

Vegetation Management in the Northern Territory

Habitat Loss and Fragmentation

Habitat is a place where an organism normally lives.

Habitat loss occurs when an area of suitable habitat is altered and becomes unsuitable, displacing the resident species. Depending on the amount of habitat required for survival and reproduction, the loss of habitat can increase the risk of extinction.

Habitat fragmentation is the breaking down of continuous and connected habitat, impeding access to resources and mates. It reaches a climax when habitat is broken into small isolated patches surrounded by a mosaic of different land uses. These areas are not large enough to sustain viable populations of certain species. Small patches of habitat are more susceptible to disturbances and degradation.

If you fly over the southern parts of Australia you will notice the patchwork landscape. The fragments of native vegetation are few and far between. Vast amounts of money are now being spent trying to reconnect fragments, often without success. It is this highly fragmented landscape and rehabilitation costs that we want to avoid in the Territory.

Northern Australia

Northern Australia has by far the largest and most intact tropical savanna systems in the world. This is an international asset that could be readily compromised by excessive removal of native vegetation.

The highly seasonal environment of northern Australia imposes marked variation in resource availability at any one locality. Therefore many species in northern Australia need to disperse widely across the landscape over the course of a year to obtain resources required for survival.

For this reason, it may be more important to retain a higher proportion of native vegetation in the landscape than for a less seasonal environment.

Clearing more than 50 per cent of native vegetation at a “landscape scale” (e.g. 30 km²) in the Territory may reduce the diversity of plants and animals to a point where some populations may fall to unsustainable levels (Griffiths *et al.* 2009).

What can we do to limit the effects of habitat fragmentation in the Territory?

Connectivity is a key component of vegetation retention planning because it links individual populations of plants and animals, which in turn increases genetic diversity and reduces the risk of extinction.

The following are a few guiding principles for vegetation retention planning:

- Retain large patches of vegetation: larger areas provide more habitat, reducing the risk of localised extinction.
- Connect the patches with wide corridors: corridors allow many species to move between patches to exchange genes and sustain viable populations. A corridor is more likely to be effective where habitat is available to enable a range of species to feed and breed in the corridor as well as move through it. Wider corridors are more likely to contain a variety of habitat and resources.
- Manage native vegetation fragments, buffers and corridors: native vegetation fragments and corridors may only retain their usefulness if they are maintained. Weed invasion, fire, excess fertilisation, and excess grazing disturbance will reduce the condition of native vegetation and reduce resource availability within the corridor.

Under the Northern Territory Planning Scheme applications to clear native vegetation must consider regional biodiversity and the retention of native vegetation corridors between larger patches.

References and Further Reading

The Bush Book: A manual for managing native vegetation across northern Australia. Maria Kraatz, Peter Jacklyn and Mike Clark (eds) (2009) Greening Australia (NT) Ltd, Darwin

Cattle and land management best practices in the Katherine region 09 (2009), Northern Territory Government

Landscape design for maintaining ecosystem services in tropical agricultural landscapes: the response of fauna and flora to landscape mosaics and implications for land clearing policy. Griffiths, A.D, Stewart, A.J., Calnan, T, Venn, S, Brooks, K, & Rankmore, B, (2009) Report to Land and Water Australia. Department of Natural Resources, Environment, the Arts and Sport, Darwin.

NT Sustainable Land Use Guidelines (2008), Northern Territory Horticultural Association

Land Clearing Guidelines

nt.gov.au/property/land-clearing/apply-to-clear-freehold-land

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Further Information

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