

WIRRUWANA NEWS

UPDATES FROM DIRK HARTOG ISLAND NATIONAL PARK

SPRING 2024

Brush-tailed mulgara became the eighth species to be returned to Dirk Hartog Island National Park in 2023. Recent surveys have found they're not just surviving but are also breeding! Another step along the road to ecological restoration of the island.



Volunteers A key element of success

Above A translocated Mulgara released on Dirk Hartog Island in 2023.
Right Volunteers assisting with radio tracking. *Photo – C.Simms*

The *Return to 1616* project is an enormous undertaking that is made possible by a small army of dedicated Department of Biodiversity, Conservation and Attractions (DBCA) staff. But for years now, there has also been a large army behind the small army... made up of volunteers. Since 2017, scores of generous volunteers have been helping behind the scenes, contributing to the project's success and amassing an sensational 17,572 hours of work. This is the equivalent of one person working for nine years without a holiday!

Volunteers help out across the many aspects of the restoration project, including weed management and community engagement, and a large number of volunteers assist the fauna science team. While most of this volunteer work is on Dirk Hartog Island, some essential field work is also carried out at locations containing source populations of animals for translocation, such as mainland national parks and islands off Jurien Bay, Shark Bay and the Pilbara coast.

Most volunteers are from Western Australia, although some have come from elsewhere in the country and some from overseas. Even inmates at the Albany Regional Prison have contributed by building specially designed transport boxes that were critical to the success of brush-tailed mulgara and greater stick-nest rat translocations. Thanks to these volunteers, each native animal was transported in its own robust, safe and secure box that provided a very commodious, first-class journey across hundreds of kilometres to reach their new home.

Given most volunteer work is done on the island, you might ask who typically volunteers their time to battle flies, mosquitoes, wind, weather and long hours to work often before dawn and after dusk in such a remote location. Well, lots of people do! As you might expect, many volunteers are nature enthusiasts but they come from a wide array of backgrounds and all walks of life, from retirees to university students. Even DBCA staff and others working in the wildlife field find the allure of the project irresistible, taking annual leave to volunteer their time and be involved.

Volunteers – A key element of success continued...

Apart from lots of exercise in the great outdoors, one of the main benefits of volunteering for the fauna science team, is the satisfaction gained from a real-life experience contributing to tangible conservation outcomes. Volunteers see native animals being returned to an environment from which they have been absent for a century or more. They assist in monitoring newly released animals with activities like radio-tracking and trapping to see how they're settling into their new home.

Whilst having a little wildlife experience is always gratifying when volunteering on projects of this nature, it's not essential. "Even volunteers with very little experience but boundless enthusiasm and energy, have done an amazing job" says Research Scientist Mike Smith.

So a huge thanks to all the *Return to 1616* project volunteers who are an essential part of one of Australia's largest and most important restoration projects. The project would not be the success that it is, without them.

Anyone keen to be involved can contact: kelly.rayner@dbca.wa.gov.au and sean.garretson@dbca.wa.gov.au



Top right A volunteer in disguise for a local camping and caravan show. *Photo – Wendy Payne*

Right Transport boxes for the brush-tailed mulgara, made by prisoners at the Albany Regional Prison. *Photo – S. Garretson*

Joint Management on Malgana Country

A significant step in collaborative land management and cultural preservation has been taken recently between Malgana Aboriginal Corporation (MAC) and the Department of Biodiversity, Conservation, and Attractions (DBCA) who have entered Joint Management, with an Indigenous Land Use Agreement signed by both parties on 10 September 2024.

A Joint Management Body has been formed consisting of members from both MAC and DBCA. This body will meet regularly to make decisions, set goals, and provide advice about DBCA managed conservation estate across Malgana Country including Wirruwana or Dirk Hartog Island.

Joint Management will provide opportunities for training, capacity building, and employment for Malgana people. The partnership will merge traditional knowledge with contemporary land management to enhance conservation efforts, and staff and visitor experiences. A Joint Management Plan, that is to be co-designed, will allow further protection of cultural, biological, and heritage values across Malgana Country. A draft of the plan will be available for public comment as part of a consultation process. Learn more about Joint Management of national parks and nature reserves on dbca.wa.gov.au.

Below Malgana Joint Management Body and DBCA staff. *Photo – Ashley Cull (DBCA)*





Just add water

There are many facets to the ‘juggling act’ that contributes to the successful landscape scale, ecological restoration that is currently being realised in Dirk Hartog Island National Park. Keeping all of the *Return to 1616* project’s ‘balls in the air’, is tricky business. Whilst the fauna scientists coordinate the reintroduction of native animals, other project team members coordinate the many other aspects of the project including weed management.

Weeds on the island are largely a legacy of earlier pastoral activities but there is also a very real potential for new weed species to be introduced. Managing weeds is essential for protecting the native plants that provide habitat and food for native animals. And there’s a lot to protect, with at least 266 species of native plant species on the island, Wirruwana is one of the most species rich areas of the Shark Bay World Heritage Area.

Managing weeds is a huge job on Western Australia’s largest island and it’s an especially huge job in higher rainfall years. Rainfall this year has been much higher than 2023, which is a double-edged sword as it is fantastic for the growth of native vegetation but equally fantastic for the germination of weed seeds. June this year alone, saw 80mm of rain fall on the island which was more than the total rainfall for the entire previous year. With good rain, weeds are springing up on the island and the pressure is on to manage them as they germinate.

