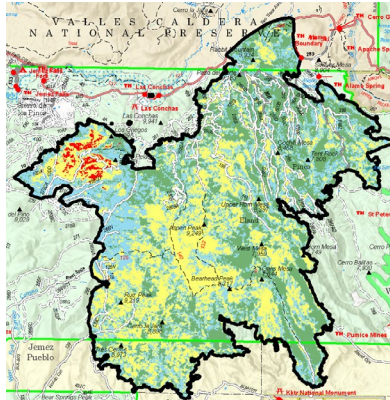




CERRO PELADO POST-FIRE BAER SOIL BURN SEVERITY MAP RELEASED UPDATED



SANTA FE, NM – May 27, 2022 @ 1730hrs – Burned Area Emergency Response (BAER) specialists from the USDA Forest Service and the US Department of Interior assessment teams have completed data gathering and analysis for the Cerro Pelado Fire. The soil burn severity (SBS) map analyzes approximately 45,605 acres of the burned area. The map and the data display soil burn severity (SBS) categories of unburned/very low, low, moderate, and high. Approximately 67% of the acres are either unburned/very low or low SBS, while 32% sustained a moderate SBS and only 1% identified as high SBS.

The Cerro Pelado SBS map also shows the burned acreage for land ownership:

- 36,981 acres for the Santa Fe National Forest,
- 4,132 acres of Pueblo lands,
- 1,781 acres of National Park Service lands, and
- 2,709 acres of private lands.

The BAER assessment team used preliminary remote sensing data based on satellite imagery with field-validated data collected over several days to produce the SBS map. Field-validated data was then collected from the Cerro Pelado burned area and analyzed. The BAER team and the US Geological Survey (USGS) both use the SBS map as an analysis tool to estimate post-fire erosion with subsequent sediment delivery, stream flows and debris flow probabilities. The USGS post-fire debris-flow hazards assessment report and maps will also be released by the BAER team.

The BAER assessment team coordinates with other local and federal agencies, including county and state officials, Natural Resources Conservation Service (NRCS), National Weather Service (NWS), and USGS, to share information about burned watershed conditions and their predicted response during certain rain events.

It is important to note the SBS map product is an estimate of fire effects on soils and not direct effects to vegetation. SBS characterizes the soil surface and below-ground impact, whereas effects on vegetation are estimates of mortality based primarily on changes in vegetation canopy. The Rapid Assessment of Vegetation Condition after Wildfire (RAVG) program produces data describing post-fire vegetation conditions on National Forest System (NFS) lands. Changes in overhead and understory vegetation canopy are often used as initial indicators of overall burn severity, but do not necessarily coincide with SBS.

Changes in soil cover, water repellency, and soil physical/biological conditions guide the interpretations to determine the severity burn level of the soil. Water repellency can occur naturally in soil and may change 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.

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.fed.us/rm/pubs/rmrs_gtr243.pdf and are described below:

- **Low SBS** generally occurs where surface organic layers are not completely consumed and are still recognizable. Structural aggregate stability is not changed from its unburned condition, and roots are generally unchanged because the heat pulse below the soil surface was not great enough to consume or char any underlying organics. The ground surface, including any exposed mineral soil, may appear brown or black (lightly charred), and the canopy and understory vegetation will likely appear “green.” Lower risk for accelerated runoff, erosion, flooding, and debris flows is expected within and below these areas compared to moderate and high SBS.
- **Moderate SBS** is documented where up to 80 percent of the pre-fire ground cover (litter and ground fuels) is consumed but generally not all of it. Fine roots may be scorched but are rarely completely consumed over much of the area. The color of the ash on the surface is generally blackened with possible gray patches. There may be potential for recruitment of 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. Soil structure is generally unchanged. Where greater amounts of reduced soil cover and increased water repellency occur, flooding from precipitation is expected, most notably in locations where the overstory canopy no longer exists.
- **High SBS** occurs where all or nearly all the pre-fire ground cover and surface organic matter (litter, duff, and fine roots) is generally consumed, and charring may be visible on larger roots. The prevailing color of the site is often “black” due to extensive charring. Bare soil or ash is exposed and susceptible to erosion, and aggregate structure may be less stable. White or gray ash (up to several centimeters in depth) 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 at the ground surface where large fuels were concentrated and consumed.

Generally, there is 100% tree mortality in high SBS, and tree recovery will take many years without planting. In high SBS, the exposed bare soil is very prone to post-fire impacts. The damaged soil is very easily detached with rain events causing excessive soil erosion, resulting in higher volumes of sediment delivery to adjacent creeks and rivers. There is increased likelihood for flooding 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.

Additional non-technical information about soil burn severity has been posted on InciWeb at: [Post-Fire Effects-- Understanding Soil Burn Severity - InciWeb the Incident Information System \(nwcg.gov\)](#).

The Cerro Pelado Fire soil burn severity map can be downloaded at the “Cerro Pelado Post-Fire BAER” InciWeb site (<https://inciweb.nwcg.gov/incident/8118/>) as a JPEG or PDF version under the “Maps” tab.

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: www.weather.gov/abq/.*

Cerro Pelado Post-Fire BAER Assessment information is available at: <https://inciweb.nwcg.gov/incident/8118/>

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