Sandplot surveys on APY Lands

Threatened Species Recovery Hub
National Environmental Science Programme

Anangu Pitjantjatjara Yankunytjatjara

Introduction – what are sandplot surveys?

Animals make tracks, scats and diggings. We can say what animals have been in a place by searching for these signs – this is a sandplot survey. If we search for their signs in different types of country, we can say which areas are best for different animals. If we search over many years, we can say if animals are getting more common or less common.

Sandplot surveys work best in desert country, because tracks are easy to see. Many ranger groups in the deserts use sandplot surveys to record where animals are, whether they are changing in numbers, and to see if their land management is working. Sandplot surveys are a great way to monitor animals, especially the bigger ones that leave good tracks in the sand.

Some scientists from the National Environmental Science Program's Threatened Species Recovery Hub are working with ranger groups to help them set up good monitoring programs, and to share information across ranger groups so everyone can see what is happening with animals across all the deserts. In May 2021, some of these scientists – Katherine, Sarah and Naomi – came to APY Lands for a few days to help us set up our sandplot monitoring program. This report explains what we did and what our results were.

What did we do?

First we trained….

We spent the first morning talking about animals and their sign, and how we could use sandplot monitoring to search for rare animals, and monitor changes over time.

We tested our skills in some games and quizzes. The **Team Kungka** won, hands down!

After a couple of hours ‘in the classroom’ at the Trade Training Centre, we went to a couple of spots near Umuwa with good sandy surface, to try out the method and practice using the datasheets.

Team Kungka winning a speed game of matching tracks to the animal

Katherine finds good tracks of **Tarkawara** (hopping mice)

Then we used our training to collect data…

We collected our first set of sandplot data from 8 different sites. Four sites were in the Walalkara IPA, southwest of the Homestead, and four more sites in the Sandy Antara IPA, near Telunna Rockhole.

The sites were all on **Tali** (sand dunes), because this is where animal tracks are easiest to see.

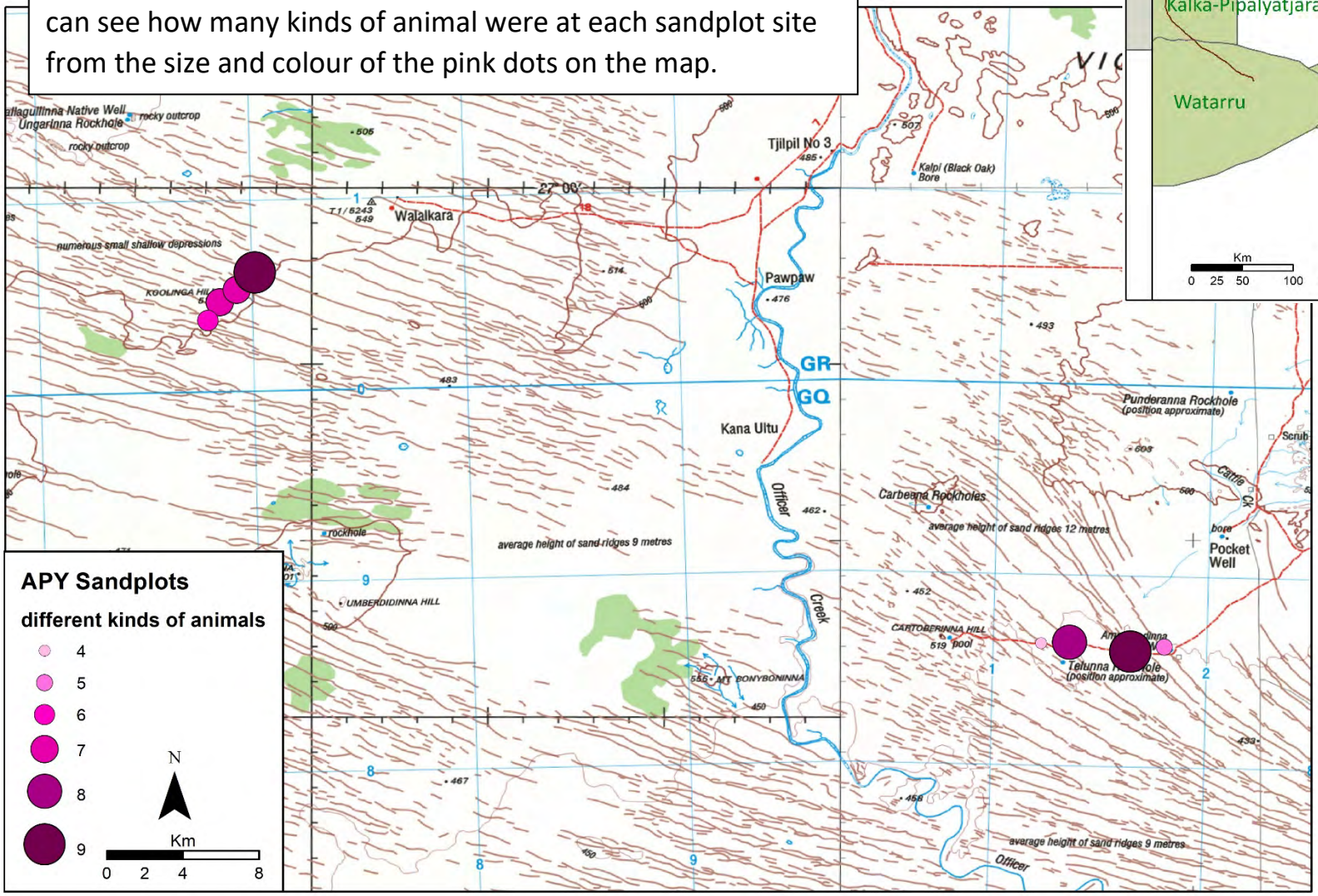
At each site, we spread out and searched a 2 hectare area for all animal signs. Two hectares is 200m long by 100m wide. Usually we would walk down one side of a **Tali** for 200m, then walk back to the car on the other side.

