

Project Closure SP 2012-024

Rangelands restoration: reintroduction of native mammals to Matuwa (Lorna Glen)

Animal Science

Project Core Team

Supervising Scientist	Colleen Sims
Data Custodian	Colleen Sims
Site Custodian	Colleen Sims

Project status as of April 16, 2019, 7:23 a.m.

Closure pending approval of closure form

Document endorsements and approvals as of April 16, 2019, 7:23 a.m.

Project Team	granted
Program Leader	granted
Directorate	required

Rangelands restoration: reintroduction of native mammals to Matuwa (Lorna Glen)

Closure goal

terminated

Closure reason

This project has successfully reintroduced bilbies and brushtail possums into Matuwa (Lorna Glen), established populations of golden bandicoots, boodies and mala inside an enclosure, and released free-ranging golden bandicoots into the rangelands environment. While the aims to restore the native fauna to this area remain, the process for doing that has changed with the change to native title ownership and the involvement of the Martu traditional owners. Methodologies have also changed. With a recent change in Chief Investigator it was considered an appropriate time to review the data collected since 2007 and prepare a new Science Plan to guide the reserach over the next 10 years. This will reflect the closer working relationship with the Martu traditional owners, and a more realistic fauna translocation and monitoring program, given the ongoing issues with effective control of feral cats.

Key publications and documents

PUBLISHED PAPERS

Blythman, M., Cims, C., & Eliot, G. (2017). Wedgie gold: using metal detectors to recover PIT tags under areas used by wedge-tailed eagles and barn owls. *Australian Mammalogy*, DOI: 10.1071/AM17021.

Bode, M., Brennan, K.E.C., Morris, K., Burrows, N. and Hague, N. (2012). Choosing cost effective locations for conservation fences in the local landscape. *Wildlife Research*, 39, 192-201.

Burrows, N., Dunlop, J. and Burrows, S. (2012). Searching for signs of bilby (*Macrotis lagotis*) in central Western Australia using observers on horseback. *Journal of the Royal Society of W.A.*, 95, 167-170.

Chapman, T. (2013). Relic bilby (*Macrotis lagotis*) refuge burrows: assessment of potential contribution to a rangeland restoration program. *The Rangeland Journal*, 35, 167-180.

Chapman, T. (2015). Comparison of soils and plants on the active and relic parts of a recolonised burrowing bettong (*Bettongia lesueur*) warren. *Pacific Conservation Biology*, 21, 298-306.

Chapman, T. (2015). Reintroduced burrowing bettongs (*Bettongia lesueur*) scatter hoard sandalwood (*Santalum spicatum*) seed. *Australian Journal of Zoology*, 63, 76-79.

Lohr, C.A., Dziminski, M., Dunlop, J. and Morris K. (2019). The reintroduction of bilbies (*Macrotis lagotis*) to Matuwa, an Indigenous Protected Area in Western Australia. (In preparation)

Ottewell, K., Dunlop, J., Thomas, N., Morris, K., Coates, D., & Byrne, M. (2014). Evaluating success of translocations in maintaining genetic diversity in a threatened mammal. *Biological Conservation*, 17, 209-219.

Wysong, M.L., Tulloch, A.I.T., Valentine, L.E., Hobbs, R.J., Morris, K., and Ritchie, E.G. (2019). The truth about cats and dogs: assessment of apex- and meso-predator diets improves with reduced observer uncertainty. *Journal of Mammalogy* (accepted).

LANDSCOPE ARTICLES

Dunlop, J., and Morris, K. (2009). Into the wild: restoring rangelands fauna. *Landscape*, 24, 52-58.

King, R. and Burrows, N. (2012). The great bilby muster. *Landscape* 27, 6-8.

THESES AND UNPUBLISHED MANUSCRIPTS

Pertuisel, L. (2010). Modelling the reintroduction of bilbies *Macrotis lagotis* in the rangelands of Western Australia. Masters degree in Engineering and Biodiversity Management, Montpellier University, France.

