

TUCKANARRA GOLD PROJECT

NATIVE VEGETATION CLEARING PERMIT

April 2026

Prepared for:



Prepared by:

Martinick Bosch Sell Pty Ltd
ABN: 60 102 614 478
4 Cook Street
West Perth WA 6005
Phone: (08) 9226 3166
Email: info@mbsenvironmental.com.au
Web: www.mbsenvironmental.com.au



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NATIVE VEGETATION CLEARING PERMIT**Distribution List:**

Company	Contact Name	Date
Odyssey Gold Limited	Matthew Syme	2/04/2026
Odyssey Gold Limited	Matt Briggs	2/04/2026

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CONTENTS

PROJECT SUMMARY	1
1. INTRODUCTION	1
2. BACKGROUND	2
2.1 Location	2
2.2 Tenure	2
2.3 Environmental Setting	5
2.3.1 Climate	5
2.3.2 Soils and Landscape	5
2.3.3 Flora and Vegetation	6
2.3.4 Terrestrial Fauna and Habitats	13
2.3.5 Surface Water and Groundwater	17
3. PROPOSED LAND CLEARING	20
4. ASSESSMENT OF CLEARING PRINCIPLES	21
4.1 Native Vegetation Clearing Principles	21
4.2 Biodiversity	22
4.2.1 Potential Impacts	22
4.2.2 Management and Mitigation	22
4.3 Significant Fauna Habitat	25
4.3.1 Potential Impacts	25
4.3.2 Management and Mitigation	26
4.4 Threatened Flora and Priority Flora	27
4.4.1 Potential Impacts	27
4.4.2 Management and Mitigation	27
4.5 Threatened Ecological Communities	27
4.6 Remnant Vegetation	28
4.7 Watercourse or Wetland Environments	28
4.7.1 Potential Impacts	28
4.7.2 Management and Mitigation	28
4.8 Land Degradation	29
4.8.1 Potential Impacts	29
4.8.2 Management and Mitigation	29
4.9 Conservation Estate	30
4.10 Surface and Groundwater Quality	30
4.10.1 Potential Impacts	30

4.10.2	Management and Mitigation	31
4.11	Flooding Potential	31
4.11.1	Potential Impacts	32
4.11.2	Management and Mitigation	32
5. ROLES AND RESPONSIBILITIES		33
5.1	Operations Manager	33
5.2	Environmental Officer	33
5.3	Production Engineer	34
5.4	All Employees and Contractors	34
6. REPORTING AND AUDITING		35
7. CONCLUSION		36
8. REFERENCES		37

TABLES

Table 1:	Tuckanarra Project Tenements	2
Table 2:	Pre-European Vegetation Associations within the Purpose Permit Area	6
Table 3:	Mapped Vegetation Communities	8
Table 4:	Possibly Occurring Significant Flora Species within the Purpose Permit Area	10
Table 5:	Mapped Fauna Habitats	13
Table 6:	Potential Significant Fauna within the Project Area	16
Table 7:	Summary of Clearing Assessment Against Clearing Principles	21
Table 8:	Potential Impacts to Vegetation Communities	24
Table 9:	Potential Impacts to Fauna Habitat	25

FIGURES

Figure 1:	Location Plan	3
Figure 2:	Tenement Plan and Site Layout	4
Figure 3:	Vegetation Communities	11
Figure 4:	Conservation Values in Relation to the Purpose Permit Area	12
Figure 5:	Fauna Habitat Types	14
Figure 6:	Surface Hydrology	19

APPENDICES

Appendix A : Proof of occupier status

Appendix B : Botanica - reconnaissance flora and vegetation survey report

Appendix C : Terrestrial Ecosystems - basic and targeted Fauna Survey
and assessment report

Project Summary

This document has been prepared in support of an application for a Native Vegetation Clearing Permit under Part V of the *Environmental Protection Act 1986* (EP Act).

Odyssey Gold Limited (Odyssey) proposes to clear 162.8 ha of native vegetation within a 363.9 ha Purpose Permit Area for development of the Tuckanarra Gold Project (the Project).

The Project is located within the Shire of Cue, approximately 80 km south of Meekatharra in the Murchison Province of Western Australia. This supporting document outlines the key activities associated with proposed clearing, the existing environment of the clearing permit application area, and an assessment of the native vegetation clearing proposed compared to the ten clearing principles.

The Project will consist of several open pits situated within Mining Lease M20/527. Associated infrastructure will include waste rock dumps, low-grade ore stockpiles, workshops, laydown areas, power infrastructure, pipelines, topsoil stockpiles, surface water infrastructure and internal roads. Ore would be transported to an offsite processing facility for toll treatment, and workforce accommodation will also be provided offsite.

An assessment against the ten clearing principles was undertaken based on information collected from site specific flora and fauna surveys conducted for the Project. The indicative clearing footprint and mine site layout has been developed to ensure impacts to sensitive environmental and cultural values are avoided or minimised.

The assessment of the proposed clearing against the ten clearing principles determined that the proposed clearing of 162.8 ha for the Project will not be at variance with the ten clearing principles. Appropriate environmental management procedures will be implemented to ensure potential direct and indirect impacts associated with the clearing are avoided or minimised where practicable.

A detailed assessment of the proposed clearing against the 10 clearing principles is provided in Section 4.

1. Introduction

Odyssey proposes to develop the Tuckanarra Gold Project. The Project area has a long history of mining and prospecting dating back to 1900, with open-pit mining undertaken between 1990 and 1994 at the Maybelle, Bollard, Bottle Dump and Cable prospects. An approval for further development was granted under the *Mining Act 1978* (Mining Act) in August 2014 (RegID 47530).

Odyssey proposes to establish an open pit gold mining and trucking operation. Ore will be transported to an offsite processing facility for toll treatment.

The Project will include:

- Development and expansion of six open pits.
- Establishment of waste rock landforms and ore stockpiles.
- Construction of linear infrastructure including internal tracks, roads, pipelines and power line corridors.
- Establishment of supporting infrastructure such as on-site office, workshops, fuel storage, and ablutions.

Clearing will be undertaken within the tenement M20/527.

2. Background

2.1 Location

The Project is located approximately 80 km south of Meekatharra in the Shire of Cue, Western Australia, within the Murchison Province as shown in Figure 1.

The Project is accessed via the Great Northern Highway, with internal unsealed site access tracks connecting the deposits. Ore products will be transported from the Project via these site access roads and the Great Northern Highway for offsite processing.

2.2 Tenure

The Project is situated within Mining Lease M20/527. Odyssey owns 80% of the Tuckanarra Gold Project which is spread across multiple tenements granted under the Mining Act.

A summary of the tenement applicable to this Clearing Permit is provided in Table 1 and shown in Figure 2. Evidence of tenure is provided in Appendix A.

Table 1: Tuckanarra Project Tenements

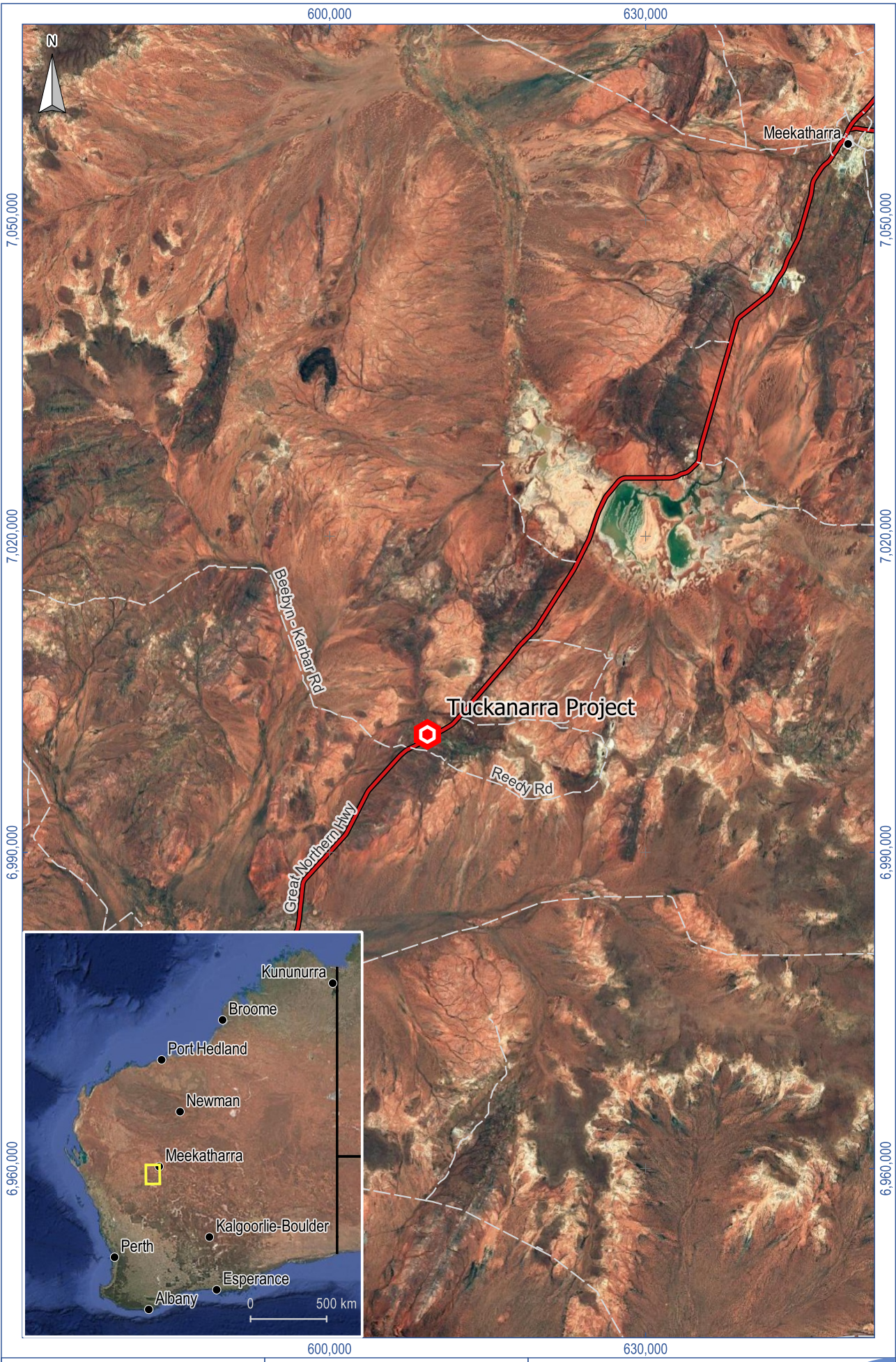
Tenement	Tenement Holder	Area (ha)	Grant Date	Expiry Date
M20/527	Tuckanarra Resources Pty Ltd (80%) Monument Murchison Pty Ltd (20%)	372.9	22/09/2014	21/09/2035

Odyssey Gold Limited, through its 100%-owned subsidiary, Tuckanarra Resources Pty Ltd (TRPL), has entered into a joint venture agreement with Monument Murchison Pty Ltd (MMPL) with respect to each party's respective interests (TRPL 80% and MMPL 20%) in the Tuckanarra gold project.

Under the Joint Venture Agreement, TRPL is the manager of the joint venture and is authorised to conduct all joint venture activities in respect of the Tuckanarra gold project.

It should be noted that the Tuckanarra Cemetery Reserve (Reserve: 9771) is a distinct excised portion of the underlying tenure (Figure 2).

The tenure collectively hosts the majority of the defined mineral resources and proposed development areas.




Scale: 1: 500,000
 Original Size: A4
 Grid: GDA2020 / MGA zone 50
 (EPSG:7850)
 0 7.5 15 km

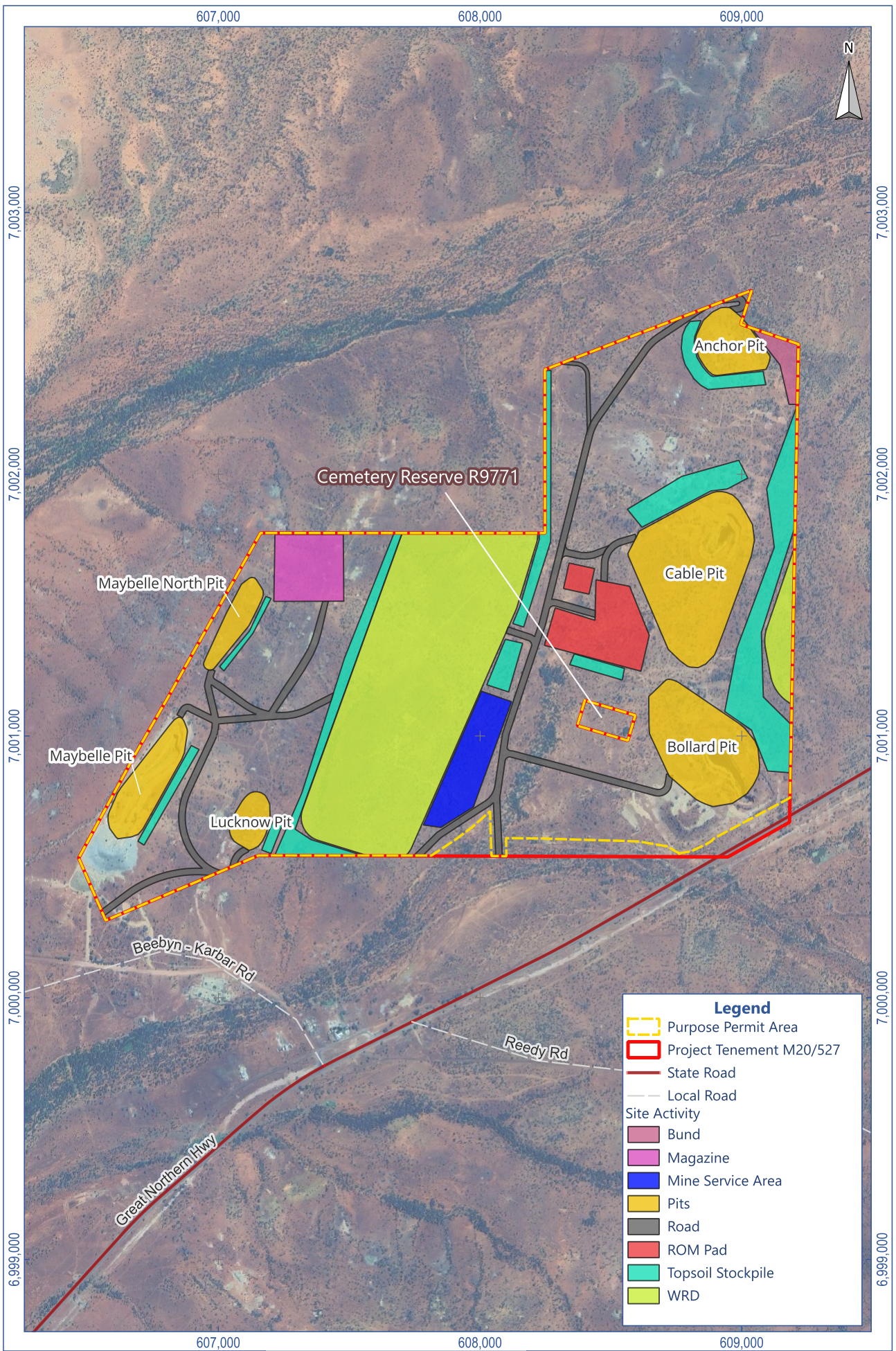
Legend

- State Road
- - - Local Road

Figure 1

Location Plan





Legend


- Purpose Permit Area
- Project Tenement M20/527
- State Road
- Local Road
- Site Activity
- Bund
- Magazine
- Mine Service Area
- Pits
- Road
- ROM Pad
- Topsoil Stockpile
- WRD

Scale: 1: 20,000
 Original Size: A4
 Grid: GDA2020 / MGA zone 50
 (EPSG:7850)

0 400 800 m

**Odyssey Gold Ltd
 Tuckanarra Project**

**Figure 2
 Tenement Plan
 and Site Layout**



2.3 Environmental Setting

2.3.1 Climate

The Project is situated within the semi-arid Mid-West region of Western Australia, an environment characterised by extreme seasonal temperature fluctuations and high evaporative stress. Representative data from the Cue Bureau of Meteorology (BoM) station, located 35 km south of the Project, indicates a low and highly variable mean annual rainfall of 232.3 mm, predominantly occurring between January and July. This is significantly offset by an annual potential evaporation rate of 2,800–3,200 mm (BoM, 2026).

Peak temperatures occur in January, with mean maximum of 37.8°C and a mean minimum of 22.8°C, while July represents the seasonal low with a mean maximum of 18.4°C mean minimum of 6.9°C (BoM, 2026).

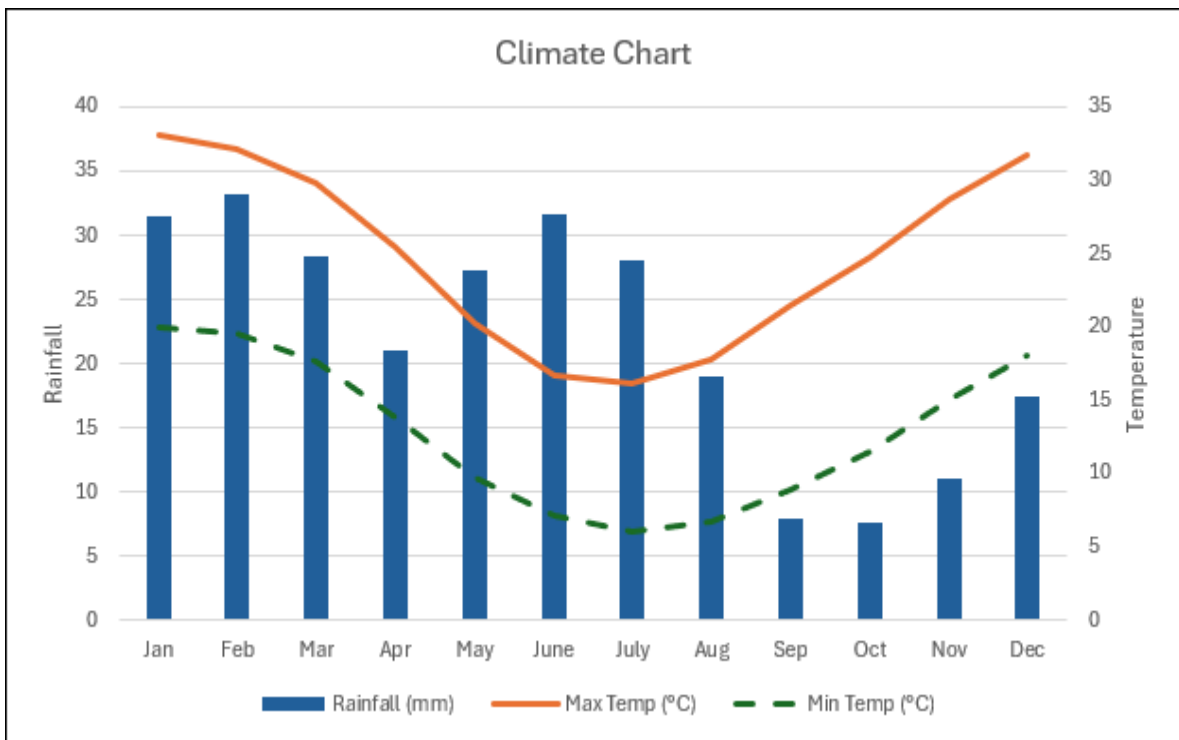


Chart 1: Climate Data for Cue Weather Station 007017 (1950-2026)

2.3.2 Soils and Landscape

The projects areas are located within the Murchison Province of the Eremaean Botanical Province, characterised by hardpan wash plains and sandplains with occasional stony plains, hills, mesas and salt lakes on granitic and greenstone rocks of the Yilgarn Craton. Soils are predominantly red loamy earths, red sandy earths, red shallow loams, red deep sands and red-brown hardpan shallow loams. Vegetation is mainly Mulga shrublands with spinifex grasslands, along with areas of bowgada shrublands, Eucalypt woodlands and halophytic shrublands (Tille, 2006).

The Purpose Permit Area occurs within the Yalgoo Plains (273) soil-landscape zone. The zone is dominated by hardpan wash plains on granitic rocks of the Yilgarn Craton with red loamy and sandy soils. Vegetation is primarily mulga shrublands with bowgada and halophytic shrublands occurring in some areas (Tille, 2006).

A desktop review of land systems and soil types was performed using data from the Department of Primary Industries and Regional Development (DPIRD, 2022). The Purpose Permit Area occurs within the Gabanintha System. The Gabanintha System is characterised by greenstone ridges, hills and footslopes supporting sparse acacia and other mainly non-halophytic shrublands.

2.3.3 Flora and Vegetation

The Project is located in the Eremaean Province of Western Australia. Based on the Interim Biogeographic Regionalisation of Australia (IBRA, Version 7) (DCCEEW, 2025), the survey area is situated within the Eastern Murchison (MUR01) subregion of the Murchison Bioregion. Cowan described the subregion as having internal drainage on broad plains of red-brown soils and breakaway complexes and red sandplains, with the vegetation dominated by Mulga woodlands that are often rich in ephemerals and hummock grasslands, saltbush shrublands and Halosarcia shrublands (Cowan, 2001). The MUR01 sub-regional area is 21,135,040 ha.

There are no Department of Biodiversity, Conservation and Attractions (DBCA) managed lands, gazetted or proposed Reserves within the project area, or within 40 km of the project area. The nearest legislated reserve is Lakeside Conservation Park (R54420), approximately 51 km southwest of the project area.

Dinglebird Environmental completed a Level 1 Flora and Vegetation survey in 2012 for the Project. Given the age of the survey, Botanica were commissioned to undertake a reconnaissance level flora and vegetation survey during November 2025 (Appendix B). The flora and vegetation survey was undertaken in accordance with the Environmental Protection Authority (EPA) Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016).

2.3.3.1 Vegetation Communities

The pre-European vegetation spatial mapping dataset identified a single vegetation association occurring within the Purpose Permit Area. The association description and remaining extent, as specified in the 2018 Statewide Vegetation Statistics (DBCA, 2019) is provided in Table 2. The vegetation association will retain >99% of its pre-European extent.

Table 2: Pre-European Vegetation Associations within the Purpose Permit Area

Vegetation Association	Pre-European Extent Remaining	Protected for Conservation (%)	Floristic Description	Extent Within Purpose Permit Area (ha)
Wiluna 18	4,256,038 ha 99.59%	1.05	Low woodland, open low woodland or sparse woodland (Mulga <i>Acacia aneura</i> and associated species)	363.9

Seven broad-scale vegetation communities were identified during the survey (Table 3). Vegetation communities were identified within three landform types (rocky hillslope, rocky plain and drainage depression) and comprised of two major vegetation groups (Acacia Forest Woodland or Acacia Open Woodland). These vegetation communities are considered to be of low biological diversity and are well represented outside the survey area (Botanica, 2026).

Native vegetation within the survey area was categorised as 'Good' to 'Very Good' in condition for 1,474.7 ha, with cleared areas (155.3 ha) considered "Completely Degraded".

Vegetation communities that intersect the Purpose Permit Area and their surveyed/mapped extents are described in Table 3 and shown in Figure 3.

Table 3: Mapped Vegetation Communities

Landform	Vegetation Group	Vegetation Community Code	Description	Surveyed Extent (ha)
Rocky Hillslope	Acacia Forrest Woodland (MVG 6)	RH-AFW1	Low open forest of <i>Acacia incurvaneura</i> over mid open shrubland of <i>Eremophila latrobei</i> and <i>Senna</i> sp. Meekatharra over low sparse shrubland of <i>Ptilotus obovatus</i> on a rocky hillslope.	369.0
	Acacia Forrest Woodland (MVG 6)	RH-AFW2	Low open forest of <i>Acacia mulganeura</i> over mid open shrubland of <i>Eremophila latrobei</i> and <i>Senna</i> sp. Meekatharra over low sparse shrubland of <i>Ptilotus obovatus</i> on a rocky hillslope.	61.0
	Acacia Open Woodland (MVG 13)	RH-AOW1	Low woodland of <i>A. mulganeura</i> over mid open shrubland of <i>Eremophila latrobei</i> , <i>E. jucunda</i> and <i>Senna</i> sp. Meekatharra over low sparse shrubland of <i>Maireana triptera</i> on a rocky hillslope.	148.1
Rocky Plain	Acacia Forrest Woodland (MVG 6)	RP-AFW1	Low open forest of <i>Acacia pruinocarpa</i> and <i>A. incurvaneura</i> over mid open shrubland of <i>Eremophila galeata</i> and <i>Senna artemisioides</i> subsp. <i>helmsii</i> over low sparse shrubland of <i>Ptilotus obovatus</i> on a rocky plain.	212.9
	Acacia Open Woodland (MVG 13)	RP-AOW1	Low woodland of <i>Acacia incurvaneura</i> and <i>A. ramulosa</i> over mid open shrubland of <i>Eremophila galeata</i> and <i>Senna artemisioides</i> subsp. <i>helmsii</i> over low sparse shrubland of <i>Maireana triptera</i> and <i>Enchylaena tomentosa</i> on a rocky plain.	435.9
	Acacia Forrest Woodland (MVG 6)	QRP-AFW1	Low open forest of <i>Acacia incurvaneura</i> and <i>A. pruinocarpa</i> over mid open shrubland of <i>A. tetragonophylla</i> and <i>Senna</i> sp. Meekatharra over low sparse shrubland of <i>Ptilotus obovatus</i> and <i>Solanum lasiophyllum</i> on a quartz rocky plain.	7.7
Drainage Depression	Acacia Forrest Woodland (MVG 6)	DD-AFW1	Low open forest of <i>Acacia incurvaneura</i> over mid open shrubland of <i>Acacia tetragonophylla</i> , and <i>Senna</i> sp. Meekatharra over low sparse shrubland of <i>Ptilotus obovatus</i> and <i>Solanum lasiophyllum</i> in drainage depression.	239.9
Cleared	Cleared	Cleared	Land cleared of native vegetation.	146.2
Total				1,620.7

2.3.3.2 *Environmentally Sensitive Areas, TECs and PECs*

There are six Priority Ecological Communities (PECs) within 40 km of the Purpose Permit Area (Figure 4).

No Threatened, Priority or otherwise significant ecological communities were identified in the field survey by Botanica.

There are no Environmentally Sensitive Areas (ESA's) as listed under the EP Act within the project area. Lake Annean (Lake Nannine) is the ESA in closest proximity to the Purpose Permit Area (26 km north of M20/527) (Figure 4).

2.3.3.3 *Flora*

Botanica identified 79 vascular flora taxa, representing 39 genera across 22 families. The most diverse families were Fabaceae (20 species), Scrophulariaceae (11 species), Chenopodiaceae (10 species) with Acacia (14 species) and Eremophila (11 species) as the most dominant genera. Thirteen native annual species were observed during the survey.

Three introduced flora (weeds) species were recorded within the survey area. None of these species are listed as a Declared Pest on the Western Australian Organism List (WAOL) under the *Biosecurity and Agriculture Management Act 2007* (BAM Act) or as a Weed of National Significance (WoNS).

2.3.3.4 *Significant Flora*

The Botanica desktop assessment identified one Threatened flora species and 30 Priority flora species as occurring within a 40 km radius of their survey area. No Threatened or Priority Flora have previously been recorded within the project area.

These taxa were assessed for distribution and known habitat to determine their likelihood of occurrence within the survey area. Based on known species records and habitat requirements described by Botanica, *Eremophila rostrata* subsp. *rostrata* (Critically Endangered) is considered unlikely to occur in the Purpose Permit Area with the nearest known population over 35 km to the south. After analysis of species records and habitat preferences, nine species were assessed as possibly occurring in the survey area (Table 4).

No Threatened flora pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) or *Biodiversity Conservation Act 2016* (BC Act) were identified in the field surveys.

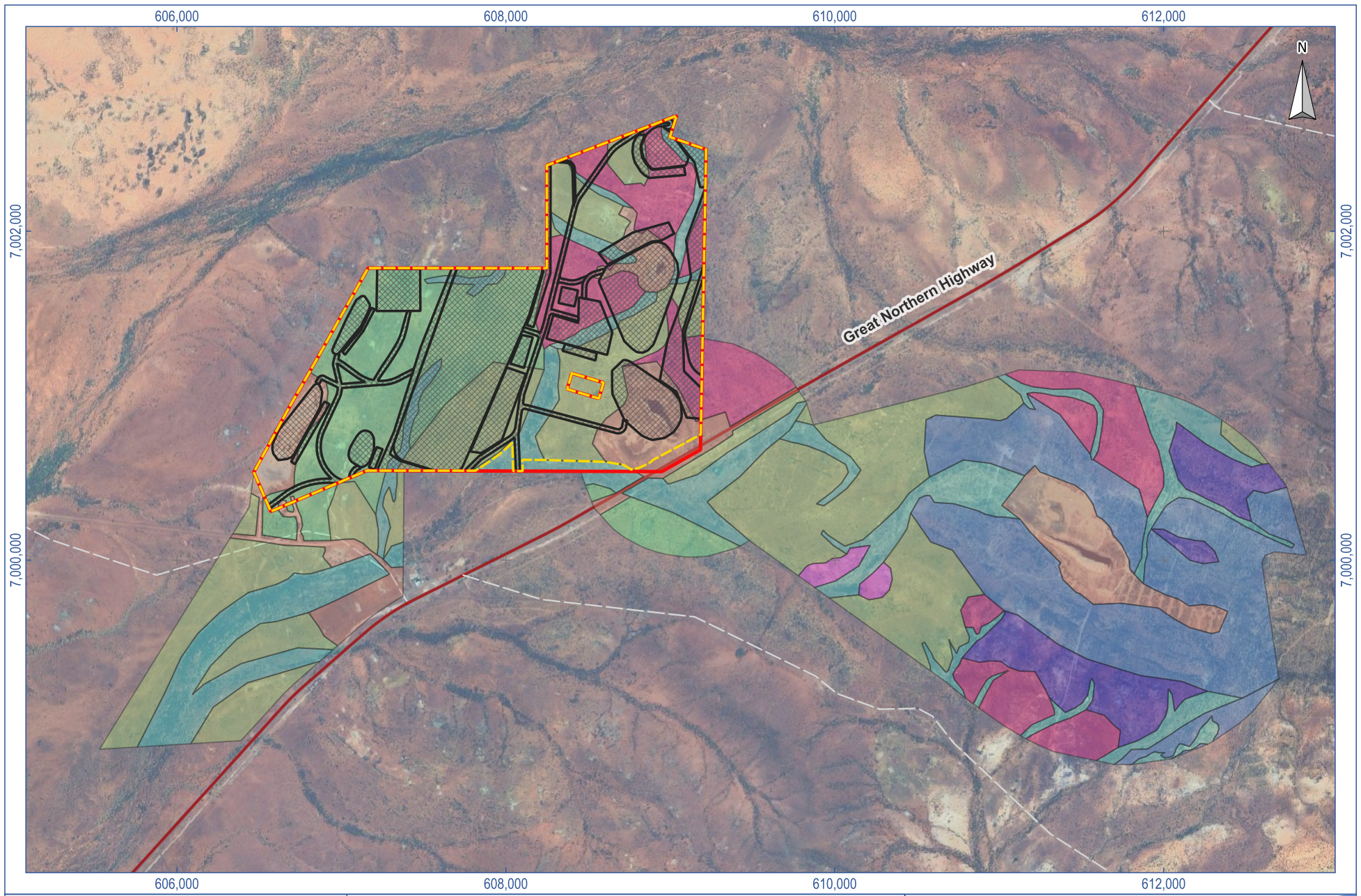
Table 4: Possibly Occurring Significant Flora Species within the Purpose Permit Area

Species	Conservation Status		Habitat Description
	EPBC and BC Listed	DBCA Listed	
<i>Acacia burrowsiana</i>	-	P3	Red-brown loams with ironstone rubble on surface, calcrete soils, laterite, quartz. Flats adjacent to watercourses, crests of low rises, breakaways.
<i>Acacia speckii</i>	-	P4	Rocky soils over granite, basalt or dolerite. Rocky hills or rises.
<i>Calytrix verruculosa</i>	-	P3	Sandy clay. Shallow hardpan plain.
<i>Goodenia berringbinensis</i>	-	P4	Red sandy loam. Along watercourses.
<i>Grevillea inconspicua</i>	-	P4	Along drainage lines on rocky outcrops, creek lines.
<i>Maireana prosthochaeta</i>	-	P3	Laterite. Hills, salty places.
<i>Prostanthera petrophila</i>	-	P3	Lateritic soils.
<i>Sida picklesiana</i>	-	P3	Breakaway scree slope.
<i>Verticordia jamiesonii</i>	-	P3	Sandy clay soils. Lateritic breakaways.

