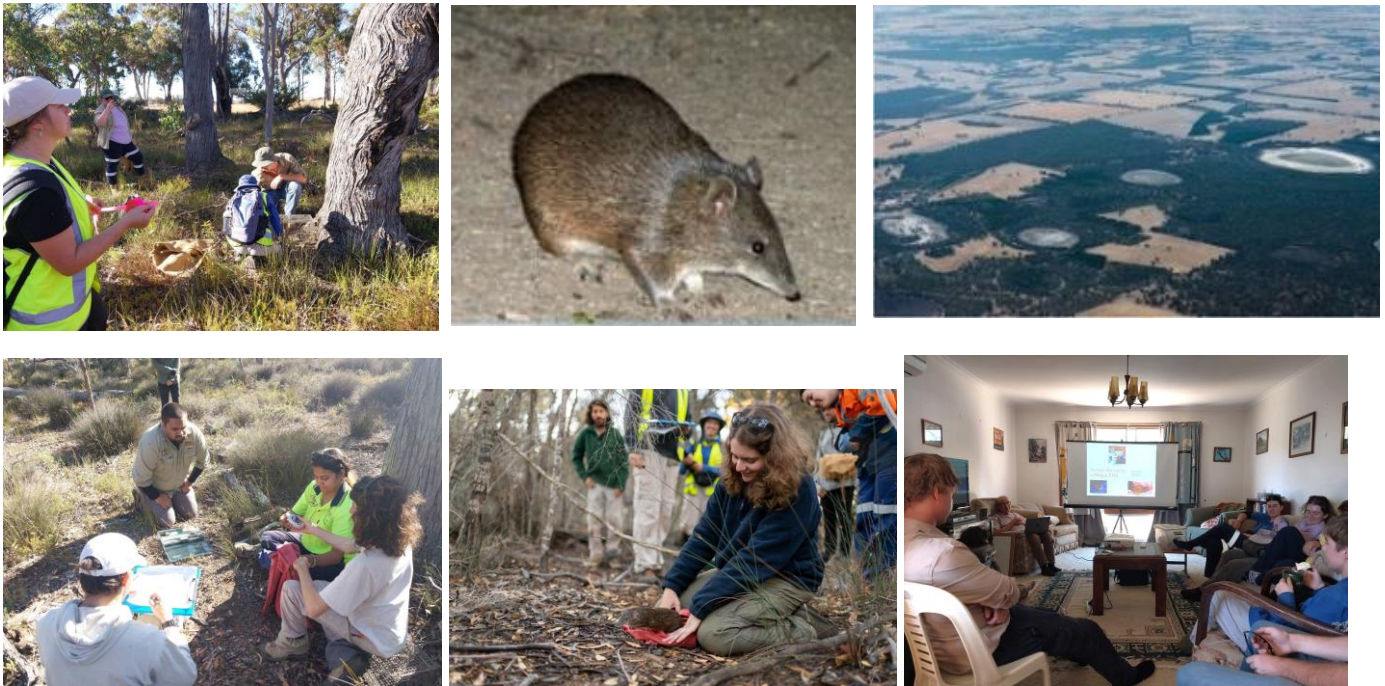


Environmental Monitoring at Balijup eco-Sanctuary, Tenterden, WA- Mammal Fauna Survey



Balijup Citizen Science Report March 2026



The Balijup Citizen Science project received funding through the Western Australian Government's State Natural Resource Management Program, and the Koorabup Trust with additional assistance provided by the WA Conservation Council, Green Skills, UWA Albany, the Wilson Inlet Catchment Committee, Dept of Biodiversity, Conservation and Attractions, and Gondwana Link.





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1 ACKNOWLEDGMENTS

The Balijup Citizen Science project received funding through the Western Australian Government's State Natural Resource Management Program, the Southern Aboriginal Corporation Ranger team, and the Koorabup Trust with additional assistance provided by the WA Conservation Council, Green Skills, Gillamii Centre, UWA Albany, Murdoch University, Dept of Biodiversity, Conservation and Attractions, the Wilson Inlet Catchment Committee and Gondwana Link. Special thanks to Alan Hordacre, Manager and co-owner of Balijup and his extended family, Kelly Sheldrick, Sarah Comer, Jen Gannon, Tim Gamblin. The mammal fauna surveys and reporting were coordinated by Joe Porter, Mathew Coyle, participants from the Balijup Citizen Science five-day program in January 2026. Photos by Angus Dempster, Basil Schur, Jen Gannon and Joe Porter. The WAEC Permit Number for this project is WAEC 23-03-14 with approvals for fauna monitoring obtained from both DPIRD and DBCA.



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2 SUMMARY

2.1 Project Background

The Balijup feral predator free enclosure, more commonly known as the ‘Sanctuary’ was established in 2015 by Green Skills on the Hordacre/Vanderbyl farm - Balijup Farm (704 Nunijup Road, Tenterden) in the Forest to Stirling’s segment of the Gondwana Link (www.gondwanalink.org). The 111ha fenced predator enclosure is located in Wandoo and Jarrah Woodland on the farm and is considered a fauna conservation sanctuary - see <https://chuffed.org/project/balijup>).

The main purpose of this fence was to provide a safe zone for re-establishment of Quenda and other native fauna as part of a citizen science eco-restoration project within Gondwana Link. A Green Skills short film on Balijup is viewable at <https://www.youtube.com/watch?v=oLaxA5Lc1Sc>.

