

## Quokka *Setonix brachyurus*

Conservation Status: **Vulnerable**

### Identification

The quokka *Setonix brachyurus* is a small wallaby and is the only species belonging to the genus *Setonix*. The species was described by a Dutch explorer as looking like a large rat and the island where he first saw them, Rottneest (meaning rat's nest), was named after the species.

The quokka has short, round ears and a black nose. It looks very similar to other wallabies, except for its short tail. It has thick, coarse grey-brown fur with a lighter belly. The fur colour of the mainland quokkas (top photo) can be quite different compared to the Rottneest quokkas (bottom photo).

*Head and Body Length:* 39-54cm

*Tail Length:* 23-31cm

*Weight:* 2.7-4.5kg (males) and 1.6-3.5kg (females)

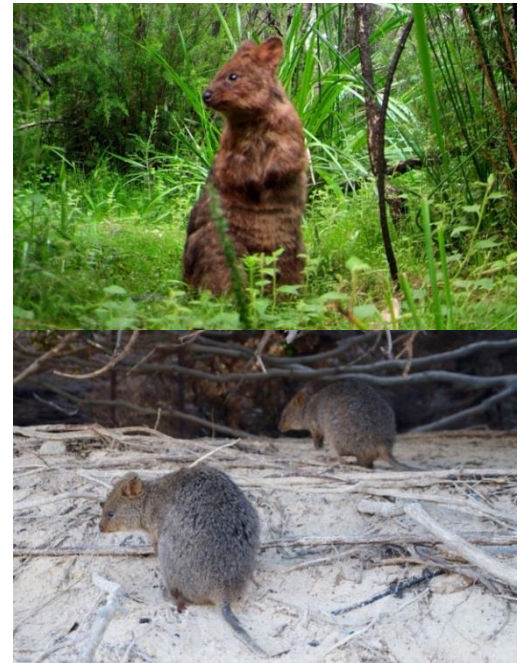
### Taxonomy

**Family:** Macropodidae

**Genus:** *Setonix*

**Species:** *brachyurus*

**Other common names:** short-tailed wallaby, Ban-gup, Bungeup, Quak-a



Photos: K. Bain (top); A. Thomas/DBCA (bottom)

### Distribution and Habitat

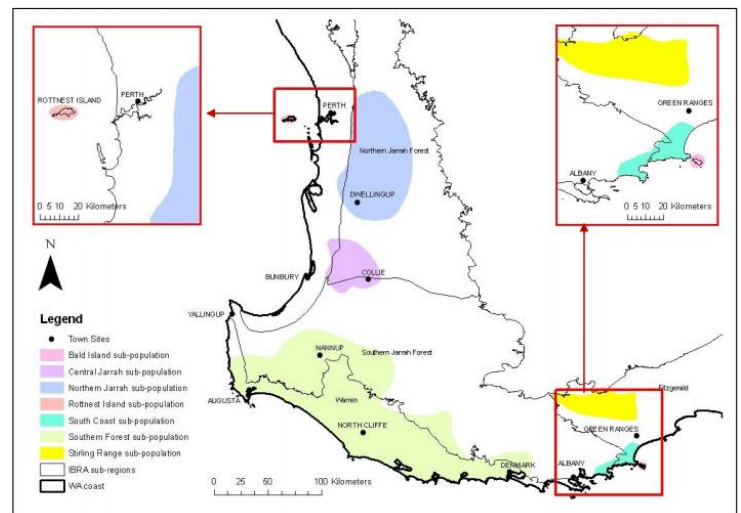
Historically, the quokka was widespread and abundant across the south-west of Western Australia. By the early 1990s the quokka's distribution on the mainland had been reduced by more than 50%. The species is best known from Rottneest Island, where it is still abundant, but it also continues to exist on Bald Island and in parts of its former range on the mainland, where it is found in isolated patches of the northern Jarrah forest, on the Swan Coastal Plain, the southern Jarrah, Marri and Karri forests and on reserves on the south coast.

Their current distribution on the mainland is within high-rainfall areas. In the Jarrah, Marri and Karri forests, they occupy a range of forest, woodland and wetland habitats that generally have thick understorey, are nearby swamps and are close to more open, recently burnt vegetation. On the south coast, they occupy a wide range of vegetation types including swamps, riparian areas, gullies and dense coastal heath.

For further information regarding the species distribution, please refer to [www.naturemap.dpaw.wa.gov.au](http://www.naturemap.dpaw.wa.gov.au).

### Community Involvement

If you think you have seen a quokka, fill out a [fauna report form](#) and send it to the Department's Species and Communities Branch at [fauna@dbca.wa.gov.au](mailto:fauna@dbca.wa.gov.au). The Department keeps track of the distributions of threatened species to help monitor population trends and inform management decisions.



