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Published

2003

Journal Title

Ecological Management & Restoration

DOI

<https://doi.org/10.1046/j.1442-8903.2003.01691.x>

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Conservation strategy for Lumholtz's tree-kangaroo on the Atherton Tablelands.

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Citation details:

Kanowski, J., Winter, J.W., Simmons, T. and Tucker, N.I.J. (2003) Conservation strategy for Lumholtz's tree-kangaroo on the Atherton Tablelands. *Ecological Management and Restoration*. **4**, 220-221.

Key words: arboreal mammal, corridors, habitat, rainforest restoration.

Lumholtz's tree-kangaroo (*Dendrolagus lumholtzi*) is a large (10 kg max.) arboreal marsupial endemic to the rainforests of north Queensland, Australia. According to museum records, community surveys and spotlighting data, the species is most abundant in higher elevation rainforests (above 700 – 800 m a.s.l.) on the Atherton Tablelands, particularly on fertile basalt soils (Newell 1999; Kanowski *et al.* 2001a, b). Clearing has reduced the area of this prime habitat for *D. lumholtzi* from approximately 66 000 ha to 25 000 ha. Extensive areas of prime habitat are now restricted to the Herberton Range on the western edge of the Tablelands (Fig 1).

Tree-kangaroos still inhabit many remnant forests on the Tablelands, but their long-term persistence in this highly modified landscape is threatened by clearing, road-kills and dog attacks (Newell 1999; Kanowski *et al.* 2001a). We believe the conservation of tree-kangaroos in remnant forests on the Tablelands is important because: (1) remnant forests support a significant proportion of the total population (remnants comprise about

20% of the remaining prime habitat for *D. lumholtzi* on the Tablelands); (2) remnant forests provide connectivity between populations on the Herberton Range and populations to the north and east of the Tablelands; and (3) tree-kangaroos are becoming increasingly important to residents of the Tablelands, e.g., as an icon of the local tourist industry.

We propose that the following actions form the basis of a strategy for the conservation of tree-kangaroos on the Atherton Tablelands:

1. Conserve prime habitat.

Most of the remaining areas of prime habitat for *D. lumholtzi* are protected in the Wet Tropics World Heritage Area, but these areas are incised and partly fragmented by clearing. These areas could be consolidated by revegetation of cleared land on the margins of the Herberton Range.

2. Protect and consolidate important remnant populations.

Major remnant populations of tree-kangaroos occur in the vicinity of Yungaburra State Forest and at the head of the North Johnstone and Barron Rivers (Fig. 1). The dispersal of individuals from these remnants is thought to play an important role in maintaining populations in the surrounding landscape (Kanowski *et al.* 2001b). Some of these remnants are privately owned and require protection, e.g. by conservation agreement, regulation or acquisition. In the longer term, the conservation of remnant populations may require measures to increase population size (e.g. the revegetation of land adjacent to remnants) and to improve connectivity with extensive areas of prime habitat.

3. Improve connectivity between remnant populations and extensive areas of prime habitat.

The persistence of tree-kangaroos in remnant forests on the Tablelands may depend on the dispersal of individuals from extensive areas of prime habitat, e.g. to maintain genetic diversity (Bowyer *et al.* 2002) or to recolonise remnants after droughts, cyclones or other catastrophes. While considerable effort has been put into replanting rainforest corridors on the Tablelands (Fig. 1), the existing corridor network does not adequately connect remnants with rainforests on the Herberton Range. We propose that the corridor network be expanded to include the restoration of riparian vegetation on all major streams with headwaters in the Herberton Range (the Barron and North Johnstone Rivers and their tributaries). This proposal is highly consistent with catchment management strategies for the Tablelands (e.g. NQ Joint Board 1997).

References

Bowyer, J. C., Newell G. R. and Eldridge M. D. (2002) Genetic effects of habitat contraction on Lumholtz's tree-kangaroo (*Dendrolagus lumholtzi*) in the Australian Wet Tropics. *Conservation Genetics* **3**, 59-67.

Kanowski J., Felderhof L., Newell G., Parker T., Schmidt C., Wilson R. and Winter J.W. (2001a) Community survey of the distribution of Lumholtz's Tree-kangaroo on the Atherton Tablelands, north-east Queensland. *Pacific Conservation Biology* **7**, 79-86.

Kanowski J., Hopkins M.S., Marsh H. and Winter J.W. (2001b) Ecological correlates of folivore abundance in north Queensland rainforests. *Wildlife Research* **28**, 1-8.

Newell G. R. (1999) Australia's tree-kangaroos: current issues in their conservation. *Biological Conservation* **87**, 1-12.

NQ Joint Board (1997) *Barron River Catchment Rehabilitation Plan*. NQ Joint Board, Cairns.

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Fig. 1. Map of the Atherton Tablelands showing the distribution of prime habitat of Lumholtz's tree-kangaroo and the location of existing and proposed rainforest corridors.

