

TECHNICAL MEMORANDUM

Targeted Fauna Survey

Part Lot 500 on DP421144, Boddington

PROJECT NUMBER	EP23-044 (09)	DOC. NUMBER	EP23-044(09)- -010A SNC
PROJECT NAME	Shire of Boddington Mountain Bike Trail Environmental Support	CLIENT	The Shire of Boddington
AUTHOR	SNC	REVIEWER	TAA
VERSION	A	DATE	21/11/2025

1. INTRODUCTION

1.1. Project background

The Shire of Boddington proposes to develop mountain bike trails within Lot 500 on DP421144. The proposed development envelope within Lot 500 extends over approximately 105.76 hectares (ha) and a survey area was established (herein referred to as the 'site') which is approximately 240.96 ha. The site and development envelope are shown in **Figure 1**.

Emerge Associates previously conducted a basic fauna and targeted black cockatoo assessment (Emerge Associates 2024) which recorded the following 'threatened' and 'priority' species within the site:

- *Zanda latirostris* (Carnaby's black cockatoo), listed as 'endangered' (EN) under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) and State *Biodiversity Conservation Act 2016* (BC Act).
- *Zanda baudinii* (Baudin's black cockatoo), listed as endangered under the EPBC Act and BC Act.
- *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo), listed as 'vulnerable' (VU) under the EPBC Act and BC Act.
- *Macropus irma* (western brush wallaby), listed as priority four (P4) in Western Australia (WA).

The basic fauna assessment also identified the following threatened, 'specially protected' and priority species as having a high or moderate likelihood of occurrence:

- *Dasyurus geoffroii* (chuditch), listed as VU under the EPBC Act and BC Act.
- *Phascogale calura* (red-tailed phascogale), listed as VU under the EPBC Act and conservation dependant under the BC Act.
- *Phascogale tapoatafa wambenger* (south-western brush-tailed phascogale), listed as 'conservation dependant' under the BC Act.
- *Myrmecobius fasciatus* (numbat), listed as EN under the EPBC Act and BC Act.
- *Bettongia penicillata* (woylie), listed as EN under the EPBC Act and 'critically endangered' (CR) under the BC Act.
- *Apus pacificus* (Pacific swift), listed as 'migratory' under the EPBC Act and BC Act.
- *Falco peregrinus* (peregrine falcon), listed as other specially protected under the BC Act.
- *Ctenotus delli* (Dell's skink), listed as P4 in WA.
- *Isodon fusciventer* (quenda), listed as P4 in WA.
- *Falsistrellus mackenziei* (western false pipistrelle), listed as P4 in WA.

In response to clearing permit application CP 10905/1, the Department of Water and Environment Regulation requested that a targeted fauna survey be undertaken to determine the presence of woylie (CR/EN), chuditch (VU), and numbat (EN).

1.2. Purpose and scope of work

Emerge were engaged by the Shire of Boddington to conduct a targeted fauna survey with reference to the EPA's *Technical Guidance: Terrestrial Fauna Surveys* (EPA 2020) and EPBC Act *Survey guidelines for Australia's threatened mammals* (DSEWPaC 2011).

As part of this the following tasks were undertaken:

- Definition of a 240.96 ha survey area boundary that encompassed the proposed mountain bike trail development envelope (refer **Figure 1**).
- Further characterisation of the fauna habitats identified in the basic fauna survey as they relate to the target species.
- A field survey in July/August and October 2025 during which experienced zoologists deployed motion sensitive cameras and completed active diurnal and nocturnal searches of suitable habitat for the target species.
- Analysis of motion sensitive cameras and documentation of field survey methods and results.

2. METHODS

Three zoologists from Emerge visited the site on 31 July and 1 August 2025 to deploy motion sensitive cameras and conduct diurnal and nocturnal field searches. A subsequent site visit was undertaken by two zoologists from Emerge on 9 and 10 October 2025 to retrieve the cameras, complete habitat assessment sampling, and conduct a second round of diurnal and nocturnal searches.

2.1. Camera surveys

A 300 m vector grid was created and overlaid over the survey area using QGIS. One camera was placed within each 300 m grid cell to ensure the systematic array of cameras (refer **Figure 2**). Attractants were used to increase detection potential, including 'meat bait' (raw mince, chicken and fish oil) at eight camera locations targeting chuditch, and 'universal bait' (a mixture of peanut butter, sardines, oats and fish oil) at 15 camera traps targeting chuditch and woylie. The baits were placed in a PVC tube fixed to a star-picket approximately 1 m from the ground within 2 m of the camera's field of view. Care was taken to ensure no animal dens/burrows were located near the cameras to avoid attracting predators.

Attractants were not used to target numbat detection given their specialist diet of termites. Rather, cameras were strategically placed near termite mounds or logs. A total of 23 cameras were deployed providing coverage of 71 nights per camera. Note one camera was stolen and this footage was not retrieved (camera#10).

2.2. Diurnal surveys

Zoologists conducted active searches throughout the survey area for numbat individuals, which are diurnal, as well as secondary evidence such as diggings, particularly around termite mounds which are the numbats primary food source.

Searches were also undertaken for secondary evidence of woylies (diggings, tracks and nests) and chuditch (tracks, scats, latrines and skeletal remains).

Sampling of fauna habitats were undertaken using non-permanent habitat assessment points. Habitat assessments were conducted across the site within different habitats. The habitat assessment was completed over an approximate 10-20 m radius of the sample location. The data recorded at each sampling point include environmental information such as microhabitat types and soil type and biological information such as dominant vegetation types, shrub and ground vegetation layers. The position of each sample was recorded with a hand-held GPS receiver (± 5 m accuracy).

GPS tracklogs for all surveys are shown in **Figure 3**.

2.3. Nocturnal surveys

The nocturnal survey involved traversing transects on foot to spotlight for woylie and chuditch individuals, as well as undertaking 'still-watching' surveys. The 'still-watching' method involved remaining stationary for set intervals (15 to 25 minutes) and quietly observing the surrounding area using the Hikmicro Lynx S thermal telescope. During transects, the ground was searched using both a high-powered torch and the thermal telescope. The torch was used to detect the presence of woylie and chuditch through eye-shine, while the thermal telescope was used to search for and identify individuals through heat signatures. Records were made spatially using a GPS receiver (± 5 m) and a note for the count of individuals observed. GPS tracklogs for all surveys are shown in **Figure 3**.