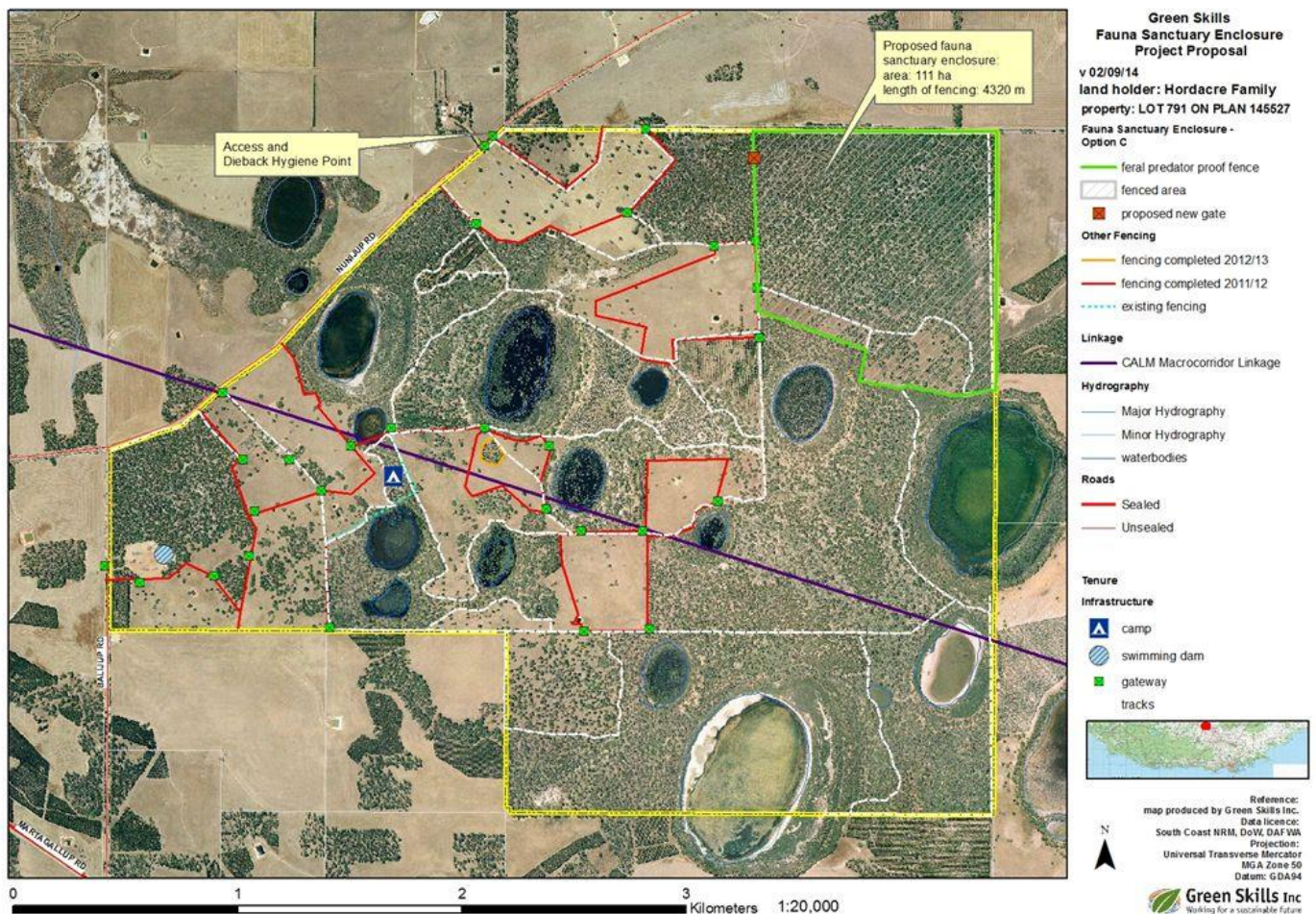


Figure 1: Map of Balijup Farm and Fauna Sanctuary.



Figure 2: Aerial view of Balijup (Photo by Martin Regtien of AirPix)

2.2 Overview of Activities

Since the fence was erected in 2015, there has been ongoing ecological monitoring activities occurring at the Sanctuary monitoring fauna such as Bandicoots, Birds and other bush creatures. Camera monitoring has been carried out intermittently since 2015. Since 2017 there has been annual cage trapping and fauna monitoring, and a 4 – day citizen science based ecological monitoring project has been carried out annually titled ‘Bandicoots, Birds and Bushland Monitoring: A Citizen Science Based Ecological Monitoring Project at Balijup Farm and Fauna Sanctuary, Tenterden’. This report outlines findings from monitoring activities in January 2024

2025

January 4 – Day Citizen Science Based Ecological Monitoring Project 18^h – 22nd Jan 2024.

Between Thursday 16 January and Monday 20 January 2025 Green Skills held a four-day citizen science camp ‘Bandicoots, Birds, Bats and Bushland Monitoring: A Citizen Science Based Ecological Monitoring Project at Balijup Farm and Fauna Sanctuary. About 22 participants worked Joe Porter, Basil Schur of Green Skills WA, Andrew Dickinson, Kelly Sheldrake (Conservation Council of WA) and Richard Thomas and a number of citizen science assistants on a range of citizen science monitoring activities at Balijup farm including Southern Brown Bandicoot (Quenda) and other fauna trapping; Soil disturbance surveying, Bat and bird surveying. This report details the results of that work.

3 HISTORY OF BANDICOOT ESTABLISHMENT WITHIN THE BALIJUP PREDATOR ENCLOSURE

3.1 Background

During August 2015 sixteen (16) Quenda, Southern Brown Bandicoot (*Isodon obesulus*) were translocated from bushland in the town of Albany to the 111 Ha predator enclosure area at Balijup Farm.

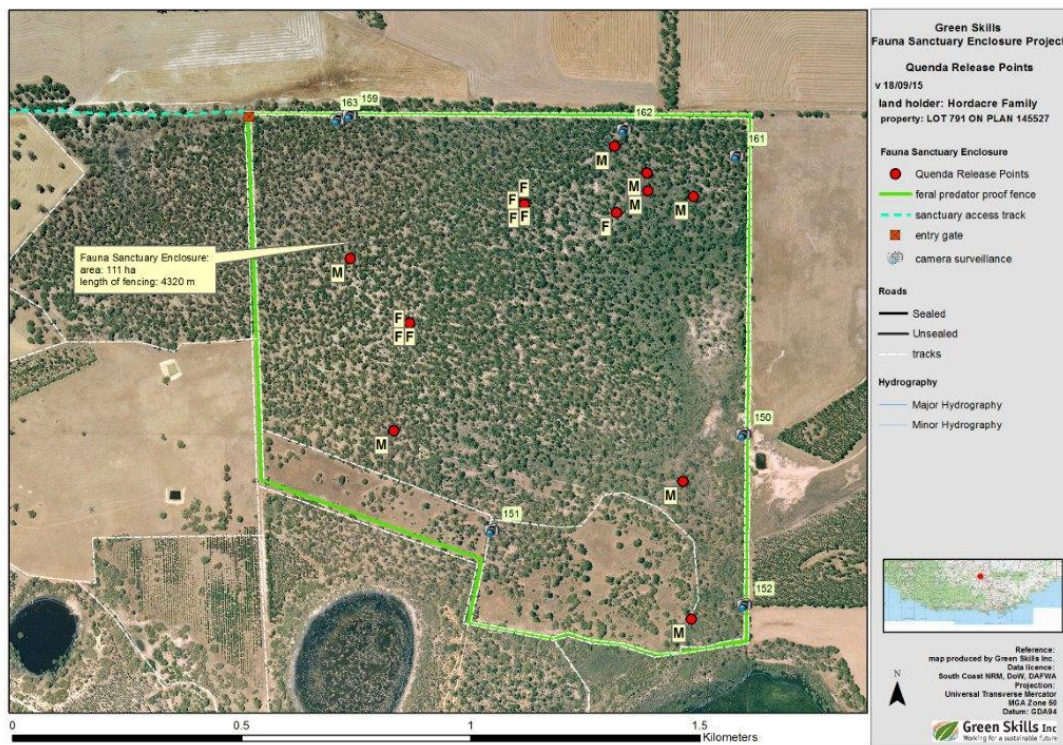


Figure 3: 2015 Release points for Bandicoots in the Sanctuary.