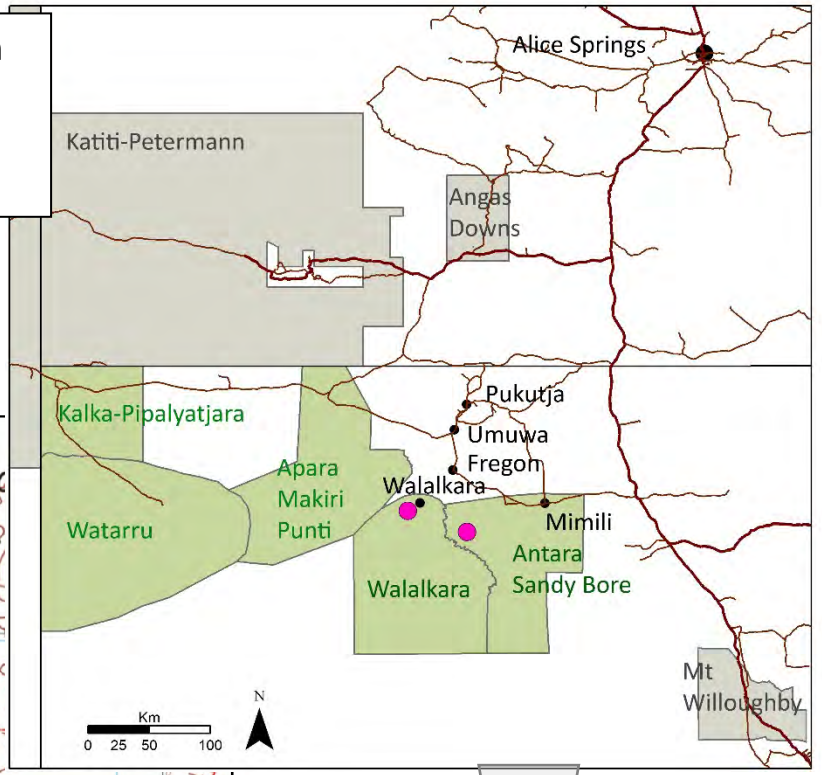
We also searched the road for 100-200 m, because animals like **Papa**, **Tuuka** and **Putji** (dingos, foxes and cats) like to walk on roads.

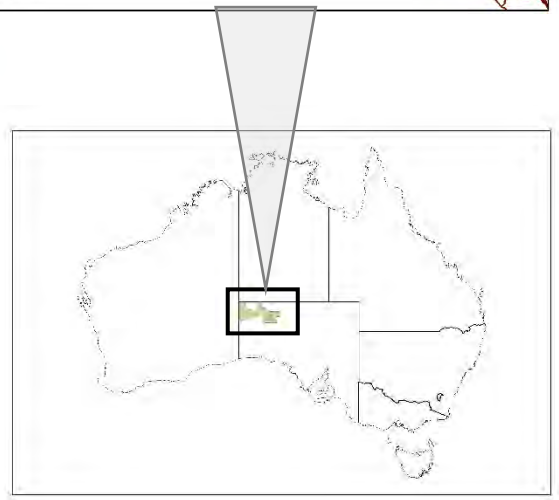
What did we find?