3. RESULTS AND DISCUSSION

3.1. Camera surveys

No woylie, chuditch or numbats were detected using the camera traps.

The cameras recorded a total of 30 fauna species, comprising 16 birds, 13 mammals and one reptile. This included the following priority and conservation dependent species:

- western brush wallaby (P4)
- quenda (P4)
- south-western brush-tailed phascogale (CD).

Example images of the non-volant vertebrate fauna recorded by camera traps is provided as

An image that could potentially depicting a red-tailed phascogale (VU, CD) individual was recorded on camera #15 (refer to **Figure 2**). The red-tailed phascogale can be distinguished from the south-western brush tailed phascogale by several key features outlined in found in **Table 1**, including smaller body size and a less bushy tail. The individual captured on camera appeared to exhibit these characteristics. However, the images obtained offer limited ability to evaluate scale, making it difficult to confirm the species conclusively.

The images were reviewed by fauna expert Dr Mike Bamford (pers. comm.) who noted that the individual could potentially be a red-tailed phascogale but that, without a scale, it would not be possible to definitively confirm the species. However, other images obtained during the survey were positively identified as south-western brush-tailed phascogales. Based on morphology and the

difference between the other images obtained, the record has been provisionally assigned as a red-tailed phascogale (VU, CD), although it cannot be confirmed with 100% certainty.

Table 1: Key diagnostic features between red-tailed and brush-tailed phascogales (Peter Menkhorst 2011)

Feature	South-western brush-tailed phascogale	Red-tailed phascogale
Body length	Larger. Between 15-26 cm.	Smaller. Between 9.5 - 12.5 cm
Weight	110 – 310 g	38 – 70 g
Tail	Two thirds of tail is black ‘bottle brush’ with hairs up to 55 mm long	Inner half of tail is rusty red, outer half is a brush of long blackish hairs.

Five non-native mammals were detected during the survey. *Vulpes vulpes* (red fox), *Felis catus* (cat) and *Oryctolagus cuniculus* (rabbit) are listed as declared pests under the *Biosecurity and Management Act 2007* (BAM Act). *Mus musculus* (house mouse) and *Rattus rattus* (black rat) were also recorded and are recognised as introduced species.

The full species list is provided as .

3.2. Diurnal and nocturnal surveys

No evidence of woylie, chuditch or numbat were observed during the diurnal or nocturnal surveys. Small termite mounds were identified on site. However, no evidence of numbat diggings were detected near these termite mounds.

3.3. Habitat assessment

A total of 23 habitat assessments were conducted across the site, and four broad fauna habitat types were recorded. Refer to for full details.

A description, the size of the area and a representative photograph of each habitat is provided in **Table 2** and the location of each fauna habitat and sample (habitat assessment) is shown in **Figure 4**.

Table 2: Fauna habitats identified within the site




Fauna habitat	Description	Sample/s	Total area (ha)	Proportion of site (%)	Representative photograph
Eucalypt forest	<p>Predominantly made up of <i>Eucalyptus wandoo</i> (Wandoo) with scattered <i>Corymbia calophylla</i> (Marri) and <i>Eucalyptus marginata</i> (Jarrah). Understory varies in density throughout the site.</p> <ul style="list-style-type: none"> • High microhabitat complexity • Microhabitats which exist consist of woody debris, fallen logs, dense leaf litter, hollows, rocks • Conservation significant species recorded on camera in this habitat: south-western brush-tailed phascogale, (potential) red-tailed phascogale, western brush wallaby, and quenda • This habitat is suitable for chuditch and numbat and in areas of dense understory it is suitable for woylie. 	All samples except HA5	210.00	87.15	
Tall shrubland	<p><i>Allocasuarina huegeliana</i> woodland with scattered Wandoo, Jarrah and Marri.</p> <ul style="list-style-type: none"> • Moderate microhabitat complexity • Microhabitats consist of woody debris and dense leaf litter • Only one species recorded on camera in this habitat: western grey kangaroo which is a widespread and common species. • This habitat is suitable for avifauna such as Baudin's cockatoo and Carnaby's cockatoo. However, it lacks the microhabitat complexity required for woylie, chuditch and numbat. 	HA5	16.85	7.00	

Table 2: Fauna habitats identified within the site (continued)

Fauna habitat	Description	Sample/s	Total area (ha)	Proportion of site (%)	Representative photograph
Cleared	<p>Highly disturbed area predominantly bare ground with scattered <i>Allocasuarina</i> sp.</p> <ul style="list-style-type: none"> • Low microhabitat complexity • The scattered <i>Allocasuarina</i> could be used by avifauna for nesting and roosting. • Common fauna such as kangaroos may pass through this habitat to get to more suitable habitat. • Does not provide suitable habitat for woylie, chuditch and numbat. 	N/A	11.40	4.73	
Water	<p>Fauna may visit this area for drinking.</p> <ul style="list-style-type: none"> • Woylie and numbat do not usually drink from water sources but chuditch may. 	N/A	2.71	1.12	N/A

3.4. Discussion

DSEWPC (2011) note that the absence of detections during surveys does not confirm that a target species is absent from a site. Consistent with this, no woylies were recorded during the targeted fauna assessment. Habitat within the site is likely marginal for woylie due to the lack of continuous dense understory within the eucalypt forest and the presence of introduced predators such as foxes and cats (both recorded on cameras). Without predator suppression, it is highly unlikely that the site could support a viable woylie population.

The site does provide suitable habitat for chuditch, given it is predominantly eucalypt forest with numerous fallen logs and hollows. However, chuditch are known to cover large distance when roaming (DEC 2012b). As no individuals were detected on cameras and no field evidence was observed, it is unlikely that the site supports a permanent population. It is nonetheless possible that occasional or vagrant individuals occur, such as dispersing juveniles or adults using the site in conjunction with adjacent suitable habitat across the wider area.

Termites are the primary food source for numbats, and no evidence of numbat diggings were observed around any of the termite mounds in the site. Therefore, it is unlikely that a resident population of numbats occurs within the site.

The *Survey guidelines for Australia's threatened mammals* provides survey techniques for woylie, chuditch and numbat for areas of up to 5 ha in size (DSEWPaC 2011). Recommended survey techniques for larger areas (such as the site which is 240.96 ha) are not specified.