Read, M. (2012). *The population size, morphometrics and movement patterns of the brush-tailed mulgara (Dasyurus blythi): is predation by feral cats (Felis catus) having an effect?* Honours Thesis, The University of Western Australia, Perth.

Semple, L., Ottewell, K., Sims, C., Simianer, H., and Byrne, M. (Unpublished). Genetic viability of a reintroduced population of south-western brushtail possum (*Trichosurus vulpecula hypoleucus*), Western Australia. Honours Thesis, The University of Western Australia, Perth.

Thavornkanlapachai, R., Mills, H., Ottewell, K., Dunlop, J., Sims, C., Morris, K., . . . Kennington, W. (Unpublished). Asymmetrical introgression between genetically distinct populations of the boodie (*Bettongia lesueur*) in a newly established translocated population. 47.

Wysong, M. (2016). *Predator ecology in the arid rangelands of Western Australia: Spatial interactions and resource competition between an apex predator, the dingo Canis dingo, and an introduced mesopredator, the feral cat Felis catus*. PhD Thesis, The University of Western Australia, Perth.

INTERNAL REPORTS

Burrows, N., Hearle, G., Woods, T., Liddelow, G. (2011) *Lorna Glen introduced predator monitoring: 22-26 July 2011, post-bait data summary*. Department of Environment and Conservation, Kensington, WA.

Burrows, N., Liddelow, G. (2011) *Lorna Glen introduced predator monitoring: data summary, 23-27 June 2011*. Department of Environment and Conservation, Kensington, WA.

Burrows, N., Liddelow, G. (2012) *Aerial baiting to control introduced predators on Lorna Glen, winter 2012*. Department of Environment and Conservation, Kensington, WA.

Burrows, N., Liddelow, G. (2012) *Lorna Glen introduced predator monitoring: pre-bait survey 28 June-2 July 2012*. Department of Environment and Conservation, Kensington, WA.

Burrows, N., Liddelow, G. (2013) *Breach of the Lorna Glen fauna refuge compound by a feral cat: chronology and lessons learnt*. Department of Parks and Wildlife, Kensington, WA.

Burrows, N., Liddelow, G. (2013) *Lorna Glen introduced predator and mulgara monitoring: pre-bait survey 8 June-11 June 2013*. Department of Environment and Conservation, Kensington, WA.

Burrows, N., Liddelow, G. (2013) *Lorna Glen introduced predator control: post-bait survey report 7-10 August 2013*. Department of Parks and Wildlife, Kensington, WA.

Burrows, N., Ward, B. (2012) *Lorna Glen introduced predator monitoring, 27-31 January 2012*. Department of Environment and Conservation, Kensington, WA.

Burrows, N., Foster, C., Gilbert, C., Gray, D., Rowbotham, E., Smith, S., . . . Thoomes, E. (2015). *Monitoring bilby (Macrotis lagotis) at Matuwa (Lorna Glen) using observers on horseback*. Perth, Western Australia: Western Australia Department of Parks and Wildlife.

Cherriman, S. (2012). *Breeding of the wedge-tailed eagle Aquila audax during 2012 at Lorna Glen Conservation Reserve, Western Australia*. Parkerville, Western Australia: iNSiGHT Ornithology.

Cherriman, S. (2012). *Diet and status of the wedge-tailed eagle Aquila audax at Lorna Glen Conservation Reserve, Western Australia*. Parkerville, Western Australia: iNSiGHT Ornithology.

Cherriman, S. (2013). *Diet, nest sites and breeding success of the wedge-tailed eagle Aquila audax, during 2012 at Lorna Glen Conservation Reserve, Western Australia*. Parkerville, Western Australia: iNSiGHT Ornithology.

Cherriman, S. (2013). *Nest sites, breeding, satellite telemetry and diet of the wedge-tailed eagle Aquila audax at Lorna Glen, Western Australia*. Parkerville, Western Australia: iNSight Ornithology.

