

WATER MOUSE (*Xeromys myoides*)

SANDRINGHAM BAY

A case study of fauna monitoring and education



BACKGROUND

The Sandringham Bay Conservation Park, located south of Mackay, Queensland, spans 591 hectares following its expansion in 2007. Initially gazetted in 2003 under the Nature Conservation Act 1992, the park is crucial for preserving nine regional ecosystems, five of which are classified as endangered and three as of concern. The park is home to the Water Mouse (*Xeromys myoides*), also known as the Mangrove Mouse, a species listed as Vulnerable under both the Nature Conservation Act 1992 and the Environment Protection & Biodiversity Conservation Act 1999.

CHALLENGES

Despite the park's significance, the full distribution and population status of the Water Mouse remains unclear. The species faces threats from invasive species such as foxes, dogs and pigs. These threats pose a significant risk to the survival of the Water Mouse population within the park.

PROJECT LOGIC

The project, established in collaboration with the Queensland Parks and Wildlife Service (QPWS), focused on gathering pre- and post-prescribed burn data at Sandringham Bay Conservation Park. Building upon a similar 2018/19 initiative, the primary goal was to evaluate the current Water Mouse presence in areas where it had been previously documented.

The project engaged community members, Yuwi Land and Sea Rangers, and QPWS staff in education and awareness efforts through the following activities:

- Conducting two surveys using camera monitoring
- Identifying key threats
- Raising awareness about the Water Mouse and its habitats
- Implementing monitoring techniques
- Navigating using GPS
- Promoting the Water Mouse via Pioneer Catchment Landcare's social media channels and newsletters.

Due to an exceptionally wet summer, no burning took place within the conservation park. However, we proceeded with the surveys to document the presence or absence of Water Mouse, within the park.

PROJECT LOCATION

Site 1 – South of Dunrock township - Sandringham Bay Conservation Park

Site 2 – North of Dunrock township - Sandringham Bay Reserve



METHODOLOGY

Involvement in educational days

- PCL staff
- Yuwi Land and Sea Rangers
- Volunteers
- Community members

Survey methods

- 8 trail cameras deployed at key locations
- Camera trapping using baited poly pipe tubes
- 2 different bait types – traditional oat, peanut butter and honey mix / pilchard, oat, peanut butter and honey mix
- Rapid habitat assessment undertaken at each camera location to assess vegetation, erosion, impact by humans, weed presence, feral animal signs

Habitat and species identification

- Participants were given instruction on what a Water Mouse nest looks like, what the favourable habitat is and pictures of Water Mouse
- Information on previous studies across known Water Mouse habitats

Camera set up

- Bait tubes were installed on trees at just above ground level
- Cameras were set up on free standing stakes at a height of approximately 50cm
- Cameras were left at the locations for 3 weeks before being collected

Camera set up



Bait tube installation



Learning how to set up the trail camera



Rapid habitat assessment



SPECIES IDENTIFIED

Predators

- Fox - frequently photographed at both sites, posing a significant threat to small terrestrial mammals.
- Pig - Detected at Site 1, causing habitat destruction
- Dog - Photographed at both sites



Fox



Pig

Native wildlife

Site 1

- Long Nosed Bandicoot (*Perameles nasuta*)
- Northern Brown Bandicoot (*Isodon macrourus*)
- Buff Banded Rail (*Gallirallus philippensis*)
- Lace Monitor (*Varanus varius*)
- Sugar Glider (*Petaurus gracilis*)
- Echidna (*Tachyglossus aculeatus*)



Sugar glider



Echidna

Site 2

- Northern Brown Bandicoot (single sighting)

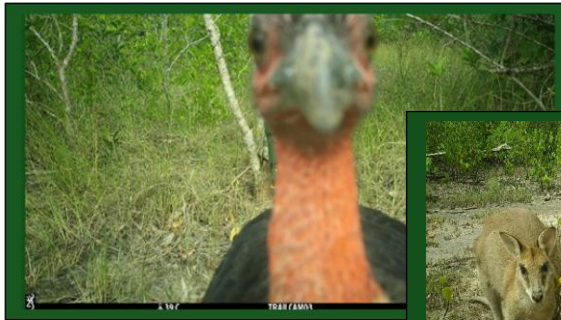


SPECIES IDENTIFIED

Other species

Site 1

- Willy wagtail (*Rhipidura leucophrys*)
- Agile Wallaby (*Macropus agillis*)
- Water Rat (*Hydromyschrysogaster* spp.)
- Black headed Ibis (*Threskiomis melanocephaius*)
- Peaceful Dove (*Geopelia striata*)
- Forest Kingfisher (*Todiramphus macleayii*)
- Bush Stone Curlew (*Burhinus grallarius*)
- Brush Turkey (*Alectura lathamii*)



Positive observations

- No feral cats observed
- Natural restoration of habitat within these areas has been observed following closure to vehicles

Conclusion

The absence of Water Mouse sightings is concerning, especially given their presence in 2018/19. While it is beyond the scope of this project to conclude that the Water Mouse is no longer present in these areas, the ongoing threats from predation and habitat destruction are significant challenges for their survival. The lack of feral cats and the ongoing natural restoration of the park are positive developments that may help sustain Water Mouse habitats in the future.

WITH SPECIAL THANKS TO

QUEENSLAND PARKS AND WILDLIFE
SERVICE

FRIENDS OF PARKS QUEENSLAND

STANMORE RESOURCES

Recommendations

1. Continued monitoring

- Regular surveys to monitor Water Mouse populations and predator activity

2. Invasive species control

- Implement control measures for foxes and pigs to reduce impact

3. Community engagement

- Raise profile of Water Mouse
- Involve community in conservation efforts

4. Habitat restoration

- Promote and support habitat restoration activities to improve and expand potential habitat for the Water Mouse