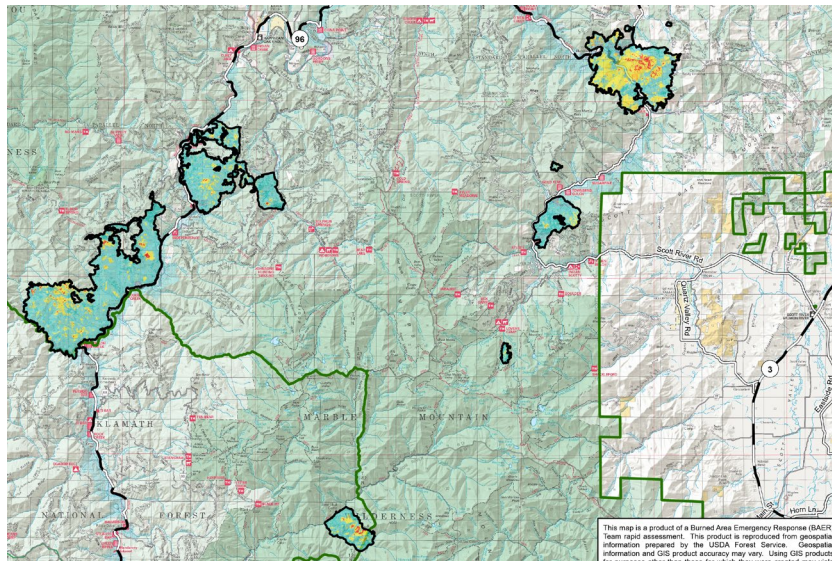
Klamath National Forest
Burned Area Emergency Response (BAER)
Post-Fire BAER Assessment



September 25, 2023

BAER Information: (707) 853-4243

**HAPPY CAMP COMPLEX POST-FIRE
SOIL BURN SEVERITY MAP RELEASED**



Forest Service Burned Area Emergency Response (BAER) team specialists recently completed their field assessments across approximately 30,000 acres of the Happy Camp Complex wildfires to better understand post-fire effects. The BAER team's soil burn severity (SBS) analysis was conducted across 29,872 acres of the fire, representing:

- 28,085 acres of Klamath National Forest (NF) land, and
- 1,787 acres of private lands.

The BAER assessment team starts with data derived from satellite imagery, then adds field observations and collected data to produce a post-fire SBS map. SBS map products are not an estimate of fire direct effects on vegetation, but rather an estimate of the fire effects to the soil. Soil burn severity is a good indicator of post-fire processes, because it is sensitive to the conditions that promote erosion, floods, debris flows and vegetation recovery.

Soil burn severity indicators can be found within the Rocky Mountain Research Station's *General Technical Report 243 – Field Guide for Mapping Post-Fire Soil Burn Severity*
https://www.fs.usda.gov/rm/pubs/rmrs_gtr243.pdf.

In general, low SBS occurs where surface organic layers are not completely consumed. Vegetation canopy and understory will often still appear “green.” These areas are at lower risk for post-fire accelerated runoff, erosion, flooding, and debris flows.

In areas with moderate SBS, much of the pre-fire ground cover is consumed. Fine roots may be scorched but are rarely completely consumed. These areas still have the potential for effective ground cover from scorched needles or leaves remaining in the canopy that will soon fall to the ground. The prevailing color of the site is often “brown” due to canopy needle and other vegetation scorch. Where greater amounts of reduced soil cover and increased water repellency occur, increased overland flow of water from precipitation is expected, most notably in locations where the overstory canopy has been removed.

High SBS occurs where all or nearly all the pre-fire ground cover and surface organic matter are consumed, and charring may be visible on larger roots. White or gray ash indicates that considerable ground cover or fuels were consumed. Sometimes very large tree roots are entirely burned extending from a charred stump hole. Soil is often gray, orange, or reddish where large fuels were concentrated and consumed. Bare soil or ash is exposed and susceptible to erosion, and overall structure may be less stable.

The BAER team estimated that approximately 80% of the Happy Camp Complex was either unburned/very low or low SBS, 18% was moderate and 2% was high SBS. Areas with high SBS (primarily found on higher ridges within the interior of the Head Fire) are prone to post-fire impacts. Rain events can cause excessive soil erosion, resulting in higher volumes of flooding, sediment delivery, and debris flows. These threats can individually or cumulatively increase the risk to human life and safety, property, infrastructure, and important critical natural and cultural resources.

The BAER team uses the SBS data as a foundation to model post-fire hydrologic response for each of the watersheds to determine if there are threats or risks to BAER critical values: human life and safety, property, critical natural resources, and critical cultural resources. The team collaborates and shares its analysis with local tribes, county, state and federal agencies, such as Siskiyou County, State of California Department of Fish and Wildlife (CDFW), California Office of Emergency Services (CALOES), Natural Resources Conservation Service (NRCS), National Weather Service (NWS), and US Geological Survey (USGS). These agencies have the authority to work with private property owners downstream from the burned area that potentially may have post-fire threats from increased water and debris flows.

The BAER team's analysis and findings will be documented in an assessment report that will be posted to the 2023 Happy Camp Complex BAER InciWeb pages after the report has been reviewed and approved by Forest Service leadership.

The SBS map can be downloaded at the 2023 Happy Camp Complex BAER Assessment InciWeb site as a JPEG or PDF format image under the "Maps" tab.

For additional information about understanding SBS, see: [Post-Fire Effects--Understanding Soil Burn Severity - InciWeb the Incident Information System \(nwcg.gov\)](#).

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/mfr/>.*

2023 Happy Camp Complex Fire Suppression information is available at: [Caknf 2023 Happy Camp Complex Klamath Nf Information | InciWeb \(nwcg.gov\)](#)

2023 Happy Camp Complex Post-Fire BAER Assessment information is available at: [Caknf 2023 Happy Camp Complex Baer Assessment Information | InciWeb \(nwcg.gov\)](#)

