**Vegetation to Manage Erosion**

**5.4 Slash**

*Slash* for the purposes of this Forest Practice Guide refers to branches, tree tops, slovens, bark and other woody residue created during harvesting operations.

*Slash* is plentiful and can be useful for reducing erosion and *sediment* discharged from new construction, exposed soil generated during harvesting operations, and for post-harvest site rehabilitation. When it is spread over *fill* slopes during construction, or more commonly for post-harvest track rehabilitation, it is a form of *mulch*. It is an effective tool for trapping a wide range of *sediment* particle sizes.

![Slash cover on track to minimise sediment movement.](image_url)
Where and when to use

1. Use slash as a mulch:
   a. Where an instant barrier is required to reduce surface erosion on critical sites, such as soil disturbance close to flowing water.
   b. To assist in getting a vegetative cover back on sites where the soil is compacted, such as tracks, as it can help to retain soil moisture.
   c. On steep and exposed areas where wind and rain may blow or wash hay mulch away.
   d. When seasonal timing does not allow conventional sowing or hydro-seeding.
   e. On new construction fill slopes, after road or landing water control, and erosion and sediment control measures are completed.
   f. Where machinery is on site or readily available for application.
2. To reduce water velocity and to trap sediment outside of any watercourse.
3. Slash can form an effective bund when placed at the base of earthworks fill slopes, or at the exits of water table drainage culverts, cut-outs, flumes, and sediment traps and ponds.
4. To reduce the impact of logging machinery on tracks during wet weather, by laying slash over harvest tracks. This acts to spread the machinery load across a wider footprint, and reduces water run-off velocity and volume. It also acts as a partial barrier to reduce mud coming to the surface.
5. To trap sediment on tracks and in water tables with low gradients, by laying slash in and over tracks and compacting it.

Where not to use

1. Where it can mobilise and block culverts and cut-outs or be transported off site.
2. Slash can effectively dissipate the energy of a concentrated flow, but do not rely on coarse slash bunds to intercept sediment from concentrated flows (e.g. a storm flow path or culvert discharge).

Application

1. Ensure the contractor knows where and how to use slash as mulch. Train earthworks and harvesting contractors on the use of slash, as they will be the likely applicators.

Slash used with water table drainage culverts, cut-outs, flumes, sediment traps and ponds

2. Place slash by hand or machine at the outlets of water table drainage culverts, cut-outs, flumes, sediment traps and ponds.
3. Match the slash material and size to the job.
4. At drainage culvert, cut-out and flume exits use medium to smaller branches. The aim is to primarily reduce water speed then use the slash as a filter. Bark tends to mobilise with the water so it is not so suitable.
5. Spread the slash in the drainage pathway several metres below the structure.
6. Where the stormwater control measure exits drain directly onto slash in a cut-over – this effectively filters without additional work.
7. Use finer slash as a filter below the outlet of sediment traps and ponds.

Slash as a road or landing bund

8. When clearing and stripping, use slash to form a bund downslope of the toe of the fill as a sediment trap.

Slash and track rehabilitation

9. Apply on logging tracks for post-harvest rehabilitation.
10. Place slash on fill faces to minimise bare earth.
**Vegetation to Manage Erosion**

**5.4 Slash**

**Maintenance**

1. *Slash* typically does not require maintenance. However, check *slash* filters around *sediment* traps and ponds after heavy rain and storms. If *slash* has become *sediment* laden, add more *slash* so that it can keep slowing incoming water and acting as a filter.

**Other methods**

1. For instant soil surface protection, *mulch* or apply hydro-seed.
2. Grassing.
3. For *sediment* control on tracks refer to FPGs Tracks #1 – Track Construction and #2 – Track Rehabilitation.

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**National Environmental Standards for Plantation Forestry**

Particular relevant regulations for soil stabilisation are 32, 55, 60.
Vegetation to Manage Erosion
5.4 Slash

Examples

Examples of slash being used to rehabilitate ground-based logging tracks.
Vegetation to Manage Erosion

5.4 Slash

Sediment trapped by slash at a culvert outlet.

A slash bund intercepts sediment before it reaches the river (in the lower left of the image).
**Vegetation to Manage Erosion**

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*Slash* has been used like hay mulch as an instant stabiliser.

*Slash* on an extraction track – effectively trapping sediment.
Vegetation to Manage Erosion

5.4 Slash

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Other Practice Guides in this series

5.1 Grassing
5.2 Hydro-seeding
5.3 Applying Mulch
5.4 Slash

Visit: https://docs.nzfoa.org.nz/forest-practice-guides/to view all guides