

# SHF Lime Complex – Burned Area Emergency Response

## Soil Resource Assessment

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*August 25, 2008*



Miners Fire, Little Creek Drainage

### **Executive Summary – Soil Resource Condition Assessment:**

The SHF Lime Complex burned nearly 65,500 acres from south of Platina in Shasta and Tehama Counties to northwest of Hyampom in Trinity County, with 4 Class G (>5000 ac), 2 Class F (1000-5000 ac), and 2 Class C (10-100 ac) fires. Overall soil burn severity was found to be 39% unburned & very low, 40% low, 19% moderate, and 2% high. The high severity class has evidence of severe soil heating, evidenced by deep char, considerable destruction of structure and organic matter, and moderate to severe water repellency; these areas have long-term soil damage and high to very high erosion hazards. The moderate areas have extensive vegetative mortality, but less soil heating and potential soil cover in most places; these are source areas of sediment and increased flows in the near term (2-4 years). The remaining 79% of soils still have good surface structure, contain intact fine roots and organic matter, and are not significantly impacted from the fires. Vegetation is a mix of chaparral and forested ecotypes, and burn intensity patterns were observed with vegetation/aspect/topography interactions. Most moderate to severely burned slopes occurred on upper slopes and ridges and burnout areas. Most fires have designated roadless areas with critical fisheries habitat values, so land treatments are proposed in specific sediment source areas to protect these values. Treatments are intended to reduce off-site sediment-laden runoff, not for on-site soil productivity concerns directly. Recommendations are made regarding further evaluation needs, particularly for the extensive firebreak networks necessary for suppression operations, as they have long-term soil damage and will be chronic sediment sources.