A map displaying the general sub-populations of quokka in the south-west of WA (DEC, 2013)

The Department runs a variety of volunteer projects across WA including scientific research, community education and manual labour. Further information about these opportunities can be found on the Department's [webpage](#).

[The Rottnest Foundation](#) encourages community involvement and raises funds to protect and enhance Rottnest Island's unique environmental, cultural and heritage assets. The [Margaret River Chocolate Factory](#), in partnership with The Rottnest Foundation and [Rottnest Island Authority](#), funds quokka conservation and research from the partial proceeds from the sale of chocolate quokkas.

## Biology and Behaviour

Quokkas are nocturnal herbivores that spend the night time browsing on various leaves and stems. They can store fat in their tails as way to cope when availability of food is low. Quokkas often forage in more open areas but in close proximity to shelter, and they spend a large proportion of their time in riparian habitats. Their home range sizes vary considerably depending on their location, the availability and connectivity of habitat, and the seasonal availability of food and water. Home range sizes have been estimated at 2ha on Rottnest Island, 6.4ha in the northern Jarrah forests and up to 71ha in the southern forests. Quokkas can traverse substantial distances if there is suitably connected habitat.

Male core areas barely overlap and they are highly territorial. There is also a low proportion of home range overlaps for female quokkas on Rottnest Island. In contrast, in the southern forests, small groups of female quokkas, particularly those with young, have overlapping home ranges with shared daytime shelters. Studies on Rottnest Island have found that mating partnerships are maintained over several years, where a female has one primary male consort.

On the mainland, quokkas breed throughout the year, producing, on average, two young a year. On Rottnest and Bald Islands, quokkas only breed once a year, with young born between February and April. The single young emerges from the pouch at approximately 5-6 months. Females reach sexual maturity from 8 months and males from approximately 12 months. Quokkas have a relatively long life span of approximately 10 years.

## Conservation Status

The quokka is recognised as a threatened species under State and Commonwealth legislation. In Western Australia the species is listed as fauna that is 'likely to become extinct' in the wild (Specially Protected) under the [Wildlife Conservation Act 1950](#) and has been assigned the threat status ranking of Vulnerable using [International Union for Conservation of Nature](#) (IUCN) criteria. Nationally the species is listed as Vulnerable under the [Commonwealth Environment Protection and Biodiversity Conservation Act 1999](#).

Since the 1920s, the species has experienced decline in population size and a range contraction southwards. Historical hunting and poisoning, the introduction of the fox in the 1930s, land clearing for agriculture and potentially disease likely contributed to this decline in the past. Current threats to the species include:

- Predation by foxes and feral cats;
- Habitat loss and degradation due to vegetation clearing, altered fire regimes, habitat destruction by feral pigs, and *Phytophthora* dieback;
- Altered hydrological regimes and climate change leading to significant drying of wetland habitats;
- Disease (potential); and
- Disturbance from recreational activities on Rottnest Island.

There is limited information on the ecology of the quokka on the mainland and limited long-term monitoring and surveys of population demographics at some mainland sites. This lack of knowledge limits the development and implementation of best management strategies for the species' recovery on the mainland.

## Management

### Recovery Plan

A [national recovery plan](#) has been produced for the quokka, and it outlines the recovery actions required to maintain the species current distribution and abundance. Recommended actions from this plan include:

- Undertake surveys and regular monitoring across the species' range.
- Undertake research and monitoring to improve understanding of threats and effectiveness of management.

- Protect and manage key populations and habitats, including conducting feral predator and feral pig control, and implementing fire and forest management strategies.
- Evaluate the need to and undertake translocations and captive breeding if required.
- Increase public awareness and understanding of the threats to the species' conservation.

### Existing Conservation Measures

The Quokka Recovery Team, led by the Department of Biodiversity, Conservation and Attractions, has been assisting with the implementation of recovery actions as outlined in the current recovery plan since 2013.

The Department's [Western Shield](#) wildlife recovery program conducts feral fox baiting at a range of known quokka locations. Feral cat and feral pig control has also been undertaken by the Department at some sites.

The Department developed and implements the *Quokka Fire Management Guideline* to minimise the impact of fire management on quokka populations and habitat. The Rottnest Island Authority implements a [management plan](#), which includes initiatives to manage quokkas and habitat.

[WWF-Australia](#), in partnership with the Department, [conducted surveys](#) for quokkas in the Northcliffe area to determine the impact of an intense bushfire that burnt an area of 98,000ha in 2015. Various other research projects have been undertaken, including ecological studies on Rottnest Island and in the northern Jarrah and southern forests.

### Citation

Department of Biodiversity, Conservation and Attractions. (2017). *Fauna Profile - Quokka *Setonix brachyurus**. Retrieved from <http://www.dbca.wa.gov.au/>

### Key References and Further Reading

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Woinarski, J., Burbidge, A. and Harrison, P. (2014). *The Action Plan for Australian Mammals 2012*. Collingwood, VIC: CSIRO Publishing.

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