

Threatened Species of the Northern Territory

Cycas armstrongii

Conservation status

Australia: Not listed

Northern Territory: Vulnerable



Photo: D.T. Liddle

Description

Cycas armstrongii is a medium-sized cycad up to 6 m tall with a slender trunk 6-12 cm in diameter. Branching occurs along with occasional offsets and basal suckers. Leaves form an obliquely erect to spreading crown. Each has 160-300 leaflets attached to the rachis at about 70° with a prominent midrib above.

Distribution

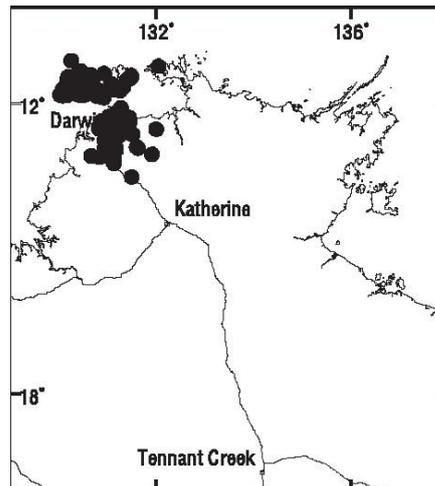
This species is endemic to the NT. It is known from Gunn Point to Hayes Creek, west to within 50 km of the coast and east to the Wildman River catchment, and also occurs on the Tiwi Islands and Cobourg Peninsula.

Conservation reserves where reported:

Berry Springs Nature Park, Blackmore River Conservation Reserve, Casuarina Coastal Reserve, Djukbinj National Park, Garig Gunak Barlu National Park, Holmes Jungle Nature Park, Howard Springs Nature Park, Howard Springs Hunting Reserve, Kakadu National Park, Litchfield National Park, Manton Dam Recreation Area.

Ecology

It occurs mainly in open grassy woodland on yellow and red earths, limited in the area by drainage.



Known locations of *Cycas armstrongii* (o = pre 1970; ● = post 1970).

Conservation assessment

This species is locally abundant, but has less than 1% of its population included in conservation reserves. Applying the precautionary principle, this species qualifies as **Vulnerable** (under criteria A4ce) based on a predicted >30% reduction in population size over a 100 year period (= <3 generations), commencing a decade ago (Liddle 2004).

Threatening processes

Land clearing due to the expansion of Darwin, rural residential living, horticulture, agriculture and forestry is a major threat to the species. Available habitat in and around Darwin and the Litchfield Shire has been reduced and further land clearing is expected as Darwin

expands. In particular, prime cycad habitat with deep loamy soil has been identified as land suitable for horticulture and agriculture. Substantial areas of prime habitat on the Tiwi Islands will be cleared for forestry.

In areas not subject to clearing, there is a major threat from the combined impact of introduced grasses and fire whereby increased fuel loads lead to increased mortality of adult stems and subsequent population decline (Liddle 2004). Mortality in excess of 50% of adult stems per fire event has been recorded when subject to fuel loads of 20 tonnes per hectare. While adult stem mortality is substantial with these high intensity fire events, many plants resprout from the base. Despite this capacity to resprout, a frequency of intense fire in excess of around 1 in 5 years is predicted to result in long-term population decline. Fires commonly occur more frequently than 1 in 5 years throughout the range of *Cycas armstrongii* and the occurrence of intense fire is set to increase as exotic grasses spread rapidly across the landscape (Kean and Price 2003). The exotic pasture species, Gamba Grass *Andropogon gayanus*, supports fuel loads up to 20 tonnes per hectare (Barrow 1995), and the exotic Perennial Mission Grass *Pennisetum polystachyon*, supports fuel loads up to 27 tonnes per hectare (Panton 1993), both far higher than the fuel loads of native grasses. These exotic species have the potential to extend over the full range of *C. armstrongii*. Fire also reduces seed viability in *C. armstrongii* (Liddle 2004).

Conservation objectives and management

A management program for this species, and other cycads, has been established (Anon 1997).

Reservation of high quality habitat, control of exotic grasses and fire management are

priority management requirements. Promotion of the value of cycad habitat through the economic returns gained by the sustainable use of this species may assist conservation of the species. A monitoring program for this species has been established, and should be maintained.

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[May 2006]

References

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