

Threatened Species of the Northern Territory

GOLDEN BANDICOOT

Isoodon auratus

Conservation status

Australia: Vulnerable

Northern Territory: Endangered



Photo: K. Brennan

Description

The golden bandicoot is a small bandicoot weighing up to 600 g. It is superficially similar to the more common northern brown bandicoot *Isoodon macrourus*, from which it can be distinguished in the field by its smaller size, the shape of its hairs and by its flatter and more elongate head shape.

Distribution

In the Northern Territory (NT), the golden bandicoot was known from only one location, Marchinbar Island on the Wessel chain, north-eastern Arnhem Land (Fisher and Woinarski 1994). There are now translocated populations on Raragala and Guluwuru Islands in the Wessels. Beyond the NT, the same subspecies *I. a. auratus* also occurs on a small portion of the mainland of the north-western Kimberley, Western Australia and from two nearby islands, Augustus and Uwins. Another subspecies, *I. a. barrowensis* occurs on Barrow and nearby Middle Islands off the Pilbara coast (Maxwell *et al.* 1996).

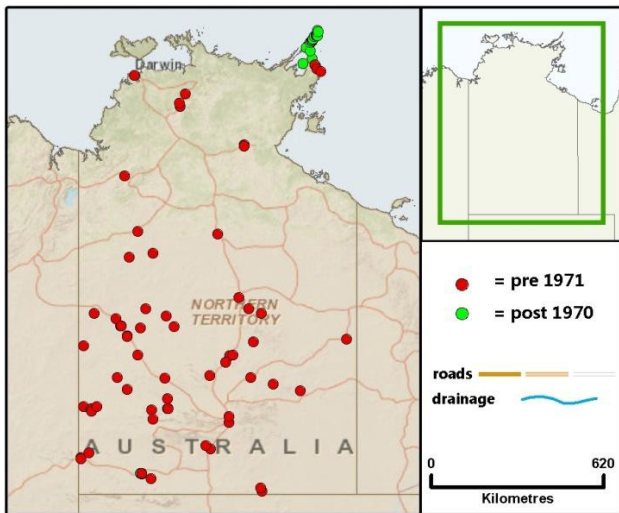
Some suggest that the golden bandicoot is conspecific with the southern brown bandicoot *I. obesulus*, with very similar genetic composition albeit some marked morphological differences. The conservation

status of the taxon within the NT is unaffected by the resolution of this taxonomic issue.

The golden bandicoot formerly occurred across most of northern, central and western Australia, extending to south-western New South Wales, and across a very broad variety of habitats. However, it declined precipitously within decades of European settlement, and disappeared from the central deserts between the 1940s and 1960s (Finlayson 1961; Parker 1973; Burbidge *et al.* 1988). The last specimen from the desert country of mainland NT was from The Granites (northwest Tanami) in 1952. There have been very few specimen records from the Territory mainland north of the Tanami, but these have included the Roper River area (in 1911) and South Alligator River (around 1900) (Parker 1973; Johnson and Southgate 1990). There are also more recent records (1950s to 1980s) from mainland north-eastern Arnhem Land that are probably referable to this species (Lyne and Mort 1981; I. Morris *unpubl.*).

Conservation reserves where reported:

None; although it was formerly present in areas that have subsequently been included within at least Kakadu National Park, West MacDonnells National Park and Uluru – Kata Tjuta National Park.



Known locations of the golden bandicoot

Ecology

Most information on the ecology of the golden bandicoot is from a single short-term study on Marchinbar Island (Southgate *et al.* 1996). There it occurs mainly in heathland and shrubland on sandstone or sandsheets, and avoids vegetation with greater tree cover. Individuals maintain overlapping home ranges of from 12-35 ha. Their diet comprises a broad range of invertebrates.



Preferred habitat on Marchinbar Island- heathland on sandstone

Conservation assessment

In 1994-95, the total population at its single known NT site was estimated at around 1 400 individuals, occurring across most of the 210 km² extent of Marchinbar Island (Southgate *et al.* 1996). Re-surveys of Marchinbar Island

were undertaken in October 2004 and in June 2006 and the population levels appeared to be similar to the 1994-95 estimates.

The decline in the mainland population and range generally occurred earlier than relevant to IUCN status designation criteria (i.e. >10 years or three generations ago), although the status of the population, if any, on mainland north-east Arnhem Land remains unresolved.

Conservation categorisation is problematical, however, it can be reasonably inferred that there is some likelihood that this population may be exposed in the future to the same factor(s) that have so effectively extirpated populations elsewhere. Given this premise, the species qualifies as Endangered (under criteria B1ab+2ab; C2) based on:

- extent of occurrence <5 000 km²; known to exist at <5 locations;
- continuing decline, observed, inferred or projected;
- area of occupancy <500 km²;
- population size <2 500 mature individuals; and
- >95 per cent of mature individuals in one subpopulation.

Threatening processes

No single factor has been demonstrated to have caused the decline of golden bandicoots, but the extent of loss on the mainland and the maintenance of some island populations suggests that it is not due to land-use factors but rather to either disease or exotic predators. The most likely causal factor is predation by feral cats.

Marchinbar Island has no feral cats, although feral dogs have been present for around 30-50 years, and these are known to take some bandicoots. Largely because of their impacts

on golden bandicoots (and nesting marine turtles), these feral dogs were exterminated in 2004-05.

Golden bandicoots may be affected by fire regimes, and appear to prefer areas which have been burnt relatively recently (two to five years previously) and within a fine-scale mosaic. The maintenance of such a fire regime is dependent upon management by Aboriginal landowners.

The greatest threat to the Marchinbar population is the deliberate or inadvertent introduction of cats to the islands, either by visiting Aboriginal landowners, by visiting fishermen or yachties.

Conservation objectives and management

A national recovery plan for this species has recently expired (Palmer *et al.* 2003). Many actions in that plan have been implemented jointly by Gumurr Marthakal Rangers of north-eastern Arnhem Land and scientists from the Territory Government.

Management priorities in the plan are:

- i. to better safeguard the existing population through improved communication of the need to keep the island cat-free, through encouragement of traditional Aboriginal burning practices, and through the implementation of a monitoring program;
- ii. to translocate (and thence manage) populations to at least one other nearby island through expansion of the captive population and investigation of suitability of other islands in the Wessel and English Company Islands groups; and
- iii. to investigate whether populations persist on the mainland of north-east Arnhem Land.

Action (ii) has been achieved with golden bandicoots now occurring on three islands in the Wessel chain.

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