

PROJECT 5.2

Biodiversity values and landscape context in reforestation

Project Leader: Associate Professor Carla Catterall (GU)

It is now widely recognised that clearing of tropical and subtropical rainforests during the past century has resulted in both loss of biodiversity and disruptions to catchment, ecological and physical processes. Rainforests are also well known as distinctively evolved repositories of exceptionally high levels of biological diversity. In recent years much attention has been directed to conserving those areas that remain. However native forest cover in parts of the landscape has been cleared or otherwise degraded beyond a state where rescue can be achieved simply through protection of existing remnant forest. Many of these areas are also highly valued for agriculture, livestock production, and residential uses.

The current challenge is to devise methods of sustaining and restoring both diversity and ecological process in these degraded multiple-use landscapes, and of assessing and monitoring the associated "performance" of biodiversity and process at the site and landscape levels. Meeting this challenge requires an improvement in fundamental knowledge, through a range of approaches, including quantitative comparisons of the performance of different restoration strategies in relation to species and processes, and site-specific process-oriented studies. It also requires the development of monitoring indices for use in biodiversity assessment. This project aims to provide such knowledge. The project lies directly within the Rainforest CRC goal of sustainable management and conservation.

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In areas that have been cleared for long periods of time, regrowth may be dominated by introduced weedy plants. For example, regrowth dominated by camphor laurel (*Cinnamomum camphora*) trees covers extensive areas of cleared rainforest land in Australia. However, camphor laurel patches attract fruit-eating birds that disperse the seeds of

rainforest plants. Many seedlings of rainforest plants have recruited to camphor laurel patches and, in the long-term, dominated the regrowth. This process could be hastened by careful and strategic management interventions, but this requires a change in current attitudes towards the role of weeds in ecosystem restoration.

This 'Issues' paper covers much of the Honours research carried out by Wendy Neilan of Griffith University and discusses some of the processes associated with rainforest regeneration using established camphor laurel regrowth patches as a case study.

Hard copies can be ordered by contacting the Rainforest CRC on (07) 4042 1246, or you can download a [PDF \(897Kb\)](#).



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