We searched 4 sandplots on the Walalkara IPA, and 4 sandplots on the Antara Sandy Bore IPA

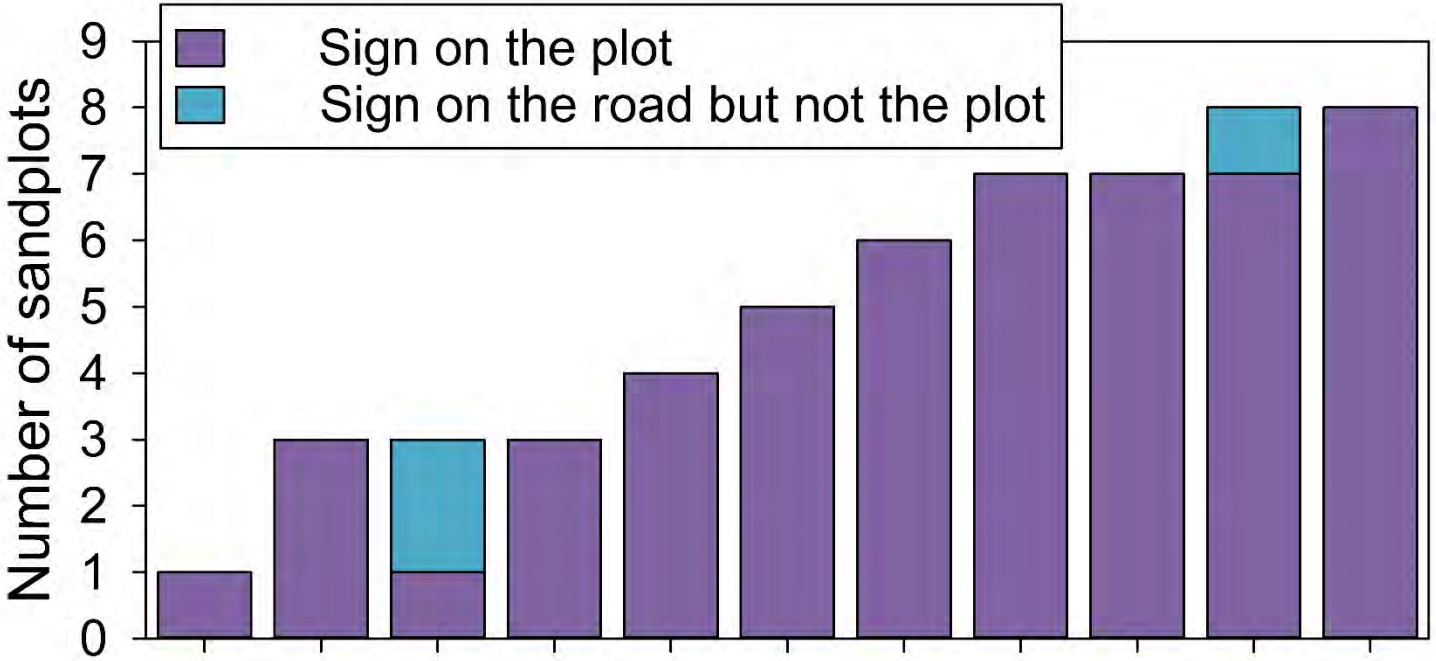
By searching for their tracks, scats and diggings, we counted up to 9 different kinds of animals at each sandplot site. You can see how many kinds of animal were at each sandplot site from the size and colour of the pink dots on the map.

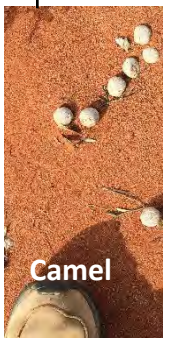


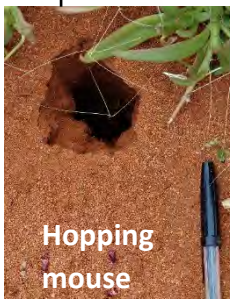




We found signs of 11 kinds of animals. **Tarkawara** and **Tangkiyi** were the most common ones. **Puluka** was the rarest one. **Putji, Tuuka** and **Papa** like to walk on tracks. At 2 sandplots we only found **Putji** on the road, not the 2 hectare sandplot.