The introduced population has been monitored using cage traps on at least an annual basis since the animals were released into the protected area. The trapping has also indirectly provided some information on other fauna populations within the enclosure, including Brush-tailed Possums, Black Rats and Heath Monitors.

3.2 Overview

Since the fence was erected in 2015, there has been ongoing ecological monitoring activities occurring at the Sanctuary monitoring fauna such as Bandicoots, Birds and other bush creatures. Camera monitoring has been carried out intermittently since 2015.

Since 2017 there has been annual cage trapping and fauna monitoring, and a 4 – day citizen science based ecological monitoring project has been carried out and reported annually and titled 'Bandicoots, Birds and Bushland Monitoring: A Citizen Science Based Ecological Monitoring Project at Balijup Farm and Fauna Sanctuary, Tenterden'. This report details findings from monitoring activities in January 2024

4 CAGE TRAPPING

4.1 Overview

Cage trapping has been conducted annually since January 2017, with surveys taking place in June 2018, February 2019, and every year in January from 2020 to 2025. Mammal populations within Balijup Sanctuary have been assessed from 2016 to 2026 through cage traps, as part of the broader citizen science biodiversity monitoring and research program. To ensure consistency and improve the comparability of results, a four-night live-trapping survey has been carried out every January for the past five years. These surveys provide valuable data to assess mammal populations, enabling evidence-based decision-making to enhance the management of Quenda populations and other species within the sanctuary.

4.2 Methodology

A total of 105 cage traps were set along 11 traplines at Balijup Sanctuary, with traps spaced 40 meters apart, from January 17th to 20th, 2025 (420 cage-trap nights) and January 15 to 19th January 2026- 440 cage nights) (see Figure 4). The traps were laid out and baited with oats, peanut butter, sardines, and truffle oil on each afternoon. Each morning, upon completion of the trap checks and animal processing, all traps were closed within three hours of sunrise. Traps were collected and removed from Balijup Sanctuary following animal processing on the morning. Traps remained closed during the heat of the day to minimize non-target captures and were reopened in the late afternoon when conditions were cooler.

Animals trapped in the cages were gently transferred into cotton handling bags before being processed, with their welfare prioritised throughout. Quenda were processed more thoroughly than Brushtail Possums and Brush-tailed Phascogales, as the focus was on assessing Quenda population numbers and demographics. Each Quenda was pit-tagged, measured for head and foot size, and assessed for reproductive status. All animals had their weight and sex recorded. Brushtail Possums were marked temporarily on the ear with a non-toxic pen to track re-trapping rates. After processing, animals were released at the point of capture, with Quenda being placed near shrubs for cover and Brushtail Possums and Brush-tailed Phascogales near large, hollow-bearing trees.

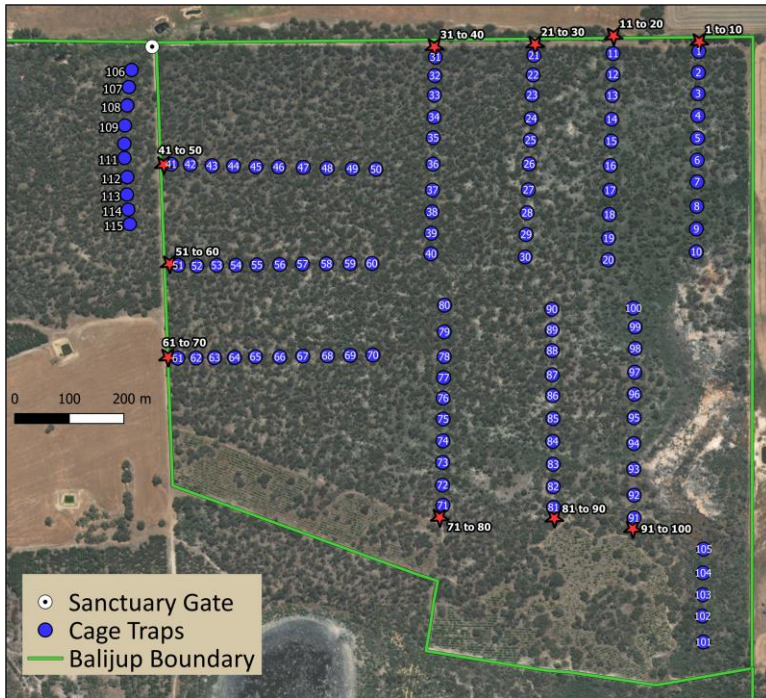


Figure 4: Cage trap layout for small mammal monitoring survey at Balijup Sanctuary 16th – 20th of January 2026.

4.3 Results

Small Mammals

In 2025, a total of 125 captures were recorded over 420 cage trap nights. The captures included two Bobtail Lizards, one Brush-tailed Phascogale, 92 Brushtail Possums, and 29 Quenda (Table 1). It is reassuring to capture Brush-tailed Phascogales since they have not been captured since 2022.

The minimum number of Brushtail Possums known to be alive during the survey was 34 individuals. The re-trap rate was high, with 58 re-traps recorded over the four-night survey. At least 10 individuals were captured on all four mornings.

Fourteen adult Brushtail Possums (11 females and 3 males) were relocated to nearby areas outside the fenced Balijup Sanctuary to high-quality habitat with suitable hollows and food resources. This relocation occurred on days two and three of the trapping period, in areas previously identified within the Balijup property (see Figure 5). The possums were released near hollow-bearing trees, with a minimum distance of 50 meters between each release point. Six were placed in the northern portion, two in the central area, and six in the southern portion of the shaded blue areas in Figure 5.

In 2026, a total of 152 animals were captured over the five-day cage trapping period. These captures included one bobtail lizards, eight black rats, 107 brushtail possums and 36 quenda (Table 1). This year has had the highest number of individuals captured, even with removing the extra 5th day of trapping.

Table 1: Total number of animals captured during trapping at Balijup Sanctuary from 2019 - 2026. *Note the numbers of animals captured includes new animals, animals from previous years and animals re-trapped during the trapping period for each year.