DSEWPC (2011) recommend camera trapping for at least 14 nights with 10 cameras per hectare, for areas up to 5 ha in size. Due to the size of the site, survey methods were adapted to be undertaken over a longer period (71 nights) with a reduced camera density to cover the survey area effectively. The stipulated density of 10 cameras per hectare was considered impractical, as it would have required approximately 2,410 cameras to comply. It is likely that DSEWPC (2011) do not recommend a minimum camera density for larger sites due to this impracticability; rather relying on technical experts to determine appropriate number of cameras.

4. CONCLUSIONS

A variety of fauna species were recorded during the targeted fauna assessment, including western brush wallaby (P4), quenda (P4), south-western brush-tailed phascogale (CD) and provisionally, red-tailed phascogale (VU, CD). None of the three target species were observed, nor was any secondary detected to suggest their presence within the site.

The development of mountain bike trails has some potential to impact ground dwelling fauna like western brush wallaby (P4) and quenda (P4), through altering behaviour and to lesser extent collision. It is much less likely that strongly arboreal fauna like south-western brush-tailed phascogale (CD) would be affected (DEC 2012a). Nevertheless, as demonstrated by the images captured by the cameras deployed in this assessment, phascogales spend a portion of their time on the ground. Excepting quenda, which are more regularly sighted where they occur, the recorded species are typically wary and would be expected to avoid interaction to the extent they would rarely be observed by trail users.

The impact of clearing where this is proposed would result in the loss of a relatively small proportion of overall habitat and would not result in loss of connectivity or patch size at reserve scale.

5. REFERENCES

Department of Environment and Conservation (DEC) 2012a, *Brush-tailed Phascogale (Phascogale tapoatafa) Fauna Profile (Meyer, 1793)*.

Department of Environment and Conservation (DEC) 2012b, *Chuditch (Dasyurus geoffroii) National Recovery Plan*, <<https://www.dcceew.gov.au/sites/default/files/documents/dasyurus-geoffroii-2012.pdf>>.

Department of Sustainability, Environment, Water, Population and Communities, (DSEWPac) 2011, *Survey guidelines for Australia's threatened mammals*, Canberra, ACT.

Department of Sustainability, Environment, Water, Population and Communities, (DSEWPC) 2011, *Survey guidelines for Australia's threatened mammals Guidelines for detecting mammals listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999*, DCCEEW, Canberra.

Emerge Associates 2024, *Basic Fauna and Targeted Black Cockatoo Assessment Part Lot 500 on DP421144, Boddington, EP23-044(03)--001 NAW, Version A, .*

Environmental Protection Authority (EPA) 2020, *Technical Guidance - Terrestrial vertebrate fauna surveys for environmental impact assessment*, Joondalup, Western Australia.

Peter Menkhorst, Frank Knight 2011, *A field guide to the mammals of Australia third edition*, Oxford University Press, Melbourne.

Figures



Figure 1: Site Location

Figure 2: Camera Trap Locations

Figure 3: Transects Survey Efforts

Figure 4: Fauna Habitat

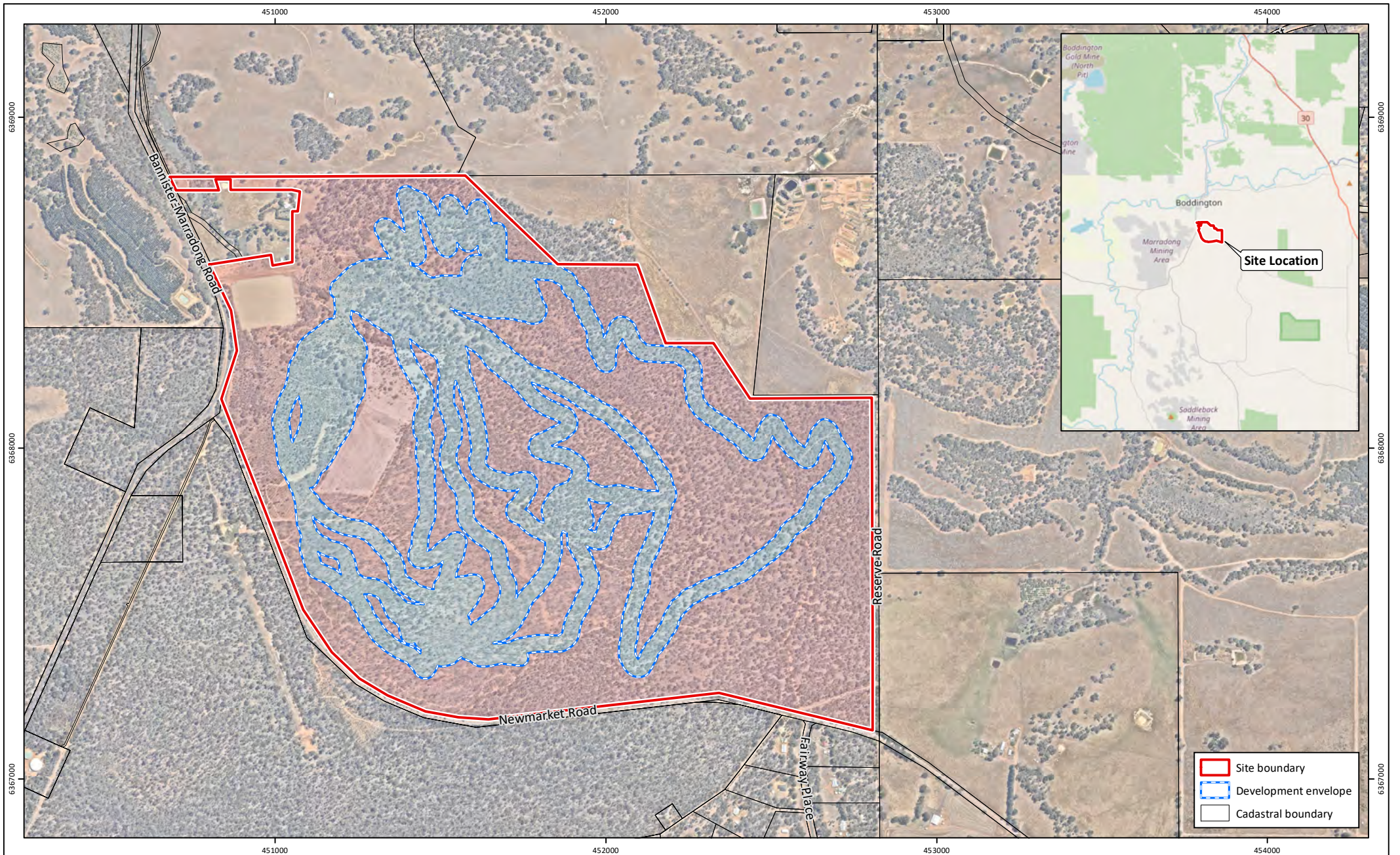


Figure 1: Site Location

Project: Targeted Fauna Assessment
Part Lot 500 Bannister-Marradong Road, Boddington

