

Clearfelling



Key points

- Clearfelling followed by regeneration burning and sowing is the most appropriate way to harvest and regenerate wet eucalypt forest.
- It is also the safest method for forest workers and the most cost effective.
- Sustainable Timber Tasmania is continuing to investigate and develop alternative feasible harvesting methods.

What is clearfelling?

Clearfelling is a harvesting method that involves removing most of the trees in a harvesting area in a single operation. As well as being the best method for re-establishing some types of forest, it is also the safest method for forest workers and the most cost effective harvest method.

We aim to resow clearfelled areas with seed collected from the trees that were felled so that the regenerated forest is similar to what was originally harvested.

How clearfelling developed

In the 1950s, two forest scientists, Max Gilbert and Murray Cunningham, became concerned that heavily cut wet eucalypt forests were not regrowing properly after many decades of selective harvesting.

Over decades of extensive research and harvesting trials they realised that fire and light were the essential elements needed to make wet eucalypt forests re-grow successfully. This research led to the development of what is known today as the clearfell/ burn /sow method.



Research officer performing a regeneration seedling survey.



Forest worker marking eucalypt crown foliage containing seed (gum nuts) for contractors to collect prior to coupe debris being burnt.

Recent research has confirmed that more eucalypt seedlings establish and grow faster on a well-burnt seedbed than on any other substrate.

Why clearfelling is used

Wet eucalypt forests are dominated by tall eucalypts – swamp gum (*Eucalyptus regnans*), stringybark (*Eucalyptus obliqua*) and gum-topped stringybark (*Eucalyptus delegatensis*) - where minimal light reaches the forest floor.

Wet eucalypt forests rely on major disturbance, usually a large bushfire, to regenerate. Such fires remove the canopy, enabling sunlight to reach the forest floor, revealing a mineral earth seedbed and encourage seed to fall. This allows the seedlings to grow with reduced competition and predation from other species.

Without this major disturbance, there is no regeneration of the major forest species, as the understorey is too dark and there is no mineral seedbed to encourage germination. The regeneration burns used after clearfelling prepare a mineral seedbed, in a similar way to that created by a wildfire.

Clearfelling produces even-aged stands. Over many years it has been shown to be an effective, and safer, way to harvest and regrow wet eucalypt forests.

Alternatives being investigated and developed

Sustainable Timber Tasmania has spent many years researching and developing new techniques to extract timber from wet eucalypt forests. This has resulted in identifying alternative harvesting methods to clearfelling, each with their own pros and cons.

Aggregated and dispersed retention techniques leave patches of trees standing after harvest. These patches provide habitat to help maintain biodiversity in the harvest area. The harvested area has comparable regeneration success compared with clearfelled areas.

These variable retention operations are challenging to plan and carry out. With further research we expect to increase both aggregated and dispersed retention harvest techniques in those areas of wood production forest where site conditions and worker safety concerns can be appropriately addressed.



Eucalypt seedling growing vigorously in the prepared ash-bed after the regeneration burn.



Forest officers performing a regeneration survey checking seedling stocking 12 months after sowing seeds.



Variable retention coupe where part of the original forest is retained after harvesting.