

# Science at Matuwa Kurrara Kurrara: working with the Martu to restore native fauna and flora by managing introduced predators and herbivores

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Pastoral properties Lorna Glen and Earahedy purchased by DBCA in 2000

## 2000

Lorna Glen and Earahedy are destocked and watering points are turned off.

WA Naturalists complete bird survey in 2000 and find 65 bird species  
Coates (2010)



Goldfields DBCA Regional staff reduce feral herbivores and kangaroo numbers

Extensive biological survey at Matuwa by Cowan et al. in 2003: 84 bird species, 80 reptile species, 16 small mammals, 5 frogs (Naturemap, 2017).



Smynthopsis longicaudata. Photo: Judy Dunlop



Nesphrus vertebralis. Photo: Judy Dunlop

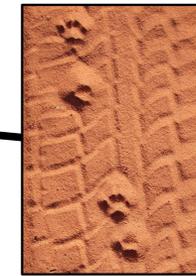
First aerial baiting trial for feral cats in 2003.  
Algar et al (2013)



Aerial baiting plane. Photo: Neil Hamilton



In 2004, 11 permanent survey tracks for feral cats were established. The tracks varied in length from 10-16.5 km and were a minimum of 5 km apart. Tracks counted from ATV for 5 consecutive days. Track Activity Index (TAI) used to measure relative cat abundance on landscape.



## 2005



Photo: Simon Cherriman - wedge-tailed eagle prey

In 2006 searched caves for evidence of the normal species assemblage Baynes (2006). Bones, or pellets from predatory birds typically provide evidence.



Starting in 2011 Simon Cherriman has been researching diet, home-range and recruitment of wedge-tailed eagles (*Aquila audax*) at Matuwa, and teaching members of the Martu community about eagles.



Photo: Simon Cherriman



160 Golden bandicoots (*Isodon auratus barrowensis*) translocated to the pen from Barrow Island in 2010. Population viability analysis suggests additional animals needed to prevent genetic erosion. Ottewill et al (2014)

## 2010

From 2011-13 68 mala introduced to the predator-free pen. Still present.



Old boodie warren. Photo: Judy Dunlop



In 2010, 175 burrowing bettong, boodie (*Bettongia lesueur*) are translocated to the predator-free pen from Barrow Island and the Shark Bay Islands. Genetic analysis reveals asymmetrical breeding with smaller BI males being successful (Thavornkanlapachai et al, In Press). Wild release of 26 boodies fails.



Solar powered electric fence on predator-free pen at Matuwa.

In late 2009, a 1,100 hectare predator-free pen is built to protect more susceptible species such as boodie and mala: 1.8m high fence with 2 solar-powered electric wires.



Eremophila seeds. Photo: Neil Hamilton

Mala (*Lagochestes hirstutus*) were released into open landscape in 2008, but it was unsuccessful.



Photo: Judy Dunlop

In 2009 a night parrot (*Pezoporus occidentalis*) is sighted in and near Matuwa when Eremophila sp. is seeding prolifically.  
Hamilton et al (2017)



In 2007 start aerial baiting for feral cats over the whole area.  
Algar et al (2013)



In October 2007 bilbies, Ninu, *Macrotis lagotis* are released SE of Pink Lake. Chapman (2013)



Possum, Wayurta, *Trichosurus vulpecula* reintroduced to the open landscape in 2007



Introduced Shark Bay mouse (*Pseudomys fieldi*) to pen in 2011 & 2012, but failed to establish.



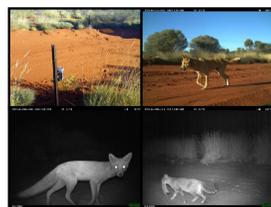
Photo: Colleen Sims

Trapping inside and outside pen finds that mulgara move through the fence and pen provides some refuge. Read (2012)

April 2012 experiment that determined cotton bush (*Ptilotus obovatus*) grows more vigorously on active boodie (*Bettongia lesueur*) warrens Chapman (2015).



Ptilotus obovatus. Photo: K. C. Richardson & R. Thiele



Aug 2013 experiment that determined boodies (*Bettongia lesueur*) do disperse sandalwood seeds and probably facilitate recruitment Chapman (2015).



Santalum speciosum. Photo: © Peter D.J. Meyer & J.J. Read

In 2013 start research on interactions among introduced predators. Their habitats and niche overlap. Wysong (2016)



Horseback surveys, scat collection for genetic analysis, and track surveys in 2015 reveal ~600 bilbies resident at Matuwa. (Dzimirski and Carpenter 2014; Burrows et al 2015; Parks and Wildlife 2016).

## 2015

BirdLife Australia and Neil Hamilton document bird species assemblage at Matuwa with an annual bird banding trip in spring. e.g. Bell et al (2015)

The Lorna Glen/Earahedy area becomes Matuwa Kurrara Kurrara, an exclusive native title Indigenous Protected Area in 2015.



93 golden bandicoots are translocated from the predator-free pen into the wild in September 2015. Still present.



2016-17 Kurrara Kurrara fauna survey commenced; 53 reptile species, 9 small mammals and 2 frogs recorded so far



Genetic analysis of brushtail possums suggests need for more landscape-level possum survey and maybe another introduction Semple et al (In press).

## 2018