Client: Shire of Boddington

Plan Number:
EP23-044(09)--F32

Drawn: GAR
Date: 30/10/2025

Checked: SNC
Approved: RAW
Date: 07/11/2025



0 200 400 600
Metres
Scale: 1:15,000@A4
GDA2020 MGA Zone 50



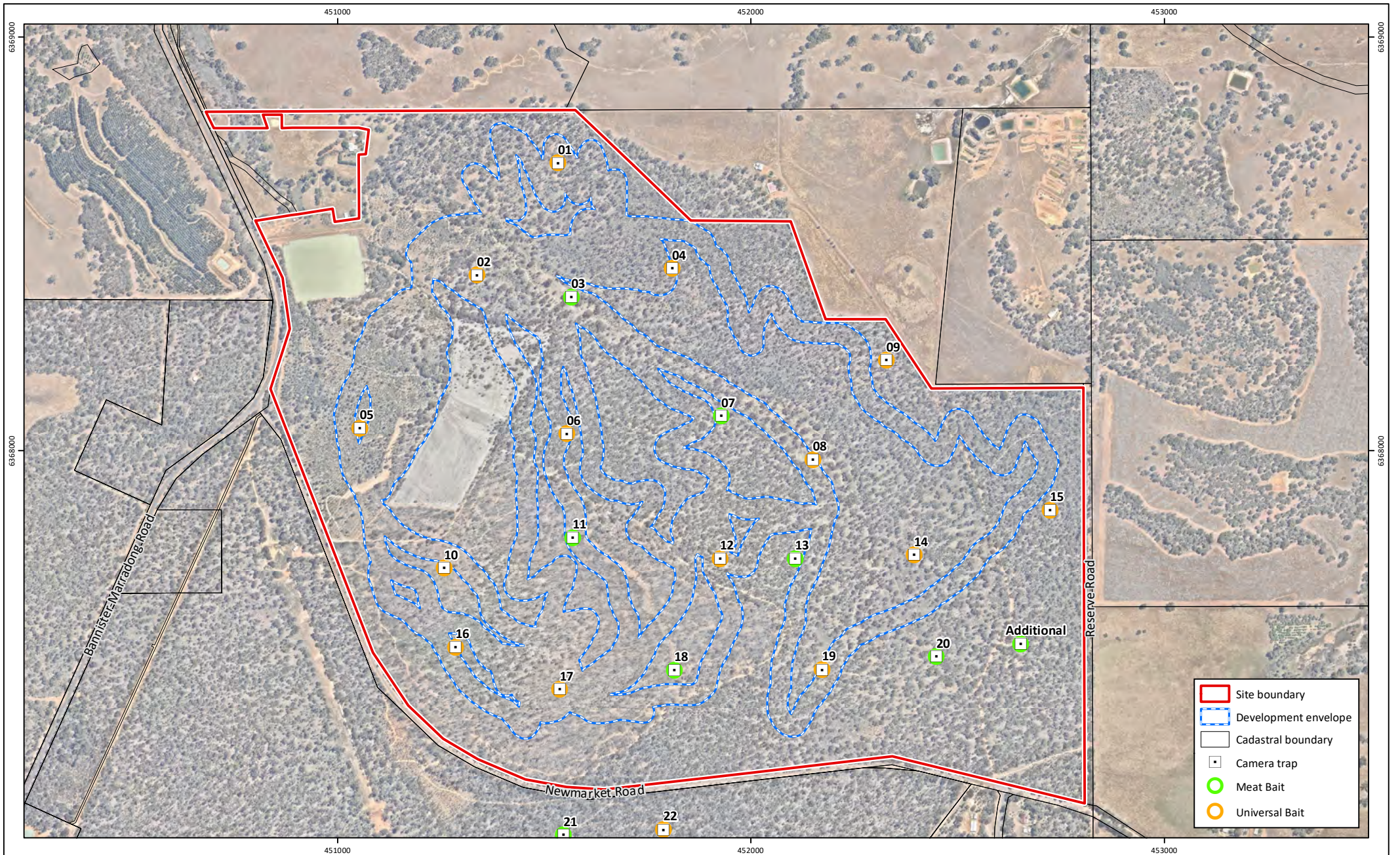
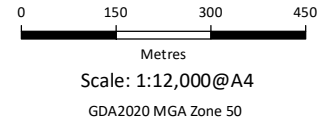


Figure 2: Camera Trap

Project: Targeted Fauna Assessment
 Part Lot 500 Bannister-Marradong Road, Boddington
Client: Shire of Boddington

Plan Number:
 EP23-044(09)--F33
Drawn: GAR
Date: 30/10/2025
Checked: SNC
Approved: RAW
Date: 07/11/2025



While Emmerge Associates makes every attempt to ensure the accuracy and completeness of data, Emmerge accepts no responsibility for externally sourced data used
 ©Landgate (2021). Nearmap Imagery date: 04/11/2014

