

Woylie *Bettongia penicillata ogilbyi*

Conservation Status: Critically Endangered

Identification

The brush-tailed bettong *Bettongia penicillata* is a small kangaroo-like marsupial that was once found throughout much of mainland Australia. The subspecies *Bettongia penicillata penicillata*, endemic to south-eastern Australia, is considered extinct. *Bettongia penicillata ogilbyi*, commonly known as the woylie, is the only surviving subspecies and is found in the south-west of Western Australia.



Photos: M. Bundock (left); R. McLean (right)

Woylies have yellowish grey to reddish brown fur with a pale belly and a long, prehensile tail with a black brush at the end. They have strongly clawed forefeet, used for digging for food and nest making. They move about using all four legs and sometimes also their tail when foraging, but when flushed, they will bound extremely fast on their back legs with the head held low, back arched and tail almost straight.

Head and body length: 280-365mm

Tail length: 250-360mm

Weight: 745-1850g

Taxonomy

Family: Potoroidae

Genus: *Bettongia*

Species: *penicillata*

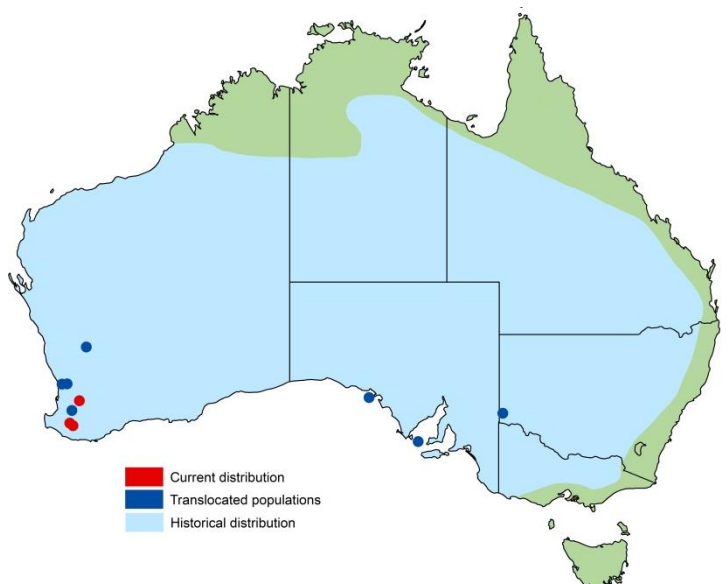
Subspecies: *ogilbyi*

Other common names: brush-tailed bettong, brush-tailed rat-kangaroo

Distribution and Habitat

Brush-tailed bettongs were found across most of southern and central Australia prior to European settlement and the introduction of feral cats and foxes. The woylie is endemic to the south-west of WA but they are now only known from two areas: Upper Warren and Dryandra Woodlands. There are also translocated populations at Batalling, and inside fenced areas in Mt Gibson, Karakamia and Whiteman Park and also in New South Wales and South Australia, and on islands in SA.

Woylies were known to inhabit a variety of habitats including semiarid scrub, mallee, woodland and open forest. The species is now mostly restricted to dry sclerophyll forests and woodlands dominated by Jarrah *Eucalyptus marginata* and Wandoo *Eucalyptus wandoo* with an understorey of scrub or tussock grass and well



Historical and current distribution of woylies, including translocated populations (DBCA, 2017)

drained, deep, sandy soils. Habitat considered critical to the species' survival is the tall eucalypt forests and woodlands, dense myrtaceous shrublands, and kwongan (proteaceous) or mallee heath within its current range with adequate introduced predator control.

For further information regarding the species distribution, please refer to www.naturemap.dpaw.wa.gov.au.

Community Involvement

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

Western Shield run's a citizen science project on Zooniverse called [Camera Watch](#), where volunteers can help classify images from Western Shield's remote camera monitoring program.

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](#).

Biology and Behaviour

Woylies are nocturnal animals, foraging at night within their relatively large home ranges of 15-141 ha. They rest diurnally in one of several small nests within their home range. Nests are constructed from grasses and bark on the ground in small depressions among low-lying vegetation.

Woylies have been recorded living up to 7-9 years in the wild. Female woylies begin breeding from 6 months and can breed continuously throughout the year. Woylies have one of the shortest pregnancies in the kangaroo group, at 21 days, and are capable of embryonic diapause, which allows the woylie to delay a fertilised egg until the current young leaves the pouch. Pouch life is short at around 100 days, and therefore woylies, carrying one young at a time, can have up to three young a year.