Species / Year	2019	2020	2021	2022	2023	2024	2025	2026	Total
Black Rat	2	0	0	0	3	1	1	8	15
Bobtail Lizard	0	0	1	0	0	0	2	1	4
Brushtail Possum	57	80	55	61	109	111	92	107	672
Brush-tailed Phascogale	0	1	2	1	0	0	1	0	5
House Mouse	0	0	0	0	0	1	0	0	1
Quenda	30	49	49	30	12	22	29	36	257
Total	89	130	107	92	124	135	125	152	954

Quenda

Fifteen individual Quenda were captured in 2026 during the five-day trapping period. These included eight females and seven males (Tables 2 and 3). Two females were not microchipped: one had well-developed, furred pouch young, and the other escaped before processing was completed. Five Quenda were captured only once, whereas two individuals were captured on all five trap nights.

Since standardised cage trapping and small mammal monitoring began at Balijup Sanctuary (2016–2026), capture rates and the minimum number of individuals known to be alive have fluctuated (Table 2, Figure 6). Both metrics declined between 2019 and 2023, followed by a steady increase, reaching levels similar to those recorded in 2021 (Figure 6).

Quenda occur throughout the sanctuary and have been recorded across all areas. Mark–recapture data, along with soil disturbance surveys, indicate that individuals move widely through the sanctuary over time. Their occurrence appears to shift in response to changes in resource availability, particularly food and shelter.

Table 2: Number of individual Quenda captured during trapping at Balijup Sanctuary between 2019 - 2026.

Sex / Year	2019	2020	2021	2022	2023	2024	2025	2026	Total
Females	13	15	6	8	7	8	7	8	72
Males	13	8	7	5	2	4	6	7	52
Total	26	23	13	13	9	12	13	15	124

Table 3: Information for each individual Quenda captured during the five nights of trapping at Balijup Sanctuary January 16th – 20th, 2026. Individuals trapped for the first time in 2026 (i.e. with no microchip detected) were designated ‘New’ whilst individuals with existing microchips from previous year’s surveys were designated ‘Previous’.

Individual	Microchip no.	Gender	New or Previous	Number of times trapped
1	956000010882635	Female	Previous	2
2	956000010882670	Female	Previous	3
3	956000010882772	Female	Previous	1
4	956000010892745	Female	Previous	3
5	956000012878814	Female	Previous	5
6	956000013324886	Female	Previous	3
7	Female unchipped_trap102	Female	New	1
8	Female unchipped_trap35	Female	Unknown	1
9	956000010882632	Male	New	2
10	956000010882716	Male	New	2
11	956000012879288	Male	New	2
12	956000012881699	Male	Previous	3
13	956000013327879	Male	Previous	5
14	956000019461472	Male	New	1
15	956000019461522	Male	New	1

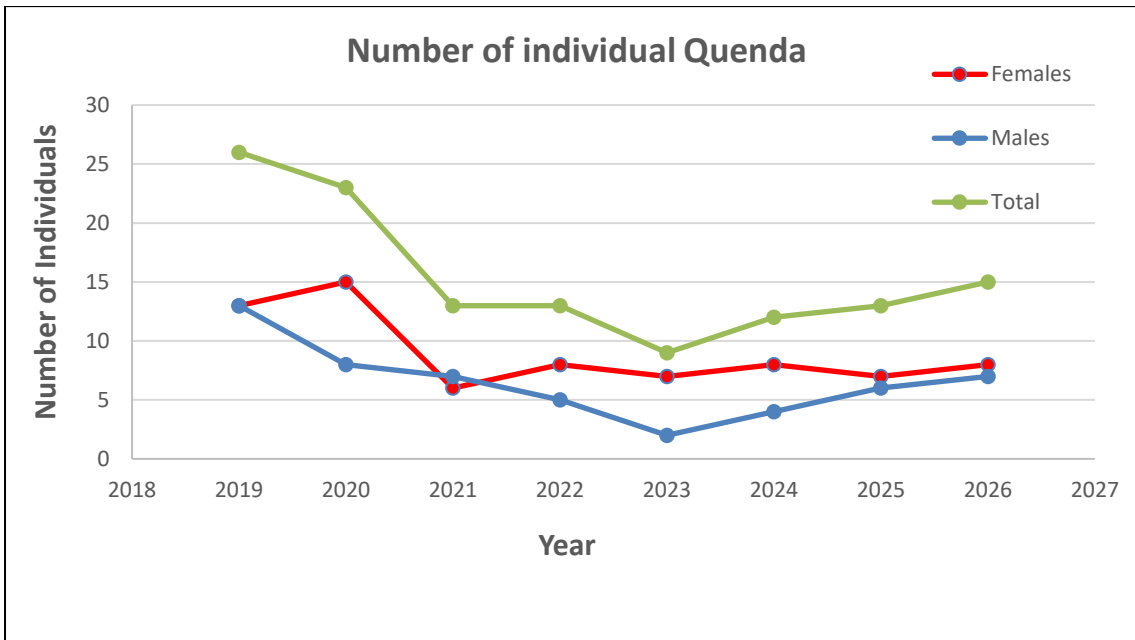


Figure 6: Number of individual Quenda captured during trapping at Balijup Sanctuary from 2019 -2025.

*Note Quenda numbers include new individuals captured during the survey and from previous years.

