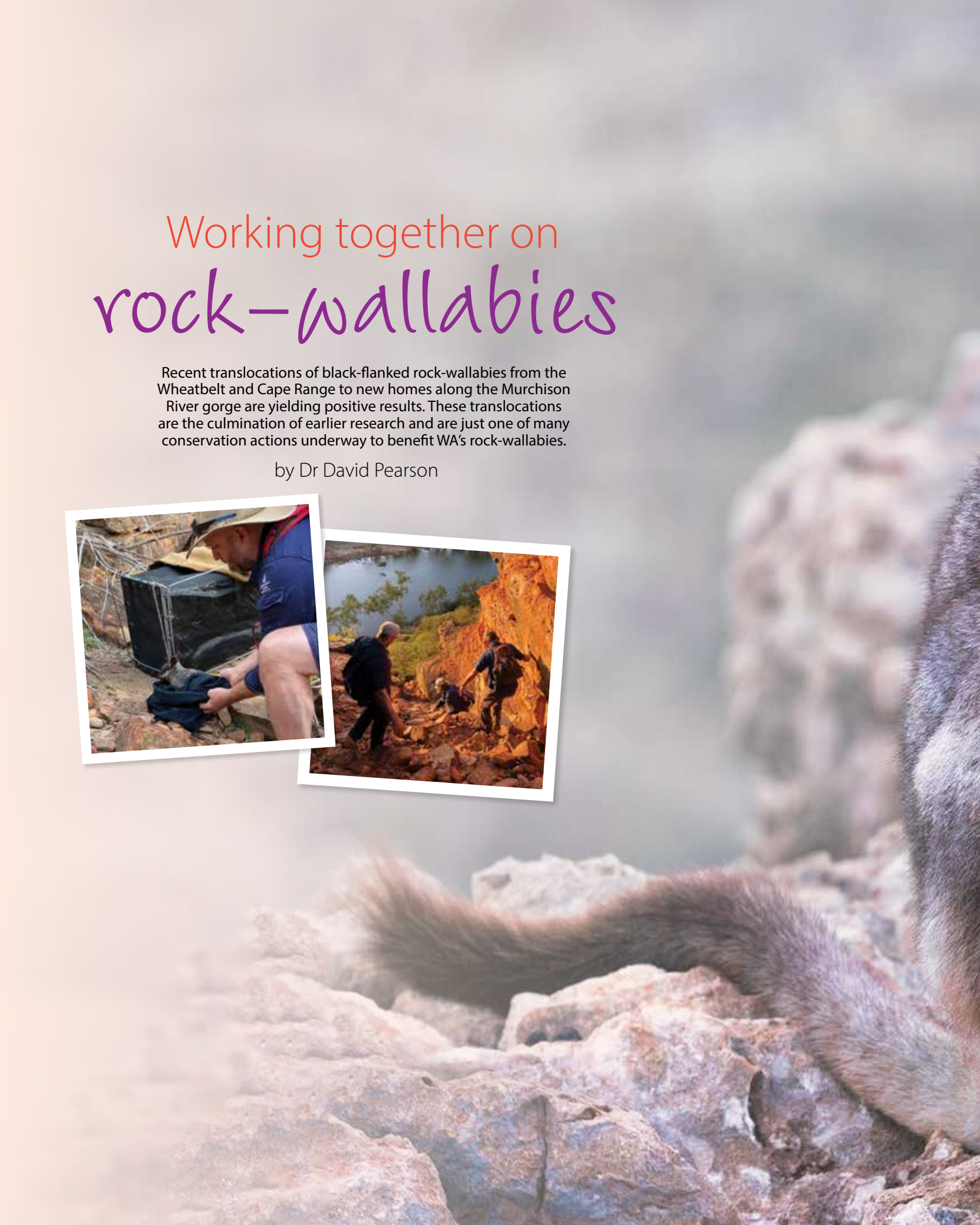


Working together on rock-wallabies

Recent translocations of black-flanked rock-wallabies from the Wheatbelt and Cape Range to new homes along the Murchison River gorge are yielding positive results. These translocations are the culmination of earlier research and are just one of many conservation actions underway to benefit WA's rock-wallabies.

by Dr David Pearson







Rock-wallabies are one of the few small macropods that can be reliably seen, if you know where to look. While mostly nocturnal, rock-wallabies do have a fortunate habit of basking on sunny ledges during the cooler months; and they have become tolerant of people.

