

Threatened Species of the Northern Territory

PLAINS MOUSE

Pseudomys australis

Conservation status

Australia: Vulnerable

Northern Territory: Endangered



Photo: P.Canty

Description

The plains mouse is a moderately sized rodent, with a stocky build, rounded snout and long ears. It is one of the largest rodents still present in the arid zone with a body mass up to 50 g. It has greyish upperparts, often lustrous in appearance, with paler flanks and cream or white underparts (Watts and Aslin 1981). The tail is also bicoloured being brown or grey above and white underneath. The tail length is usually less than head-body length.

Distribution

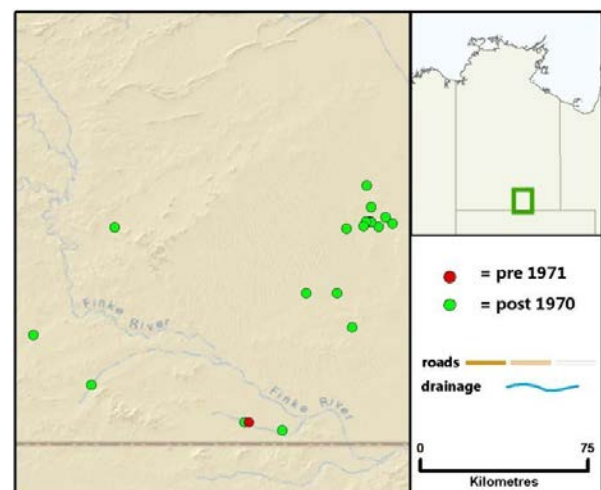
The first record of the plains mouse in the Northern Territory (NT) was only in 1974 when a specimen was collected near Bloodwood Bore on Lilla Creek Station south of Alice Springs (Corbett *et al.* 1975). Currently, it occurs in only two regions of the NT; one in the vicinity of Charlotte Waters south to the South Australian border, the other in the eastern and southern sections of Andado Station including the Mac Clark Conservation Reserve.

Although once found throughout arid and semi-arid Australia, it is now restricted to northern South Australia (SA) and the extreme south of the NT. No specimens have been collected from New South Wales or

Queensland since 1936 (Breed and Head 1991), although it was formerly widespread in both states. The current range of the species appears to be restricted to a north-south band west of Lake Eyre extending for over 700 km from Pernatty Station (northern SA) in the south to Mac Clark Conservation Reserve in the north.

Conservation reserves where reported:

Mac Clark Conservation Reserve (however, this reserve is only occupied during irruptions).



Known locations of the plains mouse

Ecology

The plains mouse lives on plains, especially stony plains (gibber), and prefers areas of cracking clay soil associated with minor drainage features. These run-on areas are generally more productive than the surrounding landscape because they receive water and nutrients even after relatively minor rainfall events (Brandle *et al.* 1999). It occurs in colonies that are usually small in size and difficult to locate. However, numbers increase dramatically following rainfall. Rainfall triggers an increase in available resources in the animal's habitat that results in high levels of reproduction. Numbers remain high while conditions are favourable and then decline rapidly. Colony size can decrease by a factor of 80 over a 29 month period (Brandle and Moseby 1999). During population irruptions, plains mice move into areas that are not occupied at other times.

The plains mouse is mostly herbivorous, feeding mainly on seeds with some green plant material; a few insects are also taken. It is nocturnal and animals live in burrows. Individuals range over areas of up to 1.6 ha (Brandle and Moseby 1999).

Conservation assessment

Conservation categorisation is problematic because of a lack of information on long term population trends in the NT (although this information is currently being collected), and its relatively recent discovery in the Territory.

However, the species qualifies as Endangered in the NT (under criteria B1ac(i,ii,iv)+2ac(i,ii,iv)) based on:

- estimated extent of occurrence <5 000 km²;
- estimated area of occupancy <500 km²;
- known to exist at <5 locations; and

- extreme fluctuations occur in extent of occurrence, area of occupancy and number of mature individuals.

The NT population in the vicinity of Charlotte Waters may be the target of immigration from sites in northern SA such as Abminga. Given that the species has a lower national conservation status - vulnerable - then the occurrence of such immigration would be justification for down-grading its Territory-wide status based on current IUCN guidelines (Gärdenfors 2001). However, immigration cannot be confirmed based on current information, therefore, the status of the plains mouse in the NT should remain as endangered.

Threatening processes

No specific threatening process has been identified for the plains mouse in the NT. However, the species is likely to be susceptible to habitat degradation, particularly of those refugial areas into which colonies retract when population size is very low. This issue may be of particular concern in the NT because all but one of the known sites occurs on pastoral leases and the one location in a reserve appears only to be occupied during population irruptions. Further, several sites of occurrence are in areas of stock concentration around bores which are likely to suffer heavy disturbance.

Predation by introduced and native predators, especially the introduced European red fox and cat, may also threaten populations by increasing the speed of declines during the bust phase of population cycles (C. Pavey unpublished data).

Conservation objectives and management

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

A national Recovery Plan is currently being drafted by the SA Department of Environment and Heritage.

The Alice Springs Desert Park maintains a captive colony and the species is on permanent display in the nocturnal house at the park.

Management priorities are to:

- i. continue monitoring of populations at Mac Clark Conservation Reserve and nearby Andado Station to determine population trends and to attempt to establish locations of colonies during periods of low population size;
- ii. assess impact of predation by predatory birds and introduced carnivores that occur in the vicinity of the plains mouse colony at Mac Clark Conservation Reserve (project currently underway);
- iii. enter into protective agreements with landowners having populations of plains mice on their properties; and
- iv. search for additional populations.

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