

## CRC for Forestry research overview: Alternatives to clearfell harvesting

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At the Co-operative Research Centre for Forestry, research into alternatives to clearfell harvesting fall under two separate research programmes: RP3 Harvesting and Operations, and RP4 Trees in the Landscape.

### **RP3 Harvesting and Operations**

This research is currently at the planning stage. Research Programme Three will look at the harvesting implications of alternatives to clearfelling. These will include the safety implications for workers, costs and cost savings, and productivity implications. This research is anticipated to progress with one or more field trials and additional modelling. Subject to negotiation, the field trials are likely to be located at the Warra long-term ecological research (LTER) site, in Tasmania's southern forests. The modelling is likely to be conducted collaboratively by researchers based at the University of Tasmania and the University of Melbourne. As finding alternatives to clearfelling is a worldwide issue, this work will draw upon overseas experience.

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### **RP4 Trees in the Landscape**

Research in this area within Research Programme Four comes under the Biodiversity project: "4.2.1. the biodiversity benefits of alternative silvicultural systems in wet eucalypt forests". This Tasmanian project is based around long-term biodiversity studies being conducted in the Silvicultural Systems Trial (SST) at the Warra LTER site. Biodiversity is one of several attributes being evaluated in the silvicultural systems trial; others include silvicultural outcomes, worker safety, economics and social acceptability.

The biodiversity studies are measuring how plants, lichens, mosses, liverworts, birds and litter-inhabiting beetles respond to different ways of harvesting and regenerating wet forests (silvicultural systems). Most of the surveys to measure these responses have now been completed in research done by Forestry Tasmania. An important research task for the CRC for Forestry will be to integrate all of this survey information so we can draw some general conclusions about how plants and animals are responding to these different methods of harvesting. This will involve dealing with some big numbers. For example, more than 9,000 collections of litter-dwelling beetles have been made and each collection can contain several beetles. The different beetle species from each of these collections have had to be sorted, counted and identified.

Another task of the CRC for Forestry will be to see whether the responses of the plants and animals to particular harvesting methods in the SST at Warra occur more generally. This will involve more biodiversity surveys in harvesting operations done in other forest areas. We plan to focus particular attention on operations using the aggregated retention\* method of harvesting. This is one method that has shown particular promise as an alternative to clearfelling in wet eucalypt forests.

The constraints of the project mean we won't be able to look at all of the lifeforms that were examined in the biodiversity study in SST at Warra. We think birds, in particular, will be a good group to concentrate on because they were particularly responsive to different harvesting treatments in the SST.

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\* Aggregated retention is a harvesting operation where about 20 per cent of the coupe is retained as intact forest in patches of between half and one hectare. This method is designed to ensure that the majority of the coupe remains within the influence of intact forest. This method is expected to maintain more of the biodiversity present in older intact forests and reduce the visual impact of harvesting.