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TRANSLOCATION OF THREATENED FAUNA

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Summary

Translocations, particularly reintroductions, are an extremely useful wildlife management tool. Over the last 20 years many have been successfully implemented in WA and two species of mammal have now been removed from threatened fauna lists primarily because of successful reintroduction programs. Many other vertebrate species have also been successfully translocated, and translocations of threatened plants are now underway. Inappropriate or poorly planned translocations can also be detrimental to wildlife conservation objectives and in WA, IUCN guidelines have been adapted to ensure translocations are properly implemented.

Introduction

Translocation is the movement of living organisms from one area with free release in another. It is one of the most valuable tools for the management of natural ecosystems, particularly in the area of fauna recovery. But it can also be one of the most destuctive if used improperly or poorly planned. Three main types of translocation are recognised (IUCN 1987):

- **Introduction** is the intentional or accidental dispersal by human agency of a living organism outside its historically known range (e.g fox, cat, weeds).
- **Re-introduction** is the intentional movement of an organism into a part of its native range from which it has disappeared in historic times as a result of human activities or natural catastrophe (many examples, discussed later).
- **Re-stocking** is the movement of numbers of plants or animals of a species with the intention of building up the number of individuals of that species in an original habitat (e.g Chuditch to Lake Magenta).

WA is fortunate in that effective fox control programs can be implemented over large areas, and many species that have become extinct on the mainland survive on offshore islands. Thus we are able to control one of the primary causes of fauna (particularly mammal) declines and we have a source of fauna for translocations. In WA most translocations have involved threatened animals, however the technology is now available to use translocations to benefit threatened plants and this will be an area of increased activity over the next few years.

Why do we translocate?

Translocations occur for many reasons including:

- accidental introductions, e.g rats, house mice etc.
- rural development, e.g. crops and food crops, domestic stock.
- improvement of hunting or fishing, e.g. rabbits, foxes, pheasants, trout.
- ornamentation, e.g. *Watsonia*, doves, Koalas.
- maintenance of culture, e.g sparrows, starlings.
- commercial and education, e.g wildlife parks
- wildlife salvage, e.g. flooding of the Ord River, Quendas in the metro area, Ringtail Possums at Busselton.
- enhancement of biological diversity, either through improvement of single species conservation status, or reconstruction of floras and faunas.

When should we translocate, and when shouldn't we?

For conservation agencies, translocations should only occur to improve the conservation status of a species or community, or to lessen the impact of habitat destruction. They usually involve threatened species, but this is not always so. They may involve more common species to reconstruct the flora and fauna of an area, or to preserve genetic variability.

Introductions should only be considered if there are clear benefits to the conservation of the species and reintroduction options are not available. It also needs to be clear that there will be no detrimental impact of the introduced organism on the existing biota. Examples of introductions with conservation benefit are the marooning of the Shark Bay Mouse *Pseudomys fieldi* on Doole Island in Exmouth Gulf, the Greater Stick -nest Rat *Leporillus conditor* on Salutation Island, Shark Bay, and the transfer of Mala *Lagorchestes hirsutus* to Trimouille Island.

Re-introductions are the usual type of translocation undertaken by CALM for conservation purposes and there are many examples of these (Table 1). They should only be undertaken using the same genetic stock as originally present, if this is possible. The eradication or control of the original cause of extinction (e.g exotic predators) is essential before any translocation occurs, and the natural habitat requirements of the species must be known and met at the translocation site.

Re-stockings are usually undertaken to improve the genetic composition of the existing population. Therefore they should only use the same genetic stock (e.g same subspecies) as is already present.