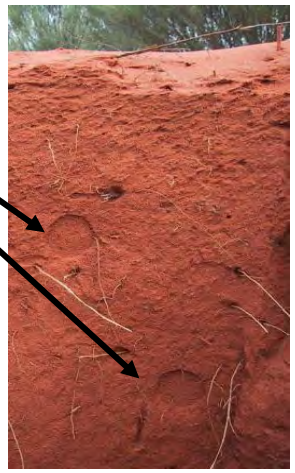




We also searched for **Itjaritjari** (marsupial mole), by digging 1 m deep trenches near the tops of dunes, then leaving them for the sand to dry out. We then checked the sides of the trenches for signs that **Itjaritjari** has passed through that way.

Itjarijari have been found in the past at the Walalkara sites, and we wanted to find out if they were still there. We did find some faint tunnels at one of the two trenches we dug at Walalkara, but we couldn't find signs of **Itjaritjari** at the four trenches we dug at Antara Sandy Bore.

This is what we were looking for – round discs, about 3 cm wide



Digging the trench

Checking the trench

Filling the trench in

We camped near the Telunna Rockhole on the Antara Sandy Bore IPA. The survey team was Kanytjupai Robin, Langaliki Robin, Kathy Dodd, Sandy Dodd, Lorna Dodd, Francine Robin, Malakye Robin, Anthony Robin, Tanya Lee Coultard, Keneisha Dodd, Shakayla Dodd, Pip Mawby, Pippa Lyons, Laura Sullivan, Ellen, Luke, Declan, Dashiel, Katherine (from Kimba, SA), Naomi (Melbourne), and Sarah (from Mullumbimby).

What did we learn?

We shared our skills to say what animals were around from their tracks, scats and diggings, and also to say how old the sign was. We also practised setting up a 2 hectare sandplot and collecting data onto datasheets. We learned how to dig trenches to search for signs of **Itjaritjari**. We shared our knowledge about country and animals with the scientists that came with us. We have set up 8 sandplot monitoring sites that we can keep checking over time. We will set up more sites in different places, so we can keep an eye on what is happening with **Itjaritjari, Nganamara** (malleefowl) and lots of other kinds of animals.

Even though this was our first survey, our data are already telling a story about what kinds of animals are common and rare. As we collect more data, our story will get stronger, and we will be able to show people that our management is making country healthy.

Arid Zone Monitoring Project

Katherine, Sarah and Naomi work at universities. They are working with partners who do sandplot surveys in the deserts. Over the past 20 years, rangers and other groups have done thousands of these sandplot surveys. The project works with all these groups to share information so everyone can see what is happening with animals across all the deserts. The project also helps groups set up good monitoring programs on their country.