2.3.3.5 Groundwater Dependent Ecosystems

Groundwater Dependent Ecosystems (GDE) includes biological assemblages of species such as wetlands or woodlands that use groundwater either opportunistically or as their primary water source.

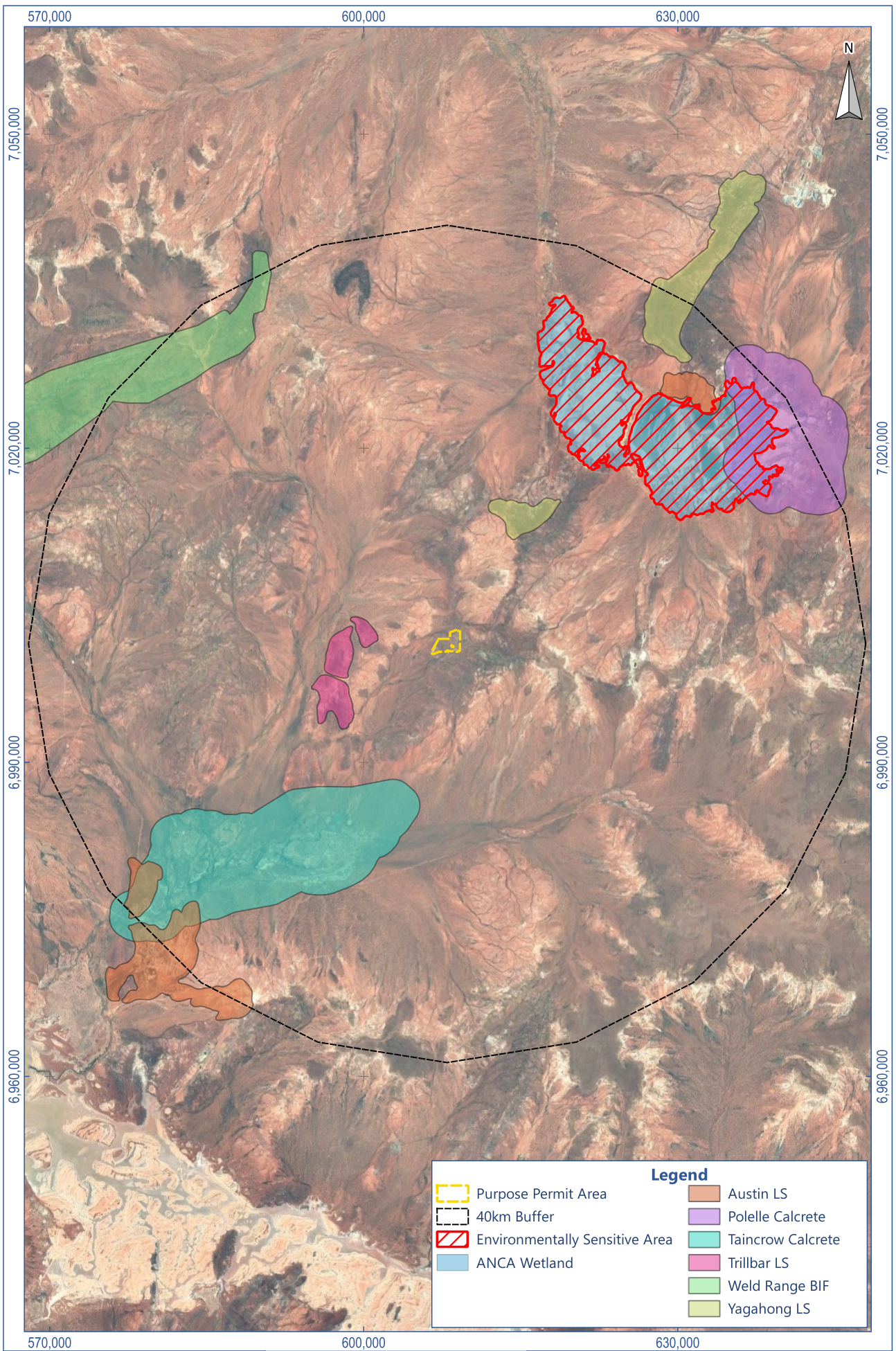
The Bureau of Meteorology (BoM) *Atlas of Groundwater Dependent Ecosystems* database indicates that there are no known or potential aquatic GDEs within the survey area. There are no known or potential terrestrial GDEs in the Purpose Permit Area. This is consistent with results of the Botanica flora and vegetation assessment.



Scale: 1: 32,000
 Original Size: A4
 Grid: GDA2020 / MGA zone 50
 (EPSG:7850)

Legend	
Purpose Permit Area	RH-AFW2
Project Tenement M20/527	RH-AOW1
Indicative Site Layout	RP-AFW1
State Road	RP-AOW1
Local Road	RH-AFW1
CLEARED	DD-AFW1
QRP-AOW1	

Figure 3
Vegetation Communities



Scale: 1: 500,000
 Original Size: A4
 Grid: GDA2020 / MGA zone 50
 (EPSG:7850)

0 10 20 km

**Odyssey Gold Ltd
 Tuckanarra Project**

Figure 4
**Conservation Values in Relation
 to Purpose Permit Area**

2.3.4 Terrestrial Fauna and Habitats

Terrestrial Ecosystems undertook a Level 1 vertebrate fauna risk assessment for the Project in 2012. Due to the age of the assessment, Terrestrial Ecosystems were commissioned to undertake a basic and targeted fauna assessment for the Project (total area of 1,620 ha) during December 2025 (Appendix B). The fauna assessment was undertaken in accordance with EPA Technical Guidance: Terrestrial Fauna Surveys for Environmental Impact Assessment (EPA, 2020).

2.3.4.1 Fauna Habitat

Based on the vegetation and associated landforms, three broad fauna habitats were identified in the project area. These are summarised in Table 5 and shown in Figure 5 (Terrestrial Ecosystems, 2026).

Table 5: Mapped Fauna Habitats

Habitat Type	Description	Mapped Extent (ha)
Mulga Over Mixed Shrubs	Open mulga woodland with a mixed shrub mid-storey and sparse ground layer of ephemeral grasses and herbs. Occurs on red loams, red sands and stony substrates on plains and low rises in arid environments.	1,242.0
Mulga in Ephemeral Drainage	Open to moderately dense mulga woodland occurring along ephemeral drainage lines and wash zones. Vegetation benefits from periodic surface water flow, with a sparse to moderate shrub and ephemeral ground layer. Soils are typically deeper alluvials with higher moisture availability compared to surrounding uplands.	194.4
Mulga on Stony Ridge	Open mulga woodland occurring on elevated stony ridges and low rises. Vegetation is typically sparse to moderately dense with a limited shrub and ground layer due to shallow, rocky soils and low moisture retention.	36.6
Rehabilitation	Rehabilitated Areas.	4.9
Cleared	Disturbed areas.	142.8
	Total	1,620.7

Fauna habitats in the project area vary from good to degraded, with many areas lacking vegetation. The substrate is mainly sandy clay, with some pebbles, cobbles, and stones.



Scale: 1: 32,000
 Original Size: A4
 Grid: GDA2020 / MGA zone 50
 (EPSG:7850)

Legend	
	Purpose Permit Area
	Project Tenement M20/527
	Indicative Site Layout
	State Road
	Local Road
	Disturbance
	Mulga drainage
	Mulga on a stony ridge
	Mulga over mixed shrubs
	Rehabilitated area

Figure 5
Fauna Habitat Types

2.3.4.2 Significant Fauna

The desktop assessment identified 263 vertebrate species potentially found near the project area. consisted of 144 bird, 41 mammal, 72 reptile and 6 amphibian taxa (Terrestrial Ecosystems, 2026).

The desktop review identified 12 fauna species of conservation significance that could occur in the project area. Migratory wading/shorebird species were excluded as it is highly improbable that these species will be in the project area. Habitat and distribution data was used to determine the likelihood of occurrence within the survey area and based on this assessment two significant fauna species were identified as potentially occurring within the Purpose Permit Area (Table 6).

During the field survey, the Southern Whiteface (*Aphelocephala leucopsis*) (Vulnerable under EPBC Act and BC Act), was recorded in the northern survey area beyond the Purpose Permit Area for this application.

The Meekatharra Slider (*Lerista eupoda*) (DBCA Priority 1 could potentially be present in the Purpose Permit Area.

All other significant fauna species identified during the desktop assessment are generally considered highly unlikely to occur within the Purpose Permit Area (Table 6).

Table 6: Potential Significant Fauna within the Project Area

Class	Significant Species	Conservation Status		Likelihood of Occurrence
		EPBC Act	BC Act or DBCA Listed	
Bird	Night Parrot (<i>Pezoporus occidentalis</i>)	CR	CR	Highly unlikely to be in the project area due to a lack of suitable habitat and recent records.
	Southern Whiteface (<i>Aphelocephala leucopsis</i>)	VU	VU	Recorded in the northern area and likely in the southern area.
	Malleefowl (<i>Leipoa ocellata</i>)	VU	VU	Not present in the project area.
	Grey Falcon (<i>Falco hypoleucos</i>)	VU	VU	Highly unlikely to be in the project area due to a lack of suitable habitat.
	Princess Parrot (<i>Polytelis alexandrae</i>)	VU	P4	Unlikely to be in the project area due to a lack of suitable habitat.
	Fork-tailed Swift (<i>Apus pacificus</i>)	MI	MI	It is very rare in the region, and clearing vegetation is unlikely to affect this aerial species.
	Oriental Plover (<i>Charadrius veredus</i>)	MI	MI	Highly unlikely to be in the project area due to a lack of suitable habitat.
	Grey Wagtail (<i>Motacilla cinerea</i>)	MI	MI	Highly unlikely to be present in the project area, so the potential for impacting this species is low.
	Yellow Wagtail (<i>Motacilla flava</i>)	MI	MI	Highly unlikely to be present in the project area, so the potential for impacting this species is low.
	Peregrine Falcon (<i>Falco peregrinus</i>)	-	OS	It may be infrequently seen in the region; however, there are few large trees, so in the project area this will reduce the probability of its presence.
Reptile	Western Spiny-tailed Skink (<i>Egernia stokesii badia</i>)	EN	EN	Highly unlikely to be in the project area due to a lack of suitable habitat.
	Great Desert Skink (<i>Liopholis kintorei</i>)	VU	VU	Highly unlikely to be in the project area due to a lack of suitable habitat.
	Meekatharra Slider (<i>Lerista eupoda</i>)	-	P1	Potentially in the project area.
	Long-tailed Dunnart (<i>Smithopsis longicaudata</i>)	-	P4	The Long-tailed Dunnart is known from the region, but a lack of suitable habitat indicates it is unlikely to be present.
Mammal	Pilbara Leaf-nosed Bat (<i>Rhinonicteris aurantia</i>)	VU	VU	Highly unlikely to be in the project area due to a lack of suitable habitat.
CR - Critically Endangered, EN - Endangered, VU - Vulnerable, OS - Other specially protected fauna, P - Priority				

2.3.5 Surface Water and Groundwater

2.3.5.1 Groundwater

The Project is in the East Murchison Groundwater Area and is not close to any water reserves or drinking-water catchments. There are no other water management areas such as water reserves or declared or proposed water supply catchment areas in or near the project area. The nearest Public Drinking Water Source Area is the Cue Water Reserve (DWER, 2023), located 20 km south (Figure 6).

The water table is approximately 30 m below surface at Cable, 28 m below surface at Bollard and 27 m below surface at Maybelle.

Previous sampling at the Project indicates groundwater quality in the area is generally fresh (TDS 900 - 1,200 mg/kg) with an alkaline pH of 8.7.

2.3.5.2 Surface Water

The Purpose Permit Area is located within the Murchison River catchment, specifically within the Sanford River sub-catchment. The regional hydrology is dominated by ephemeral systems where streamflow occurs only after significant or episodic rainfall events, typically associated with tropical depressions or localised thunderstorms (Curry, 1994).

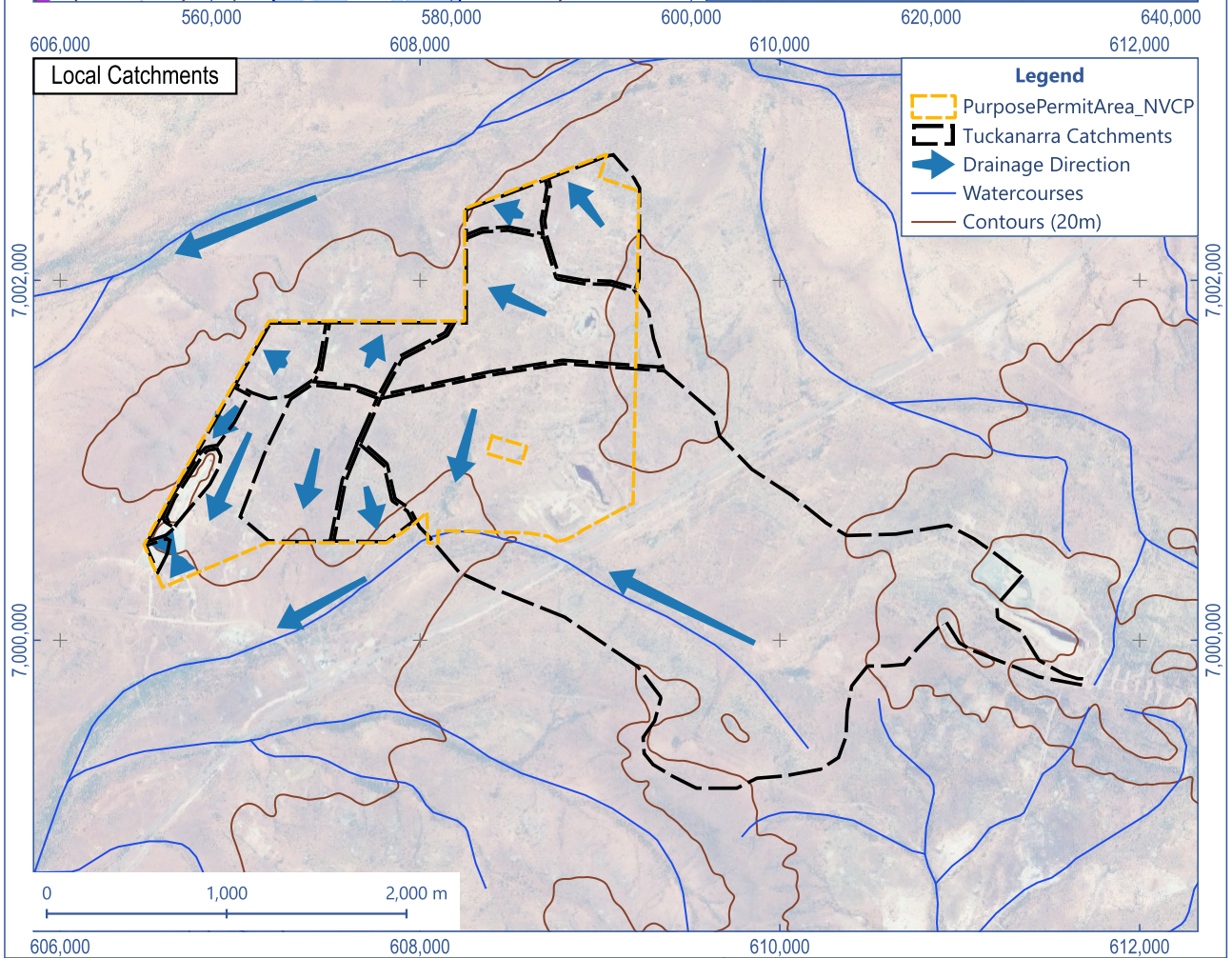
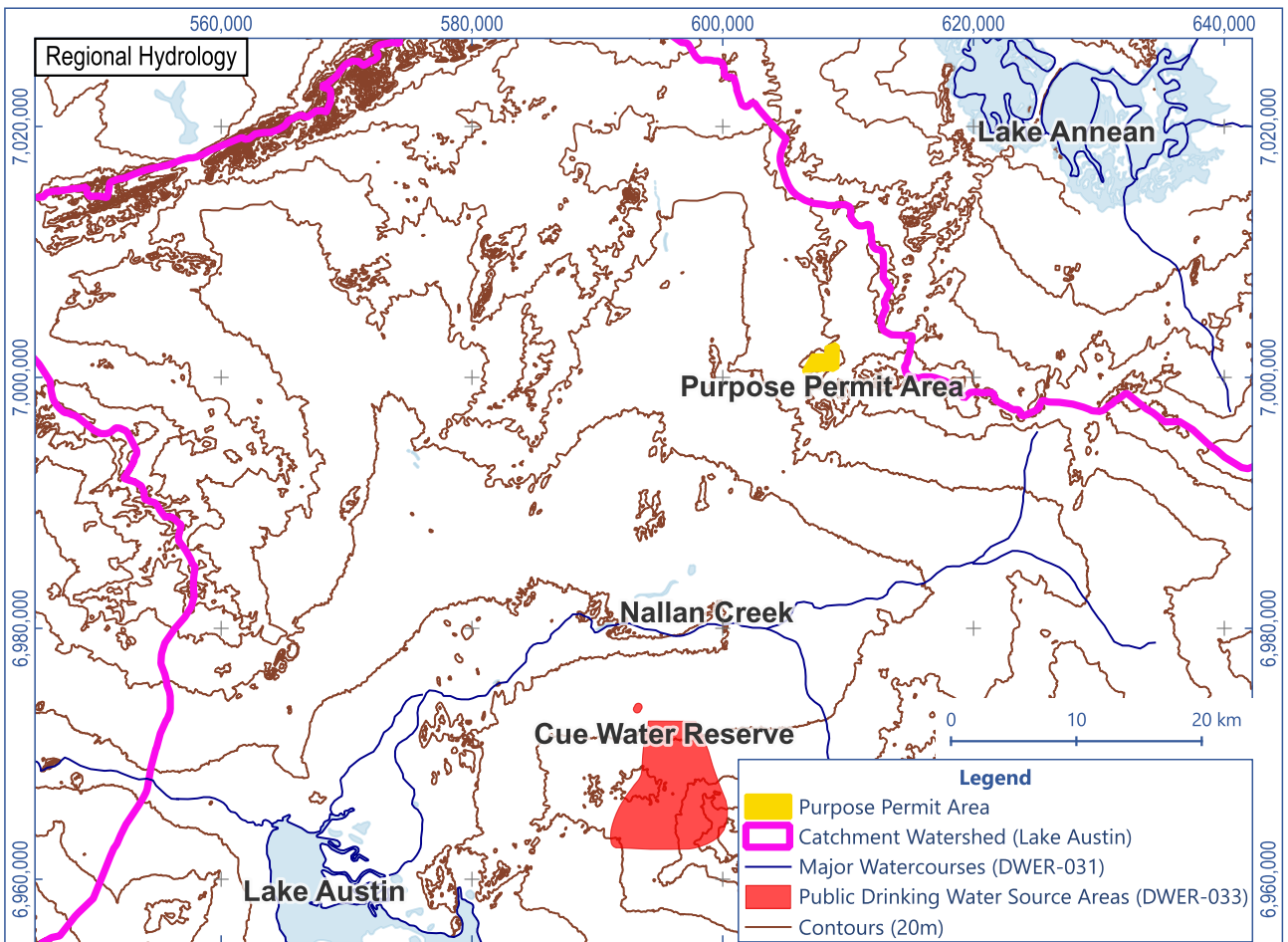
Drainage features of the Upper Murchison and Yalgoo Plains Zones often facilitate sheet flow across broad, level or gently undulating sandy-surfaced plains before concentrating into defined ephemeral creeklines. This is consistent with the defined ephemeral channels to the north and south of the Purpose Permit Area. Several other minor drainage lines intersect the Purpose Permit Area (Figure 6).

Surface flows leaving the Purpose Permit Area will flow southwest along ephemeral systems which spread out into sheet flow approximately 12 km downstream (Figure 6). Nallan Creek is a further 12 km downstream and flows to Lake Austin. Lake Austin overflows into the Sanford River, which joins the Murchison River approximately 180 km downstream.

The Purpose Permit Area is located on a broad ridge with very little upstream catchment potentially producing surface flow into the area. The largest subcatchment within the Purpose Permit Area relates to a 60 m x 70 m section within the drainage line to the south of the Purpose Permit Area. This drainage line has a catchment area of approximately 4 km² at its intersection with the boundary of the Purpose Permit Area. The majority of flow on this drainage line will pass outside the Purpose Permit Area to the south. The maximum catchment area within the remainder of the Purpose Permit Area is 1.3 km².

There are no RAMSAR wetlands or wetlands of national importance (ANCA wetlands) within the project area. Lake Annean, 26 km northeast of the Purpose Permit Area (Figure 6) is recognised as a wetland of national importance but is upstream of the Purpose Permit Area and will not be impacted by surface runoff from it.

The Purpose Permit Area is within the Murchison River Surface Water Management Area (DWER, 2018b). It is not located within a proclaimed Surface Water Area under the *Rights in Water and Irrigation Act 1991* (RIWI Act) (DWER, 2018a). The nearest Public Drinking Water Source Area is the Cue Water Reserve (DWER, 2023), 20 km to the south, which is a groundwater reserve and is not downstream of surface runoff from the Purpose Permit Area (Figure 6).



Scale: 1: 40,000 (Local Catchments) 1: 600,000 (Regional)
 Original Size: A4
 Grid: GDA2020 / MGA zone 50
 (EPSG:7850)

Figure 6
Surface Hydrology



3. Proposed Land Clearing

The Project will require clearing of 162.8 ha of native vegetation within the Purpose Permit Area of 363.9 ha. Clearing is anticipated to commence Q3 of 2026 to facilitate construction.

Clearing is required for mining activities, which will include the construction of:

- Six mining pits and abandonment bunds.
- Waste rock landforms.
- Ore stockpiles.
- ROM Pad.
- Borrow pit or shallow surface excavations.
- Other mining activities:
 - Site access road and internal access roads.
 - Workshop and office complex.
 - Core yard.
 - Diversion channel or drain.
 - Fuel storage facility.
 - Laydown or hardstand.
 - Topsoil and subsoil stockpiles.

A shapefile is provided for the Purpose Permit Area. There may be variations made to the precise location and area of site infrastructure within this area; however the total area of clearing will not change.

4. Assessment of Clearing Principles

4.1 Native Vegetation Clearing Principles

Clearing applications are assessed against the 10 principles outlined in Schedule 5 of the *Environmental Protection Act 1986*. These principles aim to ensure that all potential impacts resulting from removal of native vegetation are assessed in an integrated method and consistently apply to all lands throughout Western Australia. The principles address the four environmental areas of biodiversity significance, land degradation, conservation estate and ground and surface water quality.

The following sections discuss the potential impacts associated with clearing for the Project. A summary of the outcomes of the assessment against the 10 Clearing Principles is provided in Table 7.

Table 7: Summary of Clearing Assessment Against Clearing Principles

Principle	Clearing Principle	Outcome
a	Native vegetation should not be cleared if it comprises a high level of biological diversity.	Unlikely to be at variance
b	Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.	Unlikely to be at variance
c	Native vegetation should not be cleared if it includes or is necessary for the continued existence of Threatened flora.	Not at variance
d	Native vegetation should not be cleared if it comprises the whole or a part of or is necessary for the maintenance of a TEC.	Not at variance
e	Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.	Not at variance
f	Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.	Unlikely to be at variance
g	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	Not at variance
h	Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation areas.	Not at variance
i	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.	Unlikely to be at variance
j	Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding.	Not at variance

4.2 Biodiversity

Clearing Principle A: Native vegetation should not be cleared if it comprises a high level of biological diversity.

4.2.1 Potential Impacts

Impacts to the biological diversity of native vegetation associated with clearing for the Project are limited to localised flora/habitat loss from clearing in the Purpose Permit Area as well as the potential spread of existing weed species and introduction of new weed species into the area.

No Threatened or Priority flora species or TECs/PECs are known to occur within the Purpose Permit Area therefore, no impacts on significant flora or ecological communities will result from the Project.

The four broad-scale vegetation communities mapped in tenement M20/527 are of low biological diversity and are well represented outside the survey area (Botanica, 2026).

Potential impacts to vegetation communities within the Purpose Permit Area are detailed in Table 8. From this it can be seen that four communities will be directly impacted and the vegetation community with the greatest impact is RH-AOW1 with an indicative clearing area of 66.7 ha, which is approximately 45% of the mapped extent. All vegetation communities will retain more than 50% of their mapped extents.

One Vulnerable fauna species, the Southern Whiteface (*Aphelocephala leucopsis*) and one Priority 1 fauna species the Meekatharra Slider (*Lerista eupoda*) may occur in the Purpose Permit Area based on the presence of potentially suitable habitat. Neither of these species was observed within the Purpose Permit Area during the site-specific survey. Impacts to these species from the Project are discussed further in Section 4.3.

The Purpose Permit Area and indicative clearing footprint were designed to minimise environmental impact to vegetation communities and conservation significant flora and fauna species as much as practicable.

4.2.2 Management and Mitigation

Management and mitigation measures to reduce impacts on biological diversity include:

- Design of the Project to avoid and minimise disturbance of drainage depression vegetation communities which were identified as being the most diverse during the baseline assessments.
- Clearing of vegetation will be kept to the minimum required for the Project.
- Utilising existing disturbed areas where practicable.
- Managing clearing via an internal Land Clearing Procedure.
- Clearly delineating clearing areas to ensure only that required for a safe working area is cleared.
- Implement a procedure to record the amount of clearing undertaken and report the cumulative total in the Annual Environmental Report (AER) and Mine Rehabilitation Fund (MRF) reporting.

- Vehicle and equipment hygiene procedures will be implemented to minimise entry of weed and soil borne diseases.
- Site weed control will be conducted as required.
- Stockpiling stripped topsoil and vegetation for use in future rehabilitation activities.
- Progressively rehabilitating disturbed areas on completion of Project activities.

Given the widespread and common nature of vegetation communities in the region, absence of Threatened species, Priority species, TECs and PECs in the proposed Purpose Permit Area, the Project area is not considered to have a high level of biological diversity. Therefore, the proposed clearing is considered unlikely to be at variance to Clearing Principle A.

Table 8: Potential Impacts to Vegetation Communities

Vegetation Community	Description	Total Mapped Extent (ha)	Purpose Permit Area (ha)	Indicative Clearing Area (ha)	Total Impact (%)
RH-AOW1	Low woodland of <i>A. mulganeura</i> over mid open shrubland of <i>Eremophila latrobei</i> , <i>E. jucunda</i> and <i>Senna</i> sp. Meekatharra over low sparse shrubland of <i>Maireana triptera</i> on a rocky hillslope.	148.1	119.2	66.7	45.1
RP-AFW1	Low open forest of <i>Acacia pruinocarpa</i> and <i>A. incurvaneura</i> over mid open shrubland of <i>Eremophila galeata</i> and <i>Senna artemisioides</i> subsp. <i>helmsii</i> over low sparse shrubland of <i>Ptilotus obovatus</i> on a rocky plain.	212.9	64.7	32.0	15.0
RP-AOW1	Low woodland of <i>Acacia incurvaneura</i> and <i>A. ramulosa</i> over mid open shrubland of <i>Eremophila galeata</i> and <i>Senna artemisioides</i> subsp. <i>helmsii</i> over low sparse shrubland of <i>Maireana triptera</i> and <i>Enchylaena tomentosa</i> on a rocky plain.	435.9	92.8	46.4	10.6
DD-AFW1	Low open forest of <i>Acacia incurvaneura</i> over mid open shrubland of <i>Acacia tetragonophylla</i> , and <i>Senna</i> sp. Meekatharra over low sparse shrubland of <i>Ptilotus obovatus</i> and <i>Solanum lasiophyllum</i> in drainage depression.	239.9	36.2	17.7	7.4
Cleared	Land cleared of native vegetation.	146.2	51.0	29.4	20.1
Total		1,183.0	363.9	192.2	N/A

4.3 Significant Fauna Habitat

Clearing Principle B: Native vegetation should not be cleared if it comprises the whole or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

4.3.1 Potential Impacts

The fauna survey for M20/527 identified three broad scale terrestrial fauna habitats as well as areas of cleared land. All three habitats are considered locally common and widespread. The mapped extent and potential impacts to fauna habitats within the Purpose Permit Area are detailed in Table 9.

Table 9: Potential Impacts to Fauna Habitat

Habitat Type	Total Mapped Extent (ha)	Purpose Permit Area (ha)	Indicative Clearing Area (ha)	Total Impact (%)
Cleared	147.8	55.2	27.7	18.7
Mulga Over Mixed Shrubs	1,242.0	13.5	156.9	12.6
Mulga in Ephemeral Drainage	194.4	2.0	6.5	3.3
Mulga on Stony Ridge	36.6	293.3	1.2	3.2
Total	1,620.7	363.9	192.2	N/A

From this it can be seen that:

- Mulga over mixed shrubs will be the most impacted habitat type with an indicative clearing of approximately 156.9 ha which equates to 12.6% of the mapped extent.
- Greater than 80% of the mapped extent of each habitat will remain after implementation of the Project.

Based on preferred habitat and distribution data from the desktop assessment, 12 fauna species of conservation significance were identified out of which two were regarded as potentially occurring in the Project Area:

- Southern Whiteface (*Aphelocephala leucopsis*) VU (EPBC Act and BC Act): This species is present across the region and was observed during site specific surveys about 12 km northeast of the Purpose Permit Area.
- Meekatharra Slider (*Lerista eupoda*) P1 (DBCA): This species could potentially be present in the Purpose Permit Area based on the records in the Atlas of Living Australia (ALA) and presence of suitable habitat. It was not observed during site specific fauna assessments.

