

# Arid Zone Monitoring Species Profile

## Kowari

*Dasyuroides byrnei*

### Language names

Kariri

National status: Vulnerable

IUCN Red List: Vulnerable



Image: Nathan Beerkens

*Kowari on gibber plain.*

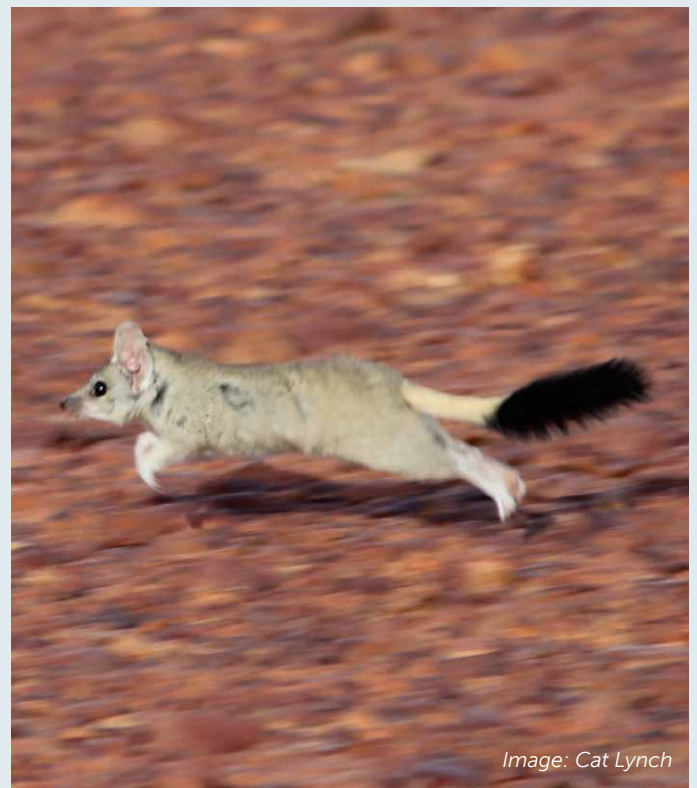


Image: Cat Lynch

*Kowari running across gibber plain.*

### Animal Description

Kowaris are carnivorous marsupials with olive grey fur, a white belly and a black brushy tail. Sometimes they may have rufous brown tinge. They have a pointed face with large upright ears and pale ring of fur around their eyes.

### Key threats

- Predation by cats and foxes
- Habitat change from too much grazing by feral herbivores (livestock, camels, rabbits and mice)
- Climate change (changing rainfall, temperature, droughts)

### Habitat

Kowaris live in stony gibber plains with sparse scrub between braided river channels and sand dunes in the Channel Country. The Kowari digs burrows and uses burrows made by other animals (bilby, some rodents).

### Kowari scat

The kowari leaves strong smelling, twisted scats near its burrows and on rocks to mark its territory.

### Kowari tracks

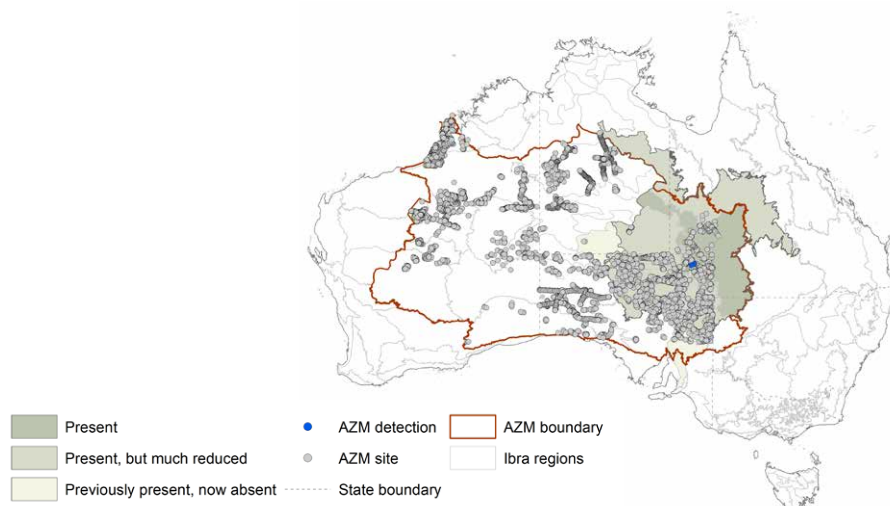
The kowari may have walking or bounding tracks. Tracks on sand are hard to find as kowaris are mainly on gibber plains.