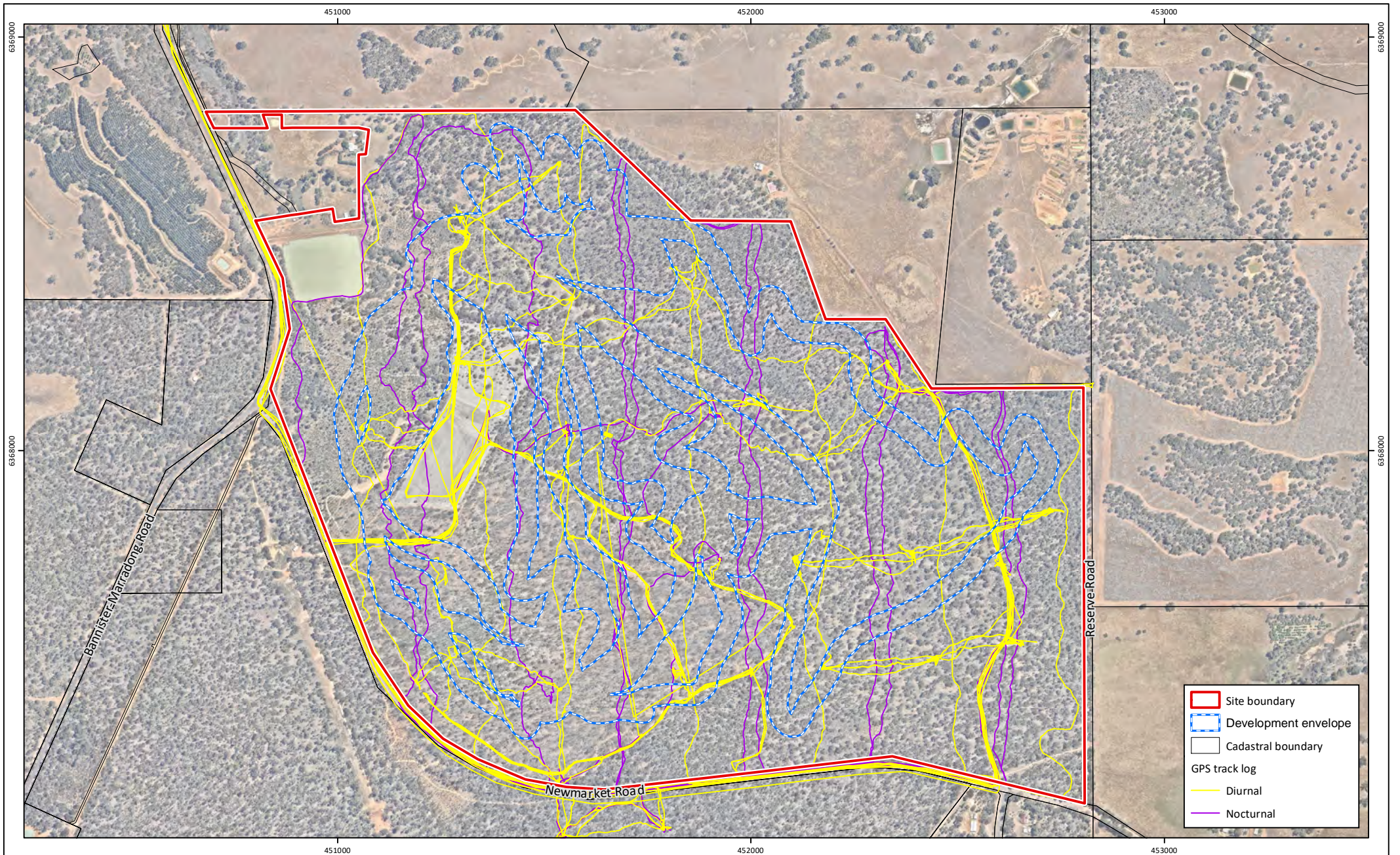


Figure 3: Transect Survey Effort

Project: Targeted Fauna Assessment
 Part Lot 500 Bannister-Marradong Road, Boddington