Based on the assessment of potential to fauna habitat, the three habitats that occur in the Purpose Permit Area are not considered to contain significant fauna habitat. This conclusion was drawn from:

- The widespread and common nature of habitat in the region.

- Habitat for the Southern Whiteface and Meekatharra Slider although present within the Purpose Permit Area is assessed as being 'unlikely to represent critical habitat', with these species possibly visiting the area only for short periods as infrequent vagrants.

Clearing of native vegetation may result in the loss of small vertebrate fauna unable to escape during the clearing process, while larger and more mobile species, including kangaroos, large goannas, snakes, and most birds, are expected to disperse into adjacent habitats. Minor fauna mortality may occur due to vehicle movements along access tracks and haul roads; however, this impact is considered low. Displacement of fauna may temporarily increase competition for resources and cause short-term disruption to local ecosystems, though ecological balance is likely to be restored over time. While short-term impacts on the general vertebrate fauna assemblage are anticipated, these are not considered significant at a bioregional scale in the longer term.

4.3.2 Management and Mitigation

The main risk to fauna and habitat is loss or fragmentation through clearing activities.

Management measures to reduce impacts on fauna and habitat will include:

- Design of the Project to avoid and minimise disturbance of drainage depression vegetation communities which were identified during the baseline assessments.
- Clearing of vegetation will be kept to the minimum required for the Project.
- Existing disturbed areas will be used preferentially.
- Managing clearing via an internal Land Clearing Procedure.
- Clearly delineating the clearing area to ensure only that required for a safe working area is cleared.
- Implementation of a procedure to record the amount of clearing undertaken and report the cumulative total in the AER and MRF reporting.
- Progressively rehabilitating disturbed areas on completion of Project activities.
- Implementing speed limits to minimise dust emissions and to minimise the risk of fauna injury or death due to vehicle traffic.
- Ensuring personnel participate in a site induction which will include detail on the importance of flora and fauna management.

Given the widespread and common nature of fauna habitat in the region and absence of significant fauna species in the proposed Purpose Permit Area, it is not considered to contain significant fauna habitat. Therefore, the proposed clearing is unlikely to be at variance to Clearing Principle B.

4.4 Threatened Flora and Priority Flora

Clearing Principle C: Native vegetation should not be cleared if it includes or is necessary for the continued existence of rare (Threatened) flora.

4.4.1 Potential Impacts

One species of Threatened Flora *Eremophila rostrata* subsp. *Rostrata* listed as Critically Endangered was identified in the desktop review as having potential to occur. The nearest known population is over 35 km to the south of the project area. It was not observed during site specific surveys which is consistent with the assessment made during the desktop review that suitable habitat is not present in the survey area.

No Threatened, Priority or otherwise significant flora species were identified within the survey.

4.4.2 Management and Mitigation

Management measures to reduce impacts to Priority flora include:

- Design of the Project to avoid and minimise disturbance of drainage depression vegetation communities which were identified as being the most diverse during the baseline assessments.
- Design of the Project to avoid clearing where practicable.
- Existing disturbed areas will be used preferentially.
- Managing clearing via an internal Land Clearing Procedure.
- Implement a procedure to record the amount of clearing undertaken and report the cumulative total in the AER and MRF reporting.
- Weed hygiene practices will be implemented and site weed control will be conducted as required.
- All personnel will undertake a site induction which will include detail on the importance of flora and fauna management.

As the areas to be impacted do not support Threatened or Priority flora species the proposed clearing is not at variance with Clearing Principle C.

4.5 Threatened Ecological Communities

Clearing Principle D: Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.

No TECS listed under the EPBC Act or BC Act were identified within the project area.

Therefore, the proposed clearing will have no impacts on a TEC and is not at variance to Clearing Principle D.

4.6 Remnant Vegetation

Clearing Principle E: Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

The Project intersects one pre-European vegetation association as detailed in Table 2. Clearing of 162.8 ha is proposed. The association will have greater than 99% remaining at a state level after implementation of the Project.

The EPA uses a standard level of native vegetation retention of at least 30% of the pre-clearing extent of an ecological community as a benchmark. The levels of native vegetation retention have been recognised in the National Objectives and Targets for Biodiversity Conservation 2001-2005, which recognised that the retention of 30%, or more, of the pre-clearing extent of an ecological community is necessary if Australia's biological diversity is to be protected (Environment Australia, 2001).

As large percentages of the pre-European vegetation association in the region and local area will remain (>99%), clearing associated with the Project will not result in loss of a significant remnant of native vegetation. The proposal will not be at variance with Clearing Principle E.

4.7 Watercourse or Wetland Environments

Clearing Principle F: Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

4.7.1 Potential Impacts

Minor ephemeral drainage lines which are not regionally or locally significant are present within the Purpose Permit Area.

There are no RAMSAR wetlands or wetlands of national importance (ANCA Wetlands) within the Purpose Permit Area. There are no permanent wetlands or water features within the Purpose Permit Area. Lake Annean, a nationally important wetland is located 26 km north of the M20/527 boundary (Figure 4).

Mapped within drainage depressions, vegetation community DD-AFW1 may be associated with ephemeral watercourses.

4.7.2 Management and Mitigation

Management and mitigation measures to reduce impacts to native vegetation associated with watercourses and wetlands include:

- As shown in Figure 3, the Project has been designed to avoid direct impacts on ephemeral minor watercourses and vegetation community DD-AFW1 where practicable.
- The largest drainage line in the project area, located to the south of the Purpose Permit Area has been excised from the Purpose Permit Area with the exception of a 60 m corridor required to allow construction of a crossing.
- Existing surface water flows will be maintained within cleared areas.

Given there are only minor ephemeral drainage lines which are not regionally or locally significant, and surface water flows will be restored, any impacts to native vegetation in association with watercourses will be limited to that of the cleared area.

Therefore, the proposed clearing is unlikely be at variance to Clearing Principle F.

4.8 Land Degradation

Clearing Principle G: Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Vegetation communities within the Purpose Permit Area were assessed to range from 'Very Good' to 'Completely Degraded' condition (Botanica, 2026). Existing land degradation is mostly attributed to clearing for access tracks, historical and current mining and exploration activities and grazing by large feral herbivores (Botanica, 2026). The presence of weeds in disturbed areas and along tracks also contributes to existing land degradation.

4.8.1 Potential Impacts

Potential sources of land degradation from clearing activities include:

- Wind and mechanical erosion during vegetation and topsoil stripping activities.
- Wind and water erosion of topsoil stockpiles and cleared areas.
- Water erosion due to changes in surface water flow.
- Soil compaction.
- Soil contamination i.e. spills or machinery failure.
- Introduction and/or spread of weeds.

4.8.2 Management and Mitigation

Minimisation of land degradation will be achieved by applying recognised clearing and rehabilitation methods. Management and mitigation strategies to achieve this include:

- Design of the Project to avoid and minimise disturbance of drainage depression vegetation communities which were identified during the baseline assessments.
- Minimising the area requiring vegetation clearing.
- Confining vehicle movements to defined roads and tracks.
- Conducting topsoil-stripping activities during periods of low winds.
- Stockpiling topsoil and vegetation for use in rehabilitation.
- Storing hydrocarbons and reagents in bunded areas and applying spill response procedures.
- Progressive rehabilitation of completed areas to minimise active areas exposed where possible.

- Scarifying or deep ripping (as appropriate) compacted tracks and roads as part of rehabilitation.
- Establishment of surface water management infrastructure to direct surface water flow to natural drainage channels.

In the context of the local land systems, intact vegetation on a regional scale and existing level of localised land degradation, the scale of disturbance from the proposed clearing is not anticipated to increase land degradation significantly. As such, the project will not be at variance with Clearing Principle G.

4.9 Conservation Estate

Clearing Principle H: Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

There are no DBCA-managed lands, gazetted or proposed Reserves within the Purpose Permit Area or within 40 km radius of the area.

The nearest Reserve is Lakeside Conservation Park (R54420), approximately 51 km southwest of the Purpose Permit Area.

Due to the distance from the Lakeside Conservation Park, implementation of the Project is not considered to be at variance with Clearing Principle H.

4.10 Surface and Groundwater Quality

Clearing Principle I: Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

There are no permanent water bodies or wetlands within the Purpose Permit Area. There are multiple minor ephemeral creeks that intersect the Purpose Permit Area and drain towards defined creeklines to the north and south.

There are no water management areas in the project area, other than the proclaimed East Murchison Groundwater Area. There are no public drinking water source areas in the project area.

Groundwater quality in the area is generally fresh (900 - 1,200 mg/kg) with an alkaline pH of 8.7.

4.10.1 Potential Impacts

Surface water quality has the potential to be affected by increased sedimentation caused through clearing and soil disturbance and removal of vegetation that acts to bind soil, including riparian vegetation. This may result in a localised decrease in surface water quality.

Hydrocarbon spills may occur from earth moving machinery used for land clearing activities. Uncontained spills may affect surface and/or groundwater quality.

Clearing will be scheduled outside of peak rainfall events to avoid times of high surface flows and reduce the risk of erosion and elevated turbidity to drainage lines from disturbed areas.

Land clearing is considered unlikely to adversely impact on groundwater quality.

4.10.2 Management and Mitigation

Management measures to prevent contamination of surface and groundwater quality include:

- Project design has considered locations of ephemeral drainages and minimised disturbance of these. The largest drainage line in the project area, located to the south of the Purpose Permit Area has been excised from the Purpose Permit Area with the exception of a 60 m corridor required to allow construction of a crossing.
- Where practicable, infrastructure will be located and built to minimise loss of vegetation.
- Managing clearing via an internal Land Clearing Procedure.
- Clearing will not be conducted during periods of sheet water flow in the project area.
- Where necessary, surface water drainage infrastructure will be installed to divert surface water flows around cleared areas and back to downstream catchments.
- Hydrocarbons will be stored in bunded areas.
- Spill kits will be maintained at the site to allow containment and treatment of spillages of hydrocarbons.
- In the event of an incidental spill, personnel will adhere to the designated response procedures.
- All activities will be managed to comply with DMPE standard environmental outcomes for Inland waters:
 - W1.0 No contamination of surface water as a result of mining activities.
 - W2.0 Surface water managed in a manner that prevents detrimental impacts to hydrological and ecological function and uses of surrounding surface water features and land.
 - W3.0 No contamination of groundwater as a result of mining activities.

Impacts to surface water and groundwater quality groundwater from the proposed clearing are not anticipated to be significant. Localised, short-term impacts on surface water quality can be managed using standard erosion and sediment control mitigation measures. Overall, the proposed clearing is considered unlikely to be at variance with Clearing Principle I.

4.11 Flooding Potential

Clearing Principle J: Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding.

The proposed clearing is within a non-seasonal arid region that experiences a mean total rainfall of 232.3 mm/year (BoM, 2026). Rainfall in this region is low and highly variable. Precipitation occurs irregularly throughout the year. Rainfall events are predominantly associated with sporadic summer cyclonic rainfall and thunderstorms.

Smaller drainage lines are present within the Purpose Permit Area which are ephemeral in nature, only flowing briefly immediately following significant rainfall events.

4.11.1 Potential Impacts

Removal of vegetation has potential to increase flooding due to reduction in water uptake, infiltration, moisture retention and physical barriers to reduce flow.

In the arid zone these effects are relatively minor due to low density of vegetation.

Clearing will not significantly alter the natural landscape, contours, or drains that could otherwise impact flooding potential.

4.11.2 Management and Mitigation

Management strategies to prevent increases in flooding include:

- Project design has considered location of drainage lines and flood levels with the aim of minimising disturbance of these areas.
- Existing flow paths will be maintained where possible.
- Diversions will be installed where necessary to direct surface flow away from cleared areas and return flows to natural paths.
- Culverts or floodways will be installed where roads cross ephemeral drainages.
- Vegetation will be removed in stages with disturbance kept to a minimum to reduce runoff.
- Establishment of surface water management infrastructure to direct surface water flow to natural drainage channels, with existing flow paths maintained where possible.

Overall, the proposed clearing will have no detectable increased impact on flooding potential for the project area or its immediate surrounds. Therefore, the proposed clearing will not be at variance with Clearing Principle J.

5. Roles and Responsibilities

The roles and responsibilities of the project personnel associated with clearing vegetation are described in the below.

5.1 Operations Manager

- Ensure appropriate resources and systems are provided to implement the management and mitigation measures outlined in this document.
- Coordinate preparation and finalisation of the NVCP, in consultation with relevant government agencies, and ensure adequate systems and procedures are in place to facilitate compliance with NVCP requirements through the exploration program.
- Manage all pre-construction environmental surveys and post-implementation monitoring.
- Coordinate engagement with key stakeholders including relevant recreational user groups.
- Overall responsibility for ensuring that all supervisory, management employees and contractor personnel are aware of, and understand, their responsibilities under this NVCP.
- Oversee the implementation of any corrective and remedial actions arising from audits and incident investigations.

5.2 Environmental Officer

- Ensure all land clearing for the Project is conducted in compliance with this document and other regulatory requirements.
- Ensure all employees and contractors on site are aware of and adhere to obligations regarding clearing requirements.
- Ensure adequate processes are maintained to communicate relevant information with internal stakeholders.
- Ensure that all the required information is provided in the Vegetation Clearing Application and that data is accurate.
- Conduct visits and inspections to ensure all work complies with commitments and management measures outlined in this NVCP.
- Record and report environmental incidents to the Operations Manager and Regulator.
- Undertake incident cause analysis method investigations where required and manage the implementation of corrective and remedial actions arising from audits and incident investigations.
- Review and approve all Vegetation Clearing Applications.
- Maintain the Internal Clearing Permit Register.

- Compile and collate vegetation clearing data for annual reporting in the Annual Environmental Report.

5.3 Production Engineer

- Ensure management measures contained in this application and associated plans and procedures are implemented.
- Ensure that land clearing is undertaken only as authorised by the Vegetation Clearing Application.
- Conduct site walkovers of areas with clearing machinery operators prior to clearing.
- Ensure that post-clearing surveys are conducted, and that data is provided to the Environmental Officer.
- Report environmental incidents.

5.4 All Employees and Contractors

- Prevent contamination of vegetation, topsoil and subsoil stockpiles.
- Adhere to all obligations in relation to vegetation clearing procedures.
- Report environmental incidents.
- Keep to existing tracks unless following advice from their supervisor.
- Adhere to standard soil hygiene practices and spill response when operating machinery.
- Aid in implementing and maintaining environmental impact minimisation programs when requested by the Environment Officer.

6. Reporting and Auditing

All clearing will be reported in the Tuckanarra internal monthly operation reports.

Disturbance as a result of the proposed vegetation clearing will be reported yearly as part of the Project AER and MRF reporting.

Upon approval of this Clearing Permit, subsequent environmental approvals will be sought to construct and develop the Tuckanarra Gold Project. These approvals will include additional conditions and commitments relating to environmental monitoring and reporting.

7. Conclusion

The vegetation and habitats present within the proposed Purpose Permit Area are generally well represented on a local and regional scale. It is considered unlikely that there will be significant impact on the conservation status of relevant significant flora and fauna species or vegetation communities. There are likely to be only minor impacts from loss and fragmentation of vegetation and fauna habitat.

The proposed clearing will not impact significantly upon the ten clearing principles and a range of environmental management measures and procedures are in place to ensure that clearing will be managed to minimise potential adverse impacts. Rehabilitation will minimise exposed areas and the long-term loss of vegetation cover.

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APPENDIX A:
PROOF OF OCCUPIER STATUS

APPENDIX A



Register for Tenement M 20/527

Identifier: M 20/527 New Search Previous Next

Application Tracking

Status: Live
Area: 372.90000 HA
Markout: 07/01/2014 09:02:00
Received: 10/01/2014 14:09:55
Term Granted: 21 Years
Commence: 22/09/2014
Expiry: 21/09/2035
Death:

Rent Status

Due for Year End 21/09/2026: PAID IN FULL
Rental for Year End 21/09/2027: \$10,928.90

Expenditure Status

Expended Year End 21/09/2025: EXPENDED IN FULL
Current Year Commitment: \$37,300.00

Holders Description Relationships Survey General Shire Grant Conditions Dealings Payments Expenditure Combined Reporting Bond Map Native Title Warden's Court Documents

Current Holders Holder Changes Applicants On Receival

Organisation MONUMENT MURCHISON PTY LTD 20/100
ACN 167 323 855 **ABN** 74 167 323 855
Designated Tenement Contact (Correspondence Details)
Name TG MINING TITLE SERVICES PTY LTD
Address C/- TG MINING TITLE SERVICES PTY LTD, PO BOX Z5025 ST GEORGES TERRACE, PERTH, WA, 6831
Email xxxxx@tgmts.com.au
Telephone xxxxxx100
Street Address Details
Address C/- TG MINING TITLE SERVICES PTY LTD, PO BOX Z5025 ST GEORGES TERRACE, PERTH, WA, 6831

Organisation TUCKANARRA RESOURCES PTY LTD 80/100
ACN 644 873 772 **ABN** 28 644 873 772
Designated Tenement Contact (Correspondence Details)
Name TG MINING TITLE SERVICES PTY LTD
Address C/- HG TITLE SERVICES PTY LTD, PO BOX Z5312 ST GEORGES TERRACE, PERTH, WA, 6831
Email xxxxx@tgmts.com.au
Telephone xxxxxx100
Street Address Details
Address LEVEL 9,28 THE ESPLANADE, PERTH, WA, 6000

APPENDIX B:
BOTANICA - RECONNAISSANCE
FLORA AND VEGETATION SURVEY
REPORT

APPENDIX B



TUCKANARRA PROJECT

Reconnaissance Flora and Vegetation Survey

Prepared for Odyssey Gold Limited
February 2026



Prepared by



33 Brewer St PERTH WA 6000 | 0419 916 034

Document Information

Prepared for: Odyssey Gold Limited.
Project Name: Tuckanarra Project
Tenements: M20/527, M51/908, E20/783-I, P20/2417, P20/2418
Job Reference: Reconnaissance Flora and Vegetation Survey
Job Number: 2025/156
Date: 16/02/2026
Version: Final

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Cover Photo: Acacia woodland within the Survey area (19 November 2025).

Prepared by: Jennifer Jackson
Senior Environmental Consultant
Botanica Consulting

Reviewed by: Andrea Williams
Director
Botanica Consulting

Approved by: Jim Williams
Director
Botanica Consulting

Contents

Executive Summary	iv
1 Introduction	5
1.1 Objectives	5
2 Biophysical Environment	7
2.1 Regional Environment	7
2.2 Land Use	7
2.3 Soil Landscape Systems	9
2.4 Regional Vegetation	12
2.4.1 Pre-European Vegetation	12
2.5 Climate	14
2.6 Conservation Values	14
2.7 Hydrology	17
3 Survey Methodology	19
3.1 Desktop Assessment	19
3.2 Flora and Vegetation Field Assessment	20
3.3 Data Analysis Tools	23
3.4 Scientific Licences	23
3.5 Survey Limitations and Constraints	23
4 Results	25
4.1 Desktop Assessment	25
4.1.1 Flora	25
4.1.2 Introduced Flora	25
4.1.3 Significant Flora	26
4.2 Field Assessment	30
4.2.1 Flora	30
4.2.2 Vegetation Communities	31
4.2.3 Vegetation Condition	38
4.2.4 Significant Vegetation	41
4.3 Matters of National Environmental Significance	41
4.3.1 Environment Protection and Biodiversity Conservation Act 1999	41
4.4 Matters of State Environmental Significance	42
4.4.1 Environmental Protection Act WA 1986	42
4.4.2 Biodiversity Conservation Act 2016	42
4.5 Other Areas of Conservation Significance	43
5 Discussion and Conclusions	44
6 Bibliography	45

Tables

Table 2-1: Soil landscape systems within the survey area.....	10
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Table 2-2: Pre-European vegetation associations within the survey area	12
Table 2-3: Priority Ecological Communities within a 40 km radius of the survey area.....	15
Table 3-1: Scientific Licenses of Botanica Staff coordinating the survey	23
Table 3-2: Limitations and constraints associated with the flora/ vegetation and fauna survey	24
Table 4-1: Introduced flora known to occur within 40 km of the survey area	25
Table 4-2: Significant flora potentially occurring within the survey area	27
Table 4-4: Introduced flora species within the survey area	30
Table 4-6: Summary of vegetation types within the survey area	32
Table 4-7: Vegetation condition rating within the survey area.....	38

Figures

Figure 1-1: Regional map of the survey area	6
Figure 2-1: Map of IBRA Bioregions in relation to the survey area	8
Figure 2-2: Map of soil landscape systems within the survey area	11
Figure 2-3: Pre-European vegetation systems within the survey area.....	13
Figure 2-4: Rainfall data for Meekatharra Airport (#7045) (BoM, 2025).....	14
Figure 2-5: Conservation Values in relation to the survey area	16
Figure 2-6: Regional hydrology of the survey area	18
Figure 3-1 GPS tracklog of the 2025 survey effort	22
Figure 4-1: Significant flora within the desktop search area.....	29
Figure 4-2: Vegetation types within the survey area (Map 1 of 2).....	36
Figure 4-3: Vegetation types within the survey area (Map 2 of 2).....	37
Figure 4-4: Vegetation condition within the survey area (Map 1 of 2).....	39
Figure 4-5: Vegetation condition within the survey area (Map 2 of 2).....	40

Appendices

Appendix A: Conservation Ratings BC Act and EPBC Act
Appendix B: Vegetation Condition Rating
Appendix C: List of species identified within the survey area
Appendix D: DANDJOO Search results (40km)
Appendix E: EPBC Protected Matters Search (40km buffer)

EXECUTIVE SUMMARY

Botanica Consulting Pty Ltd (Botanica) was commissioned by Odyssey Gold Ltd (Odyssey) to undertake a reconnaissance flora and vegetation survey of their Tuckanarra Project (referred to as the 'survey area'). It is located approximately 70 km south of Meekatharra, Western Australia. The survey area extends along the Great Northern Highway covering an area of approximately 1620 ha. This assessment is intended to support approvals for the Tuckanarra Project.

The survey area lies within the Eastern Murchison (MUR01) subregion of the Murchison Bioregion, as defined by the Interim Biogeographic Regionalisation of Australia (IBRA). The survey area is located in the Shire of Cue.

Botanica conducted flora/ vegetation and basic fauna survey on the 19th November 2025. The area was surveyed by Jim Williams (Senior Botanist). The area was traversed on foot and a four-wheel drive vehicle.

The desktop review identified 483 vascular flora species as previously being recorded within 40 km of the survey area. Assessment of the DBCA's Threatened and Priority Flora database records, EPBC Protected Matters, Dandjoo database and previous relevant literature identified one Threatened Flora and 30 Priority Flora as occurring within a 40 km radius of the survey area. Of these, nine taxa were considered as possibly occurring in the survey area.

The field survey identified 79 vascular flora taxa within the survey area. These taxa represented 39 genera across 22 families, with the most diverse families being Fabaceae (20 species), Scrophulariaceae (11 species) and Chenopodiaceae (11 species), followed by dominant genera include *Acacia* (14 species) and *Eremophila* (11 species). Thirteen native annual species were observed during the survey. Three weed species were recorded within the survey. These species are not listed as Declared Pests on the Western Australian Organism List under the *Biosecurity and Agriculture Management Act 2007* or as Weeds of National Significance.

No Threatened or Priority flora was observed in the survey area.

A total of seven broad-scale vegetation communities were identified within the survey area. Native vegetation within the survey area was categorised as 'Good' or 'Very good'. Impacts to vegetation within the survey area included access tracks, historical and current mining and exploration activities, and grazing by large feral herbivores.

No Threatened, Priority or otherwise significant ecological communities were identified within the survey area. No Environmentally Sensitive Areas were identified within the survey area. There are no wetlands of international importance (Ramsar Wetlands) or national importance (Australian Nature Conservation Agency Wetlands) within the survey area.

1 INTRODUCTION

Botanica Consulting Pty Ltd (Botanica) was commissioned by Odyssey Gold Ltd (Odyssey) to undertake a reconnaissance flora and vegetation survey of their Tuckanarra Project (referred to as the 'survey area'). It is located approximately 70 km south of Meekatharra, Western Australia. The survey area extends along the Great Northern Highway covering an area of approximately 1620 ha (Figure 1-1). This assessment is intended to support approvals for the Tuckanarra Project.

1.1 Objectives

The flora and vegetation assessment was conducted in accordance with the requirements of a reconnaissance flora survey as defined in Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment – December 2016 (EPA, 2016a). The objectives of the assessment were to:

- gather background information on flora and vegetation in the target area (literature review, database and map-based searches);
- identify significant flora, vegetation and ecological communities;
- conduct a field survey to verify / ground truth the desktop assessment findings;
- undertake floristic community mapping to a scale appropriate for the bioregion and described according to the National Vegetation Information System (NVIS) structure and floristics;
- undertake vegetation condition mapping;
- assess the project area's plant species diversity, density, composition, structure and weed cover, using NVIS classification system for vegetation description;
- identify Matters of National Environmental Significance (MNES) protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act); and
- determine the State legislative context of environmental aspects required for the assessment.

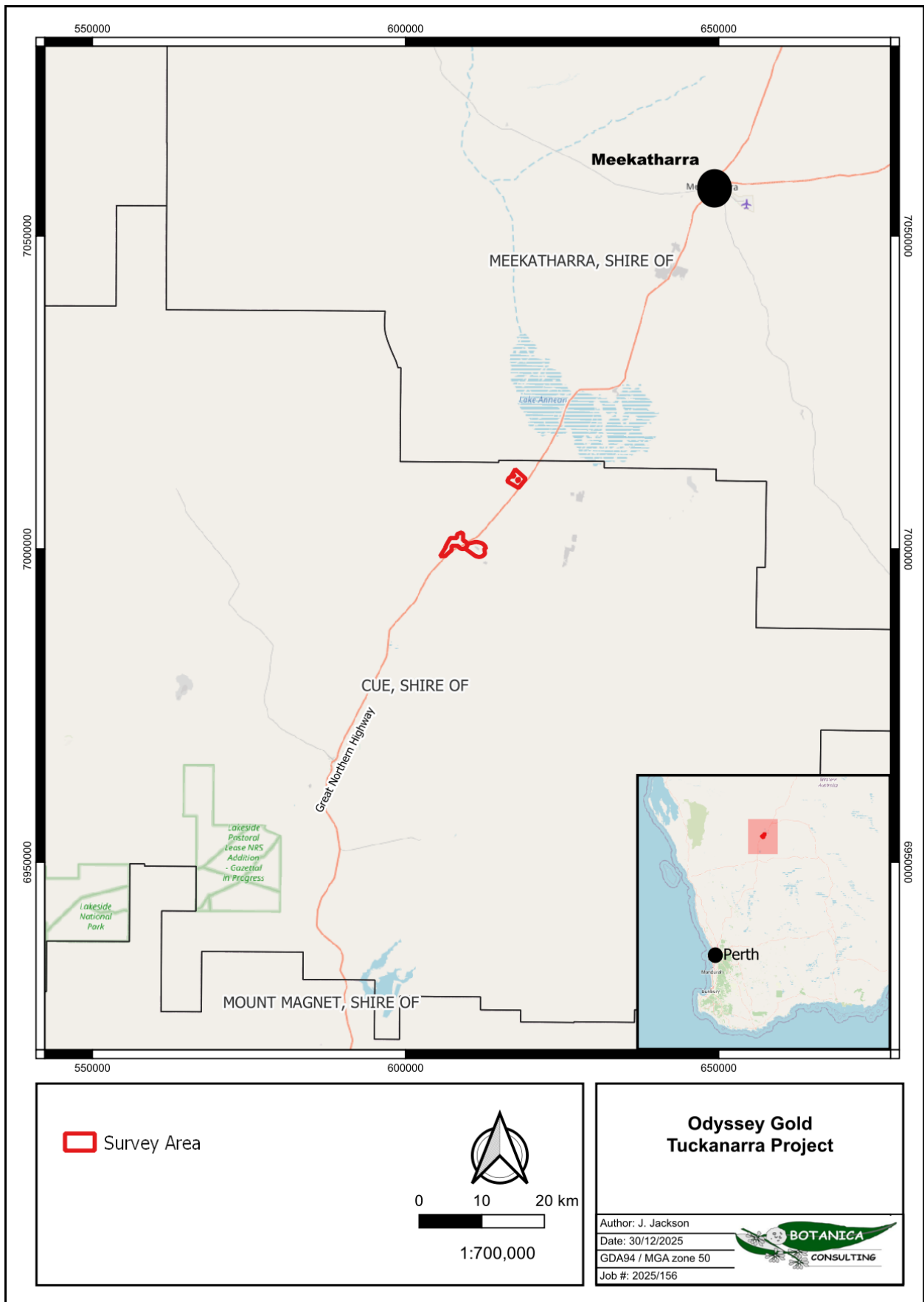


Figure 1-1: Regional map of the survey area

2 BIOPHYSICAL ENVIRONMENT

2.1 Regional Environment

The survey area lies within the Eremaean Province of Western Australia (WA). Based on the Interim Biogeographic Regionalisation of Australia (IBRA, Version 7) (DotEE, 2012) the survey area is located within the Murchison Bioregion of WA. This bioregion is further divided into subregions with the survey area located within the Eastern Murchison (MUR01) subregion of the Murchison Bioregion (Figure 2-1).

The landscape of the Murchison Bioregion comprises low hills, mesas of duricrust separated by flat colluvium and alluvial plains (Commonwealth Government, 2020). It is dominated by the Archaean (over 2500 million years ago) granite greenstone terrain of the Yilgarn Craton (Commonwealth Government, 2020). Alluvial soils and sands mantle the granitic and greenstone units of the Yilgarn Craton. These soils are shallow, sandy and infertile. Underlying the soils in low areas is a red-brown siliceous hard pan (Curry *et al.* 1994). The soils in the eastern half of the bioregion are typically red sands, calcareous red earth soil, duplex soil and clays. There are 41 vegetation associations (hummock grasslands, succulent steppe or low woodlands) that have at least 85 per cent of their total area in the bioregion. The bioregion is rich and diverse in both its flora and fauna, but most species are wide ranging and usually occur in adjoining regions (McKenzie, May and McKenna, 2002).

The Eastern Murchison subregion comprises the northern parts of the craton's Southern Cross and Eastern Goldfields Terrains and is characterised by internal drainage and extensive areas of elevated red desert sandplains with minimal dune development. Salt Lake systems are associated with the occluded paleodrainage system. Broad plains of red-brown soils and breakaway complexes as well as red sandplains are widespread. Vegetation is dominated by Mulga woodlands and is often rich in ephemerals, hummock grasslands, saltbush shrublands and Samphire shrublands (McKenzie, May and McKenna, 2002). The Eastern Murchison subregion comprises diverse mulga woodlands, which occur on low greenstone belts. The sand plains have red loamy earths and red deep sands which are found on the sandy banks.

2.2 Land Use

The dominant land uses of the Eastern Murchison subregion include grazing native pastures (85.47%), unallocated crown reserves (11.34%), conservation (1.4%) and mining (1.79%) (Cowan, 2001). The survey area is located within the Shire of Cue.