To manage weeds, 25 weed management areas have been established across the island where weeds are treated or eliminated and another 21 surveillance areas are in place to monitor weeds. However, with at least 68 different weed species to manage, how do you choose which weeds to prioritise?

It’s important to focus weed management on species that are likely to have a high ecological impact and where management across such a large area is feasible. Weeds have been prioritised by weighing up their invasive potential, which includes the amount of seed they produce and the length of time that their seed can survive in the soil. Eight priority weed species were identified through a prioritisation process in 2012, which the Department of Biodiversity, Conservation and Attractions (DBCA) is either eradicating or controlling further spread.

Left Although possessing a beautiful flower, ruby dock is a toxic, space invading weed. *Photo – Josh Harniess* **Right** Parks and Wildlife Service Ranger Tariq McDonald removing blue lupins from the island. *Photo: Jase McDonnell – DBCA*

The seed of the Western Australian blue lupin (*Lupinus cosentinii*) with their beautiful bluebonnet flowers, can last in the soil for up to twenty years! Similarly ruby dock (*Acetosa vesicaria*) produces an equally stunning scarlet flower but can outcompete native vegetation and contains toxic oxalates. Although beautiful, these invaders are ‘wolves in sheep’s clothing’ and a high priority to eliminate. Luckily, lupins and ruby dock are easily identified and require little ongoing maintenance by hand pulling.

Some weeds have an ability to generate huge amounts of viable seed, such as the wild radish (*Raphanus raphanistrum*), which can produce up to 45,000 seeds per square metre in areas of heavy infestation, making them a high priority to eliminate with annual herbicide applications.

Other weeds like the doublegee (*Emex australis*) are a little sneakier and will try to make it to the island by stealth. Given half a chance, their spiky seeds will unashamedly hitch a ride to the island with you on your vehicle. With increasing numbers of visitors to the island, surveillance and removal of this species is ongoing.

Fortunately, being part of the solution is easy. Whilst DBCA manages in situ weeds, visitors to the island can do their part by preventing freeloading weed seeds hitching a ride to the island. For example, removing weed seeds from your tyres, vehicle undercarriage and your shoes and placing them in a bin just before taking the barge to the island can make a huge difference.

Download the island protection brochure and watch the island protection video to discover how you can help to protect one of Australia’s most important ecological restoration projects.

Watch the island protection video [here](#).

Read the island protection brochure [here](#).

New neighbours

In 2023, brush-tailed mulgara became the eighth native animal species and the second carnivore to be returned to Dirk Hartog Island (Wirruwana) National Park as part of the *Return to 1616* Ecological Restoration Project.

Although brush-tailed mulgara live in a range of habitats on the mainland, they particularly love spinifex grasslands that contain lots of the food they like to eat. With healthy areas of spinifex on Dirk Hartog Island, brush-tailed mulgara are assured of good hunting grounds where they can catch insects and other invertebrates, as well as small vertebrate animals.

So how are they adjusting to their new home? To find out the answer to this question, a small number of the brush-tailed mulgara released were initially given radio collars to enable the science team to track their progress. Obviously intrigued by their new environment, the mulgara kept the science team well and truly 'on the hop' as they explored their new island abode.

All this effort paid off. When recaptured a few weeks later to have their radio collars removed, the mulgara showed promising signs that they were settling into the new neighbourhood. As an additional bonus, despite the mulgara's sharp teeth, all science team fingers were present and accounted for, although there may have been a painful nip or two.

Brush-tailed mulgara use those teeth to good effect however, and not just on the science team members. When times are good and food is abundant, mulgara can 'bank' excess food in the form of fat stored in their tails. The more fat that is stored in their tails, the fatter and more sausage-like their tails appear, and the better their ability to survive in their new home on Wirruwana. This no doubt stood them in good stead over the recent long, hot, summer months that we all experienced this year.

Contributors: Ashley Cull Joint Management Operations Officer Gascoyne District, Josh Harniess *Return to 1616* Operations Officer, Jase McDonnell, *Return to 1616* Senior Marine Operations Officer.

Editors: Wendy Payne, Dr Karl Brennan, Sara McAllister.

The *Return to 1616* project is funded by the Gorgon Barrow Island Net Conservation Benefits Fund.



More recently, when the science team recently reviewed motion sensing cameras on the island, they found images of a young mulgara which is evidence that our newest recruits are breeding. Another step in the right direction for the island's newest recruits.

Dirk Hartog Island National Park's brush-tailed mulgara originated from Matuwa Kurrara Kurrara National Park near Wiluna. When the science team returned there earlier this year to monitor the original population, their efforts found the national park's numbers are unaffected by the removal of the 100 donor mulgara. Even better, they found that mulgara numbers had increased since the Dirk Hartog Island animals were removed. A great reward for our science team's reintroduction efforts and surely the "icing on the cake".

Top left Brush-tailed mulgara love spinifex grasslands. Photo – Sean Garretson (DBCA)

Above A brush-tailed mulgara caught on motion sensing camera, sitting on a paving stone that helps the science team to gauge its size. This mulgara isn't yet fully grown.



Right Mulgara are fierce predators eating a variety of invertebrates as well as small vertebrate animals.

Watch a video of a brush-tailed mulgara being released at Matuwa Kurrara Kurrara National Park [here](#).