Fact sheet

SOUTH EAST LOCAL LAND SERVICES

Autumn 2020

Post-fire small-scale erosion control

Fact Sheet 1 – Types of Erosion and their Impacts

These types of water erosion may increase in risk after bushfire:

- gully erosion
- sheet erosion
- streambed and streambank erosion
- existing erosion.

Figure 1: Burnt areas are more erosion prone due to lost tree canopy and groundcover (living vegetation and dry matter). Soil chemistry and structure may have changed.

The primary goal for landholders is to retain or re-establish groundcover. Options include:

- destock burnt areas
- install sediment traps in water flowlines or across steep slopes
- hand broadcast seed
- avoid further disturbance
- monitor groundcover and plant regeneration
- seek expert advice if gully erosion is activated/re-activated.

Impacts to Infrastructure

Dams, roads and fences can be impacted by organic matter, ash and debris washed from the fireground.

Roads and access tracks are valuable parts of property infrastructure and can be costly to repair.

High levels of run-off can overwhelm pipes under roads, causing overtopping which damages surfaces and erodes road material. It is important to factor in the catchment size and likely flow volumes to design suitable road drainage when constructing new roads.

Roll over banks constructed across slopes can carry run-off but must spill into thick groundcover to avoid erosion occurring off the road.

Figure 2: The blue arrow in the photo below indicates a suitable place for a roll over bank to be installed to reduce water erosion down the steep slope.

Organic matter, ash and debris can wash over unburnt paddocks into farm dams at some distance away from the fireground.

Some of the links overleaf address this issue.

Figure 3: Floating ash washed into this dam has lowered the water quality, making it unsuitable for livestock to drink.

Higher rates of runoff can damage fencing by trapping debris. There are modified fencing designs available to use in flood-prone areas, for example drop-down fencing and using plain wire rather than hinge joint *(see Stock and Waterways link below for examples).*

Figure 4: Increased run-off in this fireground has trapped debris in a hinge joint fence, now needing to be replaced.

Broader landscape impacts

Organic matter, ash and debris flowing off properties can impact the environmental values of waterways, animal and plant habitat, and pollute drinking water catchments. The water quality of major waterways can be severely impacted a long way from firegrounds.

Increased run-off and large debris can also damage infrastructure and cause further erosion downstream.

Figure 5: Low groundcover higher in the landscape leading to powerful waterflow has scoured the base of this creek bank on a tight bend. This can be difficult to control, and approvals may be required, so seek LLS advice.

More information

Rural Landscape Program

Gully Erosion Guide

Stock and Waterways – A NSW Manager's Guide

Bushfire impacts on water quality

Stock water impacted by bushfire ash and debris

Contact LLS if you need assistance to access these links.

Contact your local LLS local office for further post-fire management advice:

Braidwood – 4842 2594
Goulburn – 4824 1900
Moss Vale – 4877 3207

The next four factsheets in this series cover the following topics:

2 - Erosion control techniques

3 – Groundcover management

4 – Monitoring

5 – Safety responsibilities and legislation