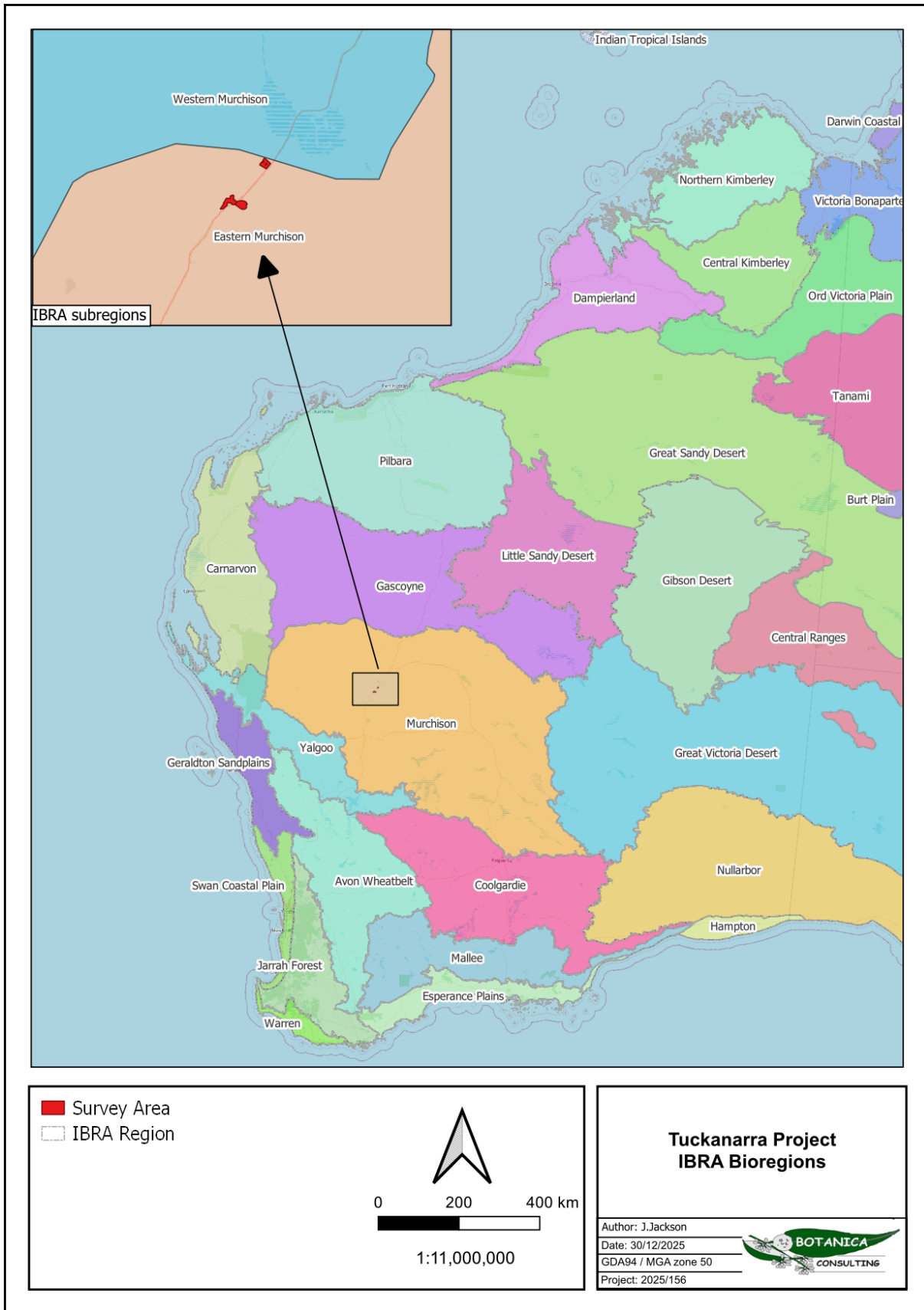


Figure 2-1: Map of IBRA Bioregions in relation to the survey area

2.3 Soil Landscape Systems

The survey area lies within the Murchison Province, which consists of hardpan wash plains and sandplains (with some stony plains, hills, mesas and salt lakes) on the granitic rocks and greenstone of the Yilgarn Craton. The Murchison Province is located in the inland Mid-west and northern Goldfields between three Springs, the Gascoyne River, Wiluna, Cosmo Newberry and Menzies. Soil types consist of red loamy earths, red sandy earths, red shallow loams, red deep sands and red-brown hardpan shallow loams with some red shallow sands and red shallow sandy duplexes present. Vegetation communities are predominately Mulga shrublands with spinifex grasslands, with areas of bowgada shrublands, Eucalypt woodlands and halophytic shrublands (Tille, 2006).

The Murchison Province is further divided into soil-landscape zones, with the survey area located within the Upper Murchison Zone (272) and the Yalgoo Plains Zone (273). The Upper Murchison Zone comprises of hardpan wash plains (with stony plains, sandplains, hills and mesas) on granite and gneiss of the Yilgarn Craton with red-brown hardpan shallow loams, red shallow loams, red loamy earths and red sands. Soils include red sandy earths, red deep sands, red shallow loams and red loamy earths with some red-brown hardpan shallow loams, salt lake soils and red shallow sandy duplexes. Vegetation is dominated by Mulga shrublands, with some halophytic shrublands. This zone is located in the north-western Murchison between Lake Nerramyne, Meekatharra, Cue and the Gascoyne River. (Tille, 2006). The Yalgoo Plains Zone is described as hardpan wash plains (with some sandplains, stony plains, mesas and granite outcrops) on granitic rocks (with some greenstone) of the Yilgarn Craton (Murchison Domain). Soils consist of red loamy earths and red shallow loams (often with hardpans) with red deep sands and red shallow sands and some red shallow sandy duplexes. Vegetation consists of Mulga shrublands with bowgada shrublands (and some halophytic shrublands). Located in the south-western Murchison from Paynes Find to Cue and Twin Peaks Station (Tille, 2006).

In accordance with soil landscape system mapping data (Government of Western Australia, 2019), the soil landscape zones are divided into soil landscape systems, with the survey area located within six soil landscape systems, as described in Table 2-1 and shown in Figure 2-2.

Table 2-1: Soil landscape systems within the survey area

Zone	Soil Landscape System	Description	Area (ha)	Area (%)
Upper Murchison Zone (272)	Gabarintha System	Greenstone ridges, hills and footslopes supporting sparse acacia and other mainly non-halophytic shrublands.	325	20
	Yanganoo System	Almost flat hardpan wash plains, with or without small wanderrie banks and weak groving; supporting mulga shrublands and wanderrie grasses on banks.	86	5.3
	Yarrameedie System	Undulating stony interfluves, drainage floors and pediment foothill plains below major ranges, supporting sparse mulga shrublands.	26	1.6
Yalgoo Plains Zone (273)	Gabarintha System	Greenstone ridges, hills and footslopes supporting sparse acacia and other mainly non-halophytic shrublands.	1047	64.8
	Jundee System	Hardpan plains with variable gravelly mantles and minor sandy banks supporting weakly groved mulga shrublands.	69.8	4.3
	Wiluna System	Low greenstone hills with occasional lateritic breakaways and broad stony slopes, lower saline stony plains and broad drainage tracts; supporting sparse mulga and other acacia shrublands with patches of halophytic shrubs.	66.2	4
Total			1620	100

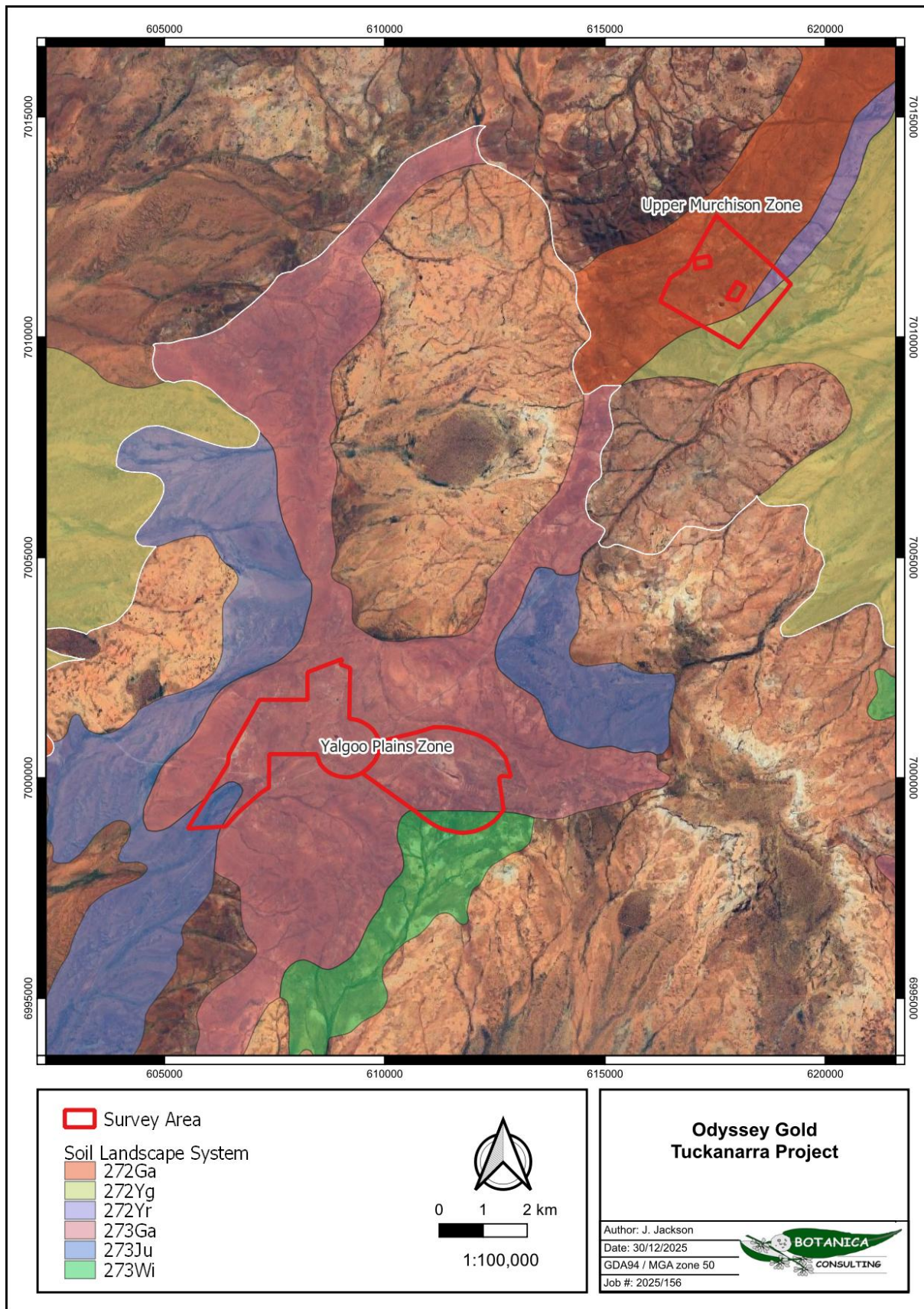


Figure 2-2: Map of soil landscape systems within the survey area

2.4 Regional Vegetation

Vegetation of the Murchison Bioregion is predominantly Mulga low woodlands on plains, often rich in ephemerals, which reduce to scrub on hills. It is also characterised by hummock grasslands, Saltbush shrublands and Samphire shrublands (Beard, 1990; McKenzie, May, and McKenna, 2002).

2.4.1 Pre-European Vegetation

The pre-European vegetation association spatial mapping dataset (DPIRD, 2018) identified two vegetation associations as occurring within the survey area (Figure 2-3). The association description and their remaining extent, as specified in Report 3b in the 2018 Statewide Vegetation Statistics (DBCA, 2019) are provided in Table 2-2. Areas retaining less than 30% of their pre-European vegetation extent generally experience exponentially accelerated species loss, while areas with less than 10% are considered “endangered” (EPA, 2000). Both vegetation associations retain >98% of their pre-European extent, and development within the survey area will not significantly reduce the current extent of these vegetation associations.

The most extensive vegetation type in Western Australia is the *Acacia aneura* (mulga) low woodland, open low woodland and sparse woodland, covering over 36 million hectares. These low woodlands of mulga and associated species (mainly Acacias) are distributed throughout the Murchison, Gascoyne, Great Victoria Desert, Central Ranges and Pilbara Bioregions and they also extend into the Gibson Desert, Little Sandy Desert, Nullarbor and Yalgoo Bioregions (Beard *et al*, 2013).

Table 2-2: Pre-European vegetation associations within the survey area

Vegetation Association	Pre-European extent remaining	% Protected for Conservation	Floristic Description	Extent within Survey Area
Wiluna 18	99.59 %	1.05	Low woodland, open low woodland or sparse woodland (Mulga <i>Acacia aneura</i> and associated species).	786 ha (48.5%)
Wiluna 39	98.77 %	0	Scrub, open scrub or sparse scrub (Wattle, teatree and other species <i>Acacia</i> spp., <i>Melaleuca</i> spp.).	834 ha (51.5%)
Total				1620 ha

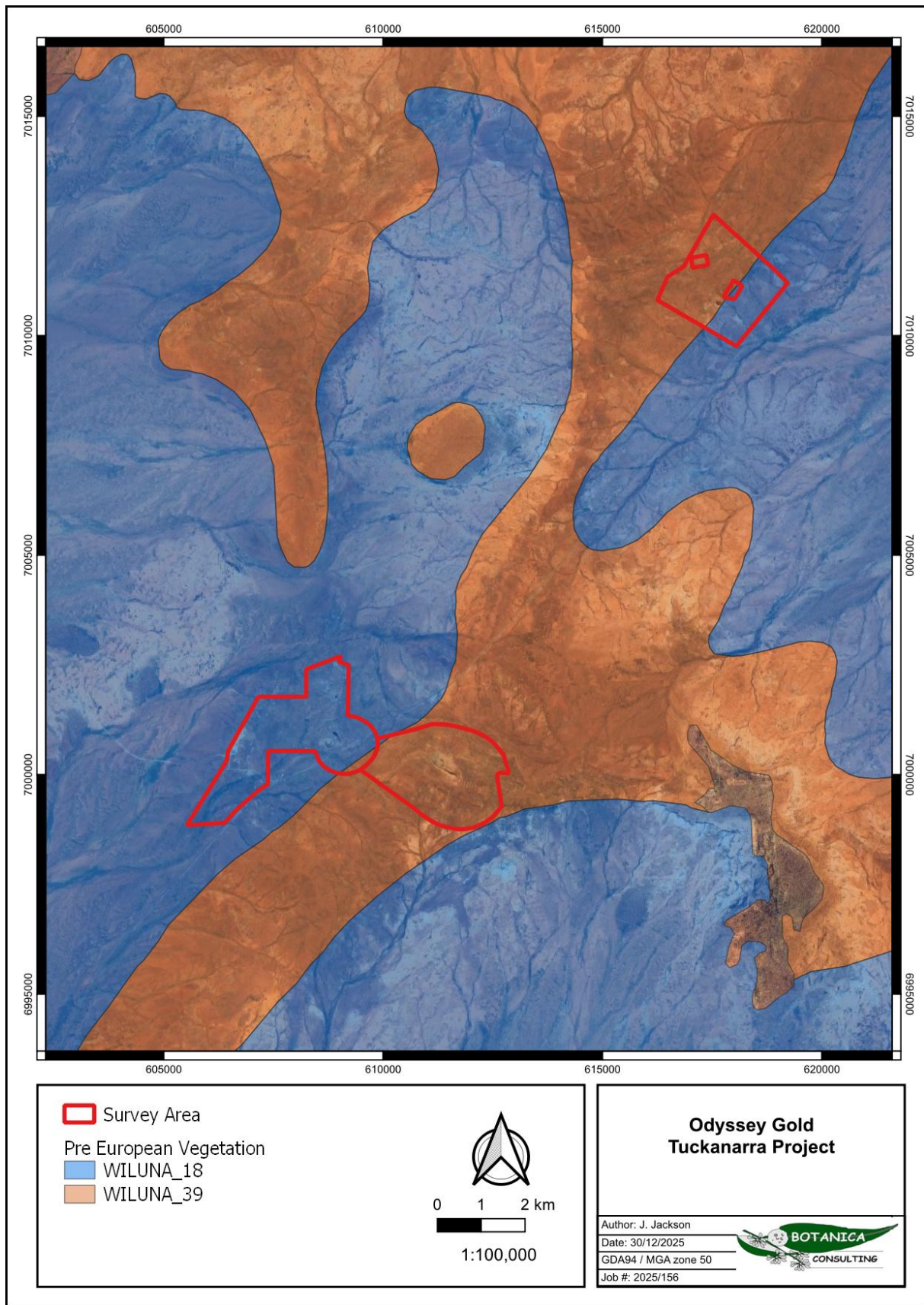


Figure 2-3: Pre-European vegetation systems within the survey area

2.5 Climate

The climate of the Eastern Murchison subregion is characterised as an arid climate with mainly winter rainfall with an annual rainfall of approximately 200 mm (Beard, 1990; Cowan, 2001). Rainfall data for the Meekatharra Airport weather station (#7045), located approximately 55 to 70 km south of the survey area, is shown in Figure 2-4.

The Meekatharra Airport weather station has an annual rainfall average of 234.4 mm, with a bimodal rainfall pattern with peak falls in summer (February) and winter (June). Rainfall for 2024 was above the average. Rainfall for June, July and August 2025 prior to the survey were above average (BoM, 2025). Note that the rainfall in November 2025 fell prior to this survey.

The highest temperatures are recorded between November and March, when mean minimum and maximum temperatures are between 18.9°C and 38.4°C respectively. The lowest temperatures are recorded between June and August, when mean minimum and maximum temperatures are -0.2°C and 17.7°C respectively (BoM, 2025).

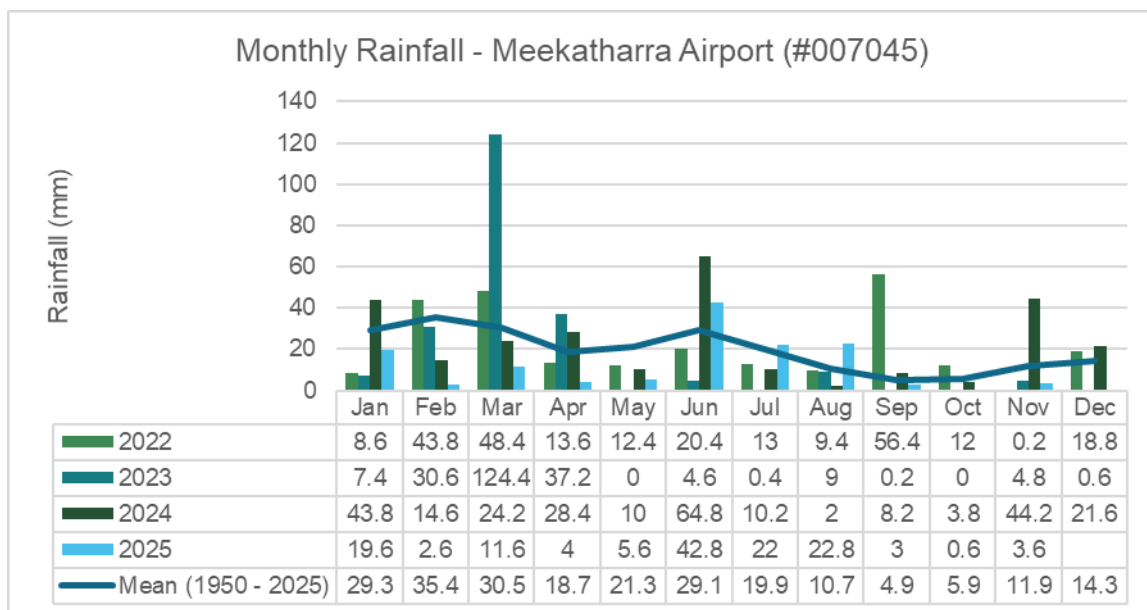


Figure 2-4: Rainfall data for Meekatharra Airport (#7045) (BoM, 2025)

2.6 Conservation Values

No Threatened Ecological Communities (TEC) or Priority Ecological Communities (PEC) listed under the Commonwealth EPBC Act, or the Western Australian *Biodiversity Conservation Act 2016* (BC Act) are known to occur within the survey area. There are six PECs within 40 km of the survey area (Table 2-3, Figure 2-5).

Table 2-3: Priority Ecological Communities within a 40 km radius of the survey area

Community	Conservation Status	Description (DBCA, 2023)	Locality
Yagahong Land System	Priority 3	Rough greenstone ridges, hills and cobble-strewn footslopes supporting mulga shrublands	Two occurrences within the 40km buffer, the closest of which is <1km north of the survey area.
Trillbar Land System	Priority 3	Gently sloping stony plains with low rises of metamorphic rocks and gilgaied drainage foci; supports more or less saline shrublands of snakewood, mulga, bluebush and samphire with patches of tussock grassland	One occurrence within the 40km buffer, approximately 5km west of the survey area.
Taincrow calcrete groundwater assemblage type on Murchison palaeodrainage on Taincrow Station	Priority 1	Unique assemblages of invertebrates have been identified in the groundwater calcretes	One occurrence within the 40km buffer, approximately 11km southwest of the survey area.
Austin Land System	Priority 3	Saline stony plains with low rises and drainage foci supporting low halophytic shrublands with scattered mulga; occurs mainly adjacent to lakes Austin and Annean below greenstone hill systems	Two occurrences within the 40km buffer, the closest of which is 16km north of the survey area.
Polelle calcrete groundwater assemblage type on Murchison palaeodrainage on Polelle Station	Priority 1	Unique assemblages of invertebrates have been identified in the groundwater calcretes	One occurrence approximately 17km east of the survey area.
Weld Range vegetation complexes (banded ironstone formation)	Priority 1		One occurrence approximately 33km west of the survey area.

There are no Ramsar wetlands or wetlands of national importance (ANCA Wetlands) within the survey area or within 40 km of the survey area. Lake Annean (Lake Nannine) is a wetland of national importance but is located seven km north of the survey area. There are no Environmentally Sensitive Areas (ESA's) as listed under the *Environmental Protection Act 1986* (EP Act) within the survey area, Lake Annean is also listed as an ESA (Figure 2-5).

There are no DBCA-managed lands, gazetted or proposed Reserves within the survey area, or within 40 km of the survey area. The nearest Legislated Reserve is the Lakeside Conservation Park (R54420), approximately 51 km southwest of the survey area.

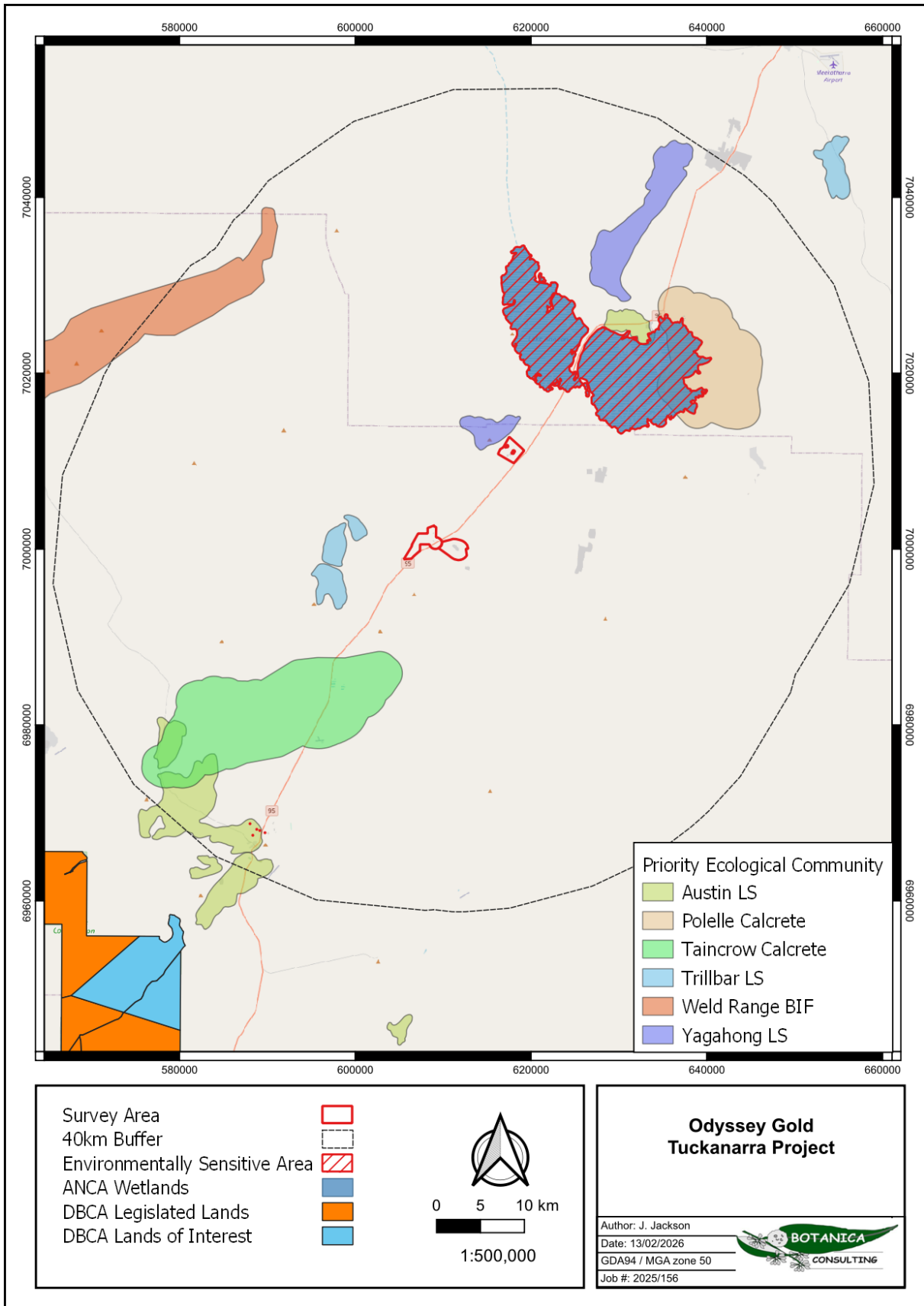


Figure 2-5: Conservation Values in relation to the survey area

2.7 Hydrology

The survey area is in the Murchison River Catchment. There are several minor ephemeral drainage lines that intersect the survey area (Figure 2-6).

Groundwater Dependent Ecosystems (GDE) includes biological assemblages of species such as wetlands or woodlands that use groundwater either opportunistically or as their primary water source. For the purposes of this report, a GDE is defined as any vegetation community that derives part of its water budget from groundwater and must be assumed to have some degree of groundwater dependency. In accordance with the Bureau of Meteorology (BoM) *Atlas of Groundwater Dependent Ecosystems* (BoM, 2017) database, there are no known or potential aquatic GDEs within the survey area. There are no known or potential terrestrial GDEs in the survey area (Figure 2-6).

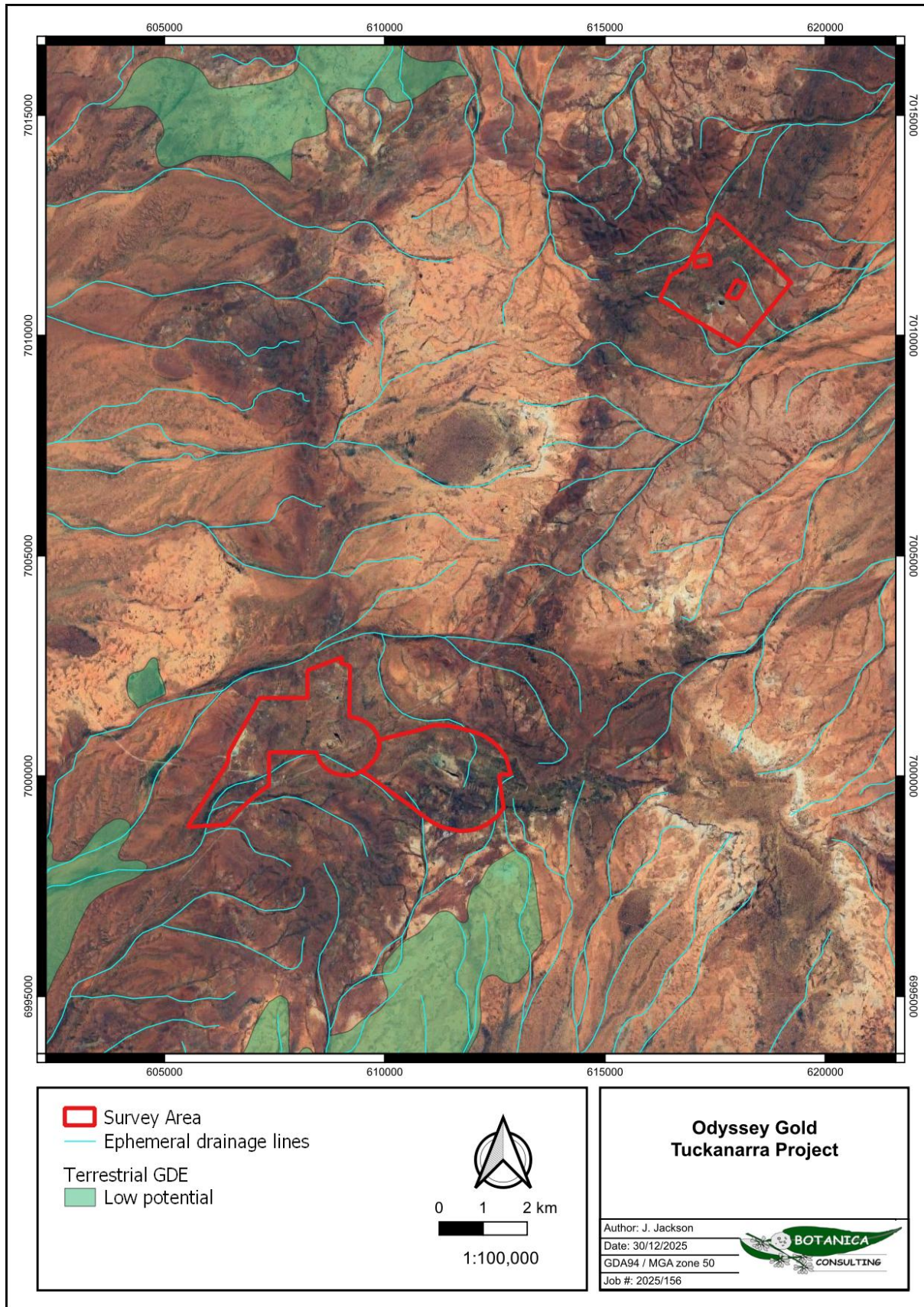


Figure 2-6: Regional hydrology of the survey area

3 SURVEY METHODOLOGY

3.1 Desktop Assessment

Prior to the field assessment a literature review was undertaken of previous flora and fauna assessments conducted within the local region. Documents reviewed included:

- Botanica (2021). *Desktop Flora and Fauna Assessment: Murchison Exploration Project*. Unpublished report prepared for Evolution Mining Group, April 2021.
- Botanica (2023). *Environmental Assessment: Cue Gold Project. Clearing Permit Application*. Unpublished report prepared for Ramelius Resources Ltd, December 2023.
- Botanica (2024) *Crown Prince Project: Reconnaissance Flora Survey and Basic Fauna Assessment*. Unpublished report for Ora Gold Ltd, August 2024.
- Curry, P J, Payne, A L, Leighton, K A, Hennig, P, and Blood, D A. (1994). *An inventory and condition survey of the Murchison River catchment, Western Australia*. Department of Agriculture, Perth. Technical Bulletin 84.
- Maia (2023). *Musgrave Minerals Limited (Musgrave): Cue Gold Project. Single-Phase Detailed Flora and Vegetation Assessment and Targeted Flora Survey (Spring / Summer 2022 / 2023)*. Unpublished report prepared for Musgrave Minerals Limited, September 2023.
- Markey, A & Dillon, S (2008). *Flora and vegetation of the banded iron formations of the Yilgarn Craton; the Weld Range*. Conservation Science W. Aust. 7 (1): 153–178.

