SPINIFEX BIODIVERSITY PROJECT

Milestone 4 Progress Report

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. Introduction

The Spinifex Biodiversity Project seeks to deepen understanding of biodiversity in the Great Victoria Desert by integrating Anangu knowledge with scientific survey methods. Launched in May 2023, the project aims to conduct surveys for threatened fauna, such as Malleefowl (Nganamara) and Sandhill Dunnarts, while collaborating with Traditional Owners to document their knowledge of local species. By collecting new data and integrating previous data collected by Spinifex Land Management, the project aims to capture and apply this knowledge to better understand the region's biodiversity and inform conservation efforts.

This report highlights activities and results from the past six months.

2. Activities Undertaken

Activities undertaken in the last six months focused primarily on field ecology work.

2.1. Field Ecology Activities

Field ecology activities in the last 6 months were largely centred around a helicopter trip in June, but other activities were also conducted in the following months.

There were some challenges with the helicopter trip, including poor weather delaying the start of the trip by one day, and helicopter malfunction mid-week eliminating the use of the helicopter for the final two days of the trip. Despite the limited days of helicopter use, it was still a very productive trip with work conducted throughout the week, including:

- Aerial survey for Nganamara, their habitat, and nests via helicopter;
- Aerial survey for Nganamara and nests via drone;
- Ground surveys for Nganamara on foot;
- Training of Spinifex Rangers in motion sensor camera deployment;
- Deployment of motion sensor cameras around Nganamara nests;
- Deployment of motion sensor cameras in Sandhill Dunnart habitat; and
- Ground feral animal control (camels).

Figure 1: *Drone shot of Nganamara nest (centre)*

During this week, 12 Nganamara nests were found, inspected and recorded. Several of these showed strong signs of recent activity, including fresh tracks, diggings and shell fragments. One Spinifex Ranger even spotted one Nganamara and the feathers of another close to a nest.

Figures 2 & 3: *Evidence of recent Nganamara activity; footprints and shell fragments*

A second visit to the area was conducted in August 2024. This involved re-visiting the previously identified Nganamara nests and collecting cameras deployed at nests and surrounding areas.

Other activities were conducted in the six-month period, including:

- Collecting cameras in remote areas of Spinifex country, which had been deployed in September 2023;
- Recording of Nganamara tracks found at another location (away from previously identified mounds);

- Review of motion camera footage by Spinifex Rangers; and
- Feral animal control (camels, rabbits).

A third visit to the area was conducted in October 2024. In this visit included:

- Visiting previously recorded mounds and inspecting for evidence of recent activity; and
- Collection and deployment of motion sensor cameras;

2.2. Field Ecology Results

From June to October, a range of fauna was recorded throughout the region, including one threatened species noted:

Table 1: *Summary of Species of Conservation Significance Recorded*

Common Name	Species Name	Biodiversity Conservation Act (WA) Status	EPBC Act (Cwlth) Status	Certainty	Notes
Malleefowl (Nganamara)	*Leipoa ocellata*	Vulnerable	Vulnerable	Known or Likely to occur	One Nganamara spotted, tracks recorded in three locations, 12 mounds recorded, one with recent activity.

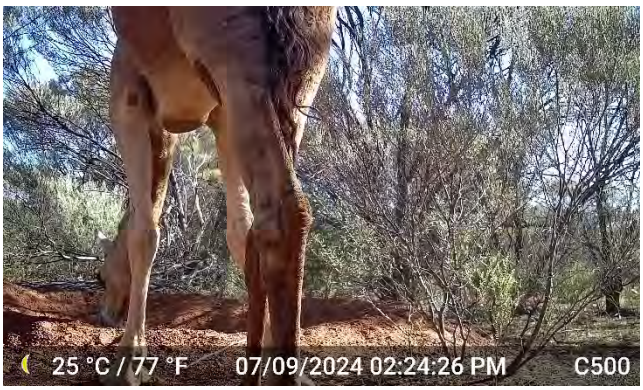
Table 2: *All Fauna species recorded on motion-sensor cameras collected in from June to September.*

(This excludes cameras collected late October, which have not yet been reviewed by our ecologist).

Common Name	Species Name	Number of Cameras
Fox	Vulpes vulpes	17
Spinifex Hopping Mouse	Notomys alexis	10
Sandy Inland Mouse	Pseudomys hermannsburgensis	9
Dingo	Canis familiaris	6
Western Grey Kangaroo (Kulpit)	Macropus fuliginosus	6
Fat-tailed False Antechinus	Pseudantechinus macdonnellensis	6
Crow	Corbus sp.	5
Cat	Felis catus	5
Ningaui	Ningaui sp.	5
Crested Bellbird	Oreoica gutturalis	5
Unidentified Small Dunnart	Sminthopsis sp.	5
Grey Shrike-thrush	Colluricincla harmonica	4
Skink - Liopholis sp.	Liopholis sp.	4
Unidentified Marsupial Mouse (Mingkiri)	Rodent sp.	4
Camel	Camelus dromedarius	3