Project Aims

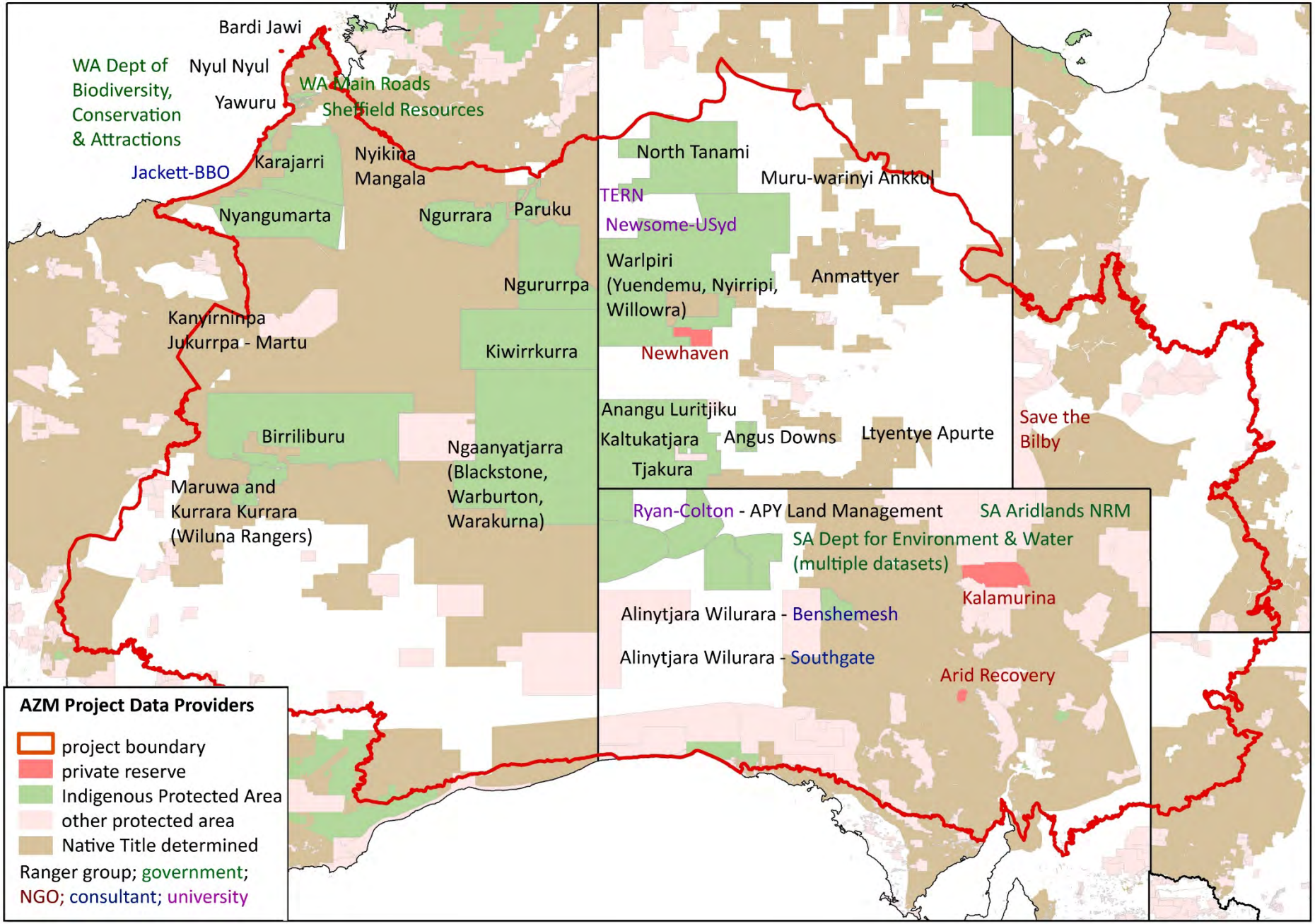
- Collecting information from desert groups to say where animals are, and if they are going up or down
- Giving information back to rangers
- Supporting rangers with science advice, to collect good information
- Showcase the work being carried out by many groups across the arid zone

Remember, to tell a strong story with your surveys

- You need to put survey sites in the right places
- Go back and check them as the years go by, at around the same time of year
- Collect good quality information – make sure everyone is trained to recognise tracks, and record data properly
- Track in good conditions – track in the morning when the sun is slanted, and don't track when its windy or if it just rained




This map shows all the groups that do sandplot surveys across the desert. They include Indigenous ranger groups, government agencies, university researchers and NGOs. The red line is the boundary of the project area.



Training participants and Survey team

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Langaliki Robin
Kathy Dodd
Sandy Dodd
Lorna Dodd
Francine Robin
Malakye Robin
Anthony Robin
Tanya Lee Coultard
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Russell Kickett
Grant Nyaningua
Neil Collins
Wendy Powell
Derek Mtsalks
Quentin Lewis
Ellen, Luke, Declan, Dashiel Ryan-Colton
Katherine Moseby (from Kimba, SA)
Naomi Indigo (from Melbourne)
Sarah Legge (from Mullumbimby)

Thank you APY Land Management for hosting the trip, and thanks Mark Connelly for logistic support and being a superstar.

The AZM project has more than 30 partners. It receives funding from the National Environmental Science Program's Threatened Species Recovery Hub.

Photos taken by Sarah Legge, Naomi Indigo, Ellen Ryan-Colton, Pip Mawby. The photos of the marsupial mole and its tunnels were taken by Joe Benshemesh.

This report was prepared by NESP TSR Hub and APY Land Management (Sarah Legge, Naomi Indigo, Katherine Moseby, Caro Galindez-Silva and Phillipa Mawby) in June 2021

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