Database search requests for significant flora (ref: 08-0126FL) (DBCA, 2026a), and communities (ref: 01-0126EC) (DBCA, 2026b) were submitted to DBCA for records within the survey area, with a 40 km buffer applied.

In addition to the literature review and DBCA database search requests, searches of the following online databases were also undertaken (using the survey area and 40 km buffer as stated above) to aid in the compilation of a list of potential significant flora and fauna within the survey area:

- Dandjoo database (DBCA, 2025a); and
- EPBC Protected Matters search tool (DCCEEW, 2025).

Significant flora species identified by the desktop review were assessed with regards to their population extent and distribution and preferred habitat to determine their likelihood of occurrence within the survey area. The assessment categorised flora species as follows:

- **Unlikely:** Suitable habitat is not expected to occur and/or the survey area is outside the known range of the species.

- **Possible:** Suitable habitat may be present, and the area is within the known range of the species. This option is also used when there is insufficient information to determine the preferred habitat of a species.
- **Likely:** Suitable habitat is expected to occur and there are records within 10 km of the survey area.
- **Previously Recorded:** A record for this species is located within the survey area. Field survey will ground-truth currently occurring individuals and populations.

It should be noted that these lists are based on observations from a broader area than the assessment area (40 km radius) and therefore may include taxa not present. The databases also often include very old records that may be incorrect or in some cases the taxa in question have become locally or regionally extinct. Information from these sources should therefore be taken as indicative only and local knowledge and information also needs to be taken into consideration when determining what actual species may be present within the specific area being investigated.

The conservation significance of flora taxa was assessed using data from the following sources:

- EPBC Act, administered by the Department of Climate Change, Energy the Environment and Water (DCCEEW);
- BC Act, administered by the Department of Biodiversity Conservation and Attractions (DBCA);
- Red List produced by the Species Survival Commission (SSC) of the World Conservation Union (also known as the IUCN Red List – the acronym derived from its former name of the International Union for Conservation of Nature and Natural Resources). The Red List has no legislative power in Australia but is used as a framework for State and Commonwealth categories and criteria; and
- Priority Flora list. A non-legislative list maintained by DBCA for management purposes (flora list released December 2025).

Descriptions of conservation significant species and communities are provided in Appendix A.

3.2 Flora and Vegetation Field Assessment

Botanica conducted a reconnaissance flora and vegetation survey on the 19th of November 2025. This was conducted by Jim Williams (Director/Principal Botanist). The area was traversed on foot and by four-wheel drive vehicle.

Prior to the commencement of field work, aerial photography was inspected and obvious differences in the vegetation assemblages were identified. The different vegetation communities identified were

then inspected during the field survey to assess their validity. A handheld GPS unit was used to record the coordinates of the boundaries between existing vegetation communities.

The survey was conducted using a series of survey sites (relevés) as shown in Figure 3-1. At each relevé site, the area was walked on foot to observe and record all flora species. The distance surveyed at each relevé varied dependent on the diversity/ variability of species and landforms/ vegetation types. At each relevé, the following information was recorded:

- GPS location;
- Photograph of vegetation;
- Dominant taxa for each stratum;
- All vascular taxa (including annual taxa);
- Landform classification;
- Vegetation condition rating;
- Collection and documentation of unknown plant specimens; and
- GPS location, photograph and collection of flora of conservation significance if encountered.

Unknown specimens collected during the survey were identified with the aid of samples housed at the Botanica Herbarium and Western Australian Herbarium. Vegetation was classified in accordance with NVIS classifications.

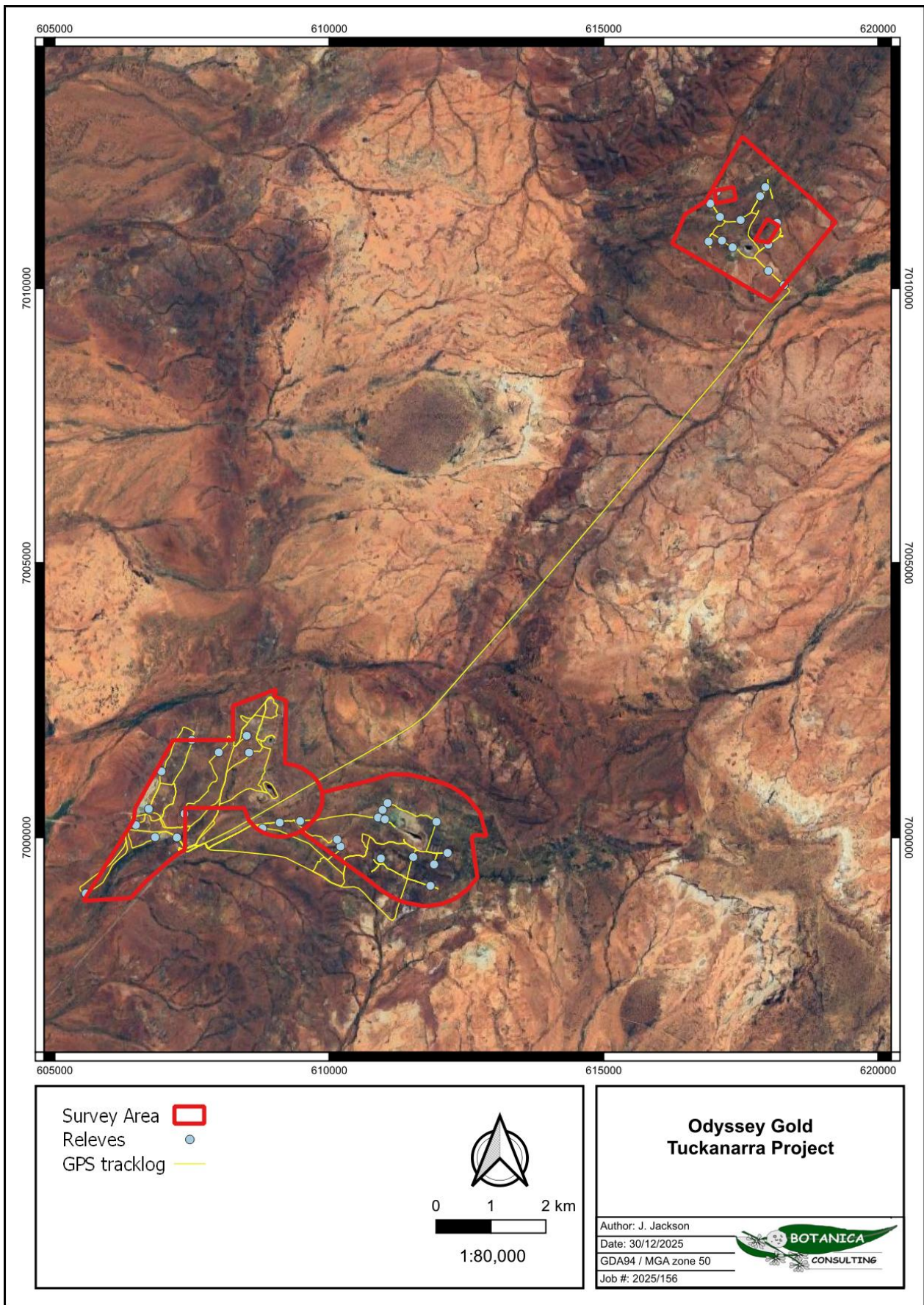


Figure 3-1 GPS tracklog of the 2025 survey effort

3.3 Data Analysis Tools

Following field assessments, vegetation types and condition were mapped using the GIS program QGIS, and the hectare area/ percentage area of each vegetation type and condition within the survey area was calculated. Spatial maps illustrating the location of vegetation types, and any significant flora/ vegetation and fauna were generated using QGIS.

3.4 Scientific Licences

A list of scientific licences held by Botanica staff is provided within Table 3-1.

Table 3-1: Scientific Licenses of Botanica Staff coordinating the survey

Licensed Staff	Permit Number	Date of Expiry
Jim Williams	FB62000457-02 Flora Taking (Biological Assessment) Licence	04/08/2028

3.5 Survey Limitations and Constraints

It is important to note that flora surveys will entail limitations notwithstanding careful planning and design. Potential limitations are listed in Table 3-2.

The conclusions presented in this report are based upon field data and environmental assessments and/or testing carried out over a limited period of time and are therefore merely indicative of the environmental condition of the site at the time of the field assessments. Also, it should be recognised that site conditions can change with time. Information not available at the time of this assessment which may subsequently become available may alter the conclusions presented.

Some species are reported as potentially occurring based on there being suitable habitat (quality and extent) within the survey area or immediately adjacent. The habitat requirements and ecology of many of the species known to occur in the wider area are however often not well understood or documented. It can therefore be difficult to exclude species from the potential list based on a lack of a specific habitats or microhabitats within the survey area. As a consequence of this limitation, the potential species list produced is most likely an overestimation of those species that actually utilise the survey area for some purpose.

In recognition of survey limitations, a precautionary approach has been adopted for this assessment. Any flora species that would possibly occur within the survey area (or immediately adjacent), as identified through ecological databases, publications, discussions with local experts/residents and the habitat knowledge of the author, has been listed as having the potential to occur.

Table 3-2: Limitations and constraints associated with the flora/ vegetation and fauna survey

Variable	Potential Impact on Survey	Details
Access problems	Not a constraint	The survey was conducted via 4WD and on foot. The survey area was accessible by numerous access tracks.
Competency/ Experience	Not a constraint	The Botanica personnel that conducted the survey were regarded as suitably qualified and experienced. Coordinating Staff: Jim Williams (Director and Principal Botanist). Data Interpretation: Jennifer Jackson (Senior Environmental Consultant)
Timing of survey, weather & season	Minor constraint	Fieldwork was undertaken outside the EPA's recommended primary survey time period for the Eremaean Province (i.e., 6-8 weeks following wet season from March to June), however rainfall was above average for June, July and August, prior to this survey.
Area disturbance	Not a constraint	The majority of native vegetation survey area was in completely degraded to good condition.
Survey Effort/ Extent	Not a constraint	Survey intensity was appropriate for the size/significance of the area with a reconnaissance survey completed to identify vegetation types/fauna habitats and conservation significant species/communities.
Availability of contextual information at a regional and local scale	Not a constraint	BoM, Department of Water and Environmental Regulation (DWER), Department of Primary Industries and Regional Development (DPIRD), DBCA and DCCEEW databases were reviewed to obtain appropriate regional desktop information on the biophysical environment of the local region. Botanica has conducted numerous surveys within the Murchison bioregion and was also able to obtain information about the area from previous research conducted within the area. Results of previous assessments in the local area were reviewed to provide context on the local environment.
Completeness	Not a constraint	In the opinion of Botanica, the survey area was covered sufficiently in order to identify vegetation assemblages. All observed flora individuals were able to be identified to species level. The vegetation associations for this study were based on visual descriptions of locations in the field. The distribution of these vegetation associations outside the survey area is not known, however vegetation associations identified were categorised via comparison to vegetation distributions throughout WA given on NVIS (DotEE, 2017).

4 RESULTS

4.1 Desktop Assessment

4.1.1 Flora

The Dandjoo database search (DBCA, 2025a) identified 483 vascular flora species as previously being recorded within 40 km of the survey area. This list was compiled from records from the WA Herbarium. The full list of vascular flora identified by the desktop search is contained in Appendix E.

4.1.2 Introduced Flora

The Dandjoo database search identified 17 introduced flora (weed) species as previously being recorded within 40 km of the survey area (DBCA, 2025a). Of these, one species is listed as a Declared Pest on the Western Australian Organism List (WAOL) under the *Biosecurity and Agriculture Management Act 2007* (BAM Act) and as a Weed of National Significance (WoNS) (Table 4-1).

Table 4-1: Introduced flora known to occur within 40 km of the survey area

Taxon	Common Name	Declared Pest	WONS
<i>Asphodelus fistulosus</i>	Onion Weed	No	No
<i>Callitriche stagnalis</i>	Pond Water-starwort	No	No
<i>Centaurea melitensis</i>	Maltese Cockspur	No	No
<i>Chenopodium murale</i>	Nettle-leaf Goosefoot	No	No
<i>Citrullus amarus</i>	Citron Melon	No	No
<i>Cuscuta epithymum</i>	Lesser dodder	No	No
<i>Cuscuta planiflora</i>	Small-seeded Dodder	No	No
<i>Hypochoeris glabra</i>	Smooth Cats-ear	No	No
<i>Lysimachia arvensis</i>	Pimpernel	No	No
<i>Opuntia stricta</i>	Common Prickly Pear	Yes	Yes
<i>Pentameris airoides</i>	False Hairgrass	No	No
<i>Polypogon monspeliensis</i>	Annual Beard-grass	No	No
<i>Rostraria pumila</i>	Tiny bristle-grass	No	No
<i>Rumex hypogaeus</i>	Doublegee	No	No
<i>Rumex vesicarius</i>	Ruby dock	No	No
<i>Solanum nigrum</i>	Black Berry Nightshade	No	No
<i>Vachellia farnesiana</i>	Sweet Acacia	No	No

4.1.3 Significant Flora

Assessment of the DBCA's Threatened and Priority Flora database records (Ref: 62-0824FL) (DBCA, 2026a), EPBC Protected Matters (DCCEEW, 2025a), Dandjoo database (DBCA, 2025a) and previous relevant literature identified one Threatened Flora and 30 Priority Flora as occurring within a 40 km radius of the survey area. No Threatened or Priority Flora have previously been collected within the survey area.

These taxa were assessed for distribution and known habitat to determine their likelihood of occurrence within the survey area (Table 4-2). Nine species were assessed as possibly occurring in the survey area. The locations of the DBCA database records are illustrated spatially in Figure 4-1.

Table 4-2: Significant flora potentially occurring within the survey area

Taxon	Rank			Habitat Description (WA Herbarium, 1998-; DBCA, 2026a)	Assessment
	EPBC	BC Act	DBCA		
<i>Acacia burrowsiana</i>	-	-	P3	Red-brown loams with ironstone rubble on surface, calcrete soils, laterite, quartz. Flats adjacent to watercourses, crests of low rises, breakaways.	Possible.
<i>Acacia sclerosperma</i> subsp. <i>glaucescens</i>	-	-	P3	Sand, sandy loam, stony soils.	Unlikely, no habitat fitting this description in the survey area.
<i>Acacia speckii</i>	-	-	P4	Rocky soils over granite, basalt or dolerite. Rocky hills or rises.	Possible.
<i>Bergia auriculata</i>	-	-	P2	Clay soils. Mud flats.	Unlikely, no habitat fitting this description in the survey area.
<i>Beyeria lapidicola</i>	-	-	P1	Ironstone outcrop/breakaways on midslopes of range.	Unlikely, nearest population is 38km to the west.
<i>Calotis</i> sp. Perrinvale Station (R.J. Cranfield 7096)	-	-	P3	Not found	Not known
<i>Calytrix verruculosa</i>	-	-	P3	Sandy clay. Shallow hardpan plain.	Possible.
<i>Dicrastylis</i> sp. Cue (A.A. Mitchell 764)	-	-	P1	Drainage area, near granite.	Unlikely, no habitat fitting this description in the survey area.
<i>Dodonaea amplisemina</i>	-	-	P4	Red-brown sandy clay on basalt and gabbro and banded ironstone or on dolerite and quartzite. Rocky hills.	Unlikely, nearest population is 37km to the south.
<i>Drummondita miniata</i>	-	-	P3	Laterite. Breakaways.	Unlikely, nearest population is 36km to the south east
<i>Eragrostis</i> sp. Erect spikelets (P.K. Latz 2122)	-	-	P3	Calcrete plain.	Unlikely, no habitat fitting this description in the survey area.
<i>Eremophila fasciata</i>	-	-	P3	Stony hill.	Unlikely, nearest population is 27km to the north.
<i>Eremophila rostrata</i> subsp. <i>rostrata</i>	CR	CR		Saline quartzite loams. Hills and flats.	Unlikely, nearest population is 35km to the south.
<i>Goodenia berringbinensis</i>	-	-	P4	Red sandy loam. Along watercourses.	Possible.
<i>Grevillea inconspicua</i>	-	-	P4	Along drainage lines on rocky outcrops, creek lines.	Possible.
<i>Hemigenia virescens</i>	-	-	P3	Yellow-red sandy clay.	Unlikely, no habitat fitting this description in the survey area.
<i>Hibiscus</i> sp. Belele (D.W. Goodall 3417)	-	-	P3	Flat. Orange sandy loam with 50-100% cover of quartz rock, over alluvial and lacustrine valley-fill deposits; in places saline or with calcrete.	Unlikely, no habitat fitting this description in the survey area.
<i>Jacksonia lanicarpa</i>	-	-	P1	Red sand.	Unlikely, no habitat fitting this description in the survey area.
<i>Maireana prosthochaeta</i>	-	-	P3	Laterite. Hills, salty places.	Possible.
<i>Micromyrtus placoides</i>	-	-	P3	Red-orange sandy clay, orange-yellow sandy clay to clayey loam, coarse gravel, banded ironstone, laterite, quartz, basalt. Gently undulating plains, dry creek beds, hillcrests, ridges.	Unlikely, nearest population is 38km to the north west

Taxon	Rank			Habitat Description (WA Herbarium, 1998-; DBCA, 2026a)	Assessment
	EPBC	BC Act	DBCA		
<i>Petrophile pauciflora</i>	-	-	P3	Decaying & dissected granite breakaways.	Unlikely, nearest population is 37km to the north west
<i>Prostanthera ferricola</i>	-	-	P3	Shallow red-brown skeletal sandy loam on banded ironstone, laterite, basalt or quartz. Gently inclined mid to upper slopes of hills, rocky crests, outcrops.	Unlikely, nearest population is 35km to the south
<i>Prostanthera petrophila</i>	-	-	P3	Lateritic soils.	Possible.
<i>Ptilotus beardii</i>	-	-	P3	Saline flats, low breakaways.	Unlikely, no habitat fitting this description in the survey area.
<i>Ptilotus lazaridis</i>	-	-	P3	Clay loam. Floodplains.	Unlikely, no habitat fitting this description in the survey area.
<i>Ptilotus luteolus</i>	-	-	P3	Hillslopes.	Unlikely, no habitat fitting this description in the survey area.
<i>Ptilotus</i> sp. Cue (P. Armstrong PA 16/362)	-	-	P1	Not found	Not known
<i>Sida picklesiana</i>	-	-	P3	Breakaway scree slope.	Possible.
<i>Stenanthemum mediale</i>	-	-	P1	Red clayey sand.	Unlikely, no habitat fitting this description in the survey area.
<i>Tecticornia cymbiformis</i>	-	-	P3	Saline soils. Along the edge of creeklines.	Unlikely, no habitat fitting this description in the survey area.
<i>Verticordia jamiesonii</i>	-	-	P3	Sandy clay soils. Lateritic breakaways.	Possible.

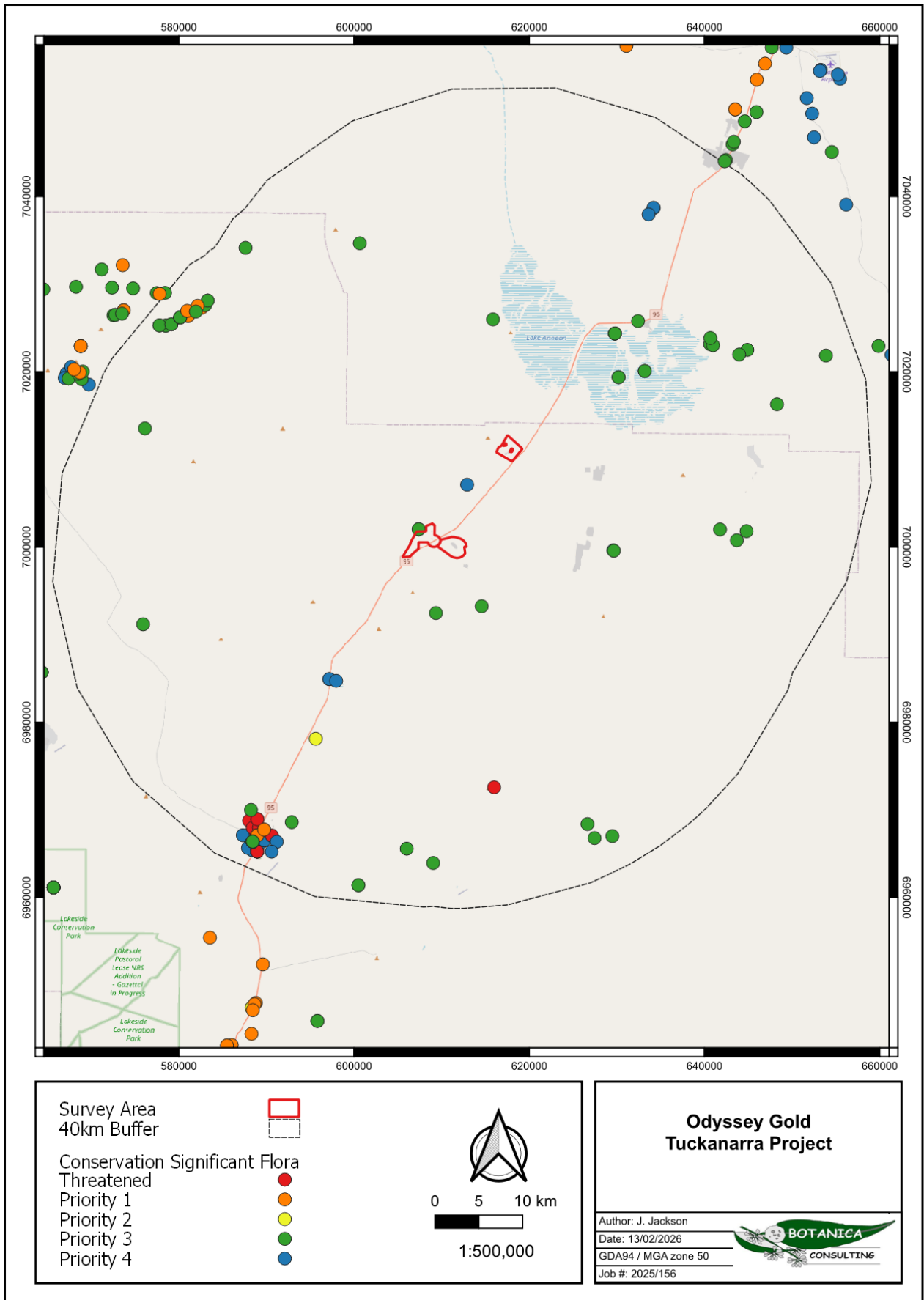


Figure 4-1: Significant flora within the desktop search area

4.2 Field Assessment

4.2.1 Flora

The field survey identified 79 vascular flora taxa within the survey area. These taxa represented 39 genera across 22 families, with the most diverse families being Fabaceae (20 species), Scrophulariaceae (11 species) and Chenopodiaceae (11 species), followed by dominant genera include *Acacia* (14 species) and *Eremophila* (11 species). Sixteen annual species were observed during the survey, three of these were weeds. The full field species inventory is listed in Appendix C.

4.2.1.1 Introduced Flora

Three introduced flora (weeds) species were observed within the survey area during the survey (Table 4-3). These were observed in disturbed areas and along tracks, and their locations were not marked. None of these species are listed as a Declared Pest on the WAOL under the BAM Act or as a WoNS.

Table 4-3: Introduced flora species within the survey area

Family	Taxon	Common Name
Aizoaceae	<i>Mesembryanthemum crystallinum</i>	Iceplant
Asteraceae	<i>Bidens bipinnata</i>	Bipinnate Beggartick
Poaceae	<i>Cenchrus ciliaris</i>	Buffel grass

4.2.1.2 Significant Flora

According to the Environmental Protection Authority (EPA) *Environmental Factor Guideline for Flora and Vegetation* (EPA, 2016b) significant flora includes:

- flora being identified as threatened or priority species;
- locally endemic flora or flora associated with a restricted habitat type (e.g. surface water or groundwater dependent ecosystems);
- new species or anomalous features that indicate a potential new species;
- flora representative of the range of a species (particularly, at the extremes of range, recently discovered range extensions, or isolated outliers of the main range);
- unusual species, including restricted subspecies, varieties or naturally occurring hybrids; and
- flora with relictual status, being representative of taxonomic groups that no longer occur widely in the broader landscape.



No Threatened, Priority or otherwise significant flora species were identified within the survey area.



4.2.2 *Vegetation Communities*



A total of seven broad-scale vegetation communities were identified within the survey area. Vegetation community descriptions and extent are listed below in Table 4-4 and illustrated spatially in Figure 4-2 and Figure 4-3. These vegetation types were identified within three landform types and comprised of two major vegetation groups. Vegetation community descriptions and extents were determined from field survey results, aerial imagery interpretation and extrapolation of the communities.


The survey found RP-AOW1 was the most widespread community in the survey area, occupying 436 ha (26.8 %), while QRP – AFW1 was the most restricted with 7.7 ha (0.5 %). The most diverse vegetation type was DD-AFW1 with 51 species (64.5%), while the least diverse was RH – AOW1 with 18 species (22.8%).

Table 4-4: Summary of vegetation types within the survey area

Landform	NVIS Vegetation Group	Code	Vegetation Type	Area (ha)	Area (%)	Photo
Rocky Hillslope	Acacia Forrest Woodland (MVG 6)	RH-AFW1	Low open forest of <i>Acacia incurvaneura</i> over mid open shrubland of <i>Eremophila latrobei</i> and <i>Senna</i> sp. Meekatharra over low sparse shrubland of <i>Ptilotus obovatus</i> on a rocky hillslope.	369	22.9	
	Acacia Forrest Woodland (MVG 6)	RH-AFW2	Low open forest of <i>Acacia mulganeura</i> over mid open shrubland of <i>Eremophila latrobei</i> and <i>Senna</i> sp. Meekatharra over low sparse shrubland of <i>Ptilotus obovatus</i> on a rocky hillslope.	61	3.7	

Landform	NVIS Vegetation Group	Code	Vegetation Type	Area (ha)	Area (%)	Photo
Rocky Hillslope	Acacia Open Woodland (MVG 13)	RH - AOW1	Low woodland of <i>A. mulganeura</i> over mid open shrubland of <i>Eremophila latrobei</i> , <i>E. jucunda</i> and <i>Senna</i> sp. Meekatharra over low sparse shrubland of <i>Maireana triptera</i> on a rocky hillslope.	148	9.1	
Rocky Plain	Acacia Forrest Woodland (MVG 6)	RP - AFW1	Low open forest of <i>Acacia pruinocarpa</i> and <i>A. incurvaneura</i> over mid open shrubland of <i>Eremophila galeata</i> and <i>Senna artemisioides</i> subsp. <i>helmsii</i> over low sparse shrubland of <i>Ptilotus obovatus</i> on a rocky plain.	213	13.1	

Landform	NVIS Vegetation Group	Code	Vegetation Type	Area (ha)	Area (%)	Photo
Rocky Plain	Acacia Open Woodland (MVG 13)	RP - AOW1	Low woodland of <i>Acacia incurvaneura</i> and <i>A. ramulosa</i> over mid open shrubland of <i>Eremophila galeata</i> and <i>Senna artemisioides</i> subsp. <i>helmsii</i> over low sparse shrubland of <i>Maireana triptera</i> and <i>Enchylaena tomentosa</i> on a rocky plain.	436	26.9	
	Acacia Forrest Woodland (MVG 6)	QRP - AFW1	Low open forest of <i>Acacia incurvaneura</i> and <i>A. pruinocarpa</i> over mid open shrubland of <i>A. tetragonophylla</i> and <i>Senna</i> sp. Meekatharra over low sparse shrubland of <i>Ptilotus obovatus</i> and <i>Solanum lasiophyllum</i> on a quartz rocky plain.	7.2	0.5	

Landform	NVIS Vegetation Group	Code	Vegetation Type	Area (ha)	Area (%)	Photo
Drainage depression	Acacia Forrest Woodland (MVG 6)	DD - AFW1	Low open forest of <i>Acacia incurvaneura</i> over mid open shrubland of <i>Acacia tetragonophylla</i> , and <i>Senna</i> sp. Meekatharra over low sparse shrubland of <i>Ptilotus obovatus</i> and <i>Solanum lasiophyllum</i> in drainage depression.	240	14.8	
Cleared Areas				146	9	
Total				1620	100	

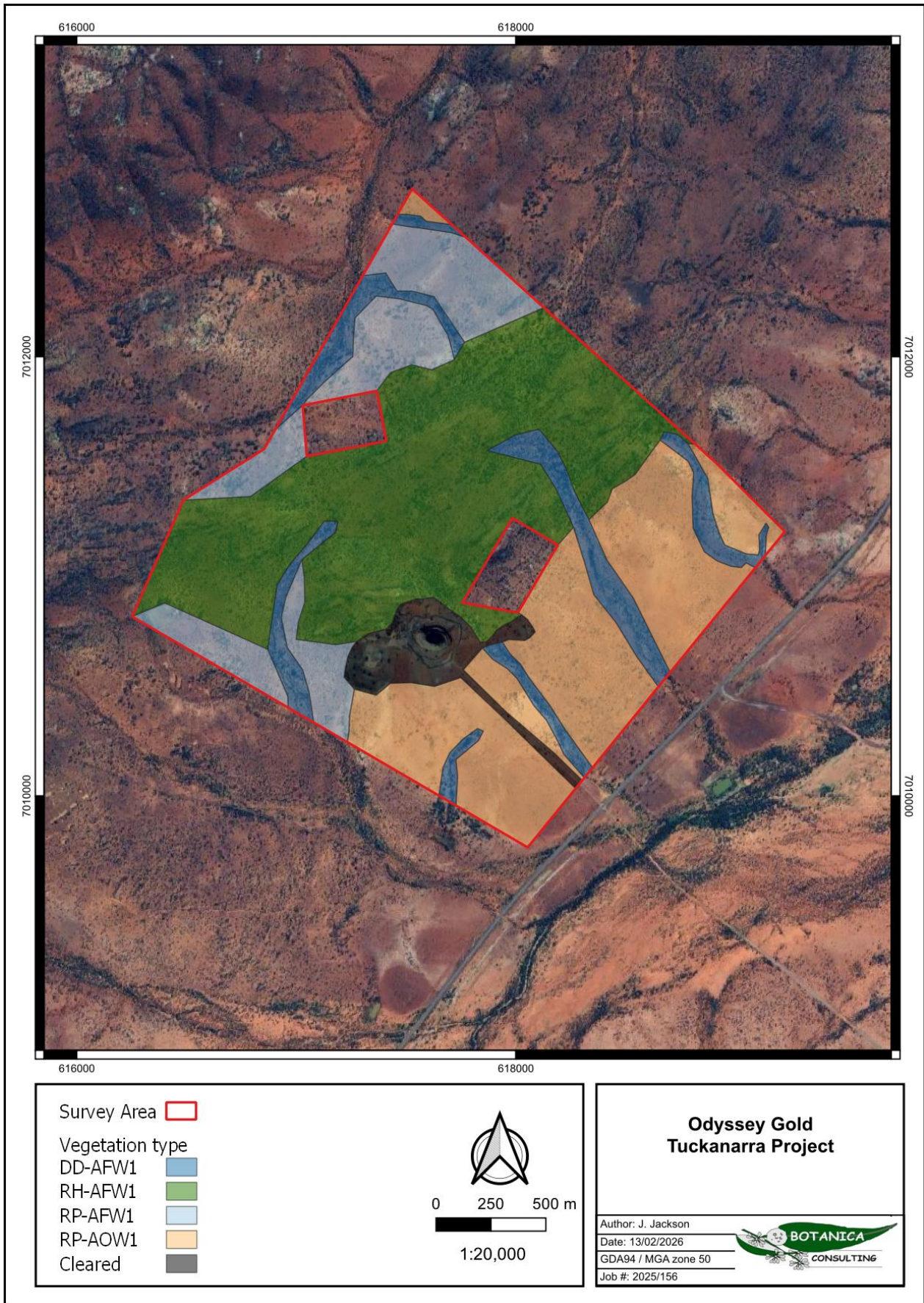


Figure 4-2: Vegetation types within the survey area (Map 1 of 2)

