

# 11 Chenopod and acacia shrublands

*Jeff Foulkes, Nicki de Preu, Russell Sinclair, Nicole Thurgate, Ben Sparrow and Andrew White*

## SUMMARY

The chenopod and acacia dominated shrublands together cover more than a quarter of the Australian continent. They are a significant feature of arid Australia: a large and complex area that covers ~70% of the continent (see also Chapters 10 and 12). Since European settlement, there has been a loss of ~50% of the mammalian fauna and a reduction in the distribution and abundance of many bird and reptile species in these shrublands. Additionally, some plant species have become extinct and many communities are undergoing severe modification. To maintain biodiversity, it is essential that landscape-wide and long-term studies of chenopod and acacia shrubland dominated communities are undertaken to form the basis of sustainable management strategies.

Despite knowledge from studies to date, current understanding of these shrubland systems is limited, with the majority of data gathered representing either a single point in time or data gathered from spatially limited areas. In addition, much of the data relates to monitoring not of biodiversity, but of the impact of grazing on natural pastures, largely due to the economic importance of these communities to pastoralism.

In this chapter, the three key elements that affect the biota and ecology of chenopod and acacia dominated systems are described and discussed. These are: climate (predominantly the influence of rainfall); fire; and the impact of European settlement and European management practices. We highlight the importance of these factors with two core studies: Koonamore (a long-term vegetation study) and Bounceback (a long-term fauna study). Both of these studies were conducted in South Australia. The chapter also contains several feature boxes that highlight key processes from other Australian jurisdictions.

## INTRODUCTION

In this chapter we describe the chenopod and acacia shrubland environments that together with the 'desert complex' (hummock grasslands, see Chapter 10) and tussock grasslands (see Chapter 12), comprise the major ecosystems of arid Australia. The chenopod and acacia shrubland environments are among the nation's most renowned ecosystems and include the vast karst plains of the Nullarbor Plain, stony 'gibber' deserts, rocky uplands and sand plain and dune fields of the sandy deserts (see Fig. 11.1).