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# ECOLOGY AND RESTORATION OF FRAGMENTED WOODLANDS: A WESTERN AUSTRALIAN PERSPECTIVE

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1. Understand the regeneration needs of woodland trees: the basics of a source of seeds, a suitable substrate, suitable growing conditions and lack of grazing are essential.

2. Understand the changes arising in an altered landscape: changing the landscape leads to changes in biological processes such as dispersal and pollination, and abiotic processes such as hydrology.

3. Figure out what needs to be done to repair damaged woodlands: aim for the minimum management input necessary for success, but don't settle for anything less.

4. Set priorities within a logical framework, but don't expect it to be an easy task.

5. Think about what climate change means for woodland conservation.

6. Use past work as a basis for understanding: don't reinvent the wheel.

## Introduction

My appreciation and understanding of woodlands has developed over the 26 years I have lived and worked in Western Australia (see map on next page). I originally moved there to join a CSIRO research team investigating the dynamics and management of fragmented ecosystems in the Western Australian wheatbelt. Travelling through the wheatbelt, with its vast expanses of land cleared for wheat and sheep, the remaining patches of woodland (and other ecosystems such as the kwongan) provided a touchstone to what remained of the past nature of the area – not just for me, but for many of the locals and most people who worked there. I was surprised, therefore, when it came to considering how these woodlands worked and how they might be managed effectively, to encounter an almost complete lack of information on the basic ecology of even the dominant trees.

That realisation set me (and others) on a journey of finding out how the woodlands worked, how the dominant tree species regenerated, and ultimately, how the woodland systems might be managed and restored. This work was carried out predominantly with PhD students Colin Yates and Trish Fox, but many other people contributed to filling in our understanding of the