Client: Shire of Boddington

Plan Number:
 EP23-044(09)--F34

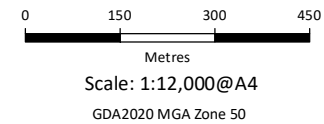
Drawn: GAR

Date: 30/10/2025

Checked: SNC

Approved: RAW

Date: 07/11/2025



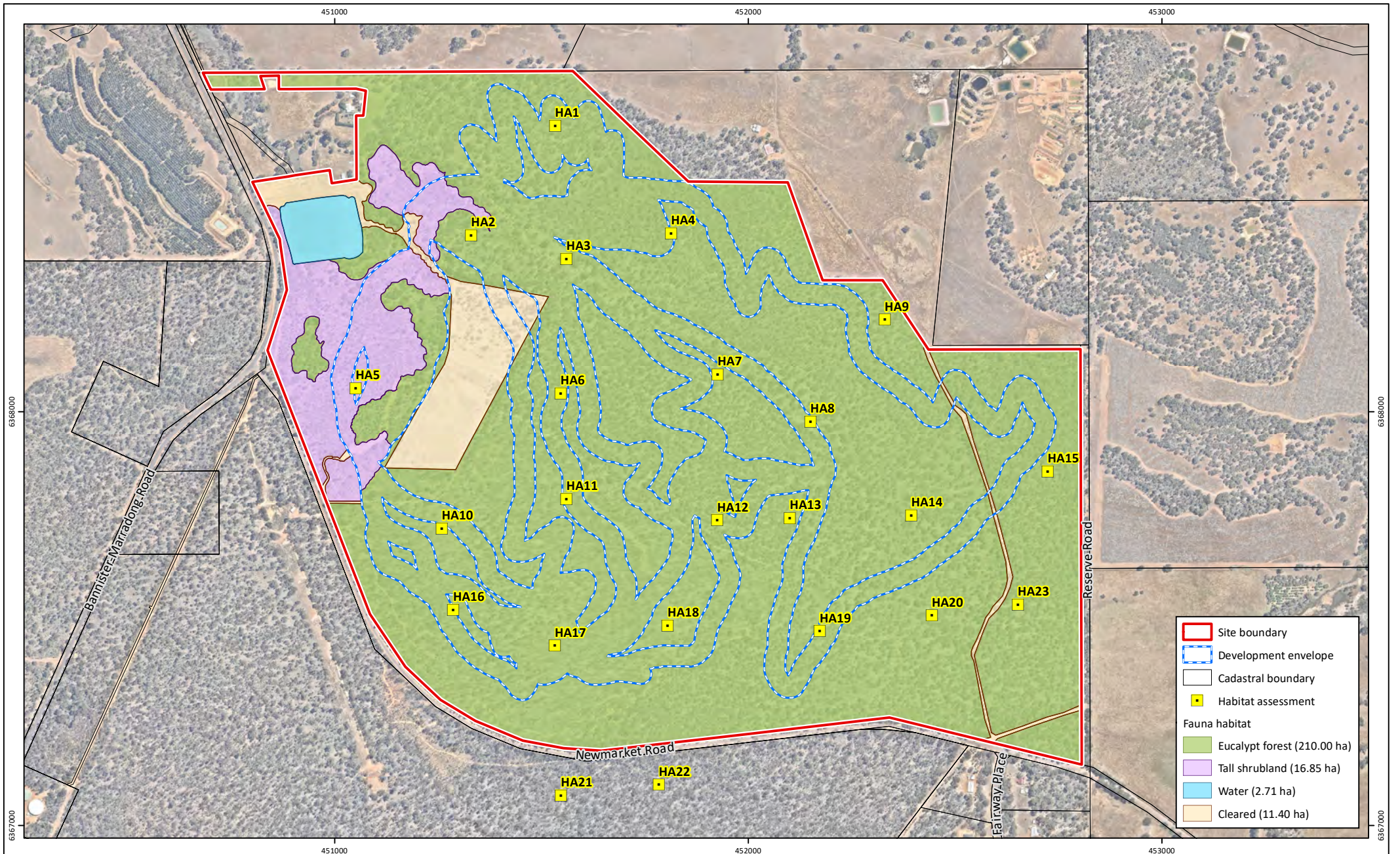


Figure 4: Fauna Habitat

Project: Targeted Fauna Assessment
Part Lot 500 Bannister-Marradong Road, Boddington
Client: Shire of Boddington

Plan Number:
EP23-044(09)--F35
Drawn: GAR
Date: 30/10/2025
Checked: SNC
Approved: RAW
Date: 07/11/2025



0 150 300 450
Metres
Scale: 1:12,000@A4
GDA2020 MGA Zone 50



Appendix A

Fauna Images from camera traps



Status	Species name	Common name
CD	<i>Phascogale tapoatafa wambenger</i>	South-western brush-tailed phascogale



Ltl Acorn 0023 ● 057F 014C 09/27/2025 19:40:20



Ltl Acorn ● 050F 010C 09/19/2025 22:37:20

VU/

CD ?*Phascogale calura*

Red-tailed phascogale



● 50F 10C 2025/10/04 02:40:28 ID:0004

P4 *Isodon fusciventer*

Quenda



Ltl Acorn 0024 ● 039F 004C 09/15/2025 01:31:59

P4 *Notamacropus irma*

Western brush wallaby



Ltl Acorn ○ 048F 009C 08/05/2025 19:55:03

DP *Felis catus*

Cat



Ltl Acorn ● 062F 017C 08/30/2025 09:28:37

Trichosurus vulpecula hypoleucus

Common brush tailed possum



Tachyglossus aculeatus acanthion

Short-beaked Echidna



DP *Vulpes vulpes*

Fox



Ltl Acorn 0023 046F 008C 08/18/2025 08:07:04

DP *Oryctolagus cuniculus*

Rabbit



57F 14C 2025/08/01 12:24:22 ID:0047

* *Rattus rattus*

Black rat



Ltl Acorn ○ 050F 010C 08/06/2025 05:04:54

Macropus fuliginosus melanops

Western grey kangaroo



● 59F 15C 2025/09/01 16:52:32 ID:0047

Antechinus flavipes

Yellow footed antechinus



Tiliqua rugosa rugosa

Bobtail lizard



Appendix B

Fauna Species List



Category	Status	Species name	Common name	Record type
Birds				
		<i>Aegotheles cristatus</i>	Australian owlet-nightjar	Camera
		<i>Tachyspiza fasciatus</i>	Brown goshawk	Camera
		<i>Phaps chalcoptera</i>	Common bronzewing	Camera
		<i>Melanodryas cucullata</i>	Hooded robin	Camera
		<i>Strepera versicolor</i>	Grey currawong	Camera
		<i>Rhipidura albiscapa</i>	Grey fantail	Camera
		<i>Heteroscenes pallidus</i>	Pallid cuckoo	Camera
		<i>Corvus coronoides</i>	Raven	Camera
		<i>Purpureicephalus spurius</i>	Red-capped parrot	Camera
		<i>Barnardius zonarius</i>	Australian ringneck parrot	Camera
		<i>Climacteris rufus</i>	Rufous tree creeper	Camera
		<i>Petroica boodang</i>	Scarlet robin	Camera
		<i>Platycercus icterotis</i>	Western rosella	Camera
		<i>Acanthorhynchus superciliosus</i>	Western spinebill	Camera
		<i>Eopsaltria griseogularis</i>	Western yellow robin	Camera
		<i>Lalage tricolor</i>	White-winged triller	Camera
Mammal				
	DP	<i>Felis catus</i>	Cat	Camera
		<i>Trichosurus vulpecula hypoleucus</i>	Common brush tailed possum	Camera
		<i>Tachyglossus aculeatus acanthion</i>	Short-beaked Echidna	Camera
	DP	<i>Vulpes vulpes</i>	Fox	Camera
	*	<i>Mus musculus</i>	House mouse	Camera
	P4	<i>Isodon fusciventer</i>	Quenda	Camera
	DP	<i>Oryctolagus cuniculus</i>	Rabbit	Camera
	VU/CD	<i>?Phascogale calura</i>	Red-tailed phascogale	Camera
	*	<i>Rattus rattus</i>	Black rat	Camera
	CD	<i>Phascogale tapoatafa wambenger</i>	South-western brush-tailed phascogale	Camera

Reptiles	P4	<i>Notamacropus irma</i>	Western brush wallaby	Camera
		<i>Macropus fuliginosus melanops</i>	Western grey kangaroo	Camera
		<i>Antechinus flavipes</i>	Yellow footed antechinus	Camera
		<i>Tiliqua rugosa rugosa</i>	Bobtail lizard	Camera

Note: * denotes introduced fauna species, DP=declared pest under the BAM Act, EN=Endangered under the BC and EPBC Acts, P4=Priority 4 in WA, VU=Vulnerable under the BC and EPBC Acts

Appendix C

Habitat Assessment



Sample Name:

1

Project no.: EP23-044 (09)

Easting

451533.04

Date: 10/10/2025

Northing

6368692.00

Author: GJB,

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus wandoo open forest (scattered Marri and Jarrah)

Habitat Type Open woodland

Soil Type Sand,Clay

Rock Features None

Tree Layer Present

Shrub Layer Absent

Ground layer Present

Bare ground Cover Present

Litter Cover Present

Fire age >5yr

Microhabitats woody debris, fallen logs, hollows

Water features None

Disturbances N/A

Notes N/A



Sample Name:

2

Project no.: EP23-044 (09)

Easting

451329.50

Date: 10/10/2025

Northing

6368427.00

Author: KLG,

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus wandoo open forest (scattered Marri and Jarrah)

