

Progress Report STP 2013-060 (FY 2015-2016)

**Ecology and taxonomic differentiation in the
Australian water rat and implications for its
conservation status in Western Australia**

Animal Science

Project Core Team

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Approved and active

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Project Team	granted
Program Leader	granted
Directorate	granted

Ecology and taxonomic differentiation in the Australian water rat and implications for its conservation status in Western Australia

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Progress Report

This PhD project has been completed and was submitted in March 2016.

It represented the first research to document genetic divergence across the range of the water rat, or rakali, *Hydromys chrysogaster*, and addressed voids in understanding the status of Western Australian populations. Results were discussed in the context of ecological trait, and geographical and temporal isolation, driven by aridification of continental Australia and changing sea levels during Pliocene and Pleistocene epochs. Findings supported taxonomic revision within *Hydromys* to at least subspecific level, delineation of a new *Hydromys* / *Parahydromys* species, and due to high genetic structuring, treatment of certain regional populations as evolutionarily significant units (ESUs). These outcomes will help guide effective conservation and management of this Priority species and all its ECUs into the future.