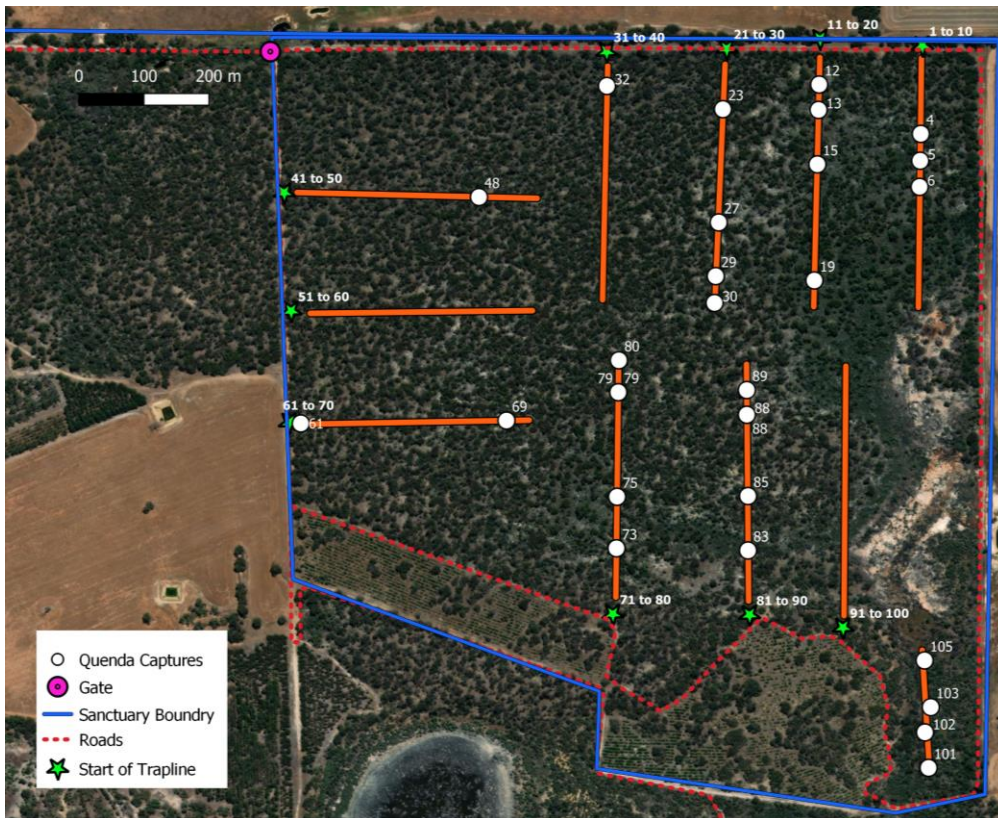


Figure 7: Quenda capture locations from cage trapping at Balijup Sanctuary from January 17th - 21st in 2025.

4.4 Discussion

The 2025 fauna survey at Balijup Sanctuary provided valuable insights into the population dynamics and spatial distribution of the Quenda. A total of 13 individual Quenda were captured, with a near-equal distribution of males (6) and females (7), suggesting that both sexes are being captured at similar rates within the sanctuary (Table 2). Of particular interest were the two individuals, #6 and #7, that had been previously recaptured, offering a glimpse into the long-term movement and survival of certain individuals over multiple years. Individual #6 was captured in 2024 and again in 2025, while individual #7, first caught in 2021, was not recaptured until 2025. This long-term data is vital for monitoring population trends and understanding what factors may be influencing numbers such as resource availability, food, climate, predation and potential migration out of the fenced reserve.

The capture rate of Quenda over the years has shown some fluctuations, with a noticeable decline in the minimum number of individuals observed between 2019 and 2023. This decline could be attributed to a range of factors, including habitat changes, food availability, or potential threats to population stability or detectability. However, since 2023, there has been an upward trend in the number of individuals, indicating a potential recovery or stabilisation of the population (Table 2, Figure 6). Despite this positive trend, the overall decrease from 26 individuals in 2019 to 13 individuals in 2025 warrants further investigation to identify the underlying causes of the population decline in the earlier years. This may inform further management decisions such as blustering the Quenda population with additional individuals or better understanding the carrying capacity of Quenda at Balijup Sanctuary.

Spatially, Quenda were more frequently captured in the eastern portion of Balijup Sanctuary in 2025, with the western half yielding fewer individuals. This spatial preference may be indicative of habitat differences between the two areas,

such as variations in vegetation, shelter availability, or food sources or there could be preferences over time and space as resource change. Quenda have been captured throughout the entirety of the sanctuary since their introduction but there is subtle changes year to year (Figure 9). These findings suggest that in 2025 the eastern portion of the sanctuary may offer more suitable conditions for Quenda (Figure 7).

There appears to be potential for significant movement of some individual Quenda across Balijup Sanctuary in a short period of time with male individual #9 covering at least 930m over 3 days (Table 3). This suggests that the sanctuary may provide a sufficiently large and diverse habitat for Quenda, allowing them to traverse various areas in search of resources, mating opportunities and general dispersal. However, the fact that some individuals travelled much further than others highlights that there may be differences in home ranges and movement behaviours within the population.

In conclusion, while there are signs of recovery in the Quenda population in Balijup Sanctuary, ongoing monitoring is essential to track population trends, identify any emerging threats, and ensure that the sanctuary continues to support a stable and healthy Quenda population. The spatial distribution and movement data collected during this survey will be instrumental in guiding future management practices, such as weed removal, planned 'right way' fire burning and further ecological restoration. Further research is needed to determine the factors contributing to the decline observed between 2019 and 2023 and to assess the long-term viability of the Quenda population in the region. This can be achieved through interrogating the data more rigorously and determining population estimates using methods such as spatially explicit capture-recapture (SECR) analysis.

4.5 Methodology

Ten soil disturbance plots were selected across the Balijup sanctuary based on soil type, vegetation structure, coverage and areas where Quenda had high capture rates (Figure 9). The actual locations were systematically randomised, that is 10 areas were predetermined but the actual location of the site was randomly placed. Once each site was chosen, a metal stake was hammered into each corner of a 5 x 5 metre quadrat, oriented north (Figure 8). The corners were labelled as follows: northwest corner (A), northeast corner (B), southeast corner (C), and southwest corner (D). Each corner was marked using GPS coordinates. A surveyor's line was then wrapped around the corners to outline the 5 x 5 metre quadrat. Foraging pits were identified, with a stake placed next to each pit. The total number of foraging pits were recorded, and for each pit, the species responsible for the digging was noted, along with whether the pit was classified as 'old' or 'new.' The spoil heap from each foraging pit was measured for length, width, and height in centimetres. From these measurements, the volume of each soil heap was calculated which is summarised in Table 4.



Figure 8: Layout of soil disturbance plot at Balijup sanctuary 2025.

