

***The Ballantinia antipoda session:  
RESCUING SMALL POPULATIONS FROM EXTINCTION***

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Extinction debt and the conservation of small isolated populations of rare and threatened plants in south west Western Australia

Extinction debt is the future extinction of species in an area due to past events and occurs because of delays between impacts on a species, such as habitat destruction and fragmentation. Extinction debt is most likely found in long-lived species, such as trees and woody shrubs, covering narrow geographic ranges. Limited reproduction and a lack of recruitment in small isolated populations will ultimately result in extinction despite the ability of individual plants to live for many years. This delayed extinction has important implications for conservation and management, as it implies that species may go extinct due to past actions such as habitat destruction, even if those actions have ceased. The south west flora of Western Australia has been subjected to major impacts since European settlement resulting in significant changes to the vegetation over large areas. These impacts are particularly evident in the heathlands and shrublands of the extensive agricultural region (Wheatbelt) where there has been broad scale land clearing and habitat degradation. Here we investigate extinction debt involving rare and threatened long lived woody shrubs in this region. Over 2,300 plant taxa are of conservation concern within the south west and some 70% of these are relatively long lived woody shrubs. Our initial assessment of rare and threatened species based on population size, area of extent and population isolation indicate that there is likely to be a significant extinction debt focused around those species with habitat destruction and associated habitat degradation, and introduced pathogens major contributing factors.

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## 11th Australasian Plant Conservation Conference

*"New Approaches to Plant Conservation  
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