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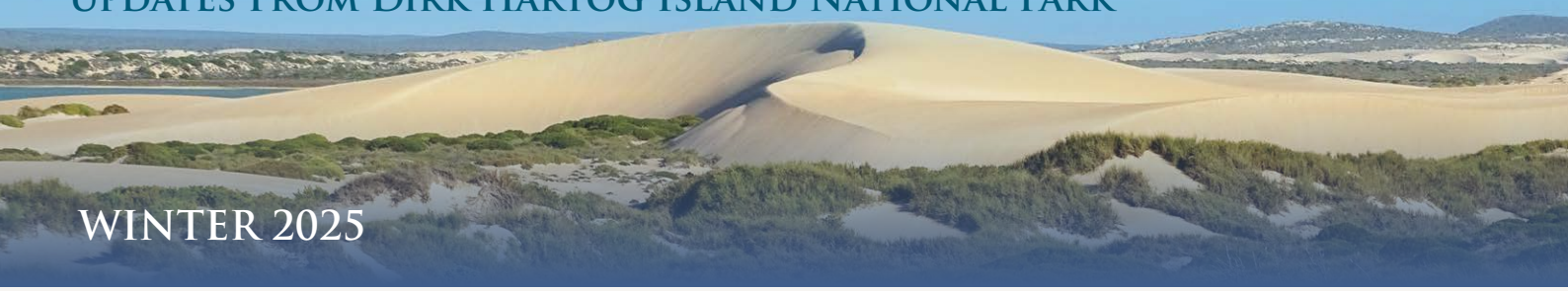
Department of Biodiversity, Conservation and Attractions
Biodiversity and Conservation Science
Return to 1616
Dirk Hartog Island National Park

Wirruwana News

Updates From Dirk Hartog Island National Park



WINTER 2025

A new mobile science lab arrives on Wirruwana / Dirk Hartog Island to assist with native animal conservation, fauna scientists ask visitors to slow down to avoid collisions with native animals; and vegetation monitoring shows buffel grass declining on the Island.

Shared paths
Not everyone knows the road rules

Right Banded Hare Wallaby. *Photo – DBCA*
Above Shark Bay Mouse. *Photo – C. Dowling*

One of the most exciting things about the *Return to 1616* project is creating a place where members of the public can see some of Australia's most threatened and cryptic mammal species. However, along with this opportunity comes the risk of collisions between wildlife and vehicles. Inevitably, the animals come out on the losing end of these interactions, and support from all visitors to the island is needed to protect the precious wildlife of Wirruwanna/Dirk Hartog Island and reduce the death toll.

The mammal species being established on Wirruwana/Dirk Hartog Island such as banded and rufus hare-wallabies as well as Shark Bay bandicoots are difficult to see because:

- They have evolved to blend in with their habitat;
- They are most active between dusk and dawn when the light is poor;
- The largest of the species barely stand half the height of a typical 4WD tyre; and
- They have absolutely no road sense!—often jumping out in front of moving vehicles or freezing on the spot rather than running away.

The combination of these factors has meant that roadkills are now regularly being observed across the island, sometimes with many animals being hit in a single night. Female animals are often carrying pouch young, and if these offspring don't also die in the impact, they are either left to die a slow death on the side of the track or orphaned, requiring the individual to be hand-raised outside its natural environment.

We can't control what the wild animals do, so the best way to prevent these deaths is to not drive between dusk and dawn, and so we encourage our visitors to plan their travel to avoid driving during these times. However, if you must drive between dusk and dawn, driving slowly (at 20 km per hour or less, depending on road conditions) increases your chances of seeing wildlife on the roads while also reducing the risk of hitting them.

Above Rufous Hare Wallaby. *Photo – C. Dowling*

Shared paths: Not everyone knows the road rules *continued...*

It's a "Win-Win" situation—you get the opportunity to have a great look at these amazing, rare species and maybe even take some photos of your own to take home with you, while the animals also get to go home safe and sound at the end of the night. An even better way to view these animals is to walk around in the evening from your campsite, quietly observing and using a red light torch.