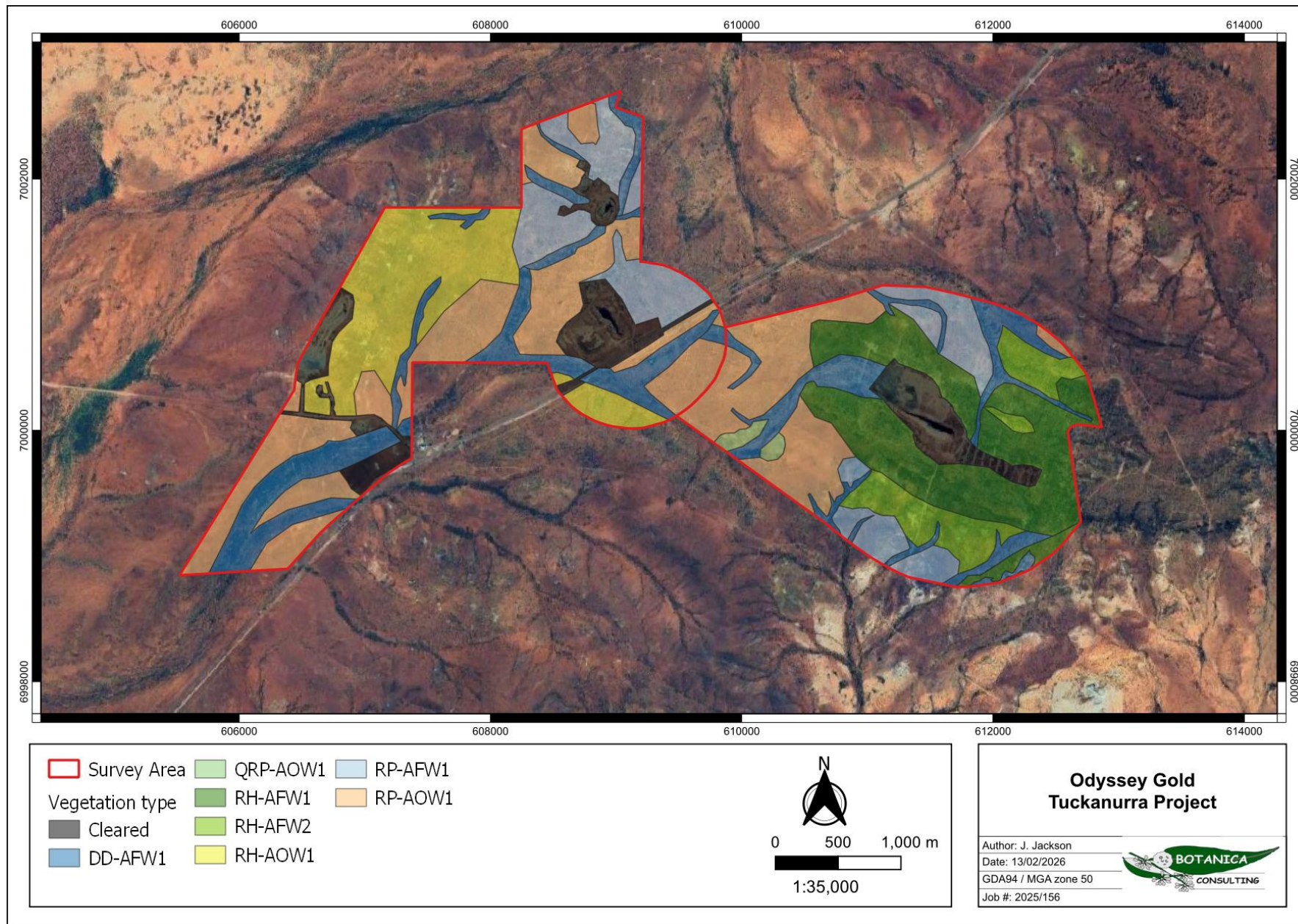


Figure 4-3: Vegetation types within the survey area (Map 2 of 2)

4.2.3 Vegetation Condition

Based on the vegetation condition rating scale adapted from Keighery (1994) and Trudgen, (1988), native vegetation within the survey area was categorized as ‘Good’ to ‘Very good’, with cleared areas considered completely degraded (Table 4-5, Figure 4-4 and Figure 4-5). Vegetation condition rating descriptions are listed in Appendix B. Impacts to vegetation within the survey area include access tracks, historical and current mining and exploration disturbances and heavy grazing.

Table 4-5: Vegetation condition rating within the survey area

Condition rating	Description	Area (ha)	Area (%)
Very Good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.	147	9.1%
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.	1327	81.9%
Completely Degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or ‘parkland cleared’ with their flora comprising weed or crop species with isolated native trees or shrubs.	146	9%
TOTAL		1620	100

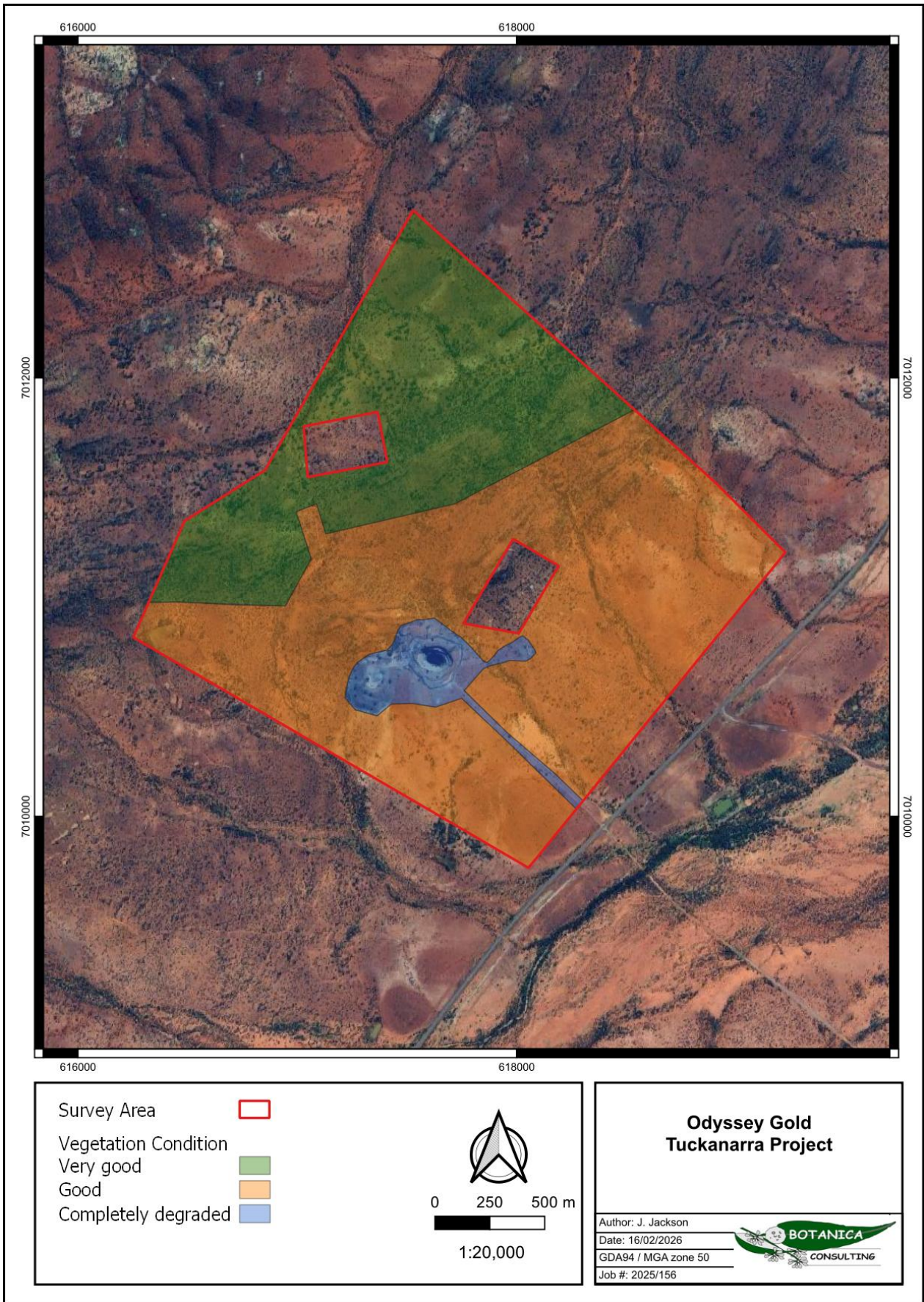


Figure 4-4: Vegetation condition within the survey area (Map 1 of 2)

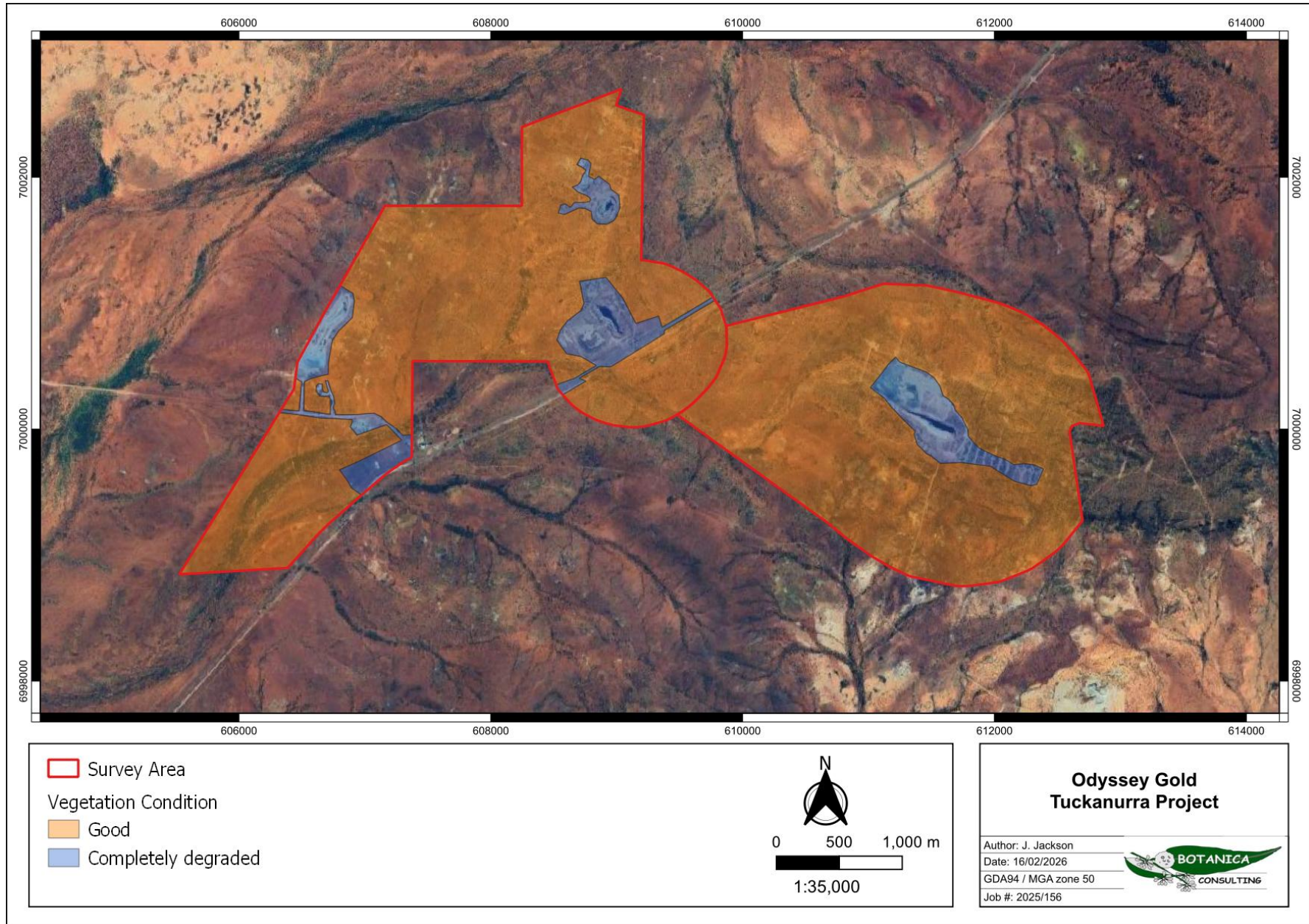


Figure 4-5: Vegetation condition within the survey area (Map 2 of 2)

4.2.4 Significant Vegetation

According to the EPA *Environmental Factor Guideline for Flora and Vegetation* (EPA, 2016b) significant vegetation includes:

- vegetation being identified as threatened or priority ecological communities;
- vegetation with restricted distribution;
- vegetation subject to a high degree of historical impact from threatening processes;
- vegetation which provides a role as a refuge; and
- vegetation providing an important function required to maintain ecological integrity of a significant ecosystem.

No priority or otherwise significant ecological communities were identified within the survey area.

4.3 Matters of National Environmental Significance

4.3.1 Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act protects matters of national environmental significance and is used by the Commonwealth DCCEEW to list threatened taxa and ecological communities into categories based on the criteria set out in the Act (www.environment.gov.au/epbc/index.html). The Act provides a national environmental assessment and approval system for proposed developments and enforces strict penalties for unauthorised actions that may affect matters of national environmental significance. Matters of national environmental significance as defined by the Commonwealth EPBC Act include:

- Nationally threatened flora and fauna species;
- World heritage properties;
- National heritage places;
- Wetlands of international importance (often called ‘Ramsar’ wetlands after the international treaty under which such wetlands are listed);
- Nationally threatened ecological communities;
- Commonwealth marine area;
- The Great Barrier Reef Marine Park; and
- Nuclear actions (including uranium mining) a water resource, in relation to coal seam gas development and large coal mining development.

No Matters of National Environmental Significance were identified within the survey area.

4.4 Matters of State Environmental Significance

4.4.1 *Environmental Protection Act 1986*

The EP Act provides for the prevention, control and abatement of pollution and environmental harm, for the conservation, preservation, protection, enhancement and management of the environment. The Act is administered by The Department of Water and Environment Regulation (DWER), which is the State Government's environmental regulatory agency.

Under Section 51C of the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations (Regulations) WA 2004* (Clearing Regulations) any clearing of native vegetation in Western Australia that is not eligible for exemption under Schedule 6 of the EP Act or the Clearing Regulations requires a clearing permit from the DWER or DMPE. Under Section 51A of the EP Act native vegetation includes aquatic and terrestrial vegetation indigenous to Western Australia, and intentionally planted vegetation declared by regulation to be native vegetation, but not vegetation planted in a plantation or planted with commercial intent. Section 51A of the EP Act defines clearing as "the killing or destruction of; the removal of; the severing or ringbarking of trunks or stems of; or the doing of substantial damage to some or all of the native vegetation in an area, including the flooding of land, the burning of vegetation, the grazing of stock or an act or activity that results in the above". Exemptions under Schedule 6 of the EP Act and the Clearing Regulations do not apply in ESAs as declared under Section 51B of the EP Act or for TECs listed under State and Commonwealth legislation.

No Matters of State Environmental Significance were identified within the survey area. No Environmentally Sensitive Areas were identified within the survey area.

4.4.2 *Biodiversity Conservation Act 2016*

This Act is administered by DBCA for the conservation and protection of biodiversity and biodiversity components in Western Australia and to promote the ecologically sustainable use of biodiversity components in the State. Taxa are classified as 'Threatened' when their populations are geographically restricted or are threatened by local processes (see following sections for Threatened definitions). Under this Act all native flora and fauna are protected throughout the State. Financial penalties are enforced under this Act if threatened species are collected without an appropriate license.

Under Section 54(1) of the BC Act, habitat is eligible for listing as critical habitat if:

- a) it is critical to the survival of a threatened species or a threatened ecological community; and

- b) its listing is otherwise in accordance with the ministerial guidelines.

No threatened species or critical habitat listed under the BC Act were recorded within the survey area.

4.5 Other Areas of Conservation Significance

The DBCA lists 'Priority' species and communities which are under consideration for declaration as 'Threatened' under the BC Act. These Priority species/ communities have no formal legal protection until they are endorsed by the Minister as being Threatened. No PECs as listed by DBCA were identified within the survey area. No Priority Flora was observed within the survey area.

There are no wetlands of international importance (Ramsar Wetlands) or national importance (Australian Nature Conservation Agency Wetlands) within the survey area.

The nearest Legislated Reserve is the Lakeside Conservation Park (R54420), approximately 51 km southwest of the survey area.

5 DISCUSSION AND CONCLUSIONS

The field survey identified 79 vascular flora taxa within the survey area. These taxa represented 39 genera across 22 families, with the most diverse families being Fabaceae (20 species), Scrophulariaceae (11 species) and Chenopodiaceae (11 species), followed by dominant genera include *Acacia* (14 species) and *Eremophila* (11 species). Thirteen native annual species were observed during the survey. Three weed species were recorded within the survey. These species are not listed as Declared Pests on the WAOL under the BAM Act or as WoNS.

No Priority flora, Threatened flora or otherwise significant flora species were observed within the survey area.

A total of seven broad-scale vegetation communities were identified within the survey area. These vegetation communities are considered to be of low biological diversity and are well represented outside the survey area. The vegetation types identified in the survey area are not considered to be GDEs.

Native vegetation within the survey area was categorised as 'Good' to 'Very Good' with cleared areas considered completely degraded. Impacts to vegetation within the survey area include access tracks, historical and current mining and exploration activities, and grazing by large feral herbivores.

No Threatened, Priority or otherwise significant ecological communities were identified within the survey area. No ESAs were identified within the survey area. There are no wetlands of international importance (Ramsar Wetlands) or national importance (Australian Nature Conservation Agency Wetlands) within the survey area.

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APPENDIX A: CONSERVATION RATINGS BC ACT AND EPBC ACT

Definitions of Conservation Significant Species

Code	Category
State categories of Threatened and Priority species	
Threatened Species (T) Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as Threatened species under section 26(2) of the BC Act. - Published under Schedule 2 of the <i>Biodiversity Conservation (Listing of Native Species) (Fauna) Order 2025</i> (Government Gazette, WA 1 July 2025 No. 78 pg 1060-1069). - Published under Schedule 1 of the <i>Biodiversity Conservation (Listing of Native Species) (Flora) Order 2025</i> (Government Gazette, WA 1 July 2025 No. 78 pg 1070-1075).	
CR	Critically Endangered Threatened species considered to be “facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines”. Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines.
EN	Endangered Threatened species considered to be “facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines”. Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines.
VU	Vulnerable Threatened species considered to be “facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines”. Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines.
Extinct species Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild. - Published under Schedule 3 of the <i>Biodiversity Conservation (Listing of Native Species) (Fauna) Order 2025</i> (Government Gazette, WA 1 July 2025 No. 78 pg1060-1069). - Published under Schedule 2 of the <i>Biodiversity Conservation (Listing of Native Species) (Flora) Order 2025</i> (Government Gazette, WA 1 July 2025 No. 78 pg1070-1075).	
EX	Extinct Species where “there is no reasonable doubt that the last member of the species has died”, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).
EW	Extinct in the Wild Species that “is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form”, and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act). Currently there are no Threatened fauna or Threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.
Specially protected species Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection. Species that are listed as Threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species. - Published under Schedule 1 of the <i>Biodiversity Conservation (Listing of Native Species) (Fauna) Order 2025</i> (Government Gazette, WA 1 July 2025 No. 78).	
CD	Species of special conservation interest Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as Threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).
IA	International Agreement/ Migratory Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory

Code	Category
	species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act). Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the <i>Convention on the Conservation of Migratory Species of Wild Animals</i> (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.
OS	Other specially protected species Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).
Priority species Possibly Threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of Priority for survey and evaluation of conservation status so that consideration can be given to their declaration as Threatened Fauna or Flora. Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring. Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.	
P1	Priority 1: Poorly-known species Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.
P2	Priority 2: Poorly-known species Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.
P3	Priority 3: Poorly-known species Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.
P4	Priority 4: Rare, Near Threatened and other species in need of monitoring (a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands. (b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent. (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.
Commonwealth categories of Threatened species	
EX	Extinct Taxa where there is no reasonable doubt that the last member of the species has died.
EW	Extinct in the Wild Taxa where it is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
CR	Critically Endangered Taxa that are facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
EN	Endangered Taxa which are not critically endangered and is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.

Code	Category
VU	Vulnerable Taxa which are not critically endangered or endangered and is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
CD	Conservation Dependent Taxa which are the focus of a specific conservation program the cessation of which would result in the species becoming vulnerable, endangered or critically endangered; or (b) the following subparagraphs are satisfied: (i) the species is a species of fish; (ii) the species is the focus of a plan of management that provides for actions necessary to stop the decline of, and support the recovery of, the species so that its chances of long term survival in nature are maximised; (iii) the plan of management is in force under a law of the Commonwealth or of a State or Territory; (iv) cessation of the plan of management would adversely affect the conservation status of the species.

Definitions of conservation significant communities

Category Code	Category
State categories of Threatened Ecological Communities (TEC)	
PD	Presumed Totally Destroyed
	An ecological community will be listed as Presumed Totally Destroyed if there are no recent records of the community being extant and either of the following applies:
	<ul style="list-style-type: none"> records within the last 50 years have not been confirmed despite thorough searches or known likely habitats or; all occurrences recorded within the last 50 years have since been destroyed.
CR	Critically Endangered
	An ecological community will be listed as Critically Endangered when it has been adequately surveyed and is found to be facing an extremely high risk of total destruction in the immediate future, meeting any one of the following criteria:
	The estimated geographic range and distribution has been reduced by at least 90% and is either continuing to decline with total destruction imminent, or is unlikely to be substantially rehabilitated in the immediate future due to modification;
	The current distribution is limited i.e. highly restricted, having very few small or isolated occurrences, or covering a small area;
	The ecological community is highly modified with potential of being rehabilitated in the immediate future.
EN	Endangered
	An ecological community will be listed as Endangered when it has been adequately surveyed and is not Critically Endangered but is facing a very high risk of total destruction in the near future. The ecological community must meet any one of the following criteria:
	The estimated geographic range and distribution has been reduced by at least 70% and is either continuing to decline with total destruction imminent in the short-term future, or is unlikely to be substantially rehabilitated in the short-term future due to modification;
	The current distribution is limited i.e. highly restricted, having very few small or isolated occurrences, or covering a small area;
	The ecological community is highly modified with potential of being rehabilitated in the short-term future.
VU	Vulnerable
	An ecological community will be listed as Vulnerable when it has been adequately surveyed and is not Critically Endangered or Endangered but is facing high risk of total destruction in the medium to long term future. The ecological community must meet any one of the following criteria:
	The ecological community exists largely as modified occurrences that are likely to be able to be substantially restored or rehabilitated;
	The ecological community may already be modified and would be vulnerable to threatening process, and restricted in range or distribution;
	The ecological community may be widespread but has potential to move to a higher threat category due to existing or impending threatening processes.
Commonwealth categories of Threatened Ecological Communities (TEC)	
CE	Critically Endangered If, at that time, an ecological community is facing an extremely high risk of extinction in the wild in the immediate future (indicative timeframe being the next 10 years).

Category Code	Category
EN	Endangered If, at that time, an ecological community is not critically endangered but is facing a very high risk of extinction in the wild in the near future (indicative timeframe being the next 20 years).
VU	Vulnerable If, at that time, an ecological community is not critically endangered or endangered but is facing a high risk of extinction in the wild in the medium-term future (indicative timeframe being the next 50 years).
Priority Ecological Communities	
P1	Poorly-known ecological communities
	Ecological communities with apparently few, small occurrences, all or most not actively managed for conservation (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) and for which current threats exist.
P2	Poorly-known ecological communities
	Communities that are known from few small occurrences, all or most of which are actively managed for conservation (e.g. within national parks, conservation parks, nature reserves, State forest, un-allocated Crown land, water reserves, etc.) and not under imminent threat of destruction or degradation.
P3	Poorly known ecological communities
	Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or:
	Communities known from a few widespread occurrences, which are either large or within significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat, or;
P4	Communities made up of large, and/or widespread occurrences, that may or not be represented in the reserve system but are under threat of modification across much of their range from processes such as grazing and inappropriate fire regimes.
	Ecological communities that are adequately known, rare but not threatened or meet criteria for near threatened, or that have been recently removed from the threatened list. These communities require regular monitoring.
P5	Conservation Dependent ecological communities
	Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.

APPENDIX B: VEGETATION CONDITION RATING

Vegetation Condition Rating	South West and Interzone Botanical Provinces	Eremaean and Northern Botanical Provinces
Pristine	Pristine or nearly so, no obvious signs of disturbance or damage caused by human activities since European settlement.	_____
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species. Damage to trees caused by fire, the presence of non-aggressive weeds and occasional vehicle tracks.	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very Good	Vegetation structure altered, obvious signs of disturbance. Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	_____	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback and grazing.	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees and shrubs.	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e., areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

APPENDIX C: LIST OF SPECIES IDENTIFIED WITHIN THE SURVEY AREA

(A) denotes annual flora; (W) denotes weed species.

Family	Genus	Species	RH-AFW1	RH-AFW2	RH - AOW1	RP-AFW1	RP - AOW1	QRP - AOW1	DD - AFW1
Aizoaceae	<i>Mesembryanthemum</i>	<i>crystallinum</i> (W)						*	
Amaranthaceae	<i>Ptilotus</i>	<i>exaltatus</i> (A)						*	
Amaranthaceae	<i>Ptilotus</i>	<i>obovatus</i>	*	*	*	*	*	*	*
Amaranthaceae	<i>Ptilotus</i>	<i>roei</i>		*				*	*
Amaranthaceae	<i>Ptilotus</i>	<i>rotundifolius</i>			*			*	
Amaranthaceae	<i>Ptilotus</i>	<i>schwartzii</i>			*				
Asteraceae	<i>Bidens</i>	<i>bipinnata</i> (W)							*
Boraginaceae	<i>Trichodesma</i>	<i>zeylanicum</i> (A)	*	*					*
Chenopodiaceae	<i>Atriplex</i>	<i>codonocarpa</i> (A)						*	
Chenopodiaceae	<i>Dysphania</i>	<i>kalpari</i> (A)	*	*				*	*
Chenopodiaceae	<i>Dysphania</i>	<i>Melanocarpa</i> (A)						*	
Chenopodiaceae	<i>Enchylaena</i>	<i>tomentosa</i>				*	*	*	
Chenopodiaceae	<i>Maireana</i>	<i>georgei</i>			*	*	*	*	
Chenopodiaceae	<i>Maireana</i>	<i>triptera</i>		*	*	*	*	*	
Chenopodiaceae	<i>Rhagodia</i>	<i>eremaea</i>	*			*	*	*	*
Chenopodiaceae	<i>Salsola</i>	<i>australis</i> (A)		*		*	*	*	
Chenopodiaceae	<i>Sclerolaena</i>	<i>cuneata</i>						*	
Chenopodiaceae	<i>Sclerolaena</i>	<i>densiflora</i>			*				
Chenopodiaceae	<i>Sclerolaena</i>	<i>diacantha</i>	*	*		*	*	*	*
Convolvulaceae	<i>Duperreya</i>	<i>commixta</i>	*	*				*	*
Cyperaceae	<i>Bulbostylis</i>	<i>barbata</i>							*
Cyperaceae	<i>Cyperus</i>	<i>iria</i>							*
Euphorbiaceae	<i>Euphorbia</i>	<i>drummondii</i> (A)		*		*	*	*	*

Family	Genus	Species	RH-AFW1	RH-AFW2	RH - AOW1	RP-AFW1	RP - AOW1	QRP - AOW1	DD - AFW1
Euphorbiaceae	<i>Euphorbia</i>	<i>boophthona</i> (A)	*	*					*
Fabaceae	<i>Acacia</i>	<i>acuminata</i>		*					*
Fabaceae	<i>Acacia</i>	<i>aptaneura</i>						*	
Fabaceae	<i>Acacia</i>	<i>burkittii</i>							*
Fabaceae	<i>Acacia</i>	<i>caesaneura</i>				*	*	*	
Fabaceae	<i>Acacia</i>	<i>exocarpoides</i>		*					*
Fabaceae	<i>Acacia</i>	<i>grasbyi</i>						*	*
Fabaceae	<i>Acacia</i>	<i>incurvaneura</i>	*	*	*	*	*	*	*
Fabaceae	<i>Acacia</i>	<i>mulganeura</i>	*	*	*				
Fabaceae	<i>Acacia</i>	<i>murrayana</i>		*					*
Fabaceae	<i>Acacia</i>	<i>pruinocarpa</i>			*			*	
Fabaceae	<i>Acacia</i>	<i>quadrimarginea</i>	*	*				*	*
Fabaceae	<i>Acacia</i>	<i>ramulosa</i> var. <i>linophylla</i>				*	*		*
Fabaceae	<i>Acacia</i>	<i>tetragonophylla</i>	*	*	*			*	*
Fabaceae	<i>Acacia</i>	<i>victoriae</i>			*			*	
Fabaceae	<i>Senna</i>	<i>artemisioides</i> subsp. <i>*artemisioides</i>	*	*					*
Fabaceae	<i>Senna</i>	<i>artemisioides</i> subsp. <i>*filifolia</i>							*
Fabaceae	<i>Senna</i>	<i>artemisioides</i> subsp. <i>*sturtii</i>						*	
Fabaceae	<i>Senna</i>	<i>artemisioides</i> subsp. <i>helmsii</i>	*	*	*	*	*		*
Fabaceae	<i>Senna</i>	<i>glutinosa</i> subsp. <i>chatelainiana</i>						*	
Fabaceae	<i>Senna</i>	sp. Meekatharra (E. Bailey 1-26)	*	*	*			*	*
Goodeniaceae	<i>Scaevola</i>	<i>spinescens</i>			*				
Lamiaceae	<i>Teucrium</i>	<i>teucriiflorum</i>	*	*				*	*
Loranthaceae	<i>Amyema</i>	<i>fitzgeraldii</i>	*	*		*	*	*	*
Malvaceae	<i>Abutilon</i>	<i>cryptopetalum</i>	*	*					*
Malvaceae	<i>Hibiscus</i>	<i>burtonii</i>		*					*
Malvaceae	<i>Sida</i>	<i>calyxhymenia</i>	*	*					*
Malvaceae	<i>Sida</i>	<i>spodochroma</i>		*					*
Montiaceae	<i>Calandrinia</i>	<i>eremaea</i> (A)	*	*					*
Myrtaceae	<i>Calytrix</i>	<i>carinata</i>		*					*
Poaceae	<i>Aristida</i>	<i>contorta</i> (A)	*	*		*	*	*	*
Poaceae	<i>Cenchrus</i>	<i>ciliaris</i> (W)							*

Family	Genus	Species	RH-AFW1	RH-AFW2	RH - AOW1	RP-AFW1	RP - AOW1	QRP - AOW1	DD - AFW1
Poaceae	<i>Cymbopogon</i>	<i>ambiguus</i>							*
Poaceae	<i>Enneapogon</i>	<i>caerulescens (A)</i>				*	*	*	
Poaceae	<i>Enteropogon</i>	<i>ramosus</i>	*	*					*
Poaceae	<i>Eragrostis</i>	<i>dielsii (A)</i>	*	*					*
Poaceae	<i>Eragrostis</i>	<i>eriopoda</i>				*	*		
Poaceae	<i>Eriachne</i>	<i>pulchella (A)</i>				*	*	*	
Portulacaceae	<i>Portulaca</i>	<i>oleracea (A)</i>						*	
Proteaceae	<i>Grevillea</i>	<i>berryana</i>	*	*		*	*	*	*
Proteaceae	<i>Hakea</i>	<i>lorea</i>	*	*					*
Rubiaceae	<i>Psyrax</i>	<i>latifolia</i>		*				*	*
Rubiaceae	<i>Psyrax</i>	<i>suaveolens</i>	*	*					*
Santalaceae	<i>Santalum</i>	<i>spicatum</i>		*					*
Scrophulariaceae	<i>Eremophila</i>	<i>compacta</i>				*	*		
Scrophulariaceae	<i>Eremophila</i>	<i>exilifolia</i>	*	*				*	*
Scrophulariaceae	<i>Eremophila</i>	<i>fraseri</i> subsp. <i>fraseri</i>	*	*				*	*
Scrophulariaceae	<i>Eremophila</i>	<i>galeata</i>				*	*	*	
Scrophulariaceae	<i>Eremophila</i>	<i>jucunda</i>			*				
Scrophulariaceae	<i>Eremophila</i>	<i>latrobei</i> subsp. <i>latrobei</i>	*	*	*	*	*	*	*
Scrophulariaceae	<i>Eremophila</i>	<i>linearis</i>						*	
Scrophulariaceae	<i>Eremophila</i>	<i>longifolia</i>	*	*				*	*
Scrophulariaceae	<i>Eremophila</i>	<i>macmillaniana</i>						*	*
Scrophulariaceae	<i>Eremophila</i>	<i>margarethae</i>			*				*
Scrophulariaceae	<i>Eremophila</i>	<i>phyllopoda</i>		*				*	*
Solanaceae	<i>Solanum</i>	<i>lasiophyllum</i>	*	*	*	*	*	*	*

APPENDIX D: DANDJOO SEARCH RESULTS (40KM)

Dandjoo Vascular Flora Species List



Source: Dandjoo – Department of Biodiversity, Conservation and Attractions

Method: User defined circle: [[118.1369, -27.0733]] 47.0 km.

