

Reimagining the Suburb: Biodiversity Planning in the Urban Fringe

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Consistent with a worldwide trend, the size of Australian cities has increased dramatically over the last 100 years. This urban growth has resulted in profound impacts on natural areas, including the loss of natural habitats and fragmentation of the landscape, and accelerating urbanisation is now considered one of the greatest threats to biodiversity. Protection of biodiversity in urban areas brings numerous societal benefits but involves complicated tradeoffs between competing land uses including housing development, agricultural production and conservation. Important values are at stake: over 40% of nationally listed threatened ecological communities and over 50% of threatened species occur in urban fringe areas.

We present results from the first two years of an ARC-linkage grant investigating tools for biodiversity planning in the urban fringe. This project builds on recent advancements in ecological modelling and mathematical optimisation to develop and test tools to facilitate transparent decisions based on optimal trade-offs between competing values. Important outcomes to date include maps of Melbourne's biodiversity hotspots, protocols for surveying grasslands and the identification of important steps to ensure the biodiversity benefits of habitat offsets.