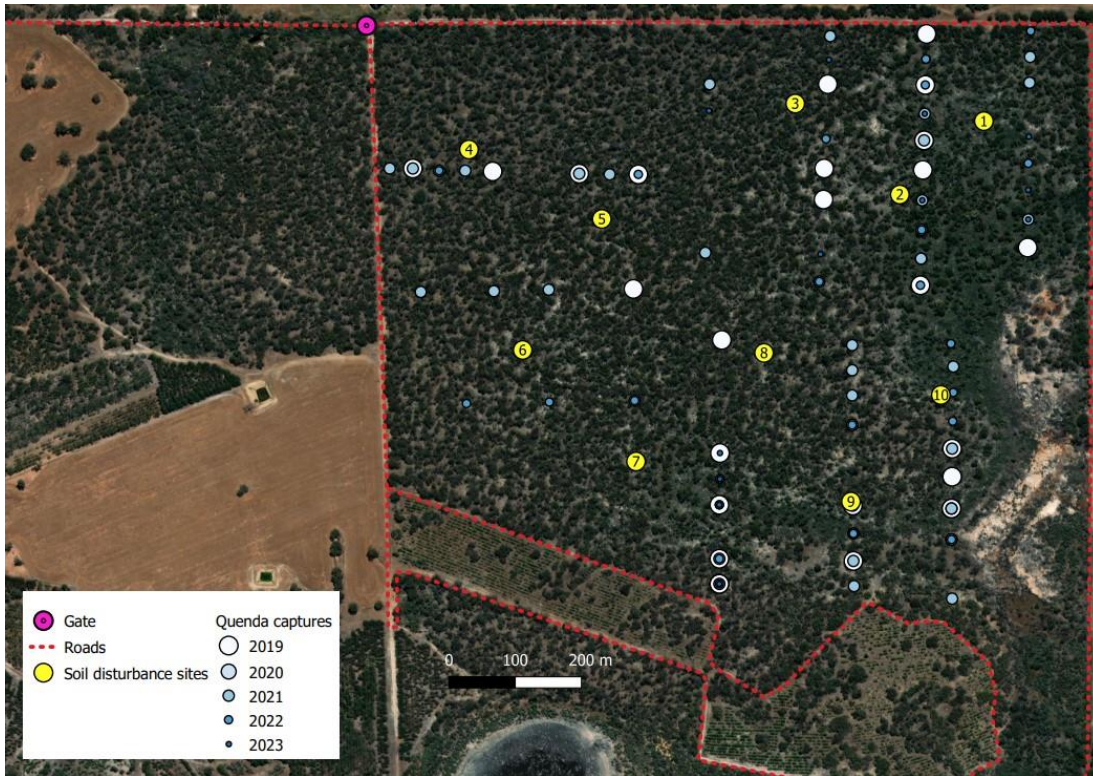


Figure 9: Quenda soil disturbance plots (yellow dots) and previous capture locations of Quenda from 2019 -2024 at Baliijup Sanctuary.

Table 4: Summary of Quenda soil disturbance surveys conducted at Baliijup Sanctuary on the 18th - 19th of January 2025.
*Note This table displays diggings from Quenda exclusively, not other species.

Plot number	Number of foraging pits	New	Old	Sum of new spoil heaps (cm3)	Sum of old spoil heaps (cm3)	Total sum of spoil heaps (cm3)
1	13	1	12	40	1398	1438
2	19	1	18	532	6666	7198
3	22	1	21	25	1791	1816
4	5	0	5	0	1563	1563
5	9	0	9	0	16893	16893
6	7	0	7	0	1446	1446
7	7	1	6	585	1465	2050
8	6	5	1	338	248	586
9	14	6	8	400	960	1360
10	13	1	12	135	14928	15063
Total	115	16	99	2055	47358	49413

Table 5 : Summary of Quenda soil disturbance surveys conducted at Balijup Sanctuary on the 18th of January 2026.

*Note This table displays diggings from Quenda exclusively, not other species.

Plot number	Number of foraging pits	New	Old	Sum of new spoil heap (cm3)	Sum of old spoil heaps (cm3)	Total sum of old and new spoil heaps (cm3)
1	16	3	13	1548	5803.5	7351.5
2	18	3	15	2112	3086	5198
3	8	1	7	408	812.5	1220.5
4	15	6	9	6875	2922	9797
5	6	1	5	240	8474	8714
6	6	5	1	1299	96	1395
7	8	5	3	1105	696	1801
8	6	3	3	2654	1162	3816
9	8	4	4	878	554	1432
10	11	0	11	0	4352	4352
Total	102	31	71	17119	27958	45077

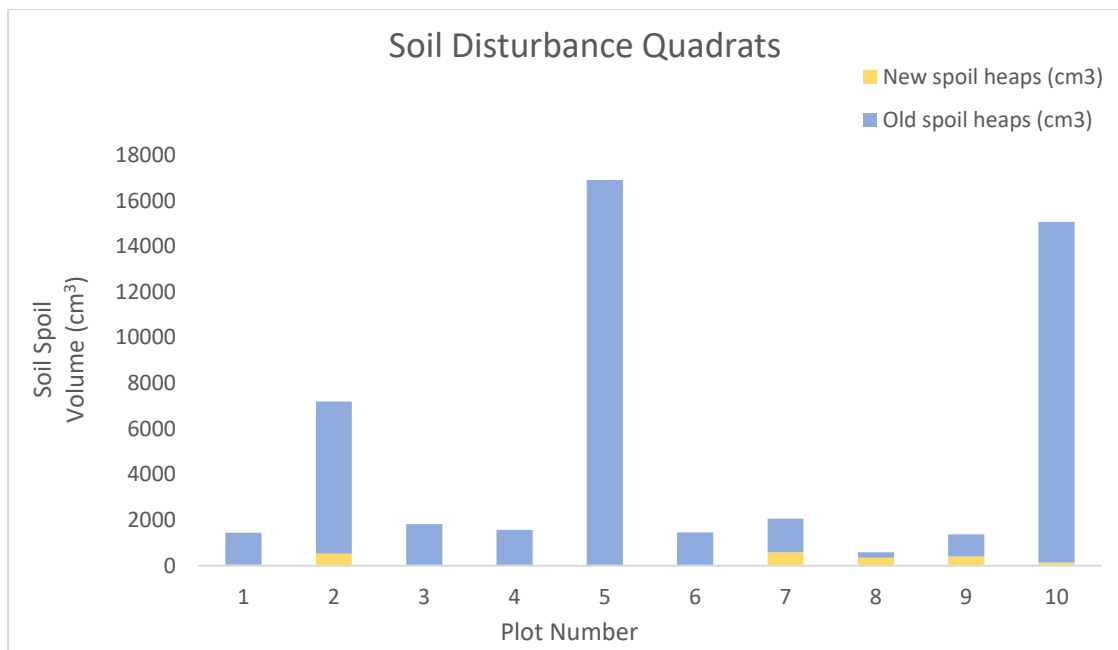


Figure 10: Quenda disturbance plots showing amount (volume) of soil excavated from Balijup Sanctuary, January 2025.

*Blue represents old spoil heaps, yellow represents new spoil heaps.