The best way to encourage animals to move off the road is to stop the vehicle, turn down the headlights for 20-30 seconds and allow the dazzled animal to regain its night vision enough to move on—physically 'shooing' the animal is rarely required and often just results in a bit of a comedic act for those passengers still sitting in the car.

If you happen to come across a roadkill animal or are lucky enough to have a live sighting of one of the translocated species, the *Return to 1616* fauna team would greatly appreciate receiving that information. Sightings of this nature help us to understand the outcomes of our translocations and help inform better management for the island, ensuring it can be shared by both the rare residents and visitors alike. If reporting a record, please note details including species (if unsure, take a photo), date, time and most importantly, location. Observations can be sent through to kelly.rayner@dbca.wa.gov.au.

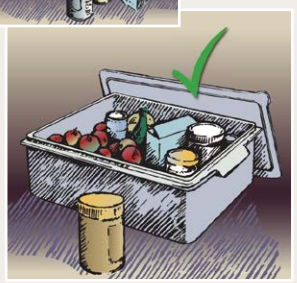
Below Be aware while driving on Wirruwana/Dirk Hartog Island. *Photo – Tourism Australia*

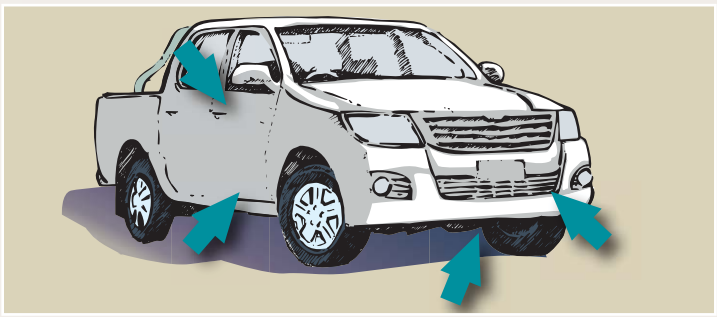
Island Protection – before you leave home

Insects, weed seeds and pests including the Asian house-gecko and other small reptiles can infest camping gear while in storage and can hitch a ride with you when you travel. Bringing non-native species to Dirk Hartog Island can harm native plants and animals. The following tips will help to prevent pest species becoming established on the island.

Pack for the trip with care

- Don't bring any animals including pets to the island.
- Remove insects, soil, seeds, spiders and other animals from your camping gear, footwear and clothes.
- Don't bring firewood to the island.
- Pack equipment for a final vehicle clean at the barge site.
- Pack food in clean, sealed, plastic or metal containers instead of cardboard which can harbour pests.
- Ensure fresh food is free of soil, insects and snails.





Clean your vehicle/camper trailer

Spaces underneath and inside vehicles accumulate soil and seeds that can spread disease and weeds if allowed to hitch a ride.

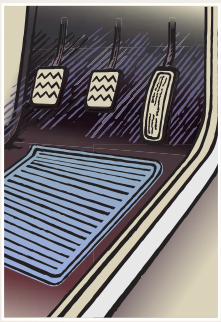
Clean your vehicles:

