

## Concept Plan SP 2021-002

# Working together on rock-wallabies: Managing threats, improving conservation outcomes and monitoring populations.

BCS Animal Science

### Project Core Team

X X **Supervising Scientist** David Pearson  
**Data Custodian** David Pearson

**Project status as of May 16, 2023, 11:20 a.m.**

X X New project, pending concept plan approval

**Document endorsements and approvals as of May 16, 2023, 11:20 a.m.**

X X  
**Project Team** required  
**Program Leader** required  
**Directorate** required



# Working together on rock-wallabies: Managing threats, improving conservation outcomes and monitoring populations.

## Program

BCS Animal Science

## Departmental Service

Service 6: Conserving Habitats, Species and Communities

## Background

Western Australia is blessed with an outstanding diversity of rock-wallabies (*Petrogale* spp.) with five species as well as four subspecies within *P. lateralis*, two of these only recently described. Each year, vast Departmental resources are devoted, directly and indirectly, to their conservation through predator baiting, prescribed burning, population monitoring, translocations, Indigenous liaison and working with ranger groups.

Rock-wallabies pose unique management challenges due to their often remote and specialised habitat (e.g. rock outcrops in the deserts or the Kimberley), a number of threats and genetic differentiation between populations, even over short distances (Telfer and Eldridge 2010). There is genetic evidence of undescribed subspecies or species within all three existing Kimberley species (Potter *et al.* 2014) and hybridization between species and subspecies (Eldridge and Pearson 1997; Eldridge *et al.* submitted). To adequately conserve each rock-wallaby taxon and population, we need to understand its genetic identity, clarify its distribution and threats to its conservation, and adopt required management and effective monitoring techniques.

A recovery plan for all the species of rock-wallabies in WA was written to cover the period 2012-2022 (Pearson 2012), so it is timely to review progress on the management of populations (predator and competitor control, translocations) and monitoring techniques and research how these can be improved prior to the preparation of a new recovery plan. Due to the dispersed nature of rock-wallaby populations and because many populations are not located on conservation lands, current management actions and monitoring are conducted by a range of different land management agencies including DBCA, Indigenous land management / ranger groups and private wildlife organisations, leading to both variation in techniques but also a lack of information flow about the status of many populations.

Unfortunately, monitoring of several rock-wallaby taxa is sporadic and often just documents the ongoing loss of populations. This project will help identify priority populations based on their demographics, genetic status and threats. It will provide guidance and mentoring on management measures and the use of appropriate monitoring. While a variety of monitoring techniques have been employed for rock-wallabies (Lavery *et al.* in prep), there remains a need to assess their relative value and establish protocols for ongoing monitoring. No one monitoring technique will suit all populations. Regional staff have indicated a need for assistance in identifying which populations should be monitored, the current threats, appropriate management techniques (e.g. fire, control of predators and competitors) and effective monitoring that can drive adaptive management.

This project will work with Regional staff and two indigenous ranger groups and WWF to clarify the geographic and genetic distribution of two WA rock-wallaby populations (Kidson Track population and Erskine Range population of *P. lateralis* kimberleyensis), identify monitoring requirements and the best techniques to undertake this monitoring. Trapping surveys (the most data-rich monitoring technique) will collect baseline data on population size, demographics and genetic identity for comparison with other monitoring techniques (cameras, searches for faecal pellets, sightings, drones). Some of these other techniques are already in use or are proposed to be used by DBCA and ranger groups and their relative effectiveness is largely unknown.

## Aims

1. Conduct surveys with regional staff and relevant indigenous ranger groups to clarify the identity and conservation status of two rock-wallaby populations on the margins of the Great Sandy Desert.
2. Compare possible monitoring techniques to find those most effective and relevant for management of these populations.
3. Mentor, assist and train regional staff and indigenous rangers to undertake rock-wallaby surveys and to establish effective monitoring programs.

## Expected outcome

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Rock-wallabies are an important part of the mammal biodiversity of WA with two species and two subspecies endemic to the State. We will clarify the distribution and genetic identity of two rock-wallaby populations on the margins of the Great Sandy Desert. We will undertake a trapping program to collect genetic samples to determine the taxonomic status of these populations. The trapping program will provide baseline population information to allow several monitoring techniques (cameras, searching for sign and observations by drones) to be compared.

Management and monitoring protocols will be discussed and developed with Regional staff, indigenous ranger groups and WWF and made available to other groups managing and monitoring rock-wallabies in a range of formats, including a journal article and a report to the local native title holders.

## Strategic context

### Expected collaborations

Kimberley regional staff based in Broome will likely assist with fieldwork. The work has been discussed with Bruce Greatwich and Alexander Scott.

Nyangumarta Karajarri Aboriginal Corporation and Nyangumarta rangers- native title holders and managers for the areas where rock-wallaby occur along the Kidson Track in the Great Sandy Desert.

Nykina-Mangala Aboriginal Corporation and their rangers- native title-holders and land managers for the Erskine Range area in the southern Kimberley

Rangers from both groups will be employed for the survey under a fee-for-service arrangement. WWF will assist with logistics and the payment of rangers for the work in the Erskine Range.

Funding has been set aside for genetic analysis to be conducted by either Dr Mark Eldridge (Australian Museum) or Dr Kym Ottewell (DBCA)

Researchers from Charles Darwin University have arranged with WWF to undertake drone surveillance flights in June 2021 to detect and monitor rock-wallabies.

### Proposed period of the project

March 9, 2021 – June 30, 2024

### Staff time allocation

to	X	X	X	X
Role	Year 1	Year 2	Year 3	
Scientist	0.2			
Technical				
Volunteer				
Collaborator				

### Indicative operating budget

to	X	X	X	X
Source	Year 1	Year 2	Year 3	
Consolidated Funds (DBCA)	22100			
External Funding	8000 (WWF)			