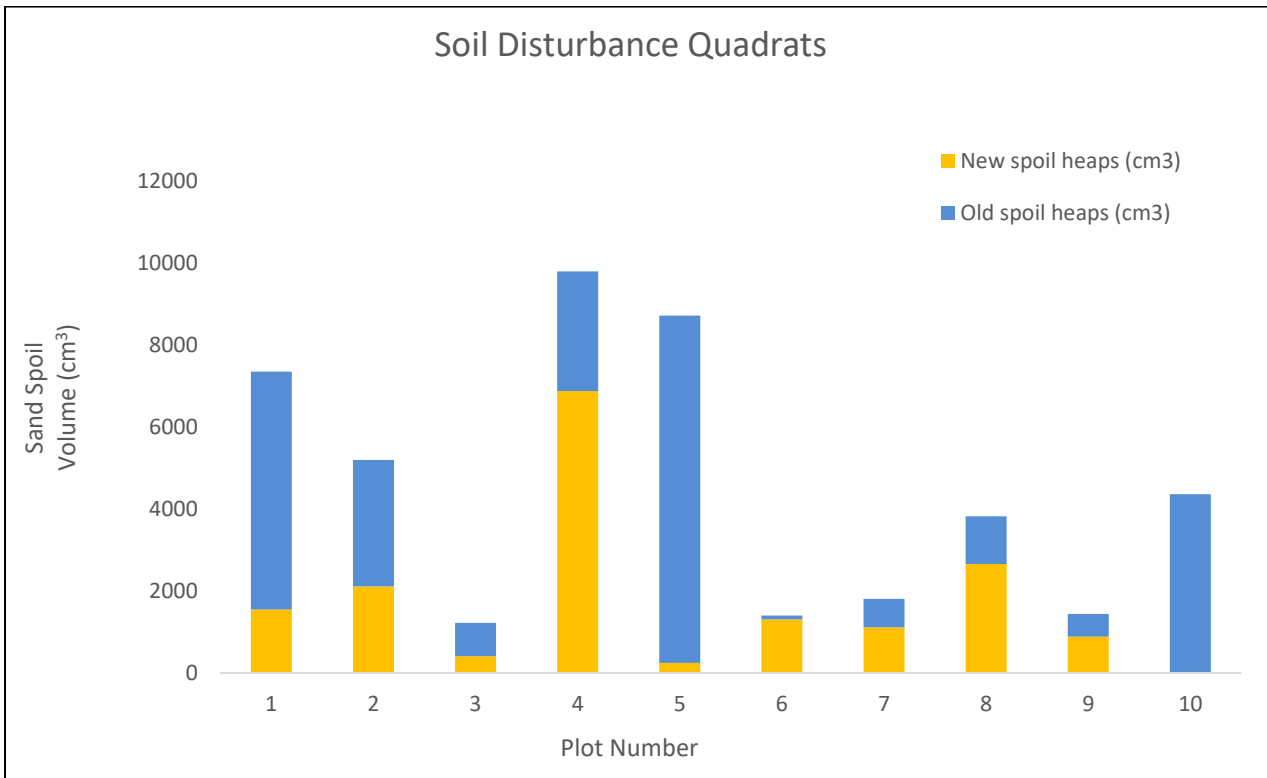


Figure 10: Quenda disturbance plots showing amount (volume) of soil excavated from Balijup Sanctuary, January 2026. *Blue represents old spoil heaps, yellow represents new spoil heaps.

4.6 Results

A total of 102 Quenda foraging pits were recorded across the ten soil disturbance plots conducted within Balijup Sanctuary in 2026 (Table 4). Of these, approximately 30% were new pits, while 70% were old. The combined volume of soil removed from all foraging pits across the ten plots was 45,077 cm³ (~0.05 m³).

Based on these results, the average composition of pits was approximately 38% new and 62% old in terms of soil volume extracted.

Overall, soil disturbance is highly variable among plots, with total spoil volume ranging from very low (e.g., Plot 3) to very high (e.g., Plots 4 and 5). Most plots contain a mixture of both new and old spoil, although the relative contribution of each differs markedly.

Plots 4 and 5 exhibit the greatest total disturbance. Plot 4 is dominated by new spoil, indicating recent excavation activity, whereas Plot 5 is dominated almost entirely by old spoil, suggesting past disturbance with little recent activity. In contrast, Plot 10 also shows a high volume but consists exclusively of old spoil, further indicating no recent soil turnover there.

Several plots (e.g., 1, 2, and 7) show substantial contributions from old spoil relative to new spoil, implying that disturbance in these areas is not recent. Conversely, Plot 8 has a relatively high proportion of new spoil, suggesting more recent or ongoing activity. Low-disturbance plots (e.g., 3 and 6) show minimal volumes of both spoil types.

In summary, the data indicate a patchy distribution of disturbance, with some quadrats showing evidence of recent activity (high new spoil), while others reflect older, residual disturbance (high old spoil). This spatial heterogeneity suggests that soil disturbance processes are localized rather than uniform across the study area.

One of the primary objectives of the soil disturbance surveys was to estimate the total volume of soil extracted by Quenda at Balijup Sanctuary. The calculations below use the 2026 survey data to address this question.

Calculation

1. Convert soil heap from cubic centimetres to cubic metres for the ten plots.
2. Calculate soil volume per square metre by converting the total cubic metres from the ten plots (250 m²) to a per-square-metre value.
3. Extrapolate to the entire sanctuary by converting the soil volume from 1 m² to 100 hectares (Balijup Sanctuary).
4. Adjust for conical pit shape by dividing the maximum cubic (rectangular) soil estimate by 3. This step corrects the overestimate from the box method and provides a more realistic volume for the conical shape of Quenda foraging pits.

Table 4: Calculation for the amount of soil extracted from Quenda foraging pits at Balijup Sanctuary in January 2026.

Conversion	Calculation	Sum of new spoil heap	Sum of old spoil heap	Total sum of old and new spoil heap	Unit of measurement
		17119	27958	45077	cm ³ per 10 plots
cm ³ to m ³	divided by 1,000,000	0.017119	0.027958	0.045077	m ³ per 250 m ²
250 m ³ to 1 m ³	divided by 250	0.000068476	0.000111832	0.000180308	metre cubed of soil per 1 m ²
1 m ³ to 100 hectares	multiplied by 1,000,000	68	112	180	cubic metres per 100 ha
Maximum rectangle cube to conical volume	Divide estimate by 3	23	37	60	cubic metres per 100 ha

The estimate of soil extracted from new and old Quenda foraging pits for 2026 was 60 cubic metres for Balijup Sanctuary (Table 5). New spoil heaps accounted for 23 cubic metres, and old spoil heaps accounted for 37 cubic metres. Percentages remain the same; 38% for new and 62% for old.

An interesting observation was made outside Balijup Sanctuary; there was a single Quenda foraging pit observed outside the sanctuary near trap 106 (see Figure 4), not far from the gate which indicates that there are Quenda occurring outside the fence in low numbers but have persisted.

4.7 Discussion

The 2025 and 2026 surveys of Quenda foraging behaviour at Balijup Sanctuary provides valuable insights into the species' role as an ecosystem engineer and highlighting its significant contribution to soil disturbance. A total of 115 foraging pits were recorded in 2025 resulting in a substantial volume of 49,413 cm³ of soil being excavated.

In 2026, 1 total of 102 Quenda foraging pits were recorded across the ten soil disturbance plots conducted within Balijup Sanctuary in 2026 (Table 4). Of these, approximately 30% were new pits, while 70% were old. The combined volume of soil removed from all foraging pits across the ten plots was 45,077 cm³ (~0.05 m³).

Caution is however required to these numbers as there are many factors which can under or overestimate the volume in the soil spoil heaps such as personal bias variation and the fact that the spoil volume measurement is taken as cubic rectangular at the longest of edges of the spoil oppose to a more realistic cone shape. This methodology may overestimate the volume; however, it is repeatable and consistent so trends over time will be measurable.

