

Threatened Species of the Northern Territory

Water Mouse

Xeromys myoides

Conservation status

Australia: Vulnerable

Environment Protection and Biodiversity Conservation Act 1999

Northern Territory: Vulnerable

Territory Parks and Wildlife Conservation Act 1976

Description

The Water Mouse is a small, distinctive rodent with a body mass that averages 42 g. The pelt is water- and mud-resistant, silky and dark steel-grey in colour, with an abrupt change to a pure white underbelly, lower snout and cheeks¹. Despite its name, the Water Mouse is a terrestrial species and, unlike the much larger Water Rat *Hydromys chrysogaster*, its toes are not webbed.

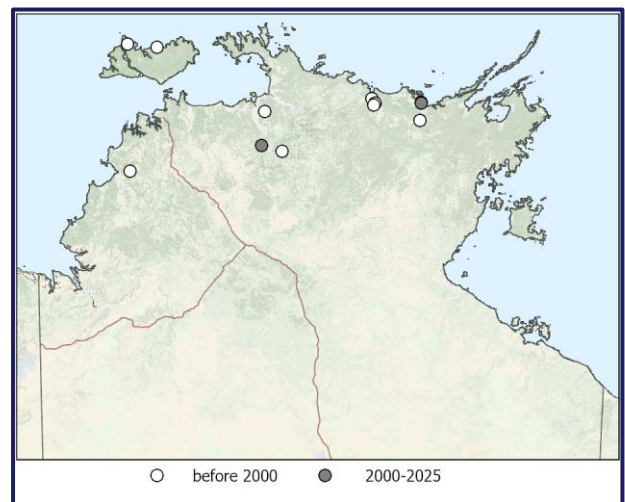
Distribution

The Water Mouse occurs in the far north of the Northern Territory (NT), in coastal areas of eastern Queensland and at one recorded location in New Guinea. Despite the wide geographic separation of populations in the NT and Queensland, genetic analyses indicate that they comprise a single evolutionarily significant unit².

In the NT, the species has been captured sporadically along coastal areas that include the Glyde River floodplain and Tomkinson River in Arnhem Land, the South Alligator River, Daly River floodplain and Melville Island³⁻⁵. Relatively recent records have been from Gardangarl (Field Island) in 2011⁶ and from Jim Jim Creek near Cooida in 2014. However, Indigenous ecological knowledge extends the species' known distribution further⁷. Furthermore, the Water



Photo: J. Atkinson, Wikimedia Commons



Known localities of the Water Mouse in the NT
(nrmaps.nt.gov.au)

Mouse is modelled to occur in additional areas of coastal and sub-coastal habitat in the NT, Queensland and New Guinea⁸. The species is unlikely to be detected during general fauna surveys; rather, targeted surveys are required. A summary of survey methods is provided in the species' recovery plan⁸.

NT conservation reserves where reported:
Kakadu National Park.

Ecology and life-history

Habitat use of the Water Mouse in the NT is poorly understood. The species is known to inhabit intertidal mangrove and saltmarsh

habitats, as well as coastal and sub-coastal freshwater and brackish wetlands, swamps and floodplains up to 30 km inland. The Water Mouse does not occur in urban developments or agricultural fields⁸.

The composition of Water Mouse habitat varies across its distribution but the following broad environmental attributes are required for an area to be occupied: suitable hydrological flows (tidal and/or freshwater); food on a damp substrate; suitable substrate or structures (e.g. mangrove roots or hollows, supralittoral bank) for shelter construction or burrowing; protection of shelters from disturbance (e.g. frequent submergence, trampling, rooting, fire); and vegetation cover between shelter and feeding grounds⁸.

The Water Mouse is nocturnal. Documented prey includes small marine and freshwater crustaceans, especially crabs; molluscs; and a marine flatworm. Individuals forage entirely on the ground but have been seen clambering in small mangrove trees, meaning that the species can climb, possibly to escape high water¹.

Individuals are highly territorial and generally exhibit frenetic activity, travelling ~ 3 km a night while criss-crossing a home range that averages ~ 1 ha. Individuals follow established pathways, stopping for feeding and resting in favoured recesses in hollow logs and mangrove trunks. Water Mice return to their nests ahead of the advancing tide. In the NT, the only identified nests have been those of mud mounds, up to 60 cm high, that are built in between buttress roots of mangrove trunks or stumps¹. However, in south-eastern Queensland, nest structures are much more varied; it is likely that the range of nests used in the NT is also greater but currently poorly documented.

Threatening processes

Threats to the Water Mouse in the NT are poorly understood. The most likely threats are those of saltwater intrusion, spread of weeds, damage to shelters by livestock and feral ungulates, and predation by introduced species, including by the feral Pig *Sus scrofa* and Cat *Felis catus*. Inappropriate fire regimes, particularly in inland areas, is also a possible threat.

In Queensland, the primary threat to the Water Mouse is loss and fragmentation of habitat due to urban and industrial development, and habitat degradation due to changed hydrology and exposure of acid sulphate soils⁹.

Conservation objectives and management

The priorities for the Water Mouse⁸ are to:

- mitigate impacts from coastal development and sea-level rise
- better understand and mitigate current and potential threats to the species; and
- clarify the species' distribution and ecology.

References

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