



Burn Intensity & Severity Matrix

Wildfire burn intensity and severity can vary across an ecosystem. The matrix below was designed to assist landowners in determining the level of damage inflicted by the Holiday Farm Fire.

For more information or to sign-up for a recovery assessment, visit www.purewaterpartners.org.

Parameters	Low	Medium	High
Surface organic litter	Scorched, charred, blackened but with definable plant parts; 40 to 85 percent litter cover remains.	Partially consumed; less than 40 percent litter cover remaining, much covered with black char.	No surface litter remains.
Small woody debris (downed woody debris < 3" diameter)	Surfaces are burned with some unburned areas.	Surfaces are charred; some woody debris partially to wholly consumed.	Small woody debris is fully consumed
Large woody debris (downed woody debris >3" diameter)	Surfaces blackened with unburned areas.	Surfaces are all blackened; char goes into wood.	Only large, deeply charred logs are left.
Stumps	Stumps intact but blackened.	Burned deep enough to form charcoal.	Stumps gone; hole in ground where stumps and root systems were.
Mineral soil/ash	Exposed mineral soils may be unchanged or blackened, with isolated areas gray to orange where downed logs burned.	Black, gray, and/or orange mineral soil dominates area, with little to no unburned areas; gray ash present in patches covering < 20 percent of area.	Black, gray and orange mineral soil dominates area; gray ash layers may be deep and extensive.
Trees	Nearly all of crown remains "green." Some scorching in understory trees.	High scorch height. Generally > 50% of crown is scorched. Mostly "brown" crowns with intact needles.	No needles or leaves remaining. Some or many branches may be consumed. Mostly "black" remaining vegetation.
Shrubs	Scorching in canopy but leaves remain mostly green. Limited fire runs with higher scorch. 5 to 30% charred canopy.	30 to 100% charred canopy. Smaller branches < 0.5 inch remain. Shrub density was moderate or high.	90 to 100% charred canopy. Most branches consumed, including fuels < 1 inch. Skeletons or root crowns remain. Shrub density was moderate or high. Often old growth in character.
Fine fuels	Scorched or partially consumed.	Mostly consumed. Appears black from the air. Small roots and seed bank remain intact and viable.	Not rated as high unless loss of seed bank is suspected or soil structure strongly altered.
Roots	Fine roots intact and unchanged.	Fine roots near surface may be charred or scorched; large roots intact.	Many or most fine roots near surface consumed or charred. Some charring may occur on very large roots.
Water repellency	Soils will infiltrate water drops in less than 10 sec; greater than 8 mL min ⁻¹ with the MDI	The surface of the mineral soil below the ash layer may be moderately water repellent but water will infiltrate within 10 to 40 sec; 3 to 8 mL with the MDI.	Strongly water repellent soils (repels water drops for > 40 seconds; less than 3 mL min ⁻¹) may be present at surface or deeper.