

# Threatened Species of the Northern Territory

## NABARLEK

### *Petrogale concinna*

#### Conservation status

Australia: Endangered (sub sp *canescens*)

Northern Territory: Vulnerable



#### Description

The nabarlek is a very small (cat-sized: 1500g) rock-wallaby, most likely to be confused with the more common short-eared rock wallaby *P. brachyotis*. It differs from the latter species in smaller size, lack of a white thigh stripe, larger brush tip to tail, and gait (typically the nabarlek hops with body held almost horizontally and fluffed tail arched over the back).

The arrangement of its teeth also distinguishes the nabarlek from all other kangaroo-like marsupials. There is continuous replacement of worn teeth by molar progression, whereas other kangaroos and wallabies have limited numbers (typically five on each side, upper and lower) of molar teeth.

#### Distribution

There are three subspecies of *P. concinna*, two of which have been recorded from the Northern Territory (NT):

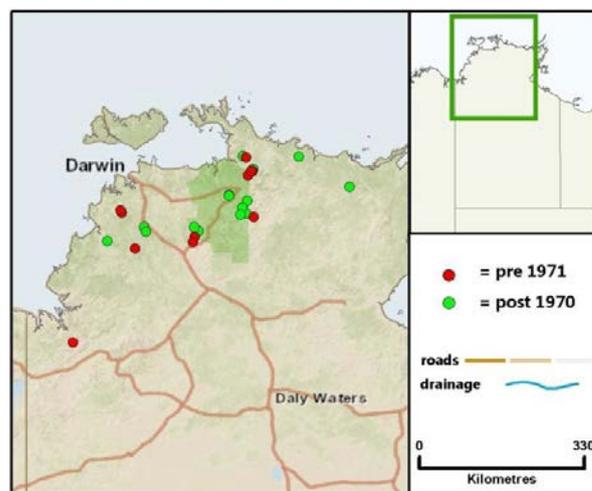
*Petrogale c. concinna* was first recorded and the species described from the Victoria River District in 1839 (Eldridge 1997) and hasn't been recorded since.

*Petrogale c. canescens* has been recorded in scattered populations from sandstone cliffs

bordering the Arafura Swamp (in the east) to the Daly River catchment (in the west).

Another subspecies, *P. c. monastria*, occurs in the north-west Kimberley (Maxwell et al. 1996).

*Conservation reserves where reported:* Kakadu National Park, Litchfield National Park and Umbrawarra Gorge Nature Park.



Known locations of the Nabarlek

#### Ecology

Nabarleks are restricted to rocky areas (sandstone or granite), especially on steep slopes, with large boulders, caves and crevices (Churchill 1997). They may move from these

to forage in adjacent flat areas (Sanson et al 1985).

They are shy and mostly nocturnal. The diet comprises a range of vegetation, including fresh sedges and grasses (Churchill 1997) and, at one site, a seasonal reliance upon a small fern *Marsilea crenata* (Sanson et al. 1985).

### Conservation assessment

There has been little sampling for *P. c. concinna* in the Victoria River District and it is possible the subspecies is now extinct. The species was not recorded in a detailed ethno-biological account of the area (Widijburra et al. 2010).

The assessment of conservation status in the nabarlek in other areas of the NT has been somewhat mixed. Nelson and Goldstone (1986) and Sanson et al. (1985) failed to locate the species at many sites (in the Pine Creek- Litchfield areas) at which it had formerly been recorded, and Press (1988) reported that in Kakadu National Park it was absent or rare in many areas in which Aboriginal people had formerly considered it to be common. There have been no recent confirmed records from the lower Victoria River area (where the species was first described. However, Churchill (1997) reported it from eight sites and considered it to be “more common than previously believed”, that it “has not undergone a drastic decline in recent decades and that it is likely to be relatively widespread throughout the rocky hills and escarpments of the Top End”. Both Churchill (1997) and Lundie-Jenkins and Findlay (1997) noted that assessment of status was often difficult because the species was often difficult to observe or detect. Assessment is also complicated by difficulty in distinguishing nabarlek from the more common short-eared rock-wallaby (with which it shares all of its range) and the name

nabarlek, which some Aboriginals use to refer to any rock-wallaby in the north.

A brief survey by Pearson (unpub.) in August 2006 near Mt Borradaile failed to detect a nabarlek in two nights of spot-lighting; contrasting to the rate of 20-30 per hour reported by Sanson et al. (1985). Max Davidson (pers. comm. to Pearson) noted that nabarleks were occasionally still observed in other rocky outcrops along Cooper Creek near Mt Borradaile. Single night spotlight searches in August 2006 at the old Jim Jim Falls campsite (Kakadu National Park) and Robin Falls (near Litchfield National Park) where nabarleks were reported by Churchill (1997), failed to find any sign but observed many *P. brachyotis* (Pearson, unpub.).

A follow-up trip in June-July 2007 by Pearson and Churchill (unpub.) revisited many of the sites where Churchill (1997) had sighted nabarleks, including Mt Borradaile, Nabarlek mine area, Jim Jim Falls and Robin Falls. A lone nabarlek was sighted at Left Hand Billabong near Mt Borradaile. At other sites *P. brachyotis* was observed. Nabarlek populations in Arnhem Land and Kakadu National Park appear to have declined dramatically over the last two decades. There have been no recent sightings of nabarleks in Litchfield NP and long-term resident, E.R. Petherick (pers. comm.), who collected several specimens for H.H. Finlayson in 1951, had not observed one for at least 30 years.

This species qualifies as **Vulnerable** in the NT (under criterion A2bc), based on:

- population reduction of >30 percent over the last three generations (c. 15 years); based on both an index of abundance appropriate to the taxon and declines in area of occupancy and extent of occurrence.

## Threatening processes

There has been no detailed assessment of threats. The species is likely to be vulnerable to predation by feral cats, but its agility within its rugged habitat would offer some protection.

Possibly more serious is vegetation change brought about by widespread changes in fire regimes, affecting particularly sandstone habitats (Russell-Smith et al 1998).

## Conservation objectives and management

Research priorities are to:

- i. attempt to provide an estimate of total abundance of the species and that of its largest subpopulation; and
- ii. assess the relative impacts of fire regimes and feral animals on the species.

Management priorities are to:

- i. develop monitoring programs for at least two populations; and
- ii. implement appropriate threat management.

## Complied by

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