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Measuring change in vegetation extent at regional and property scales

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SUMMARY

This chapter describes the ecological component of a multi-disciplinary investigation of change in native vegetation extent at landscape and property scales in northern Victoria, Australia. We quantified change in mature native tree cover at landscape level in three study areas covering ~500 000 ha using aerial photography from 1946–2008 and conducted participatory workshops to attribute probable causes to mapped change. We then mapped the extent and type of all forms of vegetation management on a subset of 71 properties across the case study areas based on interviews with landholders to identify the year and funding source of those works. Further work at the site scale (Chapter 12) examined the trajectory of ecological change that follows funded intervention. To our knowledge, no previous studies have attempted an analysis of natural resource management (NRM) effectiveness spanning these three scales.

We demonstrated how the combined forces of socio-economic factors and regulation slowed then largely ended the clearing of woody vegetation by around 1990, and how more recently NRM incentives have laid the foundation for a modest increase in landscape-level cover of just under 2% within the last two decades. Spontaneous recolonisation or regeneration of native woody vegetation was by far the biggest contributor to the likely increase in extent, contributing far more area than revegetation projects.