Advances in plant conservation biology:

Implications for flora management and restoration

Symposium program and abstracts

Perth, Western Australia
25-27 October 2005

RDENS
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Advances in plant conservation biology
Symposium, Perth

THE SIGNIFICANCE OF *EX SITU* CONSERVATION TO PLANT RECOVERY IN SOUTHERN WESTERN AUSTRALIA

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Western Australia has a rich endemic flora that is highly threatened. Recovery plans outline actions that identify and address threatening processes with the overall aim to prevent species loss. *Ex situ* conservation and translocation are practical management responses that address the ongoing biodiversity crisis that is threatening this flora. *Ex situ* storage of 223 species of threatened flora (Declared Rare) at the Department of Conservation and Land Managements Threatened Flora Seed Centre has lead to 23 translocations, which have contributed to increases in plant numbers for those species by up to three times. This collaboration between *ex situ* practitioners and reintroduction specialists aims to secure plant populations in the wild whilst holding viable collections as insurance.

The immediate goals of *ex situ* conservation are to ensure adequate representation of each species in long-term storage. This assumes that international standards for germplasm conservation will capture a significant proportion of the genetic variability within each species. This material allows for the translocation of species at risk of extinction. The ultimate goal of these translocations is to create viable self-sustaining populations. But how many populations and of what size are needed to secure the long-term future of a species?

The challenge is to acquire the basic knowledge to allow us to define minimum viable population size and to build on existing *in* and *ex situ* conservation information to identify the resources required to achieve this. Currently 60% of Western Australian threatened plant species are represented in *ex situ* seed collections. These collections are often small and seed number can still be a limiting factor in establishing translocated populations. It is clear that these collections have made a significant contribution to the species recovery process however there is a long way to go before any species can be considered 'saved'.