

Monitoring *wiliji* using cameras

NESP Threatened Species Recovery Hub Project 7.5

About the project



Female *wiliji* trapped on Erskine Range, Nyikina Mangala Country, in May 2021. Image: Leigh-Ann Woolley, WWF-Australia.

Walalakoo Aboriginal Corporation and the Yimardoowarra Nyikina Mangala Rangers have been looking after *wiliji* in the Nyikina and Mangala Native Title Determination, which is the only place this type of rock-wallaby lives.

Yimardoowarra Nyikina Mangala Rangers with the support of WWF used camera traps from 2012-2018 to find *wiliji* in the Erskine (Malarabba), Grant and Edgar Ranges.

The Rangers wanted to use their *wiliji* camera trap surveys to see:

- how many *wiliji* live in the ranges, and
- if the numbers of *wiliji* change over time.

They worked with a scientist from the Australian National University who tested new ways to use the photos to answer these questions.

What we found

Wiliji were the animal seen most often on camera traps, followed by langurru (northern brushtail possum); jamandi (hill kangaroo/euro); cattle; and karnajinangany (echidna). We also found cats and dingoes which are known to eat *wiliji*.

Rangers collected enough photos of *wiliji* at one of our sites (Erskine Range, Malarabba) for scientists to use a special method called 'unmarked spatial capture recapture' to estimate the number of *wiliji* at the site. This is a way of sorting and counting the photos to tell us how many animals are at each site.

The method estimated that in 2018 there were 169 *wiliji* at our Erskine Range site. That is about 10 animals in every square kilometre. The Rangers feel this estimate is too high and

we are using recommendations from the TSR Hub to increase the camera density to get more accurate estimates.

We can then see if the number of *wiliji* change over time by doing the same surveys again in the future.

The best things about using 'spatial capture recapture' were:

- it doesn't matter if you can't identify different *wiliji* from each other
- it works well for low numbers of animals
- it works well for small areas of habitat like the rocky country where *wiliji* live

But this was just for our work and our animal. There are many ways to answer questions using camera trap photos, so it helps to team up with a researcher that can test the best ways to do it.



A *wiliji* hiding out on the rocks. Image: WWF-Australia.



LEFT: Jeremiah Green, Yimardoowarra Nyikina Mangala Head Ranger.
Image: WWF-Australia.

Why is this important?

This work is important because the Rangers can now use expertise in camera trapping for wiliji to see if the numbers change over time. This is an important part of the Walalakoo Healthy Country Plan. It is also important that we can track wiliji numbers when we look after Country using Right Way fire, feral cat management, fencing off places, and weed management.

Many Ranger groups are using camera traps to find animals. This project shows that the photos can be used to answer questions Rangers have about the animals they protect.

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Setting up a camera in wiliji habitat. Front to back: Yimardoowarra Nyikina Mangala Rangers Natan Green, Jeremiah Green, Shaq Millindee, William Watson. Image: WWF-Australia.

More information

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