1. before packing and leaving home; and again

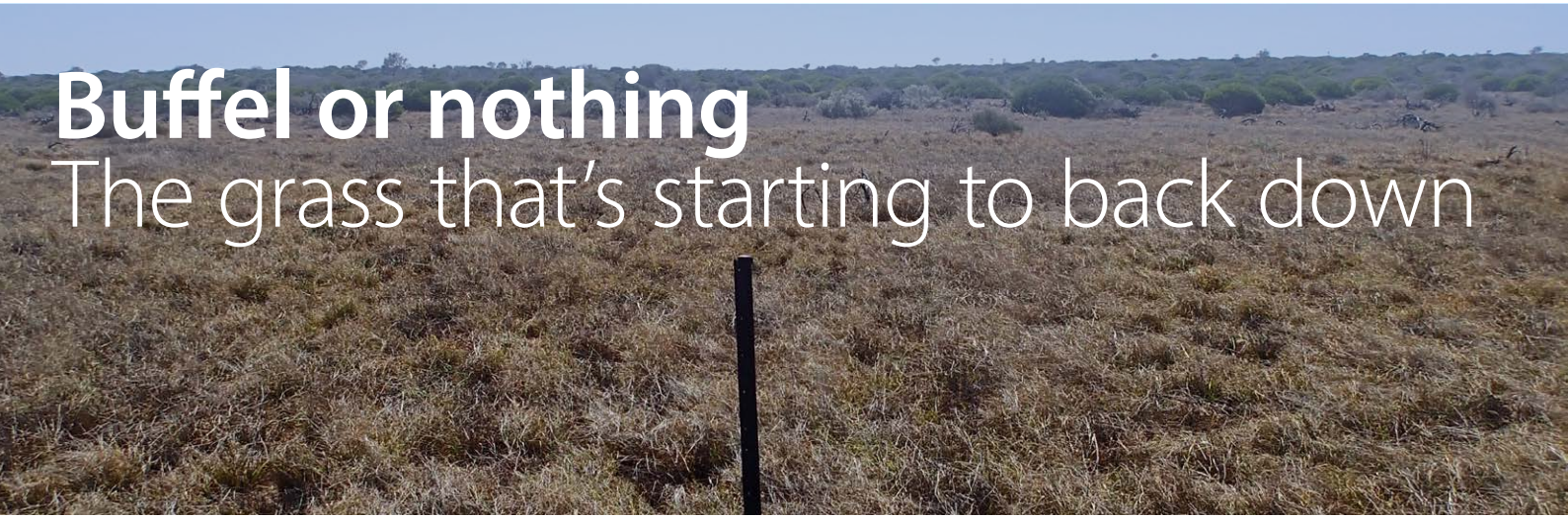
2. before driving onto the barge to travel to the island.

Ensure you clean:

- the underside of your vehicles including tyres, sump, radiator and gearbox guard plates.
- inside vehicles including seat crevices, floor and under floor mats.



Buffel or nothing
The grass that's starting to back down



Above A buffel grass "meadow" on Dirk Hartog Island. This area contained water points for stock and would likely have been a holding yard for the pastoral station. *Photo – DBCA*

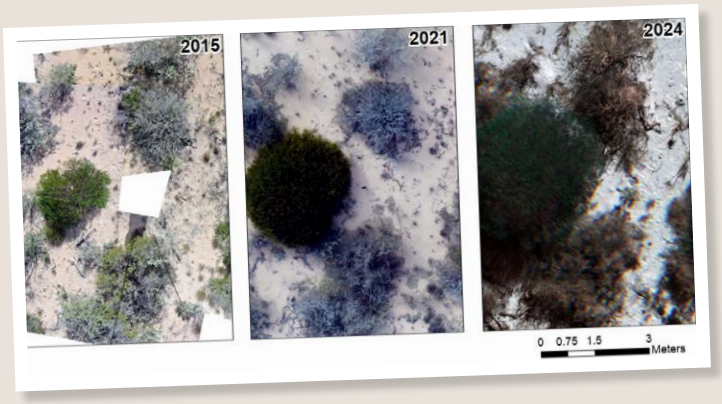
Buffel grass (*Cenchrus ciliaris*) is an introduced species in Western Australia that has both benefits and drawbacks. While it is valued for its high nutritional value, high tolerance to drought and ability to withstand heavy grazing, it is also considered an environmental weed that threatens native vegetation and causes habitat loss for native animals.

Buffel grass was introduced to Wirruwana / Dirk Hartog Island in the early 1900s as fodder for grazing sheep and is now widespread across the Island, in large, dense meadows associated with historical pastoral yards and water points.

Eradication of buffel grass is unlikely to be achievable due to its broad extent. Despite this, monitoring suggests over the course of the *Return to 1616* Project with the removal of all grazing pressure (owing to eradication of sheep and goats), buffel grass has decreased, and native vegetation has increased. Environmental factors, including dominant soil type and rainfall, have also helped caused a decline in buffel grass.

Vegetation monitoring

Vegetation cover is being monitored across 32 plots (50 x 50 metres) and along three 120 metre long transects on Dirk Hartog Island. In many monitoring sites, such as the one pictured below, guffel grass has decreased over time and native shrubs have replaced it.



