Threatened species of the Northern Territory

Nabarlek (Top End)

Petrogale concinna canescens

Conservation status

Australia: Endangered
Environment Protection and Biodiversity Conservation Act 1999

Northern Territory: Endangered
Territory Parks and Wildlife Conservation Act 1976

Description

The Nabarlek is a very small (~1–2 kg body mass) rock-wallaby. The species is similar to the Eastern *Petrogale wilkinsi* and Western *P. brachyotis* Short-eared Rock-wallabies, but differs in being smaller and having a bushier tail tip, indistinct markings on the side of the body, and proportionately longer ears. Nabarleks also differ in their habit of hopping with their fluffed tail arched high above their near-horizontal body.

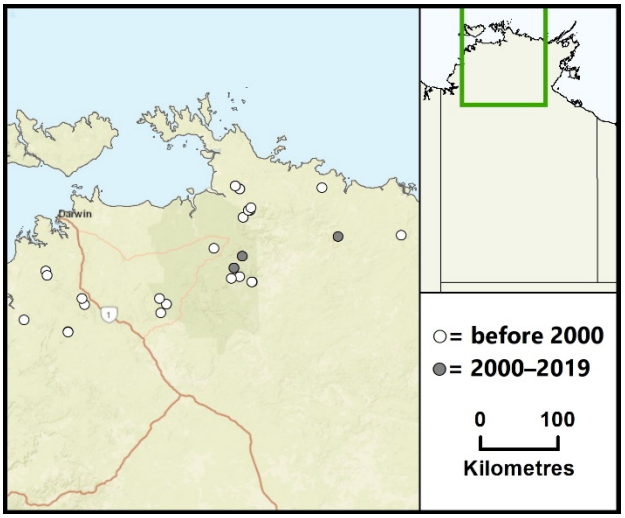
Three subspecies of the Nabarlek are recognised. *Petrogale concinna canescens* is dull rufous above with a distinctly light grey and black grizzled appearance, whereas *P. c. concinna* is bright rusty red above and less boldly marked. The third subspecies, *P. c. monastria*, is generally paler, with ashy grey forequarters that contrast with a tawny rump and a more boldy marked blackish patch behind the forearm.

Distribution

Two subspecies of the Nabarlek occur in the Northern Territory (NT).

Credit: I. Morris

The Nabarlek (Top End), *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. However, there are few recent records and the subspecies may now be restricted to areas of the western Arnhem Land escarpment, such as Kakadu and Mt Borradaile. The Nabarlek (Victoria River District), *P. c. concinna*, is known only from a single specimen collected along the Victoria River in 1839. The third subspecies, *P. c. monastria*, occurs in the west Kimberley region of Western Australia.



Caption: Known localities of the Nabarlek (Top End) in the NT (nrmaps.nt.gov.au)

NT conservation reserves where reported: Kakadu National Park and Litchfield National Park.

Ecology and life-history

The Nabarlek occurs in rugged sandstone or granite rocky areas, especially on steep slopes with large boulders, caves and crevices[1]. The species is shy and nocturnal during the dry season, but becomes partly diurnal in the wet season. Unlike the sympatric Eastern Short-eared Rock-wallabies, Nabarleks may move hundreds of metres out onto black soil plains to forage[2], which likely increases their vulnerability to introduced predators.

The Nabarlek feeds on sedges, grasses and *Marsilea* ferbs. The species is unique among marsupials in continually replacing its molar teeth, rather than having a fixed number. This is probably associated with the high silica content of its diet, which is abrasive on teeth[2].

Breeding probably occurs throughout the year, but females with pouch young are more common in the wet season. Generation length is estimated to be 5 years[3].

Threatening processes

The impact of threats on the Nabarlek (Top End) are poorly understood. The subspecies is likely to be vulnerable to predation by feral Cats *Felis catus*, especially when foraging beyond rugged rocky areas. Altered fire regimes, particularly increases in the frequency, extent and/or intensity of fire, is another likely widespread threat. Livestock and feral herbivores may compete with Nabarleks for food plants, or otherwise change the floristic composition of vegetation, in areas where Nabarleks forage. Invasive grasses may also pose a threat to habitat quality, including through their influence on the fire regime.

Conservation objectives and management

Conservation management priorities for the Nabarlek (Top End) include: maintaining fire regimes that reduce fire frequency, especially extensive high-intensity fires; developing cost-effective methods to control feral Cats; limiting further encroachment of invasive grasses; and assessing the feasibility of reintroduction to formerly occupied sites following threat abatement[4].

Research priorities for the Nabarlek (Top End) include: developing appropriate survey techniques; designing and implementing a suitable monitoring program; determining the current distribution; estimating population size and/or relative abundance of subpopulations; and investigating the impact of feral Cats and fire regimes[4].

References

[1] Churchill, S., 1997. Habitat use, distribution and conservation status of the nabarlek, *Petrogale concinna*, and sympatric rock-dwelling mammals, in the Northern Territory. Aust. Mammal. 19, 297–308.

[2] Sanson, G.D., Nelson, J., Fell, P., 1985. Ecology of *Peradorcas concinna* in Arnhem Land in a wet and a dry season. Proc. Ecol. Soc. Aust. 13, 65–72.

[3] Woinarski, J.C.Z., Burbidge, A.A., Harrison, P.L. (Eds), 2014. The Action Plan for Australian Mammals 2012. CSIRO Publishing, Canberra.

[4] Threatened Species Scientific Committee, 2015. Conservation advice – *Petrogale concinna canescens* Nabarlek (Top End). Department of the Environment, Canberra.