These findings align with previous studies, such as Ryan et al. (2020), which explored the role of bioturbation by reintroduced digging mammals in Craigie Bushland, a 53ha fenced urban reserve north of Perth. Their research demonstrated that species like Quenda can significantly alter fuel loads and soil characteristics by engaging in digging behaviour, thus influencing the broader ecological processes within urban bushland reserves. The observed predominance of old spoil heaps (99 out of 115) at Balijup Sanctuary echoes the conclusions of James et al. (2009) and Mallen-Cooper et al. (2019), who highlighted that such long-term soil disturbance can facilitate nutrient cycling and plant regeneration. This suggests that Quenda's digging behaviour not only affects soil composition but may also enhance local biodiversity and promote ecosystem resilience over time.

Finally, while Quenda appear to be the primary contributors to soil disturbance at Balijup Sanctuary, the presence of other species, such as rabbits and goannas, in some plots suggests that bioturbation is a multi-species process. However, the magnitude of disturbance caused by these species was comparatively small, reinforcing the idea that Quenda's digging behaviour plays a dominant role in shaping soil structure in this ecosystem.

In conclusion, the survey results underscores the key role that Quenda play in altering soil structure and enhancing ecosystem processes such as nutrient cycling and plant regeneration. However, it also highlights the complexity of their foraging behaviour, with local environmental factors influencing the extent of disturbance. Future research should explore the broader ecological consequences of Quenda soil disturbance, particularly in relation to vegetation dynamics, plant recruitment, and overall biodiversity in bushland reserves. Understanding these impacts will be crucial for managing and conserving bushland ecosystems where reintroduced species like Quenda play a pivotal role in maintaining ecological balance.

References:




- James, A., Smith, P., & Jones, L. (2009). *The role of soil disturbance in nutrient cycling and plant regeneration in urban ecosystems*. Ecological Research, 24(3), 215-227. <https://doi.org/10.1007/s11284-009-0627-5>
- Mallen-Cooper, M., Green, P., & Johnson, C. (2019). *Bioturbation and its implications for urban bushland reserves: Impacts on biodiversity and ecosystem processes*. Landscape Ecology, 34(4), 945-958. <https://doi.org/10.1007/s10980-019-00956-4>

Ryan, C. M., Hobbs, R. J., & Valentine, L. E. (2020). Bioturbation by a reintroduced digging mammal reduces fuel loads in an urban reserve. *Ecological Applications*, 30, e02018. <https://doi.org/10.1002/eap.2018>

5 APPENDIX

5.1.1

Acknowledgements: Photos by Martin Regien, Jen Gannon, Angus Dempster, other Eco camp participants

Photo	Caption
	<p>Aerial of Balijup Farm (Martin Regien AirPix)</p>
	<p>Map of Balijup and Sanctuary- Location</p>
	<p>Balijup Farm Sanctuary Fence and Gate</p>



Balijup Eco Camp 15 –19 Jan 2026



Balijup Eco Camp 15 –19 Jan 2026



Balijup Eco Sanctuary

Bird surveying with Andrew and Angela Dickinson (2025)



Balijup Eco Camp 15 to 19 Jan 2026

Photo Angus Dempster



Balijup Eco Sanctuary
Soil Survey (January 2025)



Balijup Eco Sanctuary
Soil Survey (January 2025)



Balijup Eco Sanctuary
Soil Survey (January 2025)







Balijup Eco Sanctuary
Soil Survey (January 2025)








	<p>Balijup Eco Camp 15 –19 Jan 2026</p>
	<p>Balijup Wildlife Camera Setting (2025) Cameras were also deployed in Balijup Eco Sanctuary in January 2026</p>
	<p>Balijup Eco Camp 15 –19 Jan 2026</p>
	<p>Balijup Eco Camp 15 –19 Jan 2026 Repair and Maintenance of the Sanctuary Fence</p>






	<p>Balijup Eco Camp 15 –19 Jan 2026</p>
	<p>Balijup Eco Camp 15 –19 Jan 2026 Photo by Joe Porter Of SAC Ranger team at Cocky Tube site</p>
	<p>Balijup Eco Camp 15 –19 Jan 2026 Photo Monitoring of Permanent Quadrats</p>
	<p>Balijup Eco Camp 15 –19 Jan 2026 Photo Monitoring of Permanent Quadrats</p>








		<p>Balijup Eco Camp 15 –19 Jan 2026</p> <p>Photo Angus Dempster</p>
		<p>Balijup Eco Camp 15 –19 Jan 2026</p> <p>Scarlet Robin at Balijup - Photo Jen Gannon</p>
		<p>Balijup Eco Camp 15 –19 Jan 2026</p> <p>Photo By Angus Dempster</p>
		<p>Balijup Eco Camp 15 –19 Jan 2026</p> <p>Photo Angus Dempster</p> <p>Martagallup Pony Club Lake</p>
		<p>Balijup Eco Camp 16 – 20 Jan 2025</p> <p>Wetland Bird Surveying with Andrew and Angela Dickinson at Teeneetuy Lake, Anderson Springs Farm (Hall Family)</p>



	<p>Balijup Eco Camp 15 –19 Jan 2026</p> <p>Photo Angus Dempster</p> <p>Martagallup Pony Club Lake</p>
	<p>Balijup Eco Camp 15 –19 Jan 2026</p> <p>Visit to Wetlands on Sandiland Farm, Kendenup</p>
	<p>Balijup Eco Camp 15 –19 Jan 2026</p> <p>Photo Angus Dempster</p>



		<p>Balijup Eco Camp 15 –19 Jan 2026</p> <p>Inspecting pinecones eaten by BT Cockatoos on the ground</p>
		<p>Balijup Eco Camp 15 –19 Jan 2026</p> <p>Photo Angus Dempster</p> <p>Martagallup Pony Club Lake</p>
		<p>Balijup Eco Camp 15 –19 Jan 2026</p> <p>Lake Matilda Bird Hide, Kendenup</p>
		<p>Balijup Eco Camp 15 –19 Jan 2026</p>
		<p>Balijup Eco Camp 15 –19 Jan 2026</p> <p>Photo Angus Dempster</p>



		<p>Balijup Eco Camp 15 –19 Jan 2026</p> <p>Black Cockatoo Cocky Tube within Balijup Sanctuary Photo Joe Porter</p>
		<p>Balijup Eco Camp 15 –19 Jan 2026</p> <p>Black Cockatoo Cocky Tube with Carnaby BT Cockatoo within Balijup Sanctuary Photo Joe Porter</p>
		<p>Balijup Eco Camp 15 –19 Jan 2026</p> <p>Black Cockatoo Cocky Tube within Balijup Sanctuary Photo Joe Porter</p>