

THE ROLE OF FARM PRODUCTION SYSTEMS IN DETERMINING VEGETATION PATTERNS AND OPTIONS FOR BROAD-SCALE CONSERVATION IN TEMPERATE WOODLANDS

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1. High-input livestock production systems are not compatible with maintaining native plant diversity and overstorey tree populations.
2. Sustainable grazing systems depend on maintaining diverse perennial ground-layer vegetation with associated drought tolerance and soil protection.
3. Overstorey tree populations and a moderate diversity of ground-layer plants can be maintained under extensive and/or infrequent livestock grazing systems, but only in the absence of soil nutrient enrichment.
4. Profitable alternatives to intensive high-input production systems do exist; however, there are significant barriers to widespread uptake.
5. In any particular situation there will be considerable uncertainty about whether reducing or excluding grazing and/or fertilisation will lead to a recovery in the diversity and abundance of native ground-layer plants.
6. Strategies for conserving and enhancing temperate woodland vegetation should include whole-of-farm approaches in addition to targeting remnants within farms.
7. Conservation planners need to consider different approaches across the landscape, owing to systematic variation in farm productivity and ecological processes.

Introduction

This chapter provides seven key lessons derived from collaborative research on vegetation patterns and dynamics in the temperate woodland landscapes of central and northern Victoria and the southern slopes and tablelands of New South Wales (see map on next page). These regions differ from the northern and coastal rainshadow grassy forests and woodlands of New South Wales in the lack of a summer-dominant rainfall pattern and the presence of frequent summer soil moisture deficits. The research has been directed towards: (1) understanding how management practices associated with agriculture (tree clearing, livestock grazing, nutrient