

GCRP Summary Report 2021-23

Written by: Cassandra Holt (ANU)

Reviewed by: Adrian Manning (ANU) and Jason Cummings (GCT)

The Coexistence Conservation Lab (on behalf of the ANU), in partnership with the Ginninderry Conservation Trust, conducts research in the Ginninderry Conservation Corridor as part of the Ginninderry Conservation Research Program (GCRP). The GCRP aims to protect and restore threatened communities within the Ginninderry Conservation Corridor through evidence-based management. In the financial years 2021-23 research was undertaken in the following areas:

Grazing in the Corridor

Understanding diet and habitat use of large herbivores in the Corridor in order to inform conservation grazing management techniques and effective control of the impact of native, introduced and domestic herbivores.

Work is underway to identify the diets of macropods, deer and cattle through genetic analysis of scat samples, with the next stage focussing on applying this knowledge to determine their distribution and the potential impacts on local ecological communities. Technologies such as drones and AI may be considered to more effectively assess herbivore populations in the Corridor.

Foxes in the Corridor

Three interlinked projects are investigating aspects of conditioned taste aversion (CTA; a learned association between a food source and illness), diet and population dynamics of foxes and how this can be used to more effectively manage an invasive predator.

Work is ongoing to develop a sustainable and realistic baiting regime to maintain CTA in the long-term. Future research will focus on applying CTA as a conservation tool and better understanding fox population dynamics and diet.

Detection, monitoring and management of pink-tailed worm-lizards

Expanding our knowledge of the population ecology of this cryptic species through genetic analysis.

Results of this study will inform management of pink-tailed worm-lizards at Ginninderry and the ACT, including potential translocations. Trials of non-invasive genetic sampling methods have been undertaken.

Eastern brown snake socio-ecology on the urban fringe

Exploring human-ecological interactions and experiences with brown snakes on the urban edge, and understanding the ecology of eastern brown snakes in the face of urban expansion.

Public engagement for the project has been successful and future work will bring together ecology and social science to better manage human-wildlife conflict. A pilot program to identify methods for tracking eastern brown snakes has been successful, and will continue to produce data on snake movement and response to translocation.

Environmental DNA assessment of water samples

Examining the utility of eDNA for the detection, monitoring and management of ecosystems in the Corridor.

An experiment in DNA-based assessment and detection of vertebrates from water samples from the Corridor. Results are expected from the lab analysis and will be able to be compared with results from other laboratories.

Publications and post-graduate research

In 2021-2023 there was one Master's student and three PhD students undertaking research as part of the GCRP. It is expected that approximately 14 articles will be published as a result of this ongoing research, and other work by the team at ANU of which a component relates to the GCRP.

Based on research to date, the priorities for the GCRP for the next contract period and beyond are:

- The role of **large herbivores** in the management of threatened ecological communities in the Corridor
- The **management of foxes** using insight into diet, population dynamics and novel techniques as a coexistence conservation tool
- Ecology, sociological considerations and management of **eastern brown snakes**
- Understanding **population ecology of PTWL** and the impacts of development in the Corridor