

Contrasting fragmentation and disturbance effects on roadside vegetation

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Habitat fragmentation and changes to human disturbance regimes are acknowledged as key ongoing threats to biodiversity worldwide. For example in south-eastern Australia, 150 years of agricultural development has resulted in widespread clearing and fragmentation of once continuous *Eucalyptus* woodlands, and replacement with crops or exotic pastures. Remaining woodlands now occur as remnants of varying size, quality and isolation, and exist primarily in small conservation reserves, and as an extensive network of roadside (vegetation) corridors. Fragmentation results in both external (e.g. edge effects) and internal (e.g. grazing) modifying influences, but also changes to natural fire regimes, which is important in maintaining *Eucalyptus* woodlands. Understanding the effects of changes to these landscape processes is vital for future conservation management activities of remnant vegetation in road corridors.

The purpose of this study was to investigate potential fragmentation and disturbance effects on remnant vegetation in the Mallee region in northern Victoria. We surveyed the structure of Mallee vegetation (in terms of dominant trees, shrub strata, and groundcover), and collected field based and documentary evidence on disturbances, to compare and contrast structural differences between roadside vegetation and small, medium and large remnants. Sampling of larger remnants was stratified based on core or edge habitat. Results of this study showed that the structure of roadside vegetation corridors was similar to the edge of larger remnants. Roadside vegetation and edges had a greater mean height and girth (DBH) of dominant trees, than the core of medium and large remnants. In contrast, the core of medium and large remnants possessed greater shrub diversity and more complex understorey cover than roadside vegetation. These results are discussed in terms of prevailing fragmentation paradigms and disturbance history, and highlight the conservation importance of roadside corridors in providing habitat for threatened species in such human altered landscapes.