Visitors to Kununurra and Lake Argyle often sight short-eared rock-wallabies (*Petrogale brachyotis*) at local lookouts; in Cape Range National Park, black-flanked rock-wallabies (*Petrogale lateralis*) are stars of Yardie Creek cruises; and increasingly in Kalbarri National Park, they are being observed by lucky visitors at the Skywalk and at Hawks Head Lookout.

.....
Previous page

Main Black-flanked rock-wallabies (*Petrogale lateralis*) at Cape Range National Park.

Photo – David Bettini

Inset left A captured rock-wallaby is released after it has been weighed and measured.

Photo – Christine Drayton/DBCA

Inset right DBCA staff descending into a gorge for an early morning check of rock-wallaby traps.

Above A pair of rock-wallabies groom each other before heading out to graze.

Photos – David Pearson/DBCA

BUILDING ON PAST RESEARCH

Their relaxed sunbaking belies the recent history of some rock-wallaby species. Localised extinctions have occurred across many areas of their known range and several species remain threatened. The black-flanked rock-wallaby has been the focus of research and conservation actions over many decades. Thankfully, timely research identified the causes of its decline and solutions have been developed resulting in the strong recovery of the species.

But challenges remain as black-flanked rock-wallabies are scattered in small populations across a vast area—many in remote locations. In recent years, collaborative work between the Department of Biodiversity, Conservation and Attractions (DBCA), World Wide Fund for Nature (WWF), and Indigenous communities and ranger groups has dramatically improved knowledge about where rock-wallabies live, the status of populations and what threats they face.

‘ROCKIES’ OR ‘WOBLIES’

All Australian rock-wallaby species are currently in the genus *Petrogale* and five species and three subspecies occur in WA. They have distinctively shaped bodies with strong hind legs and long tails that provide balance when navigating cliffs at speed.

Sheltering in caves and crevices in their rocky habitat allows rock-wallabies to escape the dual hazards of predators and hot weather. They have low metabolic needs and this, combined with their selective grazing and nocturnal activity, allows them to survive without access to drinking water for long periods.

In 1986, two WA government scientists, Andrew Burbidge and Norm McKenzie, published a paper that focused attention on the extinction and decline of native Australian mammals in the size range of 35 grams to five kilograms. These declines commenced in the early 1900s, were most pronounced in desert areas, and included rodents, bandicoots, possums and small wallabies.

Numerous reasons have been suggested to explain this disturbing phenomenon including habitat damage by rabbits and introduced stock, changes to Aboriginal burning patterns, disease, hunting and the impact of introduced predators such as the fox and feral cat. Fast forward to today, and subsequent research has shown that these factors do not work in isolation and their importance varies between species.

THE PREDATION PROBLEM

Pioneering research led by the late Jack Kinnear in the 1990s revealed that the fox was a very serious predator of



“But challenges remain as black-flanked rock-wallabies are scattered in small populations across a vast area—many in remote locations.”



black-flanked rock-wallabies in southern WA. Their control resulted in a spectacular recovery of teetering populations.

The impact of feral cats has been revealed by subsequent research. The role of the dingo is more controversial. Some scientists believe that dingoes exert substantial control of fox and cat numbers. However, certainly in the case of desert rock-wallaby populations, dingoes do not appear to sufficiently control foxes and cats to prevent ongoing rock-wallaby declines and extinctions.

While dingoes have been present in Australia for around 4000 years and rock-wallaby populations were able to tolerate their predation, the landscape is now more hazardous with the addition of foxes and cats.

DBCA undertakes predator control operations around several threatened rock-wallaby populations using both

ground and aerial baiting, and this has resulted in both their persistence and recovery. The effectiveness of these techniques means that it has been possible to return rock-wallabies to their former habitat.

PROBLEMATIC ‘ISLAND’ HOMES

The black-flanked rock-wallaby is the most widespread rock-wallaby species in WA, distributed from islands off the southern coastline to the southern Kimberley and across the deserts into the NT and SA.

Despite this massive range, its populations are effectively on islands of widely separated hills and ranges. The species was once much more abundant and movement between populations was easier. The remoteness and small size of populations now pose challenging problems for conserving the species and all its genetic diversity.

Top left A black-flanked rock-wallaby carrying a large joey surveys a gorge for any threats.
Photo – Geoff Taylor/Lochman Transparencies

Top Nyikina Mangala rangers carry rock-wallaby traps into the Erskine Range.
Photo – David Pearson/DBCA

Inset above Kurt Wright, a Nanda ranger, sets up a Thomas trap in Kalbarri National Park.
Photo – Anthony Desmond/DBCA



Top A rock-wallaby examines a trap before entering, but the temptation of the apple bait usually works.