Dandjoo Export: bio_species_list_public_2025-12-30T13_53_00.579196+08_00_filtered_flora.xlsm

Filter: data_provider: ['WA Herbarium'], kingdoms: ['Plantae']

Class	Order	Family	Taxon	Common Name	Estab.	Code
Liliopsida	Alismatales	Juncaginaceae Rich.	Triglochin hexagona		native	
Liliopsida	Asparagales	Asparagaceae Juss.	Thysanotus manglesianus	['Fringed Lily', 'Mangles' Fringed Li	native	
Liliopsida	Asparagales	Asparagaceae Juss.	Thysanotus speckii		native	
Liliopsida	Asparagales	Asphodelaceae Juss.	Asphodelus fistulosus	Onion Weed	alien	
Liliopsida	Asparagales	Hemerocallidaceae R.B	Corynotheca pungens		native	
Liliopsida	Asparagales	Hemerocallidaceae R.B	Tricoryne sp. Mullewa (G.J. Keighery 12080)		native	
Liliopsida	Liliales	Colchicaceae DC.	Wurmbea densiflora		native	
Liliopsida	Liliales	Colchicaceae DC.	Wurmbea inframediana		native	
Liliopsida	Poales	Cyperaceae Juss.	Cyperus rigidellus		native	
Liliopsida	Poales	Cyperaceae Juss.	Eleocharis pallens		native	
Liliopsida	Poales	Cyperaceae Juss.	Isolepis congrua		native	
Liliopsida	Poales	Poaceae Barnhart	Aristida contorta	Bunched Kerosene Grass	native	
Liliopsida	Poales	Poaceae Barnhart	Aristida holathera var. holathera		native	
Liliopsida	Poales	Poaceae Barnhart	Austrostipa scabra		native	
Liliopsida	Poales	Poaceae Barnhart	Chloris truncata	Windmill Grass	native	
Liliopsida	Poales	Poaceae Barnhart	Cymbopogon ambiguus	Scentgrass	native	
Liliopsida	Poales	Poaceae Barnhart	Dichanthium sericeum		native	
Liliopsida	Poales	Poaceae Barnhart	Dichanthium sericeum subsp. humilium		native	
Liliopsida	Poales	Poaceae Barnhart	Digitaria brownii		native	
Liliopsida	Poales	Poaceae Barnhart	Diplachne fusca		mixed	
Liliopsida	Poales	Poaceae Barnhart	Enneapogon caerulescens		native	
Liliopsida	Poales	Poaceae Barnhart	Eragrostis dielsii	Mallee Lovegrass	native	
Liliopsida	Poales	Poaceae Barnhart	Eragrostis eriopoda	Woollybutt Grass	native	
Liliopsida	Poales	Poaceae Barnhart	Eragrostis falcata	Sickle Lovegrass	native	
Liliopsida	Poales	Poaceae Barnhart	Eragrostis leptocarpa	Drooping Lovegrass	native	
Liliopsida	Poales	Poaceae Barnhart	Eragrostis parviflora	Weeping Lovegrass	native	
Liliopsida	Poales	Poaceae Barnhart	Eragrostis setifolia	Neverfail Grass	native	
Liliopsida	Poales	Poaceae Barnhart	Eragrostis sp. Erect spikelets (P.K. Latz 2122)		native	P3
Liliopsida	Poales	Poaceae Barnhart	Eriachne flaccida	Claypan Grass	native	
Liliopsida	Poales	Poaceae Barnhart	Eriachne mucronata	Mountain Wanderrie Grass	native	
Liliopsida	Poales	Poaceae Barnhart	Eriachne pulchella subsp. pulchella		native	
Liliopsida	Poales	Poaceae Barnhart	Eulalia aurea (Bory) Kunth		native	
Liliopsida	Poales	Poaceae Barnhart	Lachnagrostis filiformis		native	
Liliopsida	Poales	Poaceae Barnhart	Paspalidium basicladum		native	
Liliopsida	Poales	Poaceae Barnhart	Pentameris airoides	False Hairgrass	alien	
Liliopsida	Poales	Poaceae Barnhart	Polypogon monspeliensis		alien	
Liliopsida	Poales	Poaceae Barnhart	Rostraria pumila		alien	
Liliopsida	Poales	Poaceae Barnhart	Rytidosperma caespitosum		native	
Liliopsida	Poales	Poaceae Barnhart	Thyridolepis multiculmis	Soft Wanderrie Grass	native	
Liliopsida	Poales	Poaceae Barnhart	Triodia melvillei		native	
Magnoliopsid: Apiales		Apiaceae Lindl.	Daucus glochidiatus	Australian Carrot	native	
Magnoliopsid: Apiales		Araliaceae Juss.	Hydrocotyle glochidiata		native	
Magnoliopsid: Apiales		Pittosporaceae R.Br.	Bursaria occidentalis		native	
Magnoliopsid: Apiales		Pittosporaceae R.Br.	Pittosporum angustifolium		mixed	
Magnoliopsid: Asterales		Asteraceae Bercht. & J	Actinobole oldfieldianum		native	
Magnoliopsid: Asterales		Asteraceae Bercht. & J	Angianthus milnei	Cone-spike Angianthus	native	
Magnoliopsid: Asterales		Asteraceae Bercht. & J	Angianthus tomentosus	Camel-grass	native	
Magnoliopsid: Asterales		Asteraceae Bercht. & J	Asteridea chaetopoda		native	
Magnoliopsid: Asterales		Asteraceae Bercht. & J	Blennospora drummondii		native	
Magnoliopsid: Asterales		Asteraceae Bercht. & J	Brachyscome ciliaris		native	
Magnoliopsid: Asterales		Asteraceae Bercht. & J	Brachyscome simulans		native	
Magnoliopsid: Asterales		Asteraceae Bercht. & J	Calocephalus knappii		native	
Magnoliopsid: Asterales		Asteraceae Bercht. & J	Calotis hispidula		native	
Magnoliopsid: Asterales		Asteraceae Bercht. & J	Calotis multicaulis		native	

Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Centaurea melitensis</i>	Maltese Cockspur	alien
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Centipeda thespidioides</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Cephalopterum drummondii</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Chrysocephalum gilesii</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Chrysocephalum puteale</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Chthonocephalus pseudevax</i>	Woolly Groundheads	native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Chthonocephalus viscosus</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Cratystylis subspinescens</i>	Australian Sage	native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Dielitzia tysonii</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Erymophyllum compactum</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Erymophyllum glossanthus</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Gilruthia osbornei</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Gnephosis brevifolia</i>	Short-leaved Gnephosis	native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Gnephosis macrocephala</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Gnephosis tenuissima</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Helipterum craspedioides</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Hypochaeris glabra</i>	Smooth Cats-ear	alien
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Isoetopsis graminifolia</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Kippistia suaedifolia</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Lemooria burkittii</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Millotia incurva</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Minuria gardneri</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Minuria multiseta</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Myriocephalus appendiculatus</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Myriocephalus guerinae</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Myriocephalus oldfieldii</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Myriocephalus pygmaeus</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Myriocephalus rudallii</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Olearia humilis</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Olearia pimeleoides</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Olearia stuartii</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Pluchea dunlopii</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Pluchea rubelliflora</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Podotheca gnaphalioides</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Podotheca wilsonii</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Pogonolepis stricta</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Pterocaulon sphacelatum</i>	Apple Bush	native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Quinqueremulus linearis</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Rhodanthe battii</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Rhodanthe charsleyae</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Rhodanthe chlorocephala</i> subsp. <i>splendida</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Rhodanthe floribunda</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Rhodanthe humboldtiana</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Rhodanthe laevis</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Rhodanthe maryonii</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Rhodanthe propinqua</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Rhodanthe steriliscens</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Rhodanthe stricta</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Roebuckiella ciliocarpa</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Schoenia cassiniana</i>	Schoenia	native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Senecio glossanthus</i>	Slender Groundsel	native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Senecio gregorii</i>	Fleshy Groundsel	native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Senecio lacustrinus</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Siemssenia capillariss</i> Steetz		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Streptoglossa liatroides</i>		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Trichanthodium skirrophorum</i>	Woolly Gnephosis	native
Magnoliopsid: Asterales	Asteraceae Bercht. & J	<i>Waitzia acuminata</i> var. <i>acuminata</i>		native
Magnoliopsid: Asterales	Campanulaceae Juss.	<i>Lobelia heterophylla</i>	Wing-seeded Lobelia	native
Magnoliopsid: Asterales	Campanulaceae Juss.	<i>Wahlenbergia tumidiflora</i>		native
Magnoliopsid: Asterales	Goodeniaceae R.Br.	<i>Goodenia berardiana</i>		native
Magnoliopsid: Asterales	Goodeniaceae R.Br.	<i>Goodenia berringbinensis</i>		native
Magnoliopsid: Asterales	Goodeniaceae R.Br.	<i>Goodenia capillosa</i>		native

Magnoliopsid: Asterales	Goodeniaceae R.Br.	Goodenia collaris		native
Magnoliopsid: Asterales	Goodeniaceae R.Br.	Goodenia glabrata		native
Magnoliopsid: Asterales	Goodeniaceae R.Br.	Goodenia kingiana		native
Magnoliopsid: Asterales	Goodeniaceae R.Br.	Goodenia rosea		native
Magnoliopsid: Asterales	Goodeniaceae R.Br.	Goodenia sp. Midwest (K.A. Shepherd & C.F. Wilkins KS 1609)		native
Magnoliopsid: Asterales	Goodeniaceae R.Br.	Goodenia tenuiloba		native
Magnoliopsid: Asterales	Goodeniaceae R.Br.	Scaevola spinescens	Currant Bush	native
Magnoliopsid: Asterales	Goodeniaceae R.Br.	Scaevola tomentosa	Raggedleaf Fanflower	native
Magnoliopsid: Asterales	Stylidiaceae R.Br.	Stylidium induratum	Desert Triggerplant	native
Magnoliopsid: Asterales	Stylidiaceae R.Br.	Stylidium longibracteatum	Long-bracted Trigger Plant	native
Magnoliopsid: Brassicales	Brassicaceae Burnett	Lepidium oxytrichum		native
Magnoliopsid: Brassicales	Brassicaceae Burnett	Lepidium phlebopetalum	Veined Peppercross	native
Magnoliopsid: Brassicales	Brassicaceae Burnett	Lepidium platypetalum	Slender Peppercross	native
Magnoliopsid: Brassicales	Brassicaceae Burnett	Menkea villosula		native
Magnoliopsid: Brassicales	Brassicaceae Burnett	Stenopetalum anfractum		native
Magnoliopsid: Brassicales	Brassicaceae Burnett	Stenopetalum lineare var. lineare		native
Magnoliopsid: Brassicales	Brassicaceae Burnett	Stenopetalum pedicellare		native
Magnoliopsid: Brassicales	Gyrostemonaceae A.Ju	Codonocarpus cotinifolius		native
Magnoliopsid: Caryophyllales	Aizoaceae Martinov	Gunnioipsis rodwayi		native
Magnoliopsid: Caryophyllales	Aizoaceae Martinov	Tetragonia cristata		native
Magnoliopsid: Caryophyllales	Aizoaceae Martinov	Trianthema glossostigmum		native
Magnoliopsid: Caryophyllales	Aizoaceae Martinov	Trianthema triquetrum	Red Spinach	native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus beardii	Low Mulla Mulla	native P3
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus chamaecladus		native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus chippendalei		native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus divaricatus	Climbing Mulla Mulla	native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus drummondii	Narrowleaf Mulla Mulla	native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus eremita		native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus exaltatus	Tall Mulla Mulla	native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus gomphrenoides		native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus grandiflorus		native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus helipteroides	Hairy Mulla Mulla	native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus lazaridis		native P3
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus luteolus		native P3
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus obovatus	Cotton Bush	native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus polakii subsp. polakii		native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus roei		native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus rotundifolius	Royal Mulla Mulla	native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus schwartzii		native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus sp. Cue (P. Armstrong PA 16/362)		native P1
Magnoliopsid: Caryophyllales	Amaranthaceae Juss.	Ptilotus xerophilus		native
Magnoliopsid: Caryophyllales	Cactaceae Juss.	Opuntia stricta		alien
Magnoliopsid: Caryophyllales	Caryophyllaceae Juss.	Gypsophila tubulosa		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Atriplex amnicola		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Atriplex bunburyana		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Atriplex cephalantha		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Atriplex codonocarpa	Flat-topped Saltbush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Atriplex holocarpa	Pop Saltbush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Atriplex nana		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Atriplex nummularia subsp. spathulata	Old Man Saltbush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Atriplex semilunaris	Annual Saltbush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Atriplex spongiosa	Pop Saltbush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Atriplex vesicaria		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Chenopodium gaudichaudianum	Cottony Saltbush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Chenopodium murale	Nettle-leaf Goosefoot	alien
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Chenopodium nitrariaceum	Nitre Goosefoot	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Didymanthus roei		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Dissocarpus paradoxus		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Dysphania kalpari		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Dysphania plantaginella		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Dysphania rhadinostachya subsp. inflata		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Dysphania simulans		native

Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Eremophea spinosa		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Eriochiton sclerolaenoides		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana amoena		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana atkinsiana	Bronze Bluebush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana carnosia	Cottony Bluebush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana convexa	Mulga Bluebush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana erioclada		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana georgei	Satiny Bluebush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana glomerifolia	Ball Leaf Bluebush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana melanocoma	Pussy Bluebush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana pentatropis		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana planifolia	Low Bluebush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana prosthecochaeta		native P3
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana pyramidata	Sago Bush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana thesioides	Lax Bluebush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana tomentosa	Felty Bluebush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana tomentosa subsp. tomentosa		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana trichoptera	Downy Bluebush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana triptera	Threewinged Bluebush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Maireana villosa		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Rhagodia drummondii		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Rhagodia eremaea	Thorny Saltbush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Salsola australis		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Sclerolaena clelandii		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Sclerolaena cuneata	Yellow Bindii	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Sclerolaena densiflora		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Sclerolaena diacantha	Grey Copperburr	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Sclerolaena ericantha	Tall Bindii	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Sclerolaena fimbriolata		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Sclerolaena gardneri		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Sclerolaena lanicuspis	Spinach Burr	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Sclerolaena obliquicuspis	Limestone Bindii	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Sclerolaena patenticuspis	Spear-fruit Saltbush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Sclerolaena recurvicuspis		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Tecticornia cymbiformis		native P3
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Tecticornia halocnemoides	Shrubby Samphire	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Tecticornia halocnemoides subsp. halocnemoides		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Tecticornia halocnemoides subsp. catenulata		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Tecticornia indica subsp. bidens		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Tecticornia indica subsp. leiostachya	Samphire	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Tecticornia pterygosperma subsp. denticulata		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Tecticornia sp. Burnerbinmah (D. Edinger et al. 101)		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent.	Tecticornia sp. Dennys Crossing (K.A. Shepherd & J. English KS 552)		native
Magnoliopsid: Caryophyllales	Droseraceae Salisb.	Drosera eremaea		native
Magnoliopsid: Caryophyllales	Droseraceae Salisb.	Drosera finlaysoniana		native
Magnoliopsid: Caryophyllales	Frankeniaceae Desv.	Frankenia cinerea A.DC.		native
Magnoliopsid: Caryophyllales	Frankeniaceae Desv.	Frankenia L.		
Magnoliopsid: Caryophyllales	Frankeniaceae Desv.	Frankenia laxiflora Summerh.		native
Magnoliopsid: Caryophyllales	Frankeniaceae Desv.	Frankenia pauciflora DC.		native
Magnoliopsid: Caryophyllales	Frankeniaceae Desv.	Frankenia setosa W.Fitzg.		native
Magnoliopsid: Caryophyllales	Montiaceae Raf.	Calandrinia creethae		native
Magnoliopsid: Caryophyllales	Montiaceae Raf.	Calandrinia eremaea	Twining Purslane	native
Magnoliopsid: Caryophyllales	Montiaceae Raf.	Calandrinia monosperma		native
Magnoliopsid: Caryophyllales	Montiaceae Raf.	Calandrinia papillata		native
Magnoliopsid: Caryophyllales	Montiaceae Raf.	Calandrinia pumila		native
Magnoliopsid: Caryophyllales	Montiaceae Raf.	Calandrinia remota		native
Magnoliopsid: Caryophyllales	Montiaceae Raf.	Calandrinia schistorhiza		native
Magnoliopsid: Caryophyllales	Nyctaginaceae Juss.	Boerhavia repleta		native
Magnoliopsid: Caryophyllales	Plumbaginaceae Juss.	Muellerolimon salicorniaceum		native
Magnoliopsid: Caryophyllales	Polygonaceae Juss.	Duma florulenta		native
Magnoliopsid: Caryophyllales	Polygonaceae Juss.	Rumex hypogaeus	Doublegee	alien
Magnoliopsid: Caryophyllales	Polygonaceae Juss.	Rumex vesicarius	Ruby Dock	alien

Magnoliopsid: Caryophyllales	Portulacaceae Juss.	Portulaca oleracea		mixed
Magnoliopsid: Celastrales	Celastraceae R.Br.	Stackhousia muricata subsp. annual (W.R. Barker 2172)		native
Magnoliopsid: Cucurbitales	Cucurbitaceae Juss.	Citrullus amarus		alien
Magnoliopsid: Ericales	Primulaceae Borkh.	Lysimachia arvensis	Pimpernel	alien
Magnoliopsid: Euasterids I	Boraginaceae Juss.	Euploca heterantha		native
Magnoliopsid: Euasterids I	Boraginaceae Juss.	Euploca mitchellii		native P1
Magnoliopsid: Euasterids I	Boraginaceae Juss.	Halgania cyanea var. Allambi Stn (B.W. Strong 676)		native
Magnoliopsid: Euasterids I	Boraginaceae Juss.	Heliotropium ammophilum		native
Magnoliopsid: Euasterids I	Boraginaceae Juss.	Heliotropium curassavicum		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia aneura	Mulga	native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia aptaneura		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia aulacophylla		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia burkittii	Sandhill Wattle	native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia burrowsiana		native P3
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia caesaneura		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia craspedocarpa	Hop Mulga	native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia dilloniorum	Wilgie Mia Wattle	native P1
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia eremaea		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia fuscaneura		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia grasbyi	Miniritchie	native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia incurvaneura Maslin & J.E.Reid		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia ligulata Benth.		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia macraneura Maslin & J.E.Reid		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia masliniana R.S.Cowan		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia murrayana	Sandplain Wattle	native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia oswaldii	Miljee	native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia pruinocarpa	Gidgee	native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia pteraneura		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia ramulosa var. ramulosa		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia ramulosa var. linophylla		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia sclerosperma subsp. sclerosperma		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia sclerosperma subsp. glaucescens		native P3
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia sibilans		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia sp. Peak Hill (R. Gibson 0003)		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia sp. Weld Range (A. Markey & S. Dillon 2994)		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia speckii R.S.Cowan & Maslin		native P4
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia synchronicia		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia tysonii		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia victoriae	Bramble Wattle	native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia victoriae subsp. victoriae		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia xanthocarpa		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Aeschynomene indica	Budda Pea	native
Magnoliopsid: Fabales	Fabaceae Lindl.	Chorizema genistoides		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Gastrolobium laytonii	Breelya	native
Magnoliopsid: Fabales	Fabaceae Lindl.	Glycine canescens	Silky Glycine	native
Magnoliopsid: Fabales	Fabaceae Lindl.	Indigofera chamaeclada subsp. chamaeclada		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Indigofera georgei		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Indigofera monophylla		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Isotropis petrensis		native P1
Magnoliopsid: Fabales	Fabaceae Lindl.	Jacksonia lanicarpa		native P1
Magnoliopsid: Fabales	Fabaceae Lindl.	Lotus cruentus	Redflower Lotus	native
Magnoliopsid: Fabales	Fabaceae Lindl.	Mirbelia rhagodioides		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Muelleranthus trifoliolatus		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Senna artemisioides		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Senna artemisioides subsp. helmsii		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Senna artemisioides subsp. x artemisioides		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Senna glutinosa subsp. chatelainiana		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Senna sp. Austin (A. Strid 20210)		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Senna sp. Billabong (J.D. Alonzo 721)		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Senna sp. Meekatharra (E. Bailey 1-26)		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Swainsona elegans		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Swainsona formosa		native

Magnoliopsid: Fabales	Fabaceae Lindl.	Swainsona incei		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Swainsona kingii		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Swainsona oroboides	Variable Swainsona	native
Magnoliopsid: Fabales	Fabaceae Lindl.	Swainsona paradoxa		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Swainsona paucifoliolata		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Swainsona pterostylis		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Swainsona purpurea		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Swainsona rostellata		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Swainsona tenuis		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Vachellia farnesiana		alien
Magnoliopsid: Fabales	Polygalaceae Hoffmann	Polygala glaucifolia		native
Magnoliopsid: Fabales	Surianaceae Arn.	Stylobasium spathulatum	Pebble Bush	native
Magnoliopsid: Fagales	Casuarinaceae R.Br.	Allocasuarina acutivalvis subsp. acutivalvis		native
Magnoliopsid: Fagales	Casuarinaceae R.Br.	Casuarina pauper		native
Magnoliopsid: Gentianales	Apocynaceae Juss.	Gymnema graniticola		native
Magnoliopsid: Gentianales	Apocynaceae Juss.	Leichhardtia australis	Cogola Bush	native
Magnoliopsid: Gentianales	Apocynaceae Juss.	Vincetoxicum lineare	Bush Bean	native
Magnoliopsid: Gentianales	Gentianaceae Juss.	Schenkia australis		native
Magnoliopsid: Gentianales	Rubiaceae Juss.	Psyrax rigidula		native
Magnoliopsid: Gentianales	Rubiaceae Juss.	Synaptantha tillaeacea var. tillaeacea		native
Magnoliopsid: Geraniales	Geraniaceae Juss.	Erodium crinitum		native
Magnoliopsid: Geraniales	Geraniaceae Juss.	Erodium cygnorum		native
Magnoliopsid: Lamiales	Acanthaceae Juss.	Harnieria kempeana subsp. muelleri		native
Magnoliopsid: Lamiales	Lamiaceae Martinov	Cyanostegia angustifolia	Tinsel-flower	native
Magnoliopsid: Lamiales	Lamiaceae Martinov	Dicrasyllis sp. Cue (A.A. Mitchell 764)		native P1
Magnoliopsid: Lamiales	Lamiaceae Martinov	Hemigenia exilis		native P4
Magnoliopsid: Lamiales	Lamiaceae Martinov	Hemigenia sp. Yalgoo (A.M. Ashby 2624)		native
Magnoliopsid: Lamiales	Lamiaceae Martinov	Hemigenia tysonii		native P3
Magnoliopsid: Lamiales	Lamiaceae Martinov	Hemigenia virescens		native P3
Magnoliopsid: Lamiales	Lamiaceae Martinov	Prostanthera althoferi subsp. althoferi		native
Magnoliopsid: Lamiales	Lamiaceae Martinov	Prostanthera ferricola		native P3
Magnoliopsid: Lamiales	Lamiaceae Martinov	Prostanthera magnifica	Magnificent Prostanthera	native
Magnoliopsid: Lamiales	Lamiaceae Martinov	Prostanthera petrophila		native P3
Magnoliopsid: Lamiales	Lamiaceae Martinov	Prostanthera wilkieana		native
Magnoliopsid: Lamiales	Lamiaceae Martinov	Teucrium racemosum	Grey Germander	native
Magnoliopsid: Lamiales	Lamiaceae Martinov	Teucrium teucriiflorum		native
Magnoliopsid: Lamiales	Pedaliaceae R.Br.	Josephinia eugeniae		native
Magnoliopsid: Lamiales	Phrymaceae Schauer	Peplidium sp. C Evol. Fl. Fauna Arid Aust. (N.T. Burbidge & A. Kanis 8158)		native
Magnoliopsid: Lamiales	Plantaginaceae Juss.	Callitriche stagnalis		alien
Magnoliopsid: Lamiales	Plantaginaceae Juss.	Plantago debilis		native
Magnoliopsid: Lamiales	Plantaginaceae Juss.	Plantago drummondii	Sago Weed	native
Magnoliopsid: Lamiales	Plantaginaceae Juss.	Plantago sp. Mt Magnet (A.S. George 6793)		native
Magnoliopsid: Lamiales	Plantaginaceae Juss.	Stemodia viscosa Roxb.		native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila clarkei	Turpentine Bush	native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila compacta subsp. fecunda		native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila deserti		native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila exilifolia		native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila fasciata	Spaghetti Eremophila	native P3
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila flabellata		native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila foliosissima	Poverty Bush	native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila forrestii subsp. forrestii		native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila georgei		native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila gilesii subsp. gilesii		native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila glabra	Tar Bush	native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila glabra subsp. glabra	Common Emu Bush	native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila glabra subsp. albicans	Tar Bush	native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila glabra subsp. tomentosa		native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila glutinosa	Sticky Emu Bush	native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila granitica	Granite Poverty Bush	native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila hygrophana		native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila ionantha	Violet-flowered Eremophila	native
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila jucunda subsp. jucunda		native

Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila lachnocalyx	Woolly-calyxed Eremophila	native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila latrobei subsp. latrobei	Native Fuchsia	native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila linearis	Harlequin Fuchsia Bush	native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila longifolia	Berrigan	native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila macmillaniana	Grey Turpentine Bush	native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila maculata subsp. brevifolia	Native Fuchsia	native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila malacoides		native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila margarethae		native	Parent of co
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila miniata		native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila oppositifolia subsp. angustifolia	Western Weeooka	native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila platycalyx subsp. Granites (D.J. Edinger & G. Marsh DJE 4782)		native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila platycalyx subsp. Yalgoo (A. Markey & S. Dillon 3337)		native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila pterocarpa subsp. pterocarpa		native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila punicea		native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila rostrata subsp. rostrata		native	CR
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila serrulata	Serrate-leaved Eremophila	native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila shonae subsp. diffusa		native	P3
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila simulans subsp. simulans		native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila sp. Weld Range (M.J. Greeve & J.D. Start D7 34)		native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila spatulata	Spoon-leaved Eremophila	native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila spuria		native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila strongylophylla		native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila youngii subsp. youngii		native	
Magnoliopsid: Malpighiales	Elatinaceae Dumort.	Bergia auriculata		native	P2
Magnoliopsid: Malpighiales	Elatinaceae Dumort.	Bergia perennis subsp. exigua		native	
Magnoliopsid: Malpighiales	Euphorbiaceae Juss.	Beyeria lapidicola		native	P1
Magnoliopsid: Malpighiales	Euphorbiaceae Juss.	Euphorbia boophthona C.A.Gardner		native	
Magnoliopsid: Malpighiales	Violaceae Batsch	Pigea floribunda			
Magnoliopsid: Malvales	Malvaceae Juss.	Abutilon otocarpum	Desert Chinese Lantern	native	
Magnoliopsid: Malvales	Malvaceae Juss.	Alyogyne pinoniana	Sand Hibiscus	native	
Magnoliopsid: Malvales	Malvaceae Juss.	Androcalva luteiflora	Yellow-flowered Rulingia	native	
Magnoliopsid: Malvales	Malvaceae Juss.	Brachychiton gregorii	Desert Kurrajong	native	
Magnoliopsid: Malvales	Malvaceae Juss.	Hibiscus sp. Belele (D.W. Goodall 3417)		native	P3
Magnoliopsid: Malvales	Malvaceae Juss.	Hibiscus sp. Gardneri (A.L. Payne PRP 1435)		native	
Magnoliopsid: Malvales	Malvaceae Juss.	Hibiscus sturtii var. grandiflorus		native	
Magnoliopsid: Malvales	Malvaceae Juss.	Lawrenxia densiflora		native	
Magnoliopsid: Malvales	Malvaceae Juss.	Lawrenxia glomerata		native	
Magnoliopsid: Malvales	Malvaceae Juss.	Lawrenxia helmsii		native	
Magnoliopsid: Malvales	Malvaceae Juss.	Sida ammophila J.H.Willis		native	
Magnoliopsid: Malvales	Malvaceae Juss.	Sida L.			
Magnoliopsid: Malvales	Malvaceae Juss.	Sida picklesiana A.S.Markey, S.J.Dillon & R.M.Barker		native	P3
Magnoliopsid: Malvales	Malvaceae Juss.	Sida sp. dark green fruits (S. van Leeuwen 2260)		native	
Magnoliopsid: Malvales	Malvaceae Juss.	Sida sp. Excedentifolia (J.L. Egan 1925)		native	
Magnoliopsid: Malvales	Thymelaeaceae Juss.	Pimelea holroydii		native	
Magnoliopsid: Malvales	Thymelaeaceae Juss.	Pimelea trichostachya	Spiked Riceflower	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Calytrix desolata		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Calytrix verruculosa		native	P3
Magnoliopsid: Myrtales	Myrtaceae Juss.	Darwinia capitellata		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Eucalyptus carnei		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Eucalyptus striatocalyx W.Fitzg.		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Eucalyptus victrix L.A.S.Johnson & K.D.Hill		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Homalocalyx echinulatus		native	P3
Magnoliopsid: Myrtales	Myrtaceae Juss.	Hysterobaeckea occlusa		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Melaleuca interioris		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Melaleuca stereophloia		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Melaleuca xerophila		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Micromyrtus placoides		native	P3
Magnoliopsid: Myrtales	Myrtaceae Juss.	Micromyrtus sulphurea		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Thryptomene decussata		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Verticordia jamiesonii		native	P3
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea deflexa		native	
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea inconspicua	Cue Grevillea	native	P4

Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea juncifolia	Honey-suckle Grevillea	native
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea nematophylla subsp. supraplana		native
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea sarissa subsp. succincta		native
Magnoliopsid: Proteales	Proteaceae Juss.	Hakea preissii	Needle Tree	native
Magnoliopsid: Proteales	Proteaceae Juss.	Hakea recurva subsp. arida		native
Magnoliopsid: Proteales	Proteaceae Juss.	Petrophile pauciflora		native P3
Magnoliopsid: Rosales	Rhamnaceae Juss.	Stenanthemum mediale Rye		native P1
Magnoliopsid: Rosales	Rhamnaceae Juss.	Stenanthemum patens Rye		native P1
Magnoliopsid: Rosales	Rhamnaceae Juss.	Stenanthemum petraeum Rye		native
Magnoliopsid: Santalales	Loranthaceae Juss.	Amyema fitzgeraldii	Pincushion Mistletoe	native
Magnoliopsid: Santalales	Loranthaceae Juss.	Amyema gibberula var. gibberula		native
Magnoliopsid: Santalales	Loranthaceae Juss.	Amyema hilliana		native
Magnoliopsid: Santalales	Loranthaceae Juss.	Amyema microphylla		native
Magnoliopsid: Santalales	Loranthaceae Juss.	Amyema nestor		native
Magnoliopsid: Santalales	Loranthaceae Juss.	Lysiana casuarinae		native
Magnoliopsid: Santalales	Santalaceae R.Br.	Exocarpos aphyllus	Leafless Ballart	native
Magnoliopsid: Santalales	Santalaceae R.Br.	Santalum lanceolatum	Northern Sandalwood	native
Magnoliopsid: Santalales	Santalaceae R.Br.	Santalum spicatum	Sandalwood	native
Magnoliopsid: Sapindales	Rutaceae Juss.	Drummondita miniata		native P3
Magnoliopsid: Sapindales	Rutaceae Juss.	Philotheca brucei subsp. brucei		native
Magnoliopsid: Sapindales	Rutaceae Juss.	Philotheca sericea		native
Magnoliopsid: Sapindales	Sapindaceae Juss.	Alectryon oleifolius subsp. oleifolius		native
Magnoliopsid: Sapindales	Sapindaceae Juss.	Dodonaea amplisemina		native P4
Magnoliopsid: Sapindales	Sapindaceae Juss.	Dodonaea inaequifolia		native
Magnoliopsid: Sapindales	Sapindaceae Juss.	Dodonaea microzyga var. acrolobata		native
Magnoliopsid: Sapindales	Sapindaceae Juss.	Dodonaea pachyneura		native
Magnoliopsid: Sapindales	Sapindaceae Juss.	Dodonaea rigida		native
Magnoliopsid: Saxifragales	Crassulaceae J.St.-Hil.	Crassula colorata var. acuminata		native
Magnoliopsid: Saxifragales	Crassulaceae J.St.-Hil.	Crassula extrorsa		native
Magnoliopsid: Saxifragales	Crassulaceae J.St.-Hil.	Crassula tetramera		native
Magnoliopsid: Solanales	Convolvulaceae Juss.	Cuscuta epithymum	Lesser Dodder	alien
Magnoliopsid: Solanales	Convolvulaceae Juss.	Cuscuta planiflora		alien
Magnoliopsid: Solanales	Convolvulaceae Juss.	Duperreya commixta		native
Magnoliopsid: Solanales	Solanaceae Juss.	Lycium australe	Australian Boxthorn	native
Magnoliopsid: Solanales	Solanaceae Juss.	Nicotiana cavicola	Talara	native
Magnoliopsid: Solanales	Solanaceae Juss.	Nicotiana murchisonica		native
Magnoliopsid: Solanales	Solanaceae Juss.	Nicotiana obliqua		native
Magnoliopsid: Solanales	Solanaceae Juss.	Nicotiana stenocarpa		native
Magnoliopsid: Solanales	Solanaceae Juss.	Solanum austropicum A.R.Bean		native
Magnoliopsid: Solanales	Solanaceae Juss.	Solanum cleistogamum		native
Magnoliopsid: Solanales	Solanaceae Juss.	Solanum ferocissimum		native
Magnoliopsid: Solanales	Solanaceae Juss.	Solanum lasiophyllum	Flannel Bush	mixed
Magnoliopsid: Solanales	Solanaceae Juss.	Solanum nigrum L.		alien
Magnoliopsid: Zygophyllales	Zygophyllaceae R.Br.	Roepera aurantiaca		native
Magnoliopsid: Zygophyllales	Zygophyllaceae R.Br.	Roepera aurantiaca subsp. aurantiaca		native
Magnoliopsid: Zygophyllales	Zygophyllaceae R.Br.	Roepera compressa		native
Magnoliopsid: Zygophyllales	Zygophyllaceae R.Br.	Roepera eichleri		native
Magnoliopsid: Zygophyllales	Zygophyllaceae R.Br.	Roepera kochii		native
Magnoliopsid: Zygophyllales	Zygophyllaceae R.Br.	Roepera tetraptera		native
Magnoliopsid: Zygophyllales	Zygophyllaceae R.Br.	Tribulus adelacanthus		native P3
Magnoliopsid: Zygophyllales	Zygophyllaceae R.Br.	Tribulus astrocarpus		native
Magnoliopsid: Zygophyllales	Zygophyllaceae R.Br.	Tribulus forrestii		native
Magnoliopsid: Zygophyllales	Zygophyllaceae R.Br.	Tribulus suberosus		native
Pteridopsida Polypodiales	Pteridaceae E.D.M.Kirc	Cheilanthes adiantoides		native
Pteridopsida Polypodiales	Pteridaceae E.D.M.Kirc	Cheilanthes brownii		native
Pteridopsida Polypodiales	Pteridaceae E.D.M.Kirc	Cheilanthes lasiophylla	Woolly Cloak Fern	native
Pteridopsida Polypodiales	Pteridaceae E.D.M.Kirc	Cheilanthes sieberi subsp. sieberi		native

Summary by Class	
Class	Taxa
Liliopsida	40
Magnoliopsida	439

Pteridopsida	4
TOTAL	483

Top 5 Families by Species Count

Family	Taxa
Asteraceae Bercht.	67
Fabaceae Lindl.	63
Chenopodiaceae Ve	62
Scrophulariaceae Ju	42
Poaceae Barnhart	29

Top 5 Genera by Species Count

Genus	Taxa
Eremophila	42
Acacia	32
Ptilotus	19
Maireana	18
Swainsona	11

Summary by Conservation Code

Code	Taxa
P1	9
P2	1
P3	23
P4	5
CR	1
Parent of conservat	1

Summary by Establishment Type

Establishment	Taxa
native	459
alien	17
mixed	4

APPENDIX E: EPBC PROTECTED MATTERS SEARCH (40KM BUFFER)



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 30-Dec-2025

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	1
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	11
Listed Migratory Species:	9

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	12
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	3
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

National Heritage Places [\[Resource Information \]](#)

Name	State	Legal Status
Indigenous		
Wilgie Mia Aboriginal Ochre Mine	WA	Listed place

Listed Threatened Species [\[Resource Information \]](#)

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

BIRD

[Aphelocephala leucopsis](#)

Southern Whiteface [529]

Vulnerable

Species or species habitat known to occur within area

[Calidris acuminata](#)

Sharp-tailed Sandpiper [874]

Vulnerable

Species or species habitat likely to occur within area

[Calidris ferruginea](#)

Curlew Sandpiper [856]

Critically Endangered

Species or species habitat likely to occur within area

[Falco hypoleucos](#)

Grey Falcon [929]

Vulnerable

Species or species habitat known to occur within area

[Leipoa ocellata](#)

Malleefowl [934]

Vulnerable

Species or species habitat known to occur within area

[Pezoporus occidentalis](#)

Night Parrot [59350]

Critically Endangered

Species or species habitat may occur within area

[Tringa nebularia](#)

Common Greenshank, Greenshank [832]

Endangered

Species or species habitat likely to occur within area

PLANT

Scientific Name	Threatened Category	Presence Text
Eremophila rostrata Beaked Eremophila [65124]	Critically Endangered	Species or species habitat known to occur within area
Minuria tridens Minnie Daisy [13753]	Vulnerable	Species or species habitat may occur within area

REPTILE

Egernia stokesii badia Western Spiny-tailed Skink, Baudin Island Spiny-tailed Skink [64483]	Endangered	Species or species habitat likely to occur within area
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SPIDER

Idiosoma nigrum Shield-backed Trapdoor Spider, Black Rugose Trapdoor Spider [66798]	Vulnerable	Species or species habitat known to occur within area
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Listed Migratory Species [\[Resource Information \]](#)

Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area

Migratory Terrestrial Species

Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
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Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
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Migratory Wetlands Species

Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area overfly marine area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area
Thinornis cucullatus as Thinornis rubricollis Hooded Plover, Hooded Dotterel [87735]		Species or species habitat may occur within area overfly marine area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area

Extra Information

EPBC Act Referrals [Resource Information]			
Title of referral	Reference	Referral Outcome	Assessment Status
Weld Range Iron Ore Project	2011/6030		Completed
Controlled action			
Oakajee Rail Development	2010/5500	Controlled Action	Post-Approval
Not controlled action			
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

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Department of Climate Change, Energy, the Environment and Water

GPO Box 3090

Canberra ACT 2601 Australia

+61 2 6274 1111

APPENDIX C:
TERRESTRIAL ECOSYSTEMS -
BASIC AND TARGETED FAUNA
SURVEY AND ASSESSMENT
REPORT

APPENDIX D



Basic and targeted vertebrate fauna survey

Tuckanarra Project Area

Prepared for: Odyssey Gold Ltd

Version 1. April, 2026



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Prepared For: Odyssey Gold Ltd
Level 9
28 The Esplanade
Perth WA 6000

Prepared By: Terrestrial Ecosystems
23 Strickland Street
Mt Claremont WA 6010
Phone: 0407 385 289
Website: www.terrestrialecosystems.com
ABN: 40921131346

DISCLAIMER

This document is prepared in accordance with and subject to an agreement between G & S Thompson Pty Ltd as Trustee for the Thompson Family Trust trading as Terrestrial Ecosystems and the client, Odyssey Gold Ltd. It has been prepared and is restricted to those issues that have been raised by the client in its engagement of Terrestrial Ecosystems and prepared using the standard of skill and care ordinarily exercised by environmental scientists in the preparation of such reports.

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REPORT CONTENTS

EXECUTIVE SUMMARY

1.	INTRODUCTION	1
1.1	Background	1
1.2	Project objectives and scope of works	1
2.	EXISTING ENVIRONMENT	2
2.1	Location of project area	2
2.2	Land use history	2
2.3	Climate	2
2.4	Regional biological fauna context of the project area	3
2.5	Fauna species at risk	4
3.	METHODOLOGY	5
3.1	Database searches	5
3.2	Site survey	5
3.3	Fauna habitat assessment	5
3.4	Malleefowl mounds	7
3.5	Survey and reporting staff	8
3.6	Taxonomy and nomenclature	9
3.7	Limitations	9
4.	RESULTS	11
4.1	Fauna habitat	11
4.1.1	Malleefowl	13
4.1.2	Southern Whiteface	13
4.2	Bioregional vertebrate fauna assemblage	13
4.3	Fauna of conservation significance	17
5.	DISCUSSION	19
5.1	Adequacy of the fauna survey data for fauna habitats represented in the project area	19
5.1.1	Amphibians	20
5.1.2	Reptiles	20
5.1.3	Birds	20
5.1.4	Mammals	20
5.2	Biodiversity value	21
5.2.1	Ecological functional value at the ecosystem level	21
5.2.2	Maintenance of a threatened ecological community	21
5.2.3	Condition of the fauna habitats	21
5.2.4	Ecological linkages	21
5.2.5	Size and scale of the proposed disturbance	21
5.2.6	Abundance and distribution of similar habitats in the adjacent areas	21
6.	SUMMARY	22
7.	REFERENCES	23

LIST OF CHARTS

Chart 1. Climatic averages for Meekatharra	2
--	---

LIST OF PLATES

Plate 1. Mulga over mixed shrubs	11
Plate 2. Mulga over mixed shrubs	11
Plate 3. Mulga in ephemeral drainage.....	12
Plate 4. Mulga in ephemeral drainage.....	12
Plate 5. Mulga on stony ridge	12
Plate 6. Mulga on stony ridge	12
Plate 7. Disturbance area	12
Plate 8. Disturbance area	12
Plate 9. Disturbance area	13
Plate 10. Goanna holes.....	13

LIST OF TABLES

Table 1. Variables assessed during the rapid habitat assessment	6
Table 2. Project personnel and their qualifications	9
Table 3. Fauna survey limitations and constraints	10
Table 4. Fauna habitats.....	11
Table 5. Birds that are potentially found near the project area	14
Table 6. Amphibians that area potentially found near the project area.....	15
Table 7. Reptiles that are potentially in the project area	15
Table 8. Mammals that are potentially found in the project area.....	17
Table 9. Assessment of the potential presence of a fauna species of conservation significance in the project area	18
Table 10. Criteria for determining survey requirements	19

LIST OF FIGURES

- Figure 1. Regional context
- Figure 2. Fauna habitats, fauna habitat assessment locations, and Southern Whiteface observation

LIST OF APPENDICES

- Appendix A. Results of the EPBC Act Protected Matters Search
- Appendix B. Vertebrate Fauna Recorded in Biological Surveys in the Region
- Appendix C. Definitions of Significant Fauna under the WA *Biodiversity Conservation Act 2016* and Priority Species
- Appendix D. Fauna habitat assessment results
- Appendix E. Summary of the ecological information on species of conservation significance potentially in the project area

EXECUTIVE SUMMARY

Terrestrial Ecosystems was commissioned by Odyssey Gold Ltd to undertake a Basic and targeted survey of the Tuckanurra Gold project area. The Tuckanurra project survey included two separate areas. The northern area (~437.3ha) is on the western side of the Great Northern Highway, about 57 km south of Meekatharra, and the southern area straddles the Great Northern Highway (~1,182.5ha) and is 69km south of Meekatharra. The total assessed area was ~1,620ha.

Fauna habitats in the project area are varied, and many areas lack vegetation. The quality of fauna habitats ranges from good to degraded. The substrate in the project area was mostly sandy clay, with some areas having pebbles, cobbles, and stones. The following three broad fauna habitats are in the project area:

- Mulga over mixed shrubs;
- Mulga in ephemeral drainage; and
- Mulga on stony ridge.

In addition to the fauna habitats, areas have been rehabilitated, and some areas remain disturbed. There were many large patches of bare ground, and the density of trees and shrubs varied. Vegetation in the ephemeral drainage lines was denser than in the adjacent areas, and there was evidence of past anthropogenic activity.

The Southern Whiteface, which is listed as Vulnerable under State and Commonwealth Government legislation, was recorded in the northern project area, and is potentially in the southern area as well. The Atlas of Living Australia indicates that the project area falls within the geographic range of the Meekatharra Slider (*L. eupoda*; Priority 1 species), so it may be present. No targeted searches were undertaken for the Meekatharra Slider.

1. INTRODUCTION

1.1 BACKGROUND

Odyssey Gold Limited (Odyssey) commissioned a Basic and targeted vertebrate fauna survey to facilitate the preparation of environmental approval applications for the Tuckanarra Project area.

The Tuckanarra Project is two areas. The northern area (~437.3ha) is on the western side of the Great Northern Highway, about 57km south of Meekatharra, and the southern area straddles the Great Northern Highway (~1,182.5ha) and is 69km south of Meekatharra. The total combined area is ~1,620ha.

1.2 PROJECT OBJECTIVES AND SCOPE OF WORKS

Odyssey commissioned Terrestrial Ecosystems to undertake a Basic and targeted vertebrate fauna survey of the project area. The methodology broadly follows that described in the Environmental Protection Authority (2020) *Technical Guidance - Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment*.

This vertebrate fauna survey involved a desktop review and on-site assessment with the objectives to:

- indicate the vertebrate fauna assemblage (reptiles, amphibians, mammals, and birds) on and near the project area so that potential impacts on the fauna and fauna assemblage might be adequately assessed;
- identify the presence of species of conservation significance or determine the likelihood that they could be present in the project area;
- indicate the fauna habitat in the project areas; and
- determine if any additional surveys are required to assess the potential impact on vertebrate fauna assemblage in the project area, including impacts on species of conservation significance.

To achieve these objectives, Terrestrial Ecosystems:

- reviewed Terrestrial Ecosystems' database [includes Atlas of Living Australia] to identify potential vertebrate fauna within the area;
- searched the Commonwealth Government database of fauna of national environmental significance to identify species potentially occurring within the area that are protected under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act 1999)* or international migratory bird agreements (JAMBA/CAMBA);
- completed a field survey;
- reviewed previous fauna surveys conducted near the project area and in similar habitats; and
- discussed the likelihood of *EPBC Act 1999* and the Western Australian *Biodiversity Conservation Act 2016 (BC Act 2016)* listed species being present in the project area.

2. EXISTING ENVIRONMENT

2.1 LOCATION OF PROJECT AREA

The northern project (~437.3ha) area is immediately adjacent to the Great Northern Highway in the Goldfields of Western Australia, and approximately 57km south of Meekatharra. The southern project (~1,182.5ha) area is 69km south of Meekatharra and straddles the Great Northern Highway.

The Odyssey tenements are in the Murchison 1 (MUR1 - East Murchison subregion) IBRA bioregion. Cowan (2001) described the subregion as having internal drainage on broad plains of red-brown soils and breakaway complexes and red sandplains, with the vegetation dominated by Mulga woodlands that are often rich in ephemerals and hummock grasslands, saltbush shrublands and Halosarcia shrublands.

2.2 LAND USE HISTORY

The dominant land uses for the bioregion are native pasture to support grazing and crown land reserves, unallocated Crown Land, and, to a lesser extent, mining and exploration. The subregion has many operational and non-operational mines.

The northern area is approximately 10km south of Lake Anneen, which straddles the Great Northern Highway.

2.3 CLIMATE

The weather in the project area is characterised as semi-arid. Meekatharra receives approximately 232mm of rainfall annually, although this varies considerably from year to year. The highest mean maximum and minimum temperatures in Meekatharra are in January, with an average of 38.4°C and 24.5°C, respectively (Bureau of Meteorology, 2026). The lowest mean daily maximum and minimum temperatures occur in July (Chart 1). Average monthly rainfall is heaviest in February.

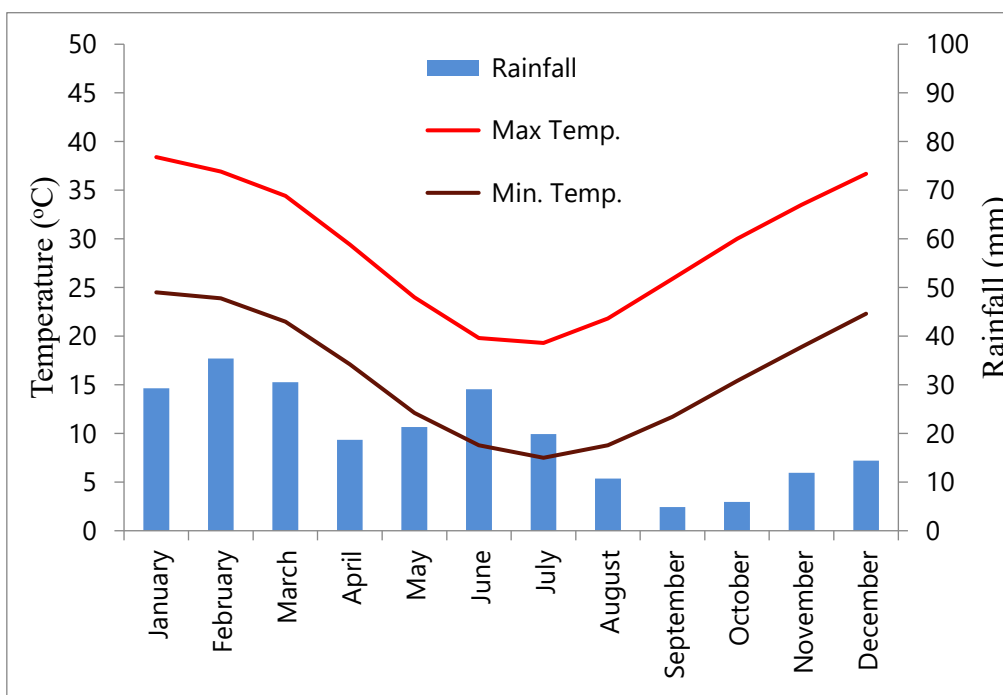


Chart 1. Climatic averages for Meekatharra

2.4 REGIONAL BIOLOGICAL FAUNA CONTEXT OF THE PROJECT AREA

The frogs, reptiles, mammals, and birds near the project area have been surveyed for other environmental assessments and are therefore known. The following fauna surveys and assessments have been reviewed for this assessment:

- 360 Environmental (2018) *Moyagee Gold Project Baseline Environmental Studies*, Perth.
- 360 Environmental (2021a) *Moyagee Gold Project Biological Survey*, Unpublished report for Musgrave Minerals, Perth.
- 360 Environmental (2021b) *Moyagee Level 2 Flora and Fauna Report*, Perth.
- Bamford Consulting Ecologists (Fauna assessment of Andy Well Mining Lease Area/2012) *Fauna Assessment of the Andy Well Mining Lease Area*, Unpublished report for RPS Australia Asia Pacific, Subiaco.
- Biologic (2018) *Gabaintha Vanadium Project: Targeted Vertebrate Fauna & SRE Assessment*. Unpublished report for Technology Metals Australia Limited, Perth.
- Biologic (2020) *Australian Vanadium Project Level 2 Vertebrate and SRE Invertebrate Fauna Survey*. Unpublished report for Australian Vanadium Ltd, Perth.
- Biologic Environmental Sciences (2018) *Gabaintha Vanadium Project Targeted Vertebrate Fauna and SRE Assessment*, Unpublished report for Technology Metals Australia Limited, Perth.
- Biologic Environmental Sciences (2021) *Gabaintha Vanadium Project Detailed Vertebrate Fauna Assessment*, Unpublished report for Technology Metals Australia, Perth.
- Coffey Environments (2013) *Level 2 Fauna Assessment Survey and Impact Assessment*, Unpublished report for Silverlake Resources, Perth.
- Coffey Environments (2013a) *Level 2 fauna assessment survey and impact assessment - Moyagee tenement*, Perth.
- Coffey Environments (2013b) *Targeted flora and fauna survey for Moyagee/Lena communications tower*, Perth.
- Davies, S.J.J.F (1970) *A list of plants and animals found at Mileura, Western Australia Lat 26°22'S, Long. 117°20'E*, CSIRO, Canberra.
- ecologia Environment (2009a) *Jack Hills Expansion Project Vertebrate Fauna Assessment*, Perth.
- Ecologia Environment (2009b) *Weld Range Vertebrate Fauna Assessment*. Unpublished report for Sinosteel Midwest Corporation Pty Ltd, Perth.
- Ecologia Environment (2010a) *Oakajee Port and Rail - Egernia stokesii badia summary of results*. Unpublished report for Oakajee Port and Rail Pty Ltd.
- Ecologia Environment (2010b) *OPR Rail Proposal: Terrestrial Fauna Assessment*. Unpublished report for Oakajee Port and Rail, Perth.
- Ecologia Environment (2010b) *OPR Rail Proposal: Terrestrial Fauna Assessment*, Unpublished report for Oakajee Port and Rail, Perth.
- Ecologia Environment (2011a) *Malleefowl Impact Assessment Weld Range*, Perth
- Ecologia Environment (2011b) *Silver Lake Murchison project baseline biological desktop assessment*, Perth.
- Ecologia Environment (2011c) *Slender-billed Thornbill Impact Assessment Weld Range*, Perth.
- Ecologia Environment (2011d) *Weld Range Haul Road Vertebrate Fauna Level 1 Assessment*, Perth.
- Ecologia Environment (2012) *Karbar Station Solar Energy Project Vertebrate Fauna Assessment - Preliminary report*, Perth.
- GHD (2009a) *Report for Jack Hills to DNGP Gas Pipe Route*, Perth.
- GHD (2009b) *Report for Jack Hills to Weld Range Service Corridor Ecological Survey*, Perth
- GHD (2009c) *Report for the Jack Hills Expansion Project-Associated Infrastructure - Flora and Fauna Assessment*, Perth.
- Integrate Sustainability Pty Ltd (2021) *Biological Survey Report Yarrabubba Iron Vanadium Project*, Unpublished report for Technology Metals Australia Ltd, Perth.
- Integrate Sustainability Pty Ltd Integrate Sustainability (2021) *Biological Survey Report Yarrabubba Iron Vanadium Project*, Unpublished report for Technology Metals Australia Ltd, Perth.

- MBS Environmental (2005) A Vertebrate Fauna Survey of the Jack Hills Project Area, Murchison Region, Western Australia, Perth.
- Molhar (2007) *Survey for ghost bats at Jack Hills and Weld Range, Murchison region*. Unpublished report for Ecologia Environment, Perth.
- Molhar Pty Ltd (2007) *Survey for ghost bats at Jack Hills and Weld Range, Murchison Region*, Perth.
- MWH Australia Pty Ltd ((2017) *Gnaweeda Level 1 Fauna Assessment*, Unpublished report prepared for Doray Minerals Limited, Perth.
- Ninnox Wildlife Consulting (1997) *Vertebrate Fauna of the Murchison Zinc Project Area*, Perth.
- Outback Ecology Services (2012a) *Central Murchison Gold Project Level 1 Vegetation, Flora and Fauna Assessment*, Perth.
- Outback Ecology Services (2012b) *Mt Magnet Gold Project: Targeted Malleefowl Survey*, Perth.
- Terrestrial Ecosystems (2022) *Basic Vertebrate Fauna Reconnaissance Survey and Risk Assessment for Polelle Bypass and Gabanintha Eastern Access Road*, Unpublished report for Technology Metals Australia Ltd, Perth.
- Terrestrial Ecosystems (2023) *Basic Vertebrate Fauna Survey and Assessment for the Cue Gold Project*. Unpublished report for Musgrave Metals Ltd, Perth.
- Terrestrial Ecosystems (2024b) *Vertebrate Fauna Survey and Assessment for the Yarrabubba Area - Phase 1 -2023*, Unpublished report for KOP Ventures Pty Ltd, Perth.
- Terrestrial Ecosystems (2025) *Basic vertebrate fauna survey and assessment of an extension to the Cue Gold Project*. Unpublished report for Musgrave Metals Ltd, Perth.
- Western Wildlife (2006) *Jack Hills Project Area: 2006 Fauna Survey*. Unpublished report for MBS Environmental, Perth.

In addition, individual records for fauna contained in the DBCA threatened species database, the Atlas of Living Australia, and the Western Australian Museum and the Batmap collection have also been accessed.

2.5 FAUNA SPECIES AT RISK

Cowan (2001) reported the fauna species at risk in the East Murchison subregion as Bilby (*Macrotis lagotis*), Southern Marsupial Mole (*Notoryctes typhlops*), Princess Parrot (*Polytelis alexandrae*), Malleefowl (*Leipoa ocellata*), Slender-billed Thornbill (*Acanthiza iredalei iredalei*), Great Desert Skink (*Egernia kintorei*) and the Peregrine Falcon (*Falco peregrinus*). Since 2001, the Night Parrot (*Pezoporus occidentalis*; Critically Endangered) has been rediscovered in Western Australia and is also considered a species at risk in the region, along with the Southern Whiteface (*Aphelocephala leucopsis*), which is now listed as Vulnerable under the EPBC Act and BC Act. The project area is near the western boundary of the East Murchison subregion, the consequence is that conservation-significant fauna present elsewhere in the subregion are listed as potentially present in the project area.

3. METHODOLOGY

3.1 DATABASE SEARCHES

A review of the *EPBC Act 1999* list of protected species was undertaken to identify species of conservation interest to the Commonwealth Government (Appendix A). In addition, a desktop search of Terrestrial Ecosystems' fauna survey database was used to develop an appreciation of the vertebrate fauna assemblages in relevant sections of the bioregion near the project area.

Other more general texts, including Tyler et al. (2000) for frogs, Storr et al. (1983; 1990, 1999, 2002) and Thompson and Thompson (2006) for reptiles, Johnstone and Storr (1998, 2004) for birds, and Van Dyck and Strahan (2008) for mammals were also used to provide supplementary information on vertebrates in the bioregion.

Collectively, these sources of information were used to create lists of species that were expected to utilise the project area and the broader bioregion. It should be noted that these lists will include species recorded in the vicinity of the project areas that are vagrants and