

# Threatened Species of the Northern Territory

## COMMON BRUSHTAILED POSSUM (Central Australian population)

### *Trichosurus vulpecula vulpecula*

#### Conservation status

Australia: Not listed

Northern Territory: Endangered



#### Description

The common brushtail possum is a medium-sized mammal (body mass of 1.3-3 kg) about the size of a domestic cat. It has large, prominent ears that have a narrowly round tip and are longer than they are broad. The bushy tail is slightly shorter than the head-body length.

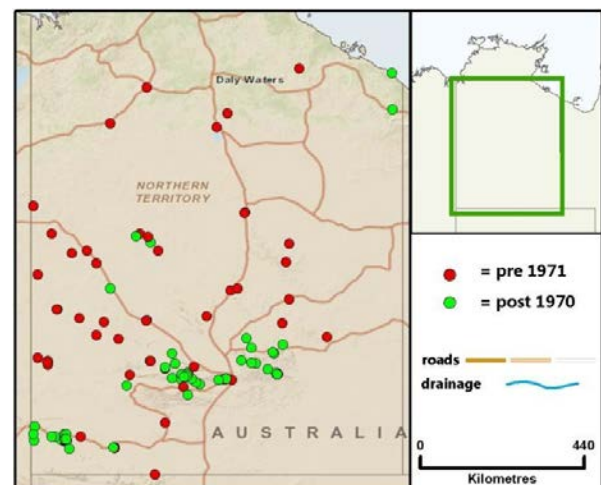
#### Distribution

Two subspecies of common brushtail possum occur in the Northern Territory (NT). The subspecies *T. v. vulpecula*, occurs in isolated populations in the southern NT. It formerly had a much more extensive distribution in the NT that included most of the Tanami and Great Sandy Deserts across to the Western Australian border at Lake Mackay and Kintore, south to Charlotte Waters, east to the Todd and Hale River floodouts in the Simpson Desert, and as far north as the Murchinson Ranges. Outside the NT, this subspecies occurred across much of the continent, including South Australia, Victoria, New South Wales, southern and south-western Queensland and much of Western Australia. It remains common in much of this area, including urban areas of most capital cities.

The subspecies *T. v. arnhemensis* occurs in the monsoon tropics of the Top End of the NT and in the Kimberley, Western Australia. It remains locally common (notably in some Darwin suburbs), but is generally declining (Woinarski 2004) and is listed as Near Threatened in the NT.

Other subspecies of the common brushtail possum occur in Tasmania, and north-eastern Queensland; and introduced populations abound in New Zealand.

*Conservation reserves where reported:* West MacDonnell National Park, Ruby Gap Nature Park and Uluru-Kata Tjuta National Park.



Known locations of the Central Australian common brushtail possum

## Ecology

In Central Australia, the common brushtail possum now occupies riverine habitat that is close to rocky outcrops and moist gullies within the ranges or rocky slopes (Kerle *et al.* 1992). This habitat occurs on various geological substrates but is characterized by a diverse association of fire-sensitive plant species. Its former habitat in Central Australia included river systems supporting large eucalypts, coolibah claypans and spinifex grasslands with a shrubby overstorey (Burbidge *et al.* 1988).

A range of sites is used as shelter including caves and rock holes, tree hollows and the tops of dense trees. The diet consists of the flowers, fruits and leaves of a wide range of non-eucalypt species (Evans 1986).

## Conservation assessment

In Central Australia, the brushtail possum was widespread and common prior to and during the first few decades of European settlement. However, it subsequently underwent a dramatic decline in both numbers and range between the 1920s and 1950s (Finlayson 1961; Burbidge *et al.* 1988). Although the most extreme phase of the decline had occurred by the early 1940s, local extinctions continued until the last decade, with possums disappearing from Uluru-Kata Tjuta National Park, and Alcoota and The Gardens Stations during the 1980s (Kerle *et al.* 1992). Although West MacDonnell National Park is a stronghold for the species, there is no information available on actual population size. The bulk of the population may occur at rarely visited sites in the ranges with records of scats and sign at sites such as Ormiston Creek and Roma Gorge being produced by animals possibly dispersing from these core areas.

The decline in the common brushtail possum in Central Australia occurred earlier than relevant to IUCN criteria (i.e. within the last ten years or three generations). However, the subspecies *T.v. vulpecula* still qualifies as **Endangered** in the NT (under criteria B1ab(i)+2ab(i)) based on:

- extent of occurrence <5 000 km<sup>2</sup>;
- area of occupancy <500 km<sup>2</sup>;
- severely fragmented; and
- a continuing decline in extent of occurrence.

## Threatening processes

The decline of the common brushtail possum in Central Australia has been attributed to the interaction between severe drought and a suite of potential threatening processes. These factors include habitat homogenization as a result of grazing by introduced herbivores (cattle and rabbits), increased hunting around Aboriginal settlements and (historically) for the commercial fur trade, altered fire regimes, and predation (Kerle *et al.* 1992; Woinarski 2004). One or more of these threatening processes is proposed to have severely reduced possum populations that had retracted to high quality refuge areas during the droughts of the 1920s and 1950s, leading to local extinctions.

## Conservation objectives and management

There is no existing management program for wild populations of this species in the NT.

Research priorities for the Central Australian subspecies are to:

- i. determine the extent of the distribution of the population in the West MacDonnell National Park; and

- ii. investigate recent signs of the species in other areas, particularly on Indigenous lands.

Management priorities for the Central Australian subspecies are to:

- i. monitor the occurrence of the species in core areas of the West MacDonnell National Park;
- ii. undertake predator control measures if predation is shown to affect populations within conservation reserves; and
- iii. assess the possibility of establishing a captive breeding population, and translocation options (e.g. Foulkes and Kerle 1990).

## Complied by

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## References

- Burbidge, A.A., Johnson, K.A., Fuller, P.J., and Southgate, R.I. (1988). Aboriginal knowledge of the mammals of the Central deserts of Australia. *Australian Wildlife Research* 15, 9-39.
- Evans, M.C. (1986). *The Diet of the Brushtail Possum in Central Australia*. Bachelor of Natural Resources thesis. (University of New England, Armidale).
- Finlayson, H.H. (1961). On Central Australian mammals, Part IV. The distribution and status of Central Australian species. *Records of the South Australian Museum* 41, 141-191.
- Foulkes, J.N., and Kerle, J.A. (1990). *Feasibility Study for the Reintroduction of the Brushtail Possum to Uluru National Park*. Report to the Australian National Parks and Wildlife Service.
- Kerle, J.A., Foulkes, J.N., Kimber, R.G., and Papenfus, D. (1992). The decline of the brushtail possum, *Trichosurus vulpecula* (Kerr 1798), in arid Australia. *Rangelands Journal* 14, 107-127.
- Woinarski, J.C.Z. (2004). In a land with few possums, even the common are rare: ecology, conservation and management of possums in the Northern Territory. In *The biology of Australian possums and gliding possums* (eds R. Goldingay and S. Jackson). pp.51-62 (Surrey Beatty & Sons, Sydney.).