Photo – David Pearson/DBCA

Inset above Motion-sensitive cameras are very valuable tools to find and monitor rock-wallabies.

Photo – DBCA

Below Nyikina Mangala rangers prepare to release a rock-wallaby fitted with an ear tag.

Photo – David Pearson/DBCA



Genetic diversity can be rapidly lost from small populations, so an important goal of rock-wallaby conservation is to maintain sizeable populations over as much of their range as possible.

FINDING POPULATIONS

It is perhaps surprising that we continue to locate ‘new’ populations of rock-wallabies. No doubt these populations were well known to Aboriginal people prior to European settlement. In recent years communities and ranger groups have been searching for rock-wallabies as part of their On-Country activities and are rediscovering populations.

Back in the 1990s, Department of Conservation and Land Management (now DBCA) staff worked with the Ngaanyatjarra Council and Central Desert communities to visit numerous ranges along the WA-Northern Territory border to capture and document where black-flanked rock-wallabies existed. Since then, many more surveys in other parts of the Goldfields, Pilbara and Kimberley regions have been conducted with Indigenous communities.

Most recently in 2021, DBCA worked with the Nyangumarta rangers

to investigate reports of new rock-wallaby populations on the edge of the Great Sandy Desert. Several were captured and genetic samples collected to investigate the relationship of this population to others. Large bushfires and feral cats appeared to be imminent threats to these small populations.

SMILE FOR THE CAMERA

The advent of reliable automated camera traps has provided a valuable tool that has been widely used by Aboriginal ranger groups to locate rock-wallaby populations and to monitor their numbers.

Since 2012, the Nyikina Mangala rangers in the southern Kimberley have worked with WWF to locate remaining populations of the Wiliji, an endangered subspecies of the black-flanked rock-wallaby (*lateralis* subsp. *kimberleyensis*). Camera traps have been the primary means to monitor populations and their predators.

DBCA assisted this ranger group with some live trapping and ear tagging to better assess the Erskine Range population. This was followed by Charles Darwin University researchers using a thermal drone to estimate the size of the population. The use of different monitoring techniques allows researchers to arrive at more accurate



population estimates and guides decisions about the best monitoring techniques for a particular site.

BRINGING THEM HOME

In some areas where rock-wallabies have disappeared, it has been possible to return (reintroduce) them once the threats (such as predators, or competitors like goats) have been adequately controlled.

Translocations of black-flanked rock-wallabies have been carried out at a number of sites including in the Avon Valley, Cape Le Grand and the Durba Hills (Jilikurru) in the Little Sandy Desert. Between 2016-2018, several translocations of rock-wallabies were made into Kalbarri National Park. These translocations were complex logistical exercises, with numerous DBCA regions involved as well as WWF, Aboriginal ranger groups, air charter staff and the Kalbarri Bush Ranger cadets.

Rock-wallabies were captured by teams at outcrops in the Wheatbelt and at Cape Range and then flown to Kalbarri. Each rock-wallaby was then fitted with a radio-collar and carefully released in their new homes in the Murchison River gorge. Trapping in May 2022 found that there

had been good survival of the original released rock-wallabies; that their young were now producing joeys; and that the population was expanding to reclaim vacant cliffs along the gorge.

Working co-operatively with various agencies and Aboriginal rangers has delivered effective conservation outcomes for threatened rock-wallaby species. Researchers have learnt where they occur, what threats they face and joint actions such as predator control and translocations have ensured the persistence of populations and the establishment of new ones.

The future is looking brighter for these graceful wallabies.



.....
Above left Roberta Hunter (Nyangumarta rangers) and Lucy Clausen (DBCA) rebaiting a trap.

Photo – David Pearson/DBCA

Above Measurements are taken from captured rock-wallabies to monitor population health.

Photo – Christine Drayton/DBCA

Right Black-flanked rock-wallaby.

Photo – David Pearson/DBCA

Dr David Pearson is a principal research scientist with DBCA's Biodiversity and Conservation Science and a regular contributor to *LANDSCOPE*. He can be contacted at (08) 9405 5112 or david.pearson@dbca.wa.gov.au

The author would like to acknowledge the pioneering research of the late Jack Kinnear, and the work and commitment of Merrill Halley, Chris Greenwood and Leigh-Ann Woolley (WWF), as well as Yamatji Marlpa, Walalakoo and Ngaantjarra Aboriginal Corporations and their ranger groups and DBCA regional staff, especially Anthony Desmond, Lucy Clausen and Mike Paxman.