

Progress Report SP 2017-001

Understanding and reducing python predation of the endangered Gilbert's potoroo

Animal Science

Project Core Team

Supervising Scientist	David Pearson
Data Custodian	David Pearson
Site Custodian	

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D Pearson, S Hill

Context

Carpet pythons are predators of a range of threatened mammal fauna, including the critically endangered Gilbert's potoroo (*Potorous gilberti*). Python predation can reduce adult survival and curtail recruitment. Current 'predator proof' fences, while effective at reducing or eliminating predation by foxes and feral cats, are likely to have little or no effect on levels of python predation.

Python predation has been identified as a significant threat to the Gilbert's potoroo population in the Waychinicup National Park enclosure. In a review of options following the 2015 fire that impacted the only known wild population at Two Peoples Bay, it was considered that management intervention is required to reduce python predation of potoroos within the enclosure. It appears that python predation is limiting population growth and hence the production of individuals for translocation.

Aims

- To determine the most effective ways to locate and remove carpet pythons from within and around Gilbert's potoroo populations and so reduce the current level of predation of this critically endangered mammal.

Progress

- Techniques to locate and capture pythons in the Waychinicup enclosure were reviewed over the entire study. Radio-tracking males during the breeding season proved to be the most successful of the seven techniques trialled, resulting in about 40 percent of captures. It was the most successful technique for locating adult female pythons, the cohort most responsible for observed potoroo predation.
- Eight adult females were relocated to other areas of Waychinicup National Park and did not return to the enclosure area.
- All but one of the eight telemetered male pythons were regularly located outside the enclosure after the breeding season. This suggests they prefer structurally diverse coastal heathland on foredunes to more open shrubland inside the enclosure. This observation along with their smaller size relative to adult females, suggests that male pythons pose little or no threat to Gilbert's potoroo.
- Results of the study were reported to the November 2019 South Coast Threatened Species Forum and the June 2020 Gilbert's potoroo recovery team meeting.

Management implications

- Carpet pythons are clearly significant predators of Gilbert's potoroo and appear to be constraining the growth of the population in the Waychinicup enclosure, and by inference, the recovery of the wild population on Mt Gardner.
- A range of techniques have been trialled to locate pythons. Searching is labour-intensive, but the use of volunteers and timing searches at the right time of year (python mating season, mid-October to mid-November) and radio-tracking are the best ways to locate and remove pythons.
- Carpet pythons move easily through or over the enclosure fence so the python population around the enclosure also needs to be managed.
- Ongoing removal of adult female carpet pythons from the Waychinicup enclosure is likely to improve survival and recruitment of Gilbert's potoroo.

Future directions

- Continue to locate male carpet pythons to find and relocate further female pythons. The python breeding season in 2019-2020 appeared to have occurred earlier at Waychinicup than at other sites such as Garden Island and Dryandra. Earlier searching and radio-tracking from mid-October to mid-November and over a larger area of the enclosure should result in higher python captures.
- It was not possible to trial the use of pheromones in attracting and capturing pythons as it was not possible to locate any recently sloughed skins on site or at Garden Island. This possible innovation to the capture techniques should be further examined.
- The inclusion of searching for, radio-tracking and removing pythons on Mt Gardner is likely to improve the survival chances of the few potoroos remaining there, as well as counter one threatening process if any translocation/supplementation is carried out in the future.