Species	Date	Moved from	Moved to	Translocation type	Successful ?
Banded Hare Wallaby	1974	Dorre Is.	Dirk Hartog Is.	reintroduction	no
Rothschild's RW	1981	Enderby Is.	West Lewis Is.	introduction	yes
Numbat	1985	Dryandra	Boyagin	reintroduction	yes
	1986	Dryandra	Karroun Hill	reintroduction	yes
	1991	Dryandra	Tutanning	reintroduction	yes
	1992	Dryandra / Perth Zoo	Batalling	reintroduction	yes
	1995	Dryandra	Dragon Rocks	reintroduction	yes
	1996	Dryandra	Hills Forest	reintroduction	??
Chuditch	1992	Perth Zoo	Julimar	reintroduction	yes
	1996	Perth Zoo	Lake Magenta	restocking	yes
	1998	Perth Zoo	Cape Arid	reintroduction	?
Boodie	1992	Dorre Is.	Heirisson Prong	reintroduction	yes
	1993	Barrow Is.	Boodie Is.	reintroduction	yes
Woylie	1981	Perup	Batalling	reintroduction	yes
	1990	Dryandra	Boyagin	reintroduction	yes
	1994-5	Dryandra	Nth Jarrah	reintroduction	yes
	1995	Dryandra	Julimar	reintroduction	yes
	1996	Dryandra	Lake Magenta	reintroduction	yes
	1997	Dryandra / Batalling	Peron	reintroduction	?
Tammar Wallaby	1994	Perup	Batalling	reintroduction	yes
Ringtail Possum	1991	Busselton	Leschenault	reintroduction	yes
	1994	Busselton	Yalgorup	reintroduction	yes
	1996	Busselton	Lane-poole	reintroduction	yes
Quenda	1994	Swan Coastal P	Julimar	reintroduction	no
	1994	Mt Barker	Dongolocking	reintroduction	yes
Djoongari (Shark Bay Mouse)	1993	Bernier Is / Perth Zoo	Doole Is.	Introduction / restocking	yes
	1993	Bernier Is.	Heirisson Prong	reintroduction	no
Thevenard Island Mouse	1996	Thevenard Is.	Serrurier Is.	introduction	yes
Wopilkara (Greater SNR)	1991	Monarto (captive colony)	Salutation Is.	introduction	yes
Noisy Scrub-bird	1983	TP Bay	Mt Manypeaks	reintroduction	yes
	1993	TP Bay	Bald Is.	introduction	yes
	1997	TP Bay	Harvey	reintroduction	??
Malleefowl	1997/8	Northern Wheatbelt	Peron	reintroduction	yes
Western Swamp Tortoise	1996-98	Perth Zoo	Twin Swamps	reintroduction	yes?

Table 1. Some translocations undertaken in WA.

Translocation Proposals

CALM has adopted IUCN guidelines for the planning and implementation of translocations, and translocations will not be approved by the Director of Nature Conservation unless these are adhered to. A policy statement on translocation of threatened flora and fauna has been prepared by CALM (CALM 1995). The process by which translocations are assessed in WA is by means of completion of a Translocation Proposal. These are documents that are often referreed externally before being considered for approval. They cover:

- Summary
- Name and affiliation of the proponent
- Background on the species former range, current distribution, conservation status and biology.
- The translocation:
    - Details of the land status at translocation site.
    - Source of animals or plants. Why was this chosen?
    - If an Introduction, the impact on the existing biota needs to be assessed.
    - If an Introduction to an island, it must demonstrate that it will have no effect on possible other translocations to that island.
    - It a translocation from an island to mainland, it must demonstrate that the mainland taxon no longer exists.
    - Founder number and principles of conservation genetics.
    - Removal or control of the cause of previous extinction, e.g exotic predators.
    - Details of post release monitoring.
- Funding – source and long term commitment.
- Animal Ethics Committee approval – Code of Practice (NHMRC 1997).
- Endorsement by proponent's organisation.
- References.
- Attachments - normally translocation proposals will not be approved unless they form part of a Recovery Plan or Interim Recovery Plan.

Conclusions

WA is fortunate in that many threatened species still persist as relic populations. There are also several offshore islands which have remained exotic predator free. These factors combined with our ability to control foxes and to establish successful captive breeding programs enable us to use translocations as an effective fauna management tool. Successful translocations have been responsible for removing two species, the Woylie and Quenda, from the threatened fauna list and it is likely that several other species will be removed in the next few years. Once cat control becomes operational in the next 2-4 years, translocation programs will be expanded to include the semi-arid and arid parts of the State, and this will ensure that WA continues to lead Australia in fauna recovery programs.

References

CALM (1995). Translocation of Threatened Flora and Fauna. CALM Policy Statement No. 29.

NHMRC (1997). Australian code of practice for the care and use of animals for scientific purposes. National Health and Medical Research Council, Commonwealth of Australia September 1997.

