

## Gilbert's Potoroo *Potorous gilbertii*

Conservation Status: Critically Endangered

### Identification

Gilbert's potoroo is a small rat-kangaroo marsupial found on the south coast of Western Australia that was considered extinct from the early 1900s until it was rediscovered in 1994 at Two Peoples Bay Nature Reserve east of Albany. It is considered the world's rarest marsupial and one of Australia's most threatened mammals.

It has dense, grey-brown fur with a pale belly. Its snout is slender and curves downwards and the dense fur on the sides of its face gives it the appearance of full cheeks. The tail is sparsely furred and slightly shorter than its head and body length. It has long curved claws on its forefeet that it used for digging for food.

*Head and Body Length:* 28-37cm

*Tail Length:* 20-23cm

*Weight:* 7-12kg



Photos: D. Walker/Gilbert's Potoroo Action Group

### Taxonomy

**Family:** Potoroidae

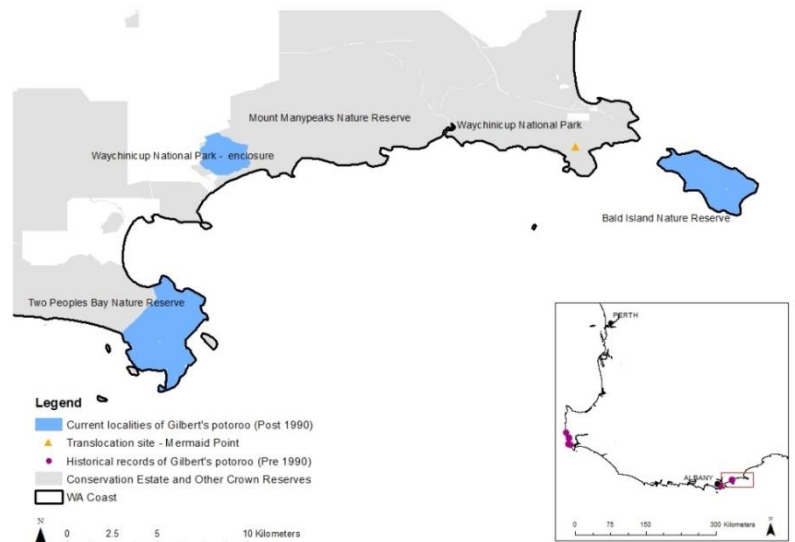
**Genus:** *Potorous*

**Species:** *gilbertii*

**Other Common Names:** Ngilgyte

### Distribution and Habitat

In the 1800s, Gilbert's potoroo was known from east of Albany between King George Sound Pallinup River. The species was thought to have gone extinct in the early 1900s until it was rediscovered in 1994 during a survey for quokkas at Two Peoples Bay Nature Reserve. Animals have since been successfully translocated to Bald Island Nature Reserve and to an enclosure at Waychinicup National Park. Surveys along the south coast between Augusta and Pallinup River have not been able to locate any other populations.



Current localities of Gilbert's potoroo populations, historic records and translocation sites (Parks & Wildlife, 2016)

The species' habitat preferences across its historic distribution are not well understood. Habitat that currently support Gilbert's potoroos contains a diverse presence of hypogean fungi, vegetation that is long unburnt (>30 years), and large, connected areas of dense shrubland and adjacent closed woodland.

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

The [Gilbert's Potoroo Action Group](#) raises awareness and funds for the Gilbert's potoroo recovery program, and provides volunteer assistance for Gilbert's potoroo survey and monitoring activities.

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

Gilbert's potoroos are nocturnal marsupials that nest during the day in shallow depression under sedges or bushes. They line these nests with leaf litter and other plant material. Only once it is completely dark do Gilbert's potoroos emerge, with peak activity occurring after dusk and near dawn. They spend the night time hours digging in the ground for underground fungi, which makes up over 90% of their diet. They also eat invertebrates and the small fleshy fruits of *Billardiera*, *Leucopogon*, *Astroloma* and *Marianthus* plant species.

Gilbert's potoroos live in small colonies between 3-8 individuals. Home ranges are estimated at 15-25ha for males and 3-6ha for females. Home ranges have little overlap within the same sex but overlaps extensively between males and females. Females will share their nests with their young-at-heel and occasionally a male.

They are a relatively long-lived specie, living over seven years in the wild. Females breed in their first year while males breed from approximately two years of age. Breeding occurs at any time of year. Females give birth to one young, which remains in the pouch for approximately three to four months. The young begin to eat solid food as soon as they emerge from the pouch, putting on approximately 6 grams per day. They permanently leave the pouch a month after emerging but remain semi-dependent on the mother's milk for another month. They stay in their maternal home range until 7-18 months of age, at which point they disperse to another colony.

## Conservation Status

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

The threats to the species are two-fold: those that threaten the persistence and health of the existing populations, and those that limit the ability to increase the number of populations. The threats to the species persistence and recovery include:

- Extensive fires, including those that are infrequent.
- Predation by foxes and feral cats, and native predators (carpet pythons)
- Loss of genetic diversity
- Climate change leading to an increase in dry lightning storms and bushfire frequency, and a drying climate that will decrease the availability of truffles.

There are gaps remaining in the knowledge about habitat use, causes of mortality, levels and diversity of mycorrhizal fungi and the impact of climate change, genetic diversity and the level of threat mitigation required. This lack of knowledge is limiting the development and implementation of the best management strategies for the species recovery, and it is therefore considered a threat to the species recovery.

## Management

### Recovery Plan

A [recovery plan](#) has been produced for the Gilbert's potoroo, and it outlines the recovery actions required to increase the size of existing populations and increase the number of populations. Recommended actions from this plan include:

- Implement fire management strategies to ensure negative impacts associated with fire on the species and their habitat is minimised.
- Implement effective and integrated introduced predator control.
- Continue to monitor all populations, assess genetic diversity across all sites, and develop and implement a population management strategy.
- Maintain the Waychinicup NP enclosure and emergency captive facilities, establish another island/fenced population, and identify suitable mainland sites for future translocations.

- Investigate the causes of mortalities
- Increase awareness of, and support for the recovery of the species.

### Existing Conservation Measures

The Gilbert's Potoroo Recovery Team, led by the Department of Biodiversity, Conservation and Attractions, has been assisting with the implementation of recovery actions as outlined in the previous and current recovery plans since 1995.

The Department's [Western Shield](#) wildlife recovery program conducts feral fox baiting at Two Peoples Bay Nature Reserve. Feral cat control is also undertaken within the reserve. Bald Island and the enclosure at Waychinicup National Park are monitored for introduced predator incursions.

Since the species rediscovery, extensive surveys for other populations have been undertaken in suitable habitat between Augusta and Pallinup River, with the help of the Gilbert's Potoroo Action Group. No additional populations have been located.

A translocated population at Bald Island Nature Reserve has been established since 2005. A 380ha enclosure at Waychinicup National Park was built in 2008, and animals were introduced into the enclosure in 2010. These populations, plus the population at Mount Gardener, are regularly monitored by the Department.

A captive colony was established following the species rediscovery. The colony is no longer maintained but the captive facilities are maintained for translocation and emergency purposes. These facilities were used to house individuals that were salvaged from Two Peoples Nature Reserve following extensive bushfires in November 2015.

The Department and research institutions have undertaken various research projects to improve knowledge of the species biology and ecology, and improve effectiveness of management strategies.

### Citation

Department of Biodiversity, Conservation and Attractions. (2017). *Fauna profiles: Gilbert's potoroo Potorous gilbertii*. Retrieved from <http://www.dbca.wa.gov.au/>

### Key References and Further Reading

Department of the Environment and Energy. (2016). *SPRAT Profile: Potorous gilbertii – Gilbert's potoroo*. Retrieved from <http://www.environment.gov.au/sprat>

Department of Parks and Wildlife (2016). *Gilbert's Potoroo (Potorous gilbertii) Recovery Plan - Wildlife Management Program No. 62*. Perth, WA: Parks and Wildlife. Retrieved from: <https://www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-animals>

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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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