Progress Report SP 2017-001

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

Animal Science

Project Core Team

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Project Team	required
Program Leader	required
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Context

Carpet pythons are predators of multiple 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. Python predation may be 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

- Radio-tracking of male carpet pythons continued during the spring mating season but was less successful than previous years despite greater effort. Males that had bred in the previous year did not display mate-searching behaviour. This suggests that either males do not breed every year, in contrast to other populations, or the removal of reproductive females from the Waychiniup enclosure had resulted in limiting male reproductive stimulus.
- Searching techniques for locating pythons were further evaluated, including the employment of experienced biologists to assist with radio-tracking and the involvement of volunteers from the Gilbert's Potoroo Action Group.
- A total of five pythons were captured within the enclosure and relocated to other parts of Waychinicup National Park.

Management implications

- Carpet pythons are significant predators of Gilbert's potoroo and constrain the growth of the population in the Waychinicup enclosure, and by inference, the recovery of the wild population on Mt Gardner.
- The location and removal of carpet pythons from the Waychinicup potoroo enclosure and Mt Gardner could be used to significantly reduce predation. Night head-torching was the most successful search method to initially locate pythons. Radio-tracking males in the mating season (with the chance of opportunistically finding other pythons) was the best technique for locating reproductive female pythons in the Waychinicup enclosure.
- Adult females in the months before the breeding season (June-October) and during the breeding season (November-March) do not feed, so telemetered reproductive females can be left in the enclosure to attract males and lead to more python captures. They should be removed from the enclosure at the conclusion of the mating season (December).
- Females should be relocated further than 2 km from the enclosure to prevent them returning. Those located 8-10 km from the enclosure did not return.
- No evidence was found that the smaller male pythons ate potoroos so telemetered males could be left within the compound and followed to locate other pythons in the breeding season.

Future directions

- Field work for the project is complete, and papers on the threat that carpet pythons pose to Gilbert's Potoroo and survey techniques for pythons are currently being prepared.