IUCN (1987) The IUCN position statement on translocation of living organisms. Introductions, re-introductions and re-stocking. IUCN, Gland, Switzerland.

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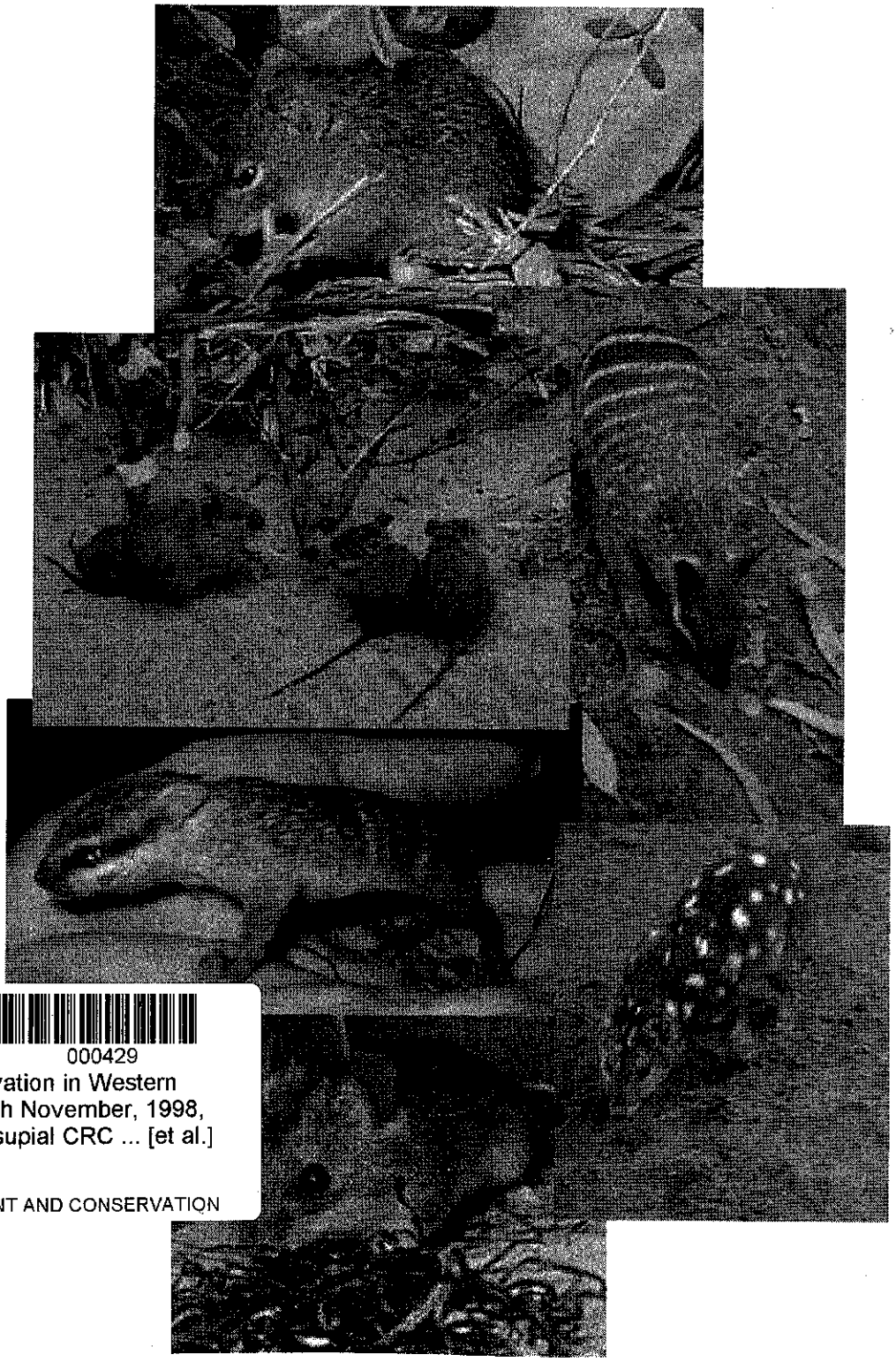
Mammal Conservation in Western Australia



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