Seeds and threatened species management

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The collecting and banking of seeds in secure off site facilities is a key strategy in the conservation of wild plant species at risk in a rapidly changing environment. Storing high quality seed off-site (ex situ seed conservation) is a cost effective means of safe guarding genetic diversity. This strategy is used to complement in situ protection, and in some instances may be the only viable management action for conserving wild species diversity. As an insurance policy against extinction, seed banking can also be used to support research into a better understanding of the seed biology and ecology of a species. More critically, in Western Australia, seed science and genetic research underpin the use of banked seeds in one of the world's largest and most comprehensive rare flora translocation programs. Currently, the Department of Environment and Conservation has 1760 collections representing 315 threatened taxa in secure ex situ storage. These collections have supported 50 translocations (introductions, reintroductions and augmentations) into 85 different sites. In addition these collections can contribute seed resources for restoring threatened ecological communities. In this paper we provide compelling evidence of the importance of seeds in managing and conserving threatened flora and vegetation communities using case studies of Western Australian plant species, including *Banksia brownii*, *B. ionthocarpa* and *Lambertia orbifolia*.

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