## Arid Zone Monitoring project findings

### Kowari distribution

The maps summarise detections of kowaris over time in the AZM dataset. They show that kowaris are found in a small area in the Lake Eyre basin. Each blue dot shows a survey site where kowaris were recorded. The grey dots show all the other sites that were surveyed, but where kowaris were not recorded. The information about the overall distribution in the map background is taken from the Mammal Action Plan<sup>1</sup>. Over time the population has experienced a reduction in range, disappearing from the lightly shaded areas and almost disappearing from the bioregions in the mid-shading. There are plans to reintroduce this species to the Arid Recovery reserve in South Australia.

Kowaris were detected at less than 1% of all surveys in the AZM dataset: of over 14,000 site surveys, kowaris were only detected twice. This reflects the low sampling within its distribution, and the difficulty of picking up tracks in this gibber-loving species.



The map above shows data shared by data providers with the AZM project. The data are from track and sign surveys. This method is great for detecting species that live in sandy deserts, but not as good for species that prefer rocky habitats, or species with distributions that are mostly outside the central deserts. The method also works best for larger-bodied animals with tracks that are easily identified.

It is possible that extra surveys have been carried out that have not yet been shared. If you see 'gaps' in the maps that you could fill by sharing your data, let us know.

### Things to think about when surveying for kowari

- Survey during good conditions (in the early morning is best, not too windy or straight after rain).
- Organise to do surveys at regular times every year – for example, before the wet or hot season (October) and in the early dry season or early cool time (April).
- Follow advice of experienced trackers - know how to tell tracks apart from other species before you go to survey.
- If you want to see changes over time, you will need to go back to the same areas to sample over several years. If you want to see if management actions (feral animal culling or fire) are working, you need to sample many different sites, before and after the action. You might need help from a scientist to make the sampling design strong.

### Further information

Arid Zone Monitoring project:

<https://www.nespthreatenedspecies.edu.au/projects/arid-zone-monitoring-surveys-for-vertebrates-across-arid-and-semi-arid-zones>

### References

<sup>1</sup> Woinarski J.C.Z., Burbidge A.H., Harrison P.L. (2014). The Action Plan for Australian Mammals 2012. (CSIRO Publishing: Melbourne).



National Environmental Science Programme

This project received support from the Australian Government's National Environmental Science Program.

The Arid Zone Monitoring project is a collaboration between the NESP TSR Hub and over 30 Indigenous ranger groups and Indigenous organisations, 8 NGOs and NRM groups, 5 government agencies institutions, and many individual researchers and consultants. The project has gathered track and sign data from across Australia's deserts, using it to map the distributions of desert species and their threats. The national database includes almost 50,000 species presence records from over 5300 unique sites and almost 15,000 site visits, over the period from 1982 to 2020. The project area was defined by using IBRA subregional boundaries - the project boundary captures Australia's desert subregions where track and sign-based surveys are commonly used. The project showcases the collective work carried out by all groups working across the arid zone, and lays the groundwork for creating ongoing, national-scale monitoring for desert wildlife.

Cite this publication as NESP Threatened Species Recovery Hub, 2021. Arid Zone Monitoring Species Profile: Kowari, Project 3.2.5 findings factsheet.