Chestnut Quail-thrush	Cinclosoma castanotum	3
Sand Goanna	Varanus gouldii	3
Skink - Ctenotus sp.	Ctenotus sp.	2
Euro (Kanyala)	Macropus robustus	2
Thorny Devil - Moloch	Moloch horridus	2
Knob-tailed Gecko	Nephrurus sp.	2
Bearded Dragon	Pogona minor	2
Willie Wagtail	Rhipidura leucophrys	2
Hairy-footed Dunnart	Sminthopsis hirtipes	2
Echidna	Tachyglossidae sp.	2
Perentie	Varanus giganteus	2
Australian Owletnightjar	Aegotheles cristatus	1
Military Dragon	Ctenophorus isolepis	1
Spinifex Slender Blue-tongue	Cyclodomorphus melanops	1
Splendid Fairy Wren	Malurus splendens	1
Yellow-throated Miner	Manorina flavigula	1
Rabbit	Oryctolagus cuniculus	1
Common Bronzewing	Phaps chalcoptera	1
Grey-fronted Honeyeater	Ptilotula plumula	1
Little Long Tailed Dunnart	Sminthopsis dolichura	1
Brown Goshawk	Tachyspiza fasciata	1
Centralian Blue-tongued Skink	Tiliqua multifasciata	1
Western Blue-tongue	Tiliqua occipitalis	1
Rusty Desert Monitor Varanus Eremius	Varanus eremius	1
Black-tailed Monitor	Varanus tristis	1

Figures 4 & 5: *Introduced species (camel and fox) activity at a Nganamara nest*



Figures 6 & 7: *Examples of species recorded on camera: Echidna and Fat-tailed False Antechinus*