DEC. (2010). *Gorgon Gas Development: Threatened and priority species translocation and reintroduction program, annual report 2009/2010*. Perth, Western Australia: Western Australia Department of Environment and Conservation.

DEC. (2012). *Gorgon gas development, threatened and priority species translocation and reintroduction program: Annual report 2011/2012*. Perth, Western Australia: Western Australia Department of Environment and Conservation.

Department of Parks and Wildlife. (2014). *Barrow Island threatened and priority species translocation and reintroduction program annual report to CALM Act Minister, Barrow Island Act Minister and Gorgon Joint Venturers 2013/2014*. Perth, Western Australia: Western Australia Department of Parks and Wildlife.

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Department of Parks and Wildlife. (2016). *Barrow Island threatened and priority species translocation and reintroduction program annual report to CALM Act Minister, Barrow Island Act Minister and Gorgon Joint Venturers 2015/2016*. Perth, Western Australia: Western Australia Department of Parks and Wildlife.

Miller, E., Dunlop, J., & Morris, K. (2010). *Rangelands restoration: Fauna recovery at Lorna Glen Western Australia. Progress report August 2008-June 2010*. Perth, Western Australia: Western Australia Department of Environment and Conservation.

Morris, K. (2007). *Lorna Glen fauna reintroduction*. Perth, Western Australia: Unpublished Western Australia Department of Conservation and Land Management.

Morris, K. (2007). *Lorna Glen fauna reintroductions: Summary of progress 30 September 2007*. Perth, Western Australia: Western Australia Department of Conservation and Environment.

Morris, K., & Dunlop, J. (2008). *Fauna reconstruction at Lorna Glen - Reintroduction of ninu and wayurta*. Perth, Western Australia: Western Australia Department of Environment and Conservation.

Morris, K., & Dunlop, J. (2009). *A strategy to improve the survivorship of translocated mammals at Lorna Glen*. Perth, Western Australia: Western Australia Department of Environment and Conservation.

Morris, K., N, T., Johnson, B., Orell, P., & Brennan, K. (2008). *A report on the selection of release sites for bilbies (Macrotis lagotis) and brushtail possums (Trichosurus vulpecula) at Lorna Glen*. Perth, Western Australia: Western Australia Department of Environment and Conservation.

Morris, K., Orell, P., Cowan, M., & Broun, G. (2007). *Reconstructing the mammal fauna of Lorna Glen in the rangelands of Western Australia, 2006-2016*. Perth, Western Australia: Western Australia Department of Environment and Conservation.

Sims, C. (2015). *Preliminary report on wild release of golden bandicoots into Matuwa 2015*. Perth, Western Australia: Western Australia Department of Parks and Wildlife.

Sims, C., Morris, K., & Blythman, M. (2012). *Rangelands Restoration - Lorna Glen fauna activities, summary, February 2012*. Perth, Western Australia: Unpublished report, Western Australia Department of Environment and Conservation.

Sims, C., Morris, K., & Blythman, M. (2015). *Rangelands Restoration: Fauna recovery at Matuwa (Lorna Glen), Western Australia Progress Report 2014*. Perth, Western Australia: Western Australia Department of Parks and Wildlife.

Sims, C., Morris, K., & Blythman, M. (2017). *Rangelands Restoration: Fauna recovery at Matuwa (Lorna Glen), Western Australia Annual Report 2016*. Perth, Western Australia: Western Australia Department of Parks and Wildlife.

Knowledge Transfer

See papers and reports above. In addition, annual presentations to Chevron, and presentations to Australian Mammal Society, Australasian Wildlife Management Society, and International Mammal Congress.

Dataset links

Trapping data is being transferred to Fauna File.

Other data is being transferred to Biosys.

Copies of all data is kept on the Woodvale T: Drive

Hardcopy location

Woodvale - Wildlife Research Centre