Habitat Type Woodland

Soil Type Clay,Loam

Rock Features None

Tree Layer Present

Shrub Layer Present

Ground layer Present

Bare ground Cover Absent

Litter Cover Present

Fire age >5yr

Microhabitats woody debris, fallen logs, dense leaf litter, rocks

Water features None

Disturbances N/A

Notes N/A



Sample Name:

3

Project no.: EP23-044 (09)

Easting

451560.15

Date: 10/10/2025

Northing

451560.15

Author: KLG,

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus wandoo open forest (scattered Marri and Jarrah)

Habitat Type Woodland

Soil Type Clay,Loam

Rock Features Minor outcrops

Tree Layer Present

Shrub Layer Present

Ground layer Present

Bare ground Cover Absent

Litter Cover Present

Fire age >5yr

Microhabitats woody debris, fallen logs, dense leaf litter, rocks

Water features None

Disturbances N/A

Notes Gravel and crop



Sample Name:

4

Project no.: EP23-044 (09)

Date: 9/10/2025

Author: KLG,

Easting

451813.43

Northing

6368432.00

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus wandoo open forest (scattered Marri and Jarrah)

Habitat Type Woodland

Soil Type Clay,Loam

Tree Layer Present

Ground layer Present

Litter Cover Present

Microhabitats woody debris, fallen logs, dense leaf litter, rocks

Water features None

Disturbances N/A

Notes N/A

Rock Features Generally rocky

Shrub Layer Present

Bare ground Cover Absent

Fire age >5yr



Sample Name:

5

Project no.: EP23-044 (09)

Easting

451050.98

Date: 10/10/2025

Northing

6368056.00

Author: GJB,KLG

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Allocasuarina huegeliana woodland (scattered Wandoo, Jarrah and Marri)

Habitat Type Open woodland

Soil Type Sand,Clay

Rock Features Minor outcrops

Tree Layer Present

Shrub Layer Present

Ground layer Present

Bare ground Cover Absent

Litter Cover Present

Fire age >5yr

Microhabitats woody debris, dense leaf litter

Water features None

Disturbances N/A

Notes Gravel on ground



Sample Name:

6

Project no.: EP23-044 (09)

Date: 9/10/2025

Author: GJB,

Easting

451545.80

Northing

6368045.00

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus marginata and Allocasuaraina fraseriana open forest (scattered Marri)

Habitat Type Open woodland

Soil Type Sand,Clay

Tree Layer Present

Ground layer Present

Litter Cover Present

Microhabitats woody debris, fallen logs, dense leaf litter, hollows

Water features None

Disturbances vehicle tracks

Notes N/A

Rock Features None

Shrub Layer Present

Bare ground Cover Present

Fire age >5yr



Sample Name:

7

Project no.: EP23-044 (09)

Date: 9/10/2025

Author: KLG,

Easting

451926.15

Northing

6368090.00

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus wandoo open forest (scattered Marri and Jarrah)

Habitat Type Woodland

Soil Type Sand,Loam

Tree Layer Present

Ground layer Present

Litter Cover Present

Microhabitats Woody debris, fallen logs, dense leaf litter

Water features None

Disturbances N/A

Notes N/A

Rock Features None

Shrub Layer Present

Bare ground Cover Absent

Fire age >5yr



Sample Name:

8

Project no.: EP23-044 (09)

Date: 9/10/2025

Author: KLG,

Easting

452150.30

Northing

6367976.00

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus wandoo open forest (scattered Marri and Jarrah)

Habitat Type Woodland

Soil Type Sand,Clay

Tree Layer Present

Ground layer Present

Litter Cover Present

Microhabitats Fallen logs, hollows

Water features None

Disturbances walking tracks

Notes N/A

Rock Features None

Shrub Layer Present

Bare ground Cover Absent

Fire age >5yr



Sample Name:

9

Project no.: EP23-044 (09)

Date: 9/10/2025

Author: KLG,

Easting

452329.80

Northing

6368222.00

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus wandoo open forest (scattered Marri and Jarrah)

Habitat Type Woodland

Soil Type Clay

Tree Layer Present

Ground layer Present

Litter Cover Present

Microhabitats fallen logs, dense leaf litter, hollows, rocks

Water features None

Disturbances vehicle tracks

Notes N/A

Rock Features None

Shrub Layer Present

Bare ground Cover Absent

Fire age >5yr



Sample Name: 10

Project no.: EP23-044 (09)

Date: 10/10/2025

Author: GJB,

Easting

451259.00

Northing

6367718.00

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus wandoo open forest (scattered Marri and Jarrah)

Habitat Type Open woodland

Soil Type Sand,Clay

Tree Layer Present

Ground layer Present

Litter Cover Absent

Microhabitats woody debris, fallen logs, hollows

Water features None

Disturbances vegetation clearance

Notes N/A

Rock Features Generally rocky

Shrub Layer Present

Bare ground Cover Present

Fire age >5yr



Sample Name:

11

Project no.: EP23-044 (09)

Easting

451560.16

Date: 10/10/2025

Northing

6367789.00

Author: GJB,

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus marginata and Allocasuarina fraseriana open forest (scattered Marri)

Habitat Type Open woodland

Soil Type Sand,Clay

Rock Features None

Tree Layer Present

Shrub Layer Present

Ground layer Present

Bare ground Cover Present

Litter Cover Present

Fire age >5yr

Microhabitats woody debris, fallen logs, dense leaf litter, hollows

Water features None

Disturbances N/A

Notes N/A



Sample Name: 12

Project no.: EP23-044 (09)

Date: 9/10/2025

Author: KLG,

Easting

451924.90

Northing

6367738.00

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus wandoo open forest (scattered Marri and Jarrah)

Habitat Type Woodland

Soil Type

Loam,Clay

Rock Features None

Tree Layer

Present

Shrub Layer Present

Ground layer

Present

Bare ground Cover Absent

Litter Cover

Present

Fire age >5yr

Microhabitats woody debris, fallen logs, dense leaf litter, rocks

Water features None

Disturbances walking tracks

Notes Gravel, fallen logs



Sample Name: 13

Project no.: EP23-044 (09)

Date: 9/10/2025

Author: GJB,

Easting

452100.98

Northing

6367743.00

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus wandoo open forest (scattered Marri and Jarrah)

