

Fact sheet

SOUTH EAST LOCAL LAND SERVICES

Autumn 2020

Post-fire small-scale erosion control

Fact Sheet 2 – Erosion Control Techniques

What to prioritise first?

Fire intensity depends on many factors, including fuel loads, temperature, wind speed and direction.

Here are some basic tools to understand the risk on properties and to prioritise actions.

Table 1: Fire intensity and steepness of slopes are important factors to anticipate a property's erosion risk:

Fire impact	Flat to shallow slopes	Moderate slopes	Steep slopes	Very steep slopes
	0-5% slope	5-10% slope	10-20% slope	>20% slope
Cool-Moderate burn	LOW	LOW	Medium	Medium/High
Hot burn	LOW	Medium	High	High
Very hot burn	LOW/Medium	High	High	Extreme

Table 2: Soil type and steepness of slopes are also important factors to anticipate a property's erosion risk:

Soil Landscape	Flat slopes	Moderate slopes	Steep slopes	Very steep slopes
Basalt soil	130t/ha LOW	235 LOW/Mod	540t Moderate	900t Very high
Grey Loam soil	130t LOW	270t Low/Mod	700t High	1,000t Very high
Granite soil	130t LOW	310t Moderate	800t High	1,200t Very high

1200t/ha is equivalent to a loss of 12mm of soil.

Dispersive (sodic) soils and other inherent limitations may increase the risk of erosion (*see mapping link*).

Where the risk of erosion is high-extreme, avoid undertaking risky practices such as ripping, clearing or even just tracking machinery.

Erosion control techniques

These are some of the low cost and relatively low labour options for small-scale control structures:

- coir logs
- silt fence
- jute mesh
- seedlings
- straw bales
- revegetation
- cover crops
- rock or large woody debris.

Figure 1: Coir logs and large woody debris pinned across a steep slope to slow water and trap debris and sediment.



Figure 2: A mix of seed being applied to the above site to re-establish groundcover, in addition to the physical structures.



Tubestock or seedlings can also be planted into the coir logs. Rushes and sedges including *Carex*, *Juncus* and *Lomandra* species may be useful in moist areas.

Place burnt tree trunks or large branches across slopes to trap sediment and debris. Use hardwood stakes on steep slopes to secure them in place.

Where to place structures in the landscape?

The key factors for determining where to focus efforts and what structures to design include:

- soil type and steepness of slope
- fire intensity and groundcover condition
- catchment size above structure location
- size of flowline or order of creek
- proximity to dams, wetlands and waterways

Figure 3: A very hot burn, soil has washed, and a head cut has started (blue arrow) – a good spot for a structure.



Figure 4: An eroded dry gully, with a larger catchment size. Multiple structures may be needed (at blue arrows).



Figure 5: A small eroding head cut on a slope.



Figure 6: Jute mesh and straw bales pinned across this slope with hardwood stakes to slow water flow into head cut.



Rock and large woody debris from on-site can also be used in head cuts or holes. Slowing water will help to retain sediment. Seed or plant to improve stability but take care with selection to avoid introducing exotic species to fire affected areas unless already present.

An option is to broadcast sterile cover crops such as rye corn, costing approx. \$1.50/kg, to re-establish groundcover quickly on small erosion-prone areas.

More information

[Soil and hydrogeological mapping](#)

[Building a sediment fence](#)

Contact LLS if you need assistance to access these links.

Talk to LLS staff about your situation.