

Threatened Species of the Northern Territory

Northern Quoll

Dasyurus hallucatus

Conservation status

Australia: Endangered

Northern Territory: Critically Endangered



Photo: M. Armstrong

Description

The northern quoll is a distinctive carnivorous marsupial. It is the size of a small cat (weight 300-1 100 g), with prominent white spots on a generally dark body, with a long sparsely furred tail.

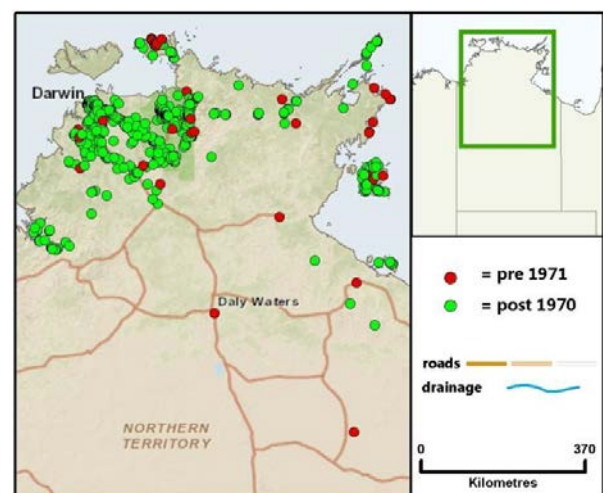
Distribution

The northern quoll occurs across much of northern Australia, from south-eastern Queensland to the south-west Kimberley, with a disjunct population in the Pilbara. It has declined across much of this range (Braithwaite and Griffiths 1994).

In the Northern Territory (NT), it is restricted to the Top End. A 1905 record from Alexandria (Thomas 1906) marks the southern limit of its known NT distribution, now far from any recent records. It has been recorded from Groote Eylandt and the nearby North-east and Winchelsea Islands, Marchinbar Island (in the Wessel group), Inglis Island (in the English Company Islands group) and Vanderlin Island (Sir Edward Pellew group). Recently, it has also been translocated to Astell and Pobassoo islands in the English Company island group.

Conservation reserves where reported:

Berry Springs Nature Park, Black Jungle Conservation Reserve, Charles Darwin National Park, Fogg Dam Conservation Reserve, Garig Gunak Barlu National Park, Howard Springs Nature Park, Kakadu National Park, Leaning Tree Lagoon, Limmen National Park, Litchfield National Park, Manton Dam Recreation Area, Mary River National Park, Nitmiluk National Park, Tjuwaliyn (Douglas) Hot Springs Park and Umbrawara Gorge Nature Park.



Known locations of the northern quoll

Ecology

The northern quoll is a generalist predator, consuming a wide range of invertebrates and small vertebrate prey. It dens in hollow logs, rock crevices and caves, and in tree hollows. Most foraging is on the ground, but it is also an adept climber.

It occurs in a wide range of habitats, but the most suitable habitats appear to be rocky areas. It was common in many eucalypt open forests.

Northern quolls typically have an annual life cycle, with almost all males living for only one year (Oakwood 2000; Oakwood *et al.* 2002). Young are born in the mid Dry season (June), and attain independence in the early Wet season (November). Mating is highly synchronised, occurring in late May/early June. Males then die.

During the non-breeding season, home ranges are about 35 ha, but this increases to about 100 ha for males in the breeding season (Oakwood 2002).

Conservation assessment

Broad-scale decline of the northern quoll was described by Braithwaite and Griffiths (1994), but the extent and rate of this decline did not quite reach the relevant threshold values for IUCN threatened status.

Large scale monitoring in Kakadu National Park reported highly significant declines and local extinctions of northern quolls since the invasion of cane toads *Rhinella marina* across the park (Woinarski *et al.* 2010).

A similar pattern of decline to that encountered in Kakadu has probably occurred elsewhere as cane toads invaded right across the Top End. The exact extent of the decline is difficult to estimate and the security of island populations is uncertain. Cane toads

reached Vanderlin Island under unusual tidal conditions and as a result quoll numbers have dropped significantly and may no longer be present (Woinarski *et al.* 2011).

The northern quoll is classified in the NT as **Critically Endangered** (under criterion A4ce) based on:

- an estimated population size reduction of >80 per cent in a period of ten years of both past and future.

Threatening processes

Quolls appear to have been declining in the NT for at least several decades (Braithwaite and Griffiths 1994; Woinarski *et al.* 2001), possibly because of impacts from feral cats, disease or changed fire regimes. However, the spread of cane toads adds a far more catastrophic threat (Van Dam *et al.* 2002). Quolls appear to be particularly susceptible to the poison of cane toads, and are killed when they attempt to kill or consume the toads. However, northern quolls still exist in localized areas after cane toads have moved in. It is important that these refuge populations are protected from other threatening processes.

Conservation objectives and management

The national recovery plan for northern quolls (Hill and Ward 2010) describes research and management priorities for this species across its range.

The priority actions for the NT are:

- i. protecting key populations from colonization by cane toads and cats (especially through quarantine of offshore islands);

- ii. fostering recovery of populations that have collapsed following cane toad arrival; and
- iii. identifying and managing other threats to remnant northern quoll populations.

These actions can be achieved through research, raising awareness and effective land management (ie reducing high fuel loads through weed control).

Complied by

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