Habitat Type Open woodland

Soil Type Sand,Clay

Tree Layer Present

Ground layer Present

Litter Cover Present

Microhabitats woody debris, fallen logs, dense leaf litter, hollows

Water features None

Disturbances N/A

Notes N/A

Rock Features None

Shrub Layer Present

Bare ground Cover Present

Fire age >5yr



Sample Name: 14

Project no.: EP23-044 (09)

Date: 9/10/2025

Author: GJB,

Easting

452394.72

Northing

6367749.00

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus wandoo open forest (scattered Marri and Jarrah)

Habitat Type Open woodland

Soil Type Sand,Clay

Tree Layer Present

Ground layer Present

Litter Cover Present

Microhabitats woody debris, fallen logs, dense leaf litter, hollows

Water features None

Disturbances N/A

Notes N/A

Rock Features None

Shrub Layer Present

Bare ground Cover Present

Fire age >5yr



Sample Name:

15

Project no.: EP23-044 (09)

Easting

452724.01

Date: 9/10/2025

Northing

6367857.00

Author: GJB,

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation *Eucalyptus marginata* and *Allocasuarina fraseriana* open forest (scattered Marri)

Habitat Type Open woodland

Soil Type Sand,Clay

Rock Features Generally rocky

Tree Layer Present

Shrub Layer Present

Ground layer Present

Bare ground Cover Present

Litter Cover Present

Fire age >5yr

Microhabitats woody debris, fallen logs, dense leaf litter, hollows

Water features None

Disturbances N/A

Notes N/A



Sample Name:

16

Project no.: EP23-044 (09)

Easting

451286.50

Date: 10/10/2025

Northing

6367521.00

Author: KLG,

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus marginata and Allocasuarina fraseriana open forest (scattered Marri)

Habitat Type Woodland

Soil Type Clay,Loam

Rock Features None

Tree Layer Present

Shrub Layer Present

Ground layer Present

Bare ground Cover Absent

Litter Cover Present

Fire age >5yr

Microhabitats woody debris, fallen logs, dense leaf litter

Water features None

Disturbances N/A

Notes N/A



Sample Name: 17

Project no.: EP23-044 (09)

Date: 10/10/2025

Author: KLG,

Easting

451532.42

Northing

6367434.00

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus marginata and Allocasuarina fraseriana open forest (scattered Marri)

Habitat Type Woodland

Soil Type Loam, Clay

Tree Layer Present

Ground layer Present

Litter Cover Present

Microhabitats woody debris, fallen logs, dense leaf litter, hollows, rocks

Water features None

Disturbances N/A

Notes Fallen log

Rock Features Minor outcrops

Shrub Layer Present

Bare ground Cover Absent

Fire age >5yr



Sample Name: 18

Project no.: EP23-044 (09)

Date: 9/10/2025

Author: KLG,

Easting

451805.22

Northing

6367483.00

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation *Eucalyptus marginata* and *Allocasuarina fraseriana* open forest (scattered Marri)

Habitat Type Woodland

Soil Type Sand,Loam

Tree Layer Present

Ground layer Present

Litter Cover Present

Microhabitats woody debris, fallen logs, dense leaf litter

Water features None

Disturbances vehicle tracks

Notes Gravel

Rock Features None

Shrub Layer Present

Bare ground Cover Absent

Fire age >5yr



Sample Name: 19

Project no.: EP23-044 (09)

Date: 9/10/2025

Author: GJB,

Easting

452173.19

Northing

452173.19

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus wandoo open forest (scattered Marri and Jarrah)

Habitat Type Open woodland

Soil Type Sand,Clay

Tree Layer Present

Ground layer Present

Litter Cover Present

Microhabitats woody debris, fallen logs, dense leaf litter, hollows

Water features None

Disturbances N/A

Notes N/A

Rock Features None

Shrub Layer Present

Bare ground Cover Present

Fire age >5yr



Sample Name:

20

Project no.: EP23-044 (09)

Easting

452443.86

Date: 9/10/2025

Northing

6367507.00

Author: GJB,

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus wandoo open forest (scattered Marri and Jarrah)

Habitat Type Open woodland

Soil Type Sand,Clay

Rock Features None

Tree Layer Present

Shrub Layer Present

Ground layer Present

Bare ground Cover Present

Litter Cover Present

Fire age >5yr

Microhabitats woody debris, fallen logs, dense leaf litter, hollows

Water features None

Disturbances N/A

Notes N/A



Sample Name:

21

Project no.: EP23-044 (09)

Easting

451547.18

Date: 9/10/2025

Northing

6367072.00

Author: GJB,

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation Eucalyptus marginata and Allocasuarina fraseriana open forest (scattered Marri)

Habitat Type Open woodland

Soil Type Sand,Clay

Rock Features None

Tree Layer Present

Shrub Layer Present

Ground layer Present

Bare ground Cover Present

Litter Cover Present

Fire age >5yr

Microhabitats woody debris, fallen logs, dense leaf litter

Water features None

Disturbances vehicle tracks

Notes N/A



Sample Name:	22		
Project no.: EP23-044 (09)	Easting	451783.60	
Date: 9/10/2025	Northing	6367098.00	
Author: KLG,	Datum/zone: GDA94/Zone 50		

Sample details	
Dominant Vegetation Eucalyptus marginata and Allocasuarina fraseriana open forest (scattered Marri)	
Habitat Type Woodland	Rock Features None
Soil Type Loam,Clay	Shrub Layer Present
Tree Layer Present	Bare ground Cover Absent
Ground layer Present	Fire age >5yr
Litter Cover Present	
Microhabitats woody debris, fallen logs, dense leaf litter	
Water features None	
Disturbances vehicle tracks	
Notes Gravel, fallen logs	



Sample Name: 23

Project no.: EP23-044 (09)

Date: 9/10/2025

Author: KLG,GJB

Easting

452652.62

Northing

6367534.00

Datum/zone: GDA94/Zone 50

Sample details

Dominant Vegetation *Eucalyptus marginata* and *Allocasuarina fraseriana* open forest (scattered Marri)

Habitat Type Woodland

Soil Type Sand,Clay

Tree Layer Present

Ground layer Present

Litter Cover Present

Microhabitats Woody debris, fallen logs, dense leaf litter, hollows

Water features None

Disturbances vehicle tracks

Notes N/A

Rock Features None

Shrub Layer Present

Bare ground Cover Absent

Fire age >5yr