Figures 8 & 9: *Examples of species recorded on camera: Perentie and Dingo*

Figure 10: *Heatmap of recorded Nganamara Activity*

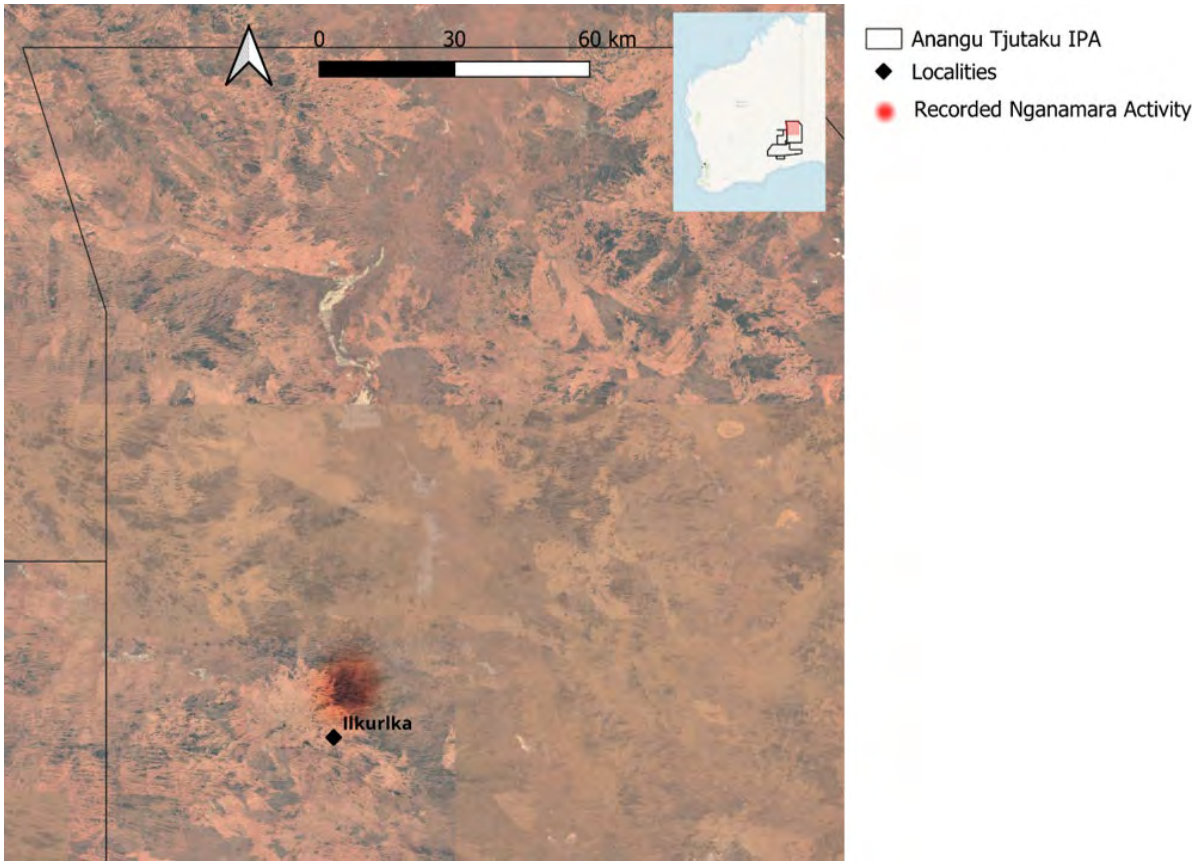
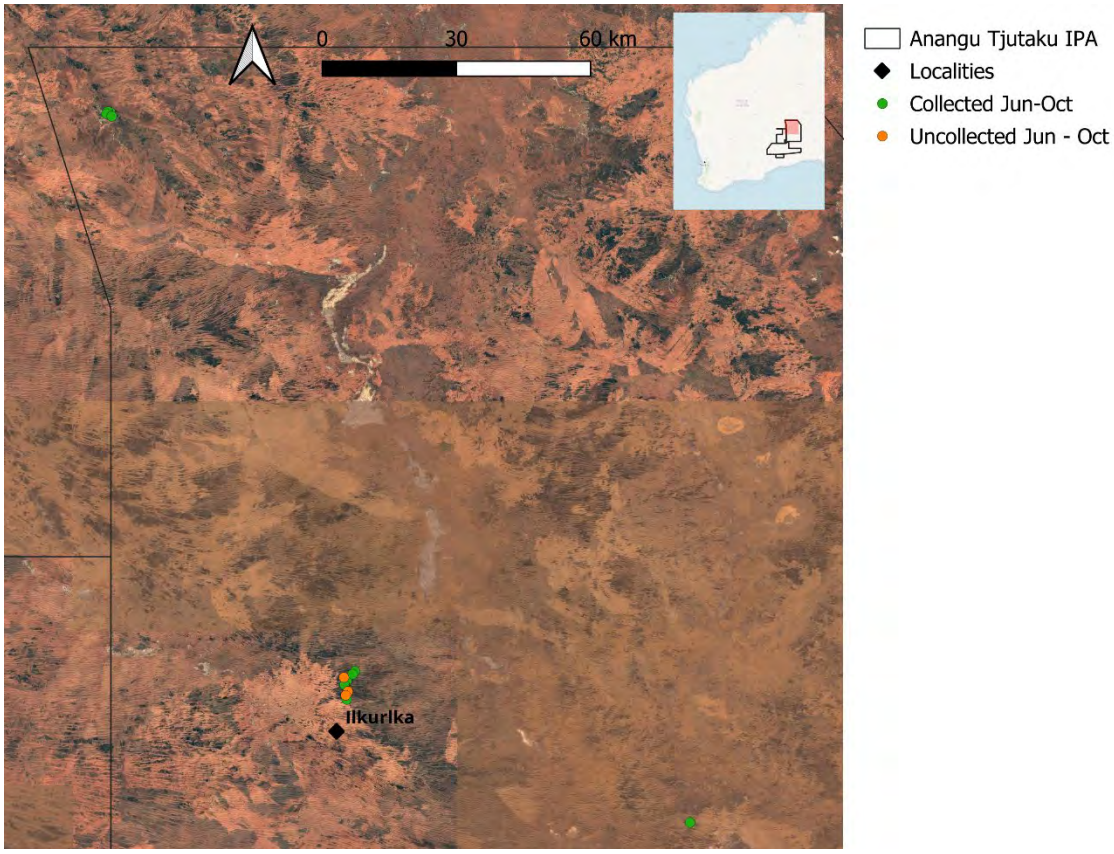


Figure 11: *Map of Cameras deployed/collected over last 6 months*



2.3. Spatial Ecology

In September 2024, the project's spatial ecologist Wes Bancroft withdrew from the project due to capacity constraints. Apart from ground-truthing several cultural locations during the helicopter week in June, no further work in spatial ecology has happened since the previous update in June 2024.

3. Plans for the next 6 months

3.1. Field Ecology

Considering the upcoming summer months and warmer weather, there will be a natural downturn in activity conducted in the field from late October through to March. Nevertheless, in the next 6 months, we hope to:

- Plan and undertake the next helicopter trip to access remote areas of Spinifex lands;
- Continue to deploy and collect cameras;
- Conduct further searches for Ngananamara and other threatened fauna if weather permits;
- Conduct further inspections of known Ngananamara nests; and
- Purchase required equipment as recommended by the field ecologist, including audio recorders (for night parrots), handheld radios (to facilitate effective communication while doing field surveys such as Ngananamara walks), and equipment for mounting motion sensor cameras.

3.2. Spatial Ecology

In the next 6 months, we hope to:

- Continue data organisation of historic geospatial data;
- Continue developing and implement a data management system for Spinifex Land Management species data; and
- Ensure animal data captured on cameras is stored appropriately according to the data management strategy.