Drivers of spread

The spread of buffel grass is caused by disturbance, with fire and the movement of animals being two of the main drivers. Fire activity is extremely limited on the Island, with the only fire in recent times occurring in 1987 covering a 149 hectare area along the Islands northeast coast. The eradication of goats and sheep removed another driver of disturbance. The goats and sheep would likely have also played a role in nutrient cycling which may have provided nitrogen and phosphorus to the soil to aid spread and persistence.

Soil and rainfall

Monitoring and research suggest that soils on the Island are only marginally suitable for buffel grass. Small variations in soil particle sizes can make a big impact on grass growth and is thought to be responsible for some of the decline in buffel grass growth in certain areas of DHI.

The minimum amount of rainfall required for buffel grass seeds to germinate in suitable soil is 3.14 mm on two consecutive days, while the highest probability of germination requires 3 or 4 days. Since vegetation monitoring began, Dirk Hartog Island has received 2 consecutive days of suitable rain an average of 3.7 times per year and received 3 consecutive days, an average of once per year, thus reducing the amount of buffel grass on the Island.

In summary, buffel grass is affected by grazing, fire, soil type, rainfall and other environmental factors. By monitoring vegetation at the same locations over time we can see that buffel grass is reducing on the Island, and native vegetation is increasing.

While much of the focus of the *Return to 1616* project is on translocations of threatened animals to the island, this sits within a broader conservation context that includes vegetation monitoring and restoration to rehabilitate habitats and support native wildlife.

Above The series of pictures above have been taken at a monitoring site south of the Ecolodge where large numbers of sheep were removed in 2008-09. From 2015 to 2024 the acacia shrub in Figure 3 has increased in diameter from 1.9 to 4.2 m. Additionally, a few buffel grass tufts visible in the top right of the 2015 photograph are no longer visible in the 2024 photograph.

A new mobile science lab arrives on Wirruwana / Dirk Hartog Island

An important step in wildlife conservation has arrived on Dirk Hartog Island (DHI) with the launch of a mobile science lab, designed to support fauna scientists as they reintroduce native species as part of the Return to 1616 project. This ambitious restoration effort is bringing back animals that once thrived on the island, marking a significant milestone in Australian conservation.

Designed and built in Perth by Elross Caravans, the mobile lab embarked on a remarkable journey before reaching its final destination. Transported by road to Denham, it then endured a three-hour barge trip across the waters of Shark Bay aboard the DHI Eco Lodge's barge Hartog Explorer. This was followed by a short 4WD journey to the island's research camp. Now fully operational, the facility plays an important role in the ongoing conservation efforts.

The laboratory is equipped with two air-conditioned rooms, powered by a solar system, lithium batteries, and back-up generators that ensures reliable and sustainable energy supply for all operations. The first room serves as a darkened temperature-controlled holding space for animals before their release, offering a quiet and closely monitored environment. Many species arriving on the island are flown in earlier in the day and held in this space until dusk, when conditions are optimal for their release on the island.

Above left The mobile lab making its journey to the Island.
Above top On the road. **Above** Inside the lab. *Photo – Jason McDonnell*

The second room functions as a research laboratory where the fauna scientists can conduct health checks on animals before release, fitting them with radio collars and microchips if required. Scientists can also utilise the facility to test for diseases and parasites, collect blood and DNA samples, and monitor the health of native species, ensuring that animal welfare remains at the forefront of conservation efforts.

Thanks to this mobile lab, conservation teams can continue to provide specialised care and monitoring for animals being reintroduced to Dirk Hartog Island. So far, nine species have been released, including the banded hare-wallaby, rufous hare-wallaby, dibbler, Shark Bay bandicoot, Shark Bay mouse, western grasswren, greater stick-nest rat, brush-tailed mulgara and the woylie.

With the mobile science lab playing an important support role in this conservation initiative, the *Return to 1616* project continues to restore the biodiversity values of Dirk Hartog Island. The facility ensures that every species reintroduced receives the necessary care to thrive in its new environment. Through these advancements, the island's ecosystem is being rebuilt, securing a future for some of Australia's remarkable native species.

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To learn more about *Return to 1616*, visit www.sharkbay.org/restoration

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

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