



## Strategies and Tactics to Fight Post-Fire Erosion

Catastrophic fire followed by torrential rains – we’ve seen it often in the West. When Nature’s one-two punch lands hard and in quick succession, rapid and potentially devastating erosion is almost sure to follow.

It’s a battle to literally hold ground that isn’t exclusive to wilderness areas. That’s why Stover Seed developed three **Wildfire Seed Mixes** designed to curb erosion, described below.

Following fires in urbanized areas erosion leaps as high as 200 percent, bringing mass sedimentation, alteration of streambeds, property and infrastructure damage, and, in some cases, even injury and death. Extreme erosion after a slow moving fire is a particular threat in regions with coarse textured soils such as sand or decomposed granite. The intense heat generated not only destroys canopies and vegetation above ground, it also burns the vegetative litter layer decaying on the surface. This creates a gas that penetrates the soil, forming a water-repellant, waxy coating as it cools – a condition called hydrophobicity.

When the rains come, hydrophobic soil can act like a plastic sheet to accelerate water runoff. It also reduces percolation, which robs surviving plants of moisture and makes it difficult for seeds to germinate. Thus, before reseeding grass – which is

the very first tactic in the overall strategy for erosion control and soil recovery after a fire – it is important to test whether the soil has become water repellent. Place a drop of water on an exposed surface. If it remains a bead, the soil is hydrophobic. To determine how deep the condition goes, remove a one-inch thick layer and repeat the test until the water begins to penetrate.

It will be necessary to break up the full depth of this layer in order for seeds to germinate and plants to establish. A steel rake will do the job well enough on smaller areas, but a tractor-drawn harrow may be more efficient on large areas where slope is not an issue.

Loose soil is easily washed away, so leave non-hydrophobic soil undisturbed. Existing vegetation should be left intact even if severely burned, since it may eventually recover and in the meantime can serve to hold soil in place.



Recommended for burn areas near the home, on previously landscaped areas and as a cover crop for larger shrubs and trees, **Stover's Wildfire Seed Mix #3**, recommended by County of San Diego Dept. of Agriculture contains fast establishing, reseeding annual legumes and wildflowers including:

- **Rose Clover** – Excellent drought tolerance.
- **African Daisy** – Quick establishing. Reseeds.
- **Arroyo Lupine and California Poppy** – For soil binding and winter/spring color.
- **Shirley Poppy** – Popular for winter color.

Stover's **Wildfire Seed Mix #2** contains California native species which offer excellent erosion control in nearly any location, including construction sites, roadsides, and forests recently devastated by fire in areas under 8,000 feet in elevation.

- **Hordeum brachyantherum** – A fast establishing, vigorous grass for dense forage.
- **Molate Fescue** – Drought tolerant and attractive, this grass mixes well with wildflowers.
- **Arroyo Lupine and California Poppy** – For soil binding and winter/spring color.

**Stover's Wildfire Seed Mix #1** was made for wildland seeding in areas under 4,000 feet in elevation and contains fast-establishing, reseeding annual legumes, grasses and wildflowers.

- **Rose Clover** – Excellent drought tolerance.
- **Blando Brome** – Dominant, drought-tolerant grass for post-wildfire erosion control.
- **Zorro Fescue** – Emerges in fall after the first rain. An excellent soil stabilizer.
- **Arroyo Lupine and California Poppy** – Soil binding. Winter-spring color.

A “Cyclone” seeder or similar device works well to broadcast the seed. Roll or tamp down the soil if at all possible to ensure good contact between the soil and seed. To keep soil and seed in place and help with mulching, cover with a loose 2-3 inch layer of weed-free hay straw.

Water diversion tactics may be required to avoid the potential for newly seeded soil to wash away. Tactics will vary depending on the size of the burned area, degree of slope and other factors. A steep slope may require placing dead trees or straw wattles to form contour log terraces for barrier runoff, whereas a broad flat area may benefit from silt fences or straw bale check dams to trap sediment. Culverts and water bars may be employed to guide runoff to established streams and rivers.

There is nothing more frustrating than to watch extreme weather wash away newly reseeded topsoil, and another soil-retaining assist is sometimes needed. To hold more ground while seeds establish, Stover offers several industry leading hydraulic mulches: **Promatrix, HydroBlanket and Flexterra**. Applied with a hydroseeding machine, these products create a three-dimensional blanket that adheres to the soil surface, to control for wind or rain erosion on sloped surfaces during good growing conditions.

Prompt and appropriate soil restoration efforts after a major fire can make the difference between compounding and mitigating disaster. For further information reach out to [www.stoverseed.com](http://www.stoverseed.com) or Stephen at 213-626-9668.



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