7 Heathlands

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SUMMARY

Heathlands are major repositories of Australia's unique and iconic flora and also support a specialised fauna. Often situated within spectacular scenic landscapes, heathlands provide an important focus for a growing multi-million dollar ecotourism industry. Heathlands span a remarkably broad range of tropical and temperate climates across the continent, but the distributions of heathland ecosystems are locally restricted and highly structured along local and regional environmental gradients. Although comparatively well represented within protected areas, heathlands are exposed to ongoing threats from land clearing and associated degradation, inappropriate fire regimes, climate change and plant disease. Several heathland communities are listed as threatened under Commonwealth or state legislation. There has been considerable ecological research in Australian heathlands over the past 60 years and currently three of TERN's plot networks and one transect are located partly or wholly within them. We review outcomes from these studies in this chapter, along with those from several other long-term heathland studies that sample different regions and ecological processes. These studies reveal that: (1) fire regimes are driving different trends in biodiversity in different parts of the continent, with most declines so far proving to be localised and reversible by appropriate management; (2) root rot disease is driving precipitous declines in susceptible heathland flora that are proving difficult to mitigate or reverse; (3) impacts of land clearing vary between regions from severe to negligible, and limited efforts at restoration are producing positive outcomes for mammal fauna but are less successful for flora; and (4) there is already evidence of climate change impacts in some regions, with declining rainfall adversely affecting plant survival, growth and seed production, with flow-on effects on flower-dependent fauna. The existing long-term ecological research in heathlands has produced significant insights into the causes of the changes listed above, which could not otherwise have been detected and diagnosed (Box 7.1). Further development of the Long Term Ecological Research Network will fill thematic gaps and provide a strong basis for adaptive management and conservation of these unique Australian ecosystems.

INTRODUCTION

Heathlands are nutrient-poor, drought-tolerant ecosystems that are distributed worldwide from tropical