

Habitat selection by vulnerable golden bandicoots in the arid zone

Cheryl Lohr¹, Kristen Nilsson¹, Colleen Sims¹, Judy Dunlop¹, and Michael Lohr²

¹Western Australia Department of Biodiversity Conservation and Attractions

²Phoenix Environmental Sciences

April 16, 2021

Abstract

In 2010, vulnerable golden bandicoots (*Isodon auratus*) were translocated from Barrow Island, Western Australia, to a predator-free enclosure on the Matuwa Indigenous Protected Area. Golden bandicoots were once widespread throughout a variety of arid and semi-arid habitats of central and northern Australia. Like many small to medium-sized marsupials, the species has severely declined since colonisation and has been reduced to only four remnant natural populations. Between 2010 and 2020 the reintroduced population of golden bandicoots on Matuwa was monitored via capture-mark-recapture data collection which was used in spatially explicit capture-recapture analysis to monitor their abundance over time. In 2014, we used VHF transmitters to examine the home range and habitat selection of 20 golden bandicoots in the enclosure over a six-week period. We used compositional analysis to compare the use of four habitat types. Golden bandicoot abundance in the enclosure slowly increased between 2010 and 2014 and has since plateaued at approximately one quarter of the density observed in the founding population on Barrow Island. The population may have plateaued because some bandicoots escape through the fence. Golden bandicoots used habitats dominated by scattered shrubland over spinifex grass more than expected given the habitat's availability. Nocturnal foraging range was influenced by sex and trapping location, whereas diurnal refuge habitat was consistent across sex and trapping location. Our work suggests that diurnal refuge habitat may be an important factor for the success of proposed translocations of golden bandicoots.

Hosted file

GB_paper_090920_draft_20210322.pdf available at <https://authorea.com/users/408091/articles/518247-habitat-selection-by-vulnerable-golden-bandicoots-in-the-arid-zone>