

Water Mouse Project

Case Study

Background

There has been few investigation about the population dynamics of the water mouse (*Xeromys myoides*) within this region. Consequently, little is know about their extent, population size and trajectory, and key threats. This project aimed to address the knowledge gaps and provide management recommendations to land managers with water mouse habitat. It also aimed to reduce the impacts of feral predators, and to raise awareness of the species. Data was collected from camera monitoring surveys in four different sites across the region. These camera surveys were targeted at water mice and their predators. A conservation dog was utilized for the detection and control of fox dens on these sites. Education took place in the form of field days, the creation of educational material, and allowing community volunteers to join in monitoring.



Australian Government



Key Points:

- Four National Parks were surveyed, covering approximately 50ha during camera monitoring;
- Water mice were found at three out of four parks;
- Foxes were found at the same three parks as mice;
- Five active fox dens were located and controlled during detection works;
 - Volunteers took part in all stages of monitoring, and were integral to the project.





Image of the team during works at Cape Palmerston.

The Story

When the project first commenced, Pioneer Catchment & Landcare Group (PCL) staff knew it was going to be a lot fun, and hard work. Field works commenced with ground truthing surveys in the hopes to verify some of the habitat mapping that Queensland Parks & Wildlife (QPWS) had provided. Approximately 131 hectares of park were walked and/or surveyed using a drone. These surveys were governed by accessibility, which turned out to be an ongoing hindrance for the project. Many areas were not accessible, and these could have easily been home to the water mice. The surveyed resulted in an increased knowledge of the park, and gave a solid basis for the camera monitoring. A significant find was a water mouse nest in an area that was unconfirmed habitat.

Once the foundations were set through ground truthing, the first camera monitoring took place at the Sandringham Bay Conservation Park (where the nest was found). This round of monitoring saw the first glimpse of a water mouse, a video of a lone mouse making its way through the mangrove. By projects end, water mice were caught on camera across three of the four surveyed parks. The project concluded with a



grand total 193 photos of water mice across all parks. Which is great news for land managers in the region, as the elusive mouse hasn't had a recorded sighting in this region in five years.

A major factor in the project was identifying and addressing some of the threats faced by water mice. One notable threat was the presence of foxes (Vulpes vulpes) at the same three sites as water mice. Foxes are known predators of water mice, and were photographed on the same cameras as water mice. To address the fox issue, we employed the services of a fox den detection dog and handler, to locate fox dens near water mouse habitat. Over six days of searching, five active dens were located and treated, two attempted dens were located, two inactive dens were located, and ten abandoned dens were located. Evidence of large numbers of feral pigs at each of the parks included images of pigs captured on monitoring cameras and significant ground disturbance and damage to mangroves and other vegetation in the inter-tidal areas of each of the monitoring sites. Feral pigs pose a significant threat to water mice through habitat destruction. It is likely that pigs opportunistically predate on water mice and their nests. Other observed threats include the illegal use of motor vehicles in sensitive areas, presence of wild and domestic dogs, illegal hunting, and some parks being accessed by cattle.



The Outcomes

Recommendations have already been made based on the information gathered during the project. Especially the significant threats that water mice (and the parks as a whole) are facing. This includes new fencing for parks that are being accessed by cattle, options for the control of feral pigs, and continued works on controlling foxes.

The data collected on water mice through monitoring has been shared with QPWS and other managing bodies to help make informed decisions regarding future management.

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