Woylies are largely mycophagists, consuming the fruiting bodies of a wide variety of hypogeous fungi (native, truffle-like fungi). However, their diet also consists of seeds, leaves and stems, roots and tubers, gum exudate and invertebrates. Individuals dig up a large volume of surface soil each year while foraging. Studies have found that woylies play a key role in seed and spore dispersal, and are therefore considered to be important ecosystem engineers and propagule vectors.

Conservation Status

The woylie is recognised as 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 Critically Endangered using [International Union for Conservation of Nature](#) (IUCN) criteria. Nationally the species is listed as Endangered under the Commonwealth [Environment Protection and Biodiversity Conservation Act 1999](#).

Since European settlement leading to extensive land clearing and the introduction of feral cats and foxes, woylies have experienced a large reduction in population size and range. Conservation efforts, primarily fox control by Western Shield and translocations, were successfully undertaken to recover the species, which led to its removal from WA's Threatened species list in 1996. However, from recently there has been an unexpected and dramatic decline in abundance. Consequently, the woylie was put back on WA's Threatened species list as Endangered in 2008. The species was upgraded to Critically Endangered following estimates of a 90% decline in population size between 1999 and 2006. Research investigating the causes of the recent decline suggests that the high level of mortality is potentially attributed to predation primarily from feral cats, possibly with additional pressure from disease, stress, and the fragmented and small populations with associated genetic loss.

Management

Recovery Plan

A [national recovery plan](#) has been produced for this species. The plan outlines the recovery actions required to maintain the species' current distribution and abundance, and to increase the species' abundance and range by managing threats and establishing new wild populations. The recovery actions from this plan are focused on:

- Verifying the causes of decline;
- Minimising fox and feral cat predation;
- Maintaining the health, genetic diversity and viability of wild and captive populations;
- Undertaking translocations; and
- Educating the community about and involving the community in woylie conservation

Existing Conservation Measures

The Woylie Recovery Team, led by the Department of Biodiversity, Conservation and Attractions, has been assisting with the implementation of recovery actions as outlined in the recovery plan since 2008.

The Department's [Western Shield](#) wildlife recovery program conducts fox and some feral cat baiting on Department-managed land. Western Shield also monitors native animals, including the woylie, which benefit from the predator control.

The Department has built two predator-free fenced areas in [Tone-Perup Nature Reserve](#) and Dryandra Woodland that includes prime woylie habitat, protects woylies from feral predators and enables scientists to carry out vital research into woylie health and conservation.

Translocation programs have been undertaken in WA, SA and NSW through state government conservation agencies and [Australian Wildlife Conservancy](#).

Since 2006, the Department, in collaboration with [Warren Catchments Council](#), Murdoch University, [Perth Zoo](#), AWC, South Australian [DEWNR](#), UWA, [Kanyana Wildlife Rehabilitation Centre](#), [Whiteman Park](#) and University of Adelaide, has conducted investigations into the recent woylie decline through the [Woylie Conservation Research Project](#). Volunteer involvement has been a substantial and critical component to the success of this project.

Citation

Department of Biodiversity, Conservation and Attractions. (2017). *Fauna Profile - Woylie Bettongia penicillata ogilbyi*. Retrieved from <http://www.dbca.wa.gov.au/>

Key References and Further Reading

Claridge, A., Seebeck, J. & Rose, R. (2007). *Bettongs, potoroos and the musky rat-kangaroo*. Collingwood, VIC: CSIRO Publishing.

Department of Environment and Conservation (2012). *Wildlife Management Program No. 51: National Recovery Plan for the Woylie Bettongia penicillata ogilbyi*. Perth, WA: Department of Environment and Conservation. Retrieved from: <http://www.environment.gov.au/cgi-bin/sprat/public/publicshowallrps.pl>

Department of the Environment and Energy. (2016). *SPRAT Profile: Bettongia penicillata – Brush-tailed bettong, woylie*. Retrieved from <http://www.environment.gov.au/sprat>

Wayne, A., Maxwell, M., Ward, C., Vellios, C., Ward, B., Wilson, I., Wayne, J. & Williams, M. (2015). Sudden and rapid decline of the abundant marsupial *Bettongia penicillata* in Australia. *Oryx* 49(1): 175-185

Disclaimer

The State of Western Australia and its employees do not guarantee that this publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence that may arise from you relying on any information in this publication.