

## Harvest Slash

### 6.1 Managing Processing Slash on Landings



When extracted trees are processed on a *landing* the process creates woody debris or *slash*. Processing *slash* is often pushed or stacked into large piles around or on the slope below the *landing*, called a “birds nest”. Processing *slash* stored around *landings* occupies productive land for the next crop. If poorly managed, its weight, in addition to saturated, unstable or potentially unstable ground, can create a significant risk of failure. There is also risk of spontaneous ignition if *slash* piles are too high (>3 m) or organic material (needles/dirt) or rubbish is mixed with *slash*.



This guide is provided as a reference document and does not constitute a statutory obligation under the Resource Management Act 1991 or the National Environmental Standards for Plantation Forestry.

Please refer to the ‘how to use’ section of the introduction at <http://docs.nzfoa.org.nz/forest-practice-guides/> for advice on how to use this guide.

Version 2.0, January 2020

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#### A Where and when to use

1. Around all *skids* or *landings*.
2. Minimise locating *slash* where it will be difficult to contain or manage, or where the ground is unstable or could become unstable.

#### B Where not to use

Not applicable for this FPG.

#### C Design

1. Before harvesting, assess whether on-site processing will create large volumes of *slash*.
2. Develop a *slash* management plan, especially if harvesting steep country where large amounts of processing *slash* will be produced.
  - a. Estimate the quantity of *slash* that is likely to be produced.
  - b. Identify and plan for the placement of processing *slash* (where appropriate, incorporate *slash* benches as part of the *landing* design and construction). *Slash* areas should be on stable land, well away from *streams*, steep slopes, non-engineered *fill* material, slips, gully heads and *riparian areas*. This will mitigate the risk of processing *slash* entering *water bodies* and causing damage downstream.
  - c. Designate “No-Go” zones where *slash* is not to be deposited.
  - d. Determine if off-site *slash* disposal sites are required and where they are located. Detail how and when the processing *slash* will be removed as the operation progresses.
  - e. Identify the potential for storing *slash* on *landings* once harvesting has been completed, consider further processing of *slash* into wood fibre if economic.
  - f. Document the plan before the operation commences.

#### D Operational controls

1. Construct *slash* benches or designated *slash* placement areas, especially on sites with limited natural storage options for processing *slash*.
2. Ensure the contractor knows and is familiar with the *slash* management plan. Sign it off as part of the pre-harvest brief.
3. Ensure that machines have unrestricted access to the identified processing *slash* placement areas.
4. Plan for temporary *slash* storage if there is insufficient space for onsite processing *slash* storage. This will allow processing *slash* to be temporarily accumulated and trucked off site to a disposal site (for example, another *landing*).
5. Keep *birds nests* free of soil, organic material and wire rope/metal which can act as a catalyst for spontaneous ignition. Do not blade off mud and dirt into them as this makes post-harvest rehabilitation more difficult and can create instability.

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#### D Operational controls continued

##### Burning

6. Burning can be an effective option to reduce the amount of *slash* in a *birds nest*. The processing *slash* can sometimes burn for weeks which can pose a severe fire risk in dry or windy conditions. Burning debris can also roll downslope creating a risk of starting fires. High levels of fire supervision and resourcing are required when burning processing *slash*.
7. Seek specialist advice if you wish to use burning as a *slash* management technique.
8. Have a fire permit if required, a Burn Plan and Fire Control Plan, and follow all local fire authority requirements. Check the relevant council's air plan and forest insurance requirements and consider any ecological implications.
9. Ensure designated areas of protected vegetation are protected from burning. Consider over-sowing burnt areas to reduce the risk of surface erosion.

#### E Maintenance

##### During the operation

1. Manage stormwater control around *slash* areas during operations to prevent water entering *birds nests*. Reinstate stormwater controls if they are damaged by operations.
2. Monitor *birds nests* to ensure they are stable and fully utilise the available space. This may require benching and shifting or reworking of the processing *slash*.
3. Monitor processing *slash* storage space. If it is likely to be exceeded, find an alternative site. Make sure that processing *slash* does not accumulate beyond the reach of the excavator if it needs to be repositioned.

##### Post-harvest rehabilitation or decommissioning

4. Pull any unstable processing *slash* back from the *landing* edge with an excavator.
5. Install drainage as required to minimise the entry of stormwater into *birds nests*.
6. On steep erodible slopes, processing *slash* should be reduced to a level that the ground is visible through the remaining material, if the *slash* is not contained on purpose-built *slash* benches.
7. Check *landing* edges for thick build-ups of processor-generated bark. Large deposits of bark can form deep, wet, heavy layers that are prone to failure. Remove the bark to solid ground.

#### F Other methods

1. Processing *slash* can be minimised by harvesting full or longer length stems and transporting them to a central processing site or yard.
  2. Remove all lower grade logs (e.g. overcuts or bin wood) during extraction, or process logs in the forest.
- Note:** Some of these options may not be feasible or economic in all circumstances.
3. Refer to FPGs Earthworks Construction for construction of *slash* benches.

#### National Environmental Standards for Plantation Forestry

Particular relevant provisions for managing *slash* are Regulations 20, 69, 83 – 92.

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#### Examples

A constructed *slash* bench.



Burning can be an effective method of removing *slash* where it is carefully managed.



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*Landings* need to be rehabilitated and *decommissioned*. This *landing* has had the *slash* pile stored on the *landing*. *Water tables* and *bunding* have directed stormwater away from *fill* and on to the hard surface.



Constructed *slash* bench below the *landing*.



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Rehabilitated landing – slash stored in a safe location and water controls installed.

### Contact



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### Other Practice Guides in this series



6.1 Managing Processing Slash  
on Landings



6.2 Managing Cut-over Slash on  
High Risk Slopes



6.3 Managing Slash in and around Rivers



6.4 Slash Traps

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