

THREATENED SPECIES OF THE NORTHERN TERRITORY



GREATER BILBY BILBY *Macrotis lagotis*

Conservation status

Australia: Vulnerable.

Northern Territory: Vulnerable.

Description

The greater bilby is a large bandicoot (body mass males, 800-2500 g; females, 600-1100 g) with soft silky fur. The fur is ash grey over most of the body, whereas on the belly it is pure white to cream. The basal 20 percent of the tail is the same colour as the upper-body, the central 40 percent is black and the distal 40 percent, pure white. The forelimbs are robust and equipped with three stoutly clawed toes (and two unclawed toes) giving the animal a formidable burrowing capacity. The slender hind limbs are long and resemble those of macropods. The snout is long and delicate and the ears are large and rabbit-like.



Greater bilby.

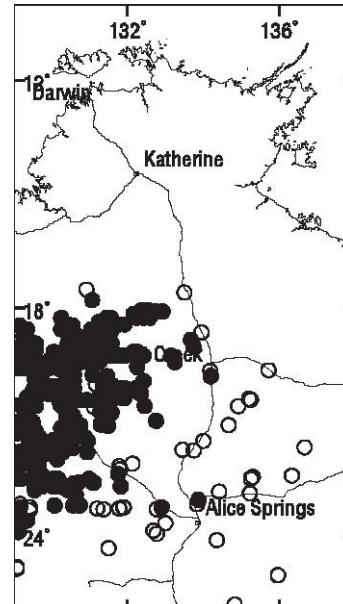
Distribution

Within the Northern Territory, it occurs in the central and western parts of the Tanami bioregion, the southern Sturt Plateau bioregion and the northern Great Sandy Desert bioregion. The distribution is highly fragmented within this area. The most southerly recent records are in the vicinity of Kintore,

the most northerly around Newcastle Waters and Wave Hill.

Historically, the greater bilby occupied a vast area of arid and semi-arid Australia.

Its distribution declined dramatically in the years following European settlement and it now occupies about 20% of its former range. The species occurs in two separate geographic areas; one extending from the western deserts region of the Northern Territory and Western Australia north to the Pilbara and Kimberley regions, the second in the Channel Country of south-west Queensland (Watts 1969; Southgate 1990a).



Known locations of the greater bilby.
o = pre 1970; • = post 1970.

Conservation reserves where reported:

None (although it formerly occurred in areas that are now included within Uluru Kata-Tjuta National Park,



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Watarrka National Park and West MacDonnell National Park).

Ecology

Habitat of the greater bilby in the Northern Territory is characterised by sandy soils dominated by hummock grasslands covered predominantly by three species of spinifex, *Triodia basedowii*, *T. pungens* and *T. schinzii*. An overstorey of low shrub cover dominated by *Acacia* and *Melaleuca* species grows over much of this country. This predominantly sandy landscape also includes rocky outcrops, laterite rises and low lying drainage systems (Southgate 1990b). Broad-scale surveys of bilbies in the Northern Territory in the 1990s indicated that laterite and drainage line land systems were occupied more frequently than sand plain and dune systems.

The greater bilby is omnivorous and major foods vary across seasons (Southgate 1990b). Important plant foods include seed from various grasses and sedges including Button Grass (*Dactyloctenium radulans*), Desert Flinders Grass (*Yakirra australiensis*) and Parakeelya (*Calandrinia* spp.) and bulbs from Bush Onion or Yalka (*Cyperus bulbosus*) and *Wurmbea deserticola*, many of which are most abundant soon after fires (Southgate and Carthew 2006). At a site in central Australia, fruiting bodies of underground fungi were the major dietary component. Major invertebrate prey includes termites, ants, beetles, insect larvae and spiders. Most of the food of the Greater Bilby is excavated from the soil and holes may attain 25 cm in depth.

Bilbies dig burrows up to two metres deep and an individual may have over a dozen regularly used burrows within its home-range. Bilbies forage at night. Movements of 5 km during one night have been recorded for male bilbies. Males, females and juveniles may

occupy overlapping home ranges. Densities of 12–16 individuals/km² are reached in optimal habitat. However; a density of 1-2/km² is more typical (Southgate 1987).

Litters, comprising one to three young, can be produced at any time of year (Southgate *et al.* 2000). Young remain in the pouch for approximately 75 days, before being cached and suckled in maternal burrows for a further two weeks prior to independence. Under ideal conditions, there is the potential to produce four litters every year. Captive animals live up to 10 years (Southgate *et al.* 2000).

Conservation assessment

No estimates are available for the size of the Northern Territory population of the greater bilby. The range of the species in the Territory is declining and contracting northwards. For example, populations located in the vicinity of Alice Springs in the late 1960s (Watts 1969) are no longer present. However, bilbies in the Northern Territory appear to be nomadic and undergo large population fluctuations in response to food availability. These characteristics result in it being difficult to accurately assess population trends for two reasons. First, no sites are known in the Territory that are considered to permanently hold colonies of bilbies. Second, depending on rainfall and food availability, very few bilby records may be reported during one time period but this can change quickly. This natural variation must be taken into account when considering the conservation status of the species.

Notwithstanding the above caveats, the greater bilby is **Vulnerable** in the Northern Territory (under criteria G2a(i)) based on:

- population size estimated to be <10,000 mature individuals;
- continuing decline in numbers of mature individuals; and



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- no subpopulation estimated to contain more than 1000 mature individuals.

Threatening processes

Predation by the introduced European fox appears to be the major threat faced by the greater bilby in the Northern Territory (Southgate 1987). Predation by other carnivores (i.e. feral cat, dingo) could also threaten bilby populations. However, there is considerable interaction between these three predators. Specifically, dingoes may protect a range of native species, including bilbies, by controlling cats and foxes either through direct predation or excluding them from carrion during droughts.

Competition with rabbits may also be an important threatening process faced by the greater bilby. However, the negative impact of rabbits has been greatly reduced following the release of rabbit calicivirus disease (RCD) in the 1990s. Grazing by cattle may be a threat on some pastoral leases. Unsuitable fire regimes may restrict breeding and impede dispersal into unoccupied areas, and reduce food options and availability (Southgate and Carthew 2006).

Conservation objectives and management

A national Recovery Plan for the greater bilby was established in 2006 (Pavey 2006).

The plan recommends the following management actions that include the Northern Territory:

- (i) reduce fox and cat numbers at key wild populations where bilbies are in decline;
- (ii) continue husbandry and coordinated management of captive populations;
- (iii) refine monitoring methodology;

- (iv) monitor trends in occurrence at wild populations; and
- (v) continue to manage the recovery process through a national recovery team.

The greater bilby is maintained in captivity at the Alice Springs Desert Park and is displayed in its nocturnal house. National Bilby Day takes place in September each year and the Desert Park is a focus for educational activities involving the species.

Compiled by

Chris Pavey
[May 2006]

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