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Saving Australia's most endangered mammal: Gilbert's potoroo.

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Gilbert's potoroo is known from only one population of less than 40 individuals, found at Two Peoples Bay east of Albany. This tiny population size qualifies the species as Australia's rarest mammal and, in fact, one of the world's rarest mammals. For many years this species, historically recorded only in the south-west corner of the State between Margaret River and the Albany area, was thought to be extinct as the last specimen was collected in the 1870s. In 1994, a Ph.D. student was setting cage traps for quokkas on the slopes of Mount Gardner in Two Peoples Bay Nature Reserve, when she caught two unidentified mammals. They turned out to be Gilbert's potoroos.

Since then a recovery program has been designed and put into action. Fox control at Two Peoples Bay Nature Reserve is carried out by monthly baiting with dried meat baits injected with 1080 poison and cat trapping is carried out once or twice each year. The management of the reserve involves exclusion of fire and use of strict measures to prevent the spread of Phytophthora. Research on the wild Gilbert's potoroo population has shown that numbers are stable and that the population structure is healthy. The diet of these animals in the wild comprises over 90% fungi, most of which are hypogeal (underground-fruiting). Gilbert's potoroos live in small colonies in heathland dominated by Melaleuca species with sedges providing dense cover at ground level. A captive colony was established soon after the rediscovery in order to provide increase security and to breed groups of animals to enable the establishment of other wild populations. In the first three years, six young were bred in captivity. The breeding rate soon slowed, however, and no young have been born since 2001, despite attempts to improve the captive diet by adding 5-10% hypogeal fungi.

Preliminary work at Perth Zoo on development of artificial insemination techniques resulted in the stress-related deaths of a pair of Gilbert's potoroos. The temperament of these animals may not allow the use of highly invasive techniques.

Other ways to increase numbers of Gilbert's potoroos are being explored. These include cross-fostering by transferring early-stage pouch young from the wild to long-nosed potoroo foster mothers, hand-rearing of large furred pouch young from the wild, and the transfer of non-breeding captive-bred animals into 5-10 hectare fenced bushland areas in the hope that they will breed. At the same time, nutrient analyses of hypogeal fungi are being used to reformulate the captive diet to more closely resemble the diet in the wild.

Two potoroos were released temporarily on Bald Island east of Albany in February 2005. When they were recaptured after five weeks they were still close to release weight. Following the success of this trial, three animals were permanently released on the island in August 2005. These animals are still being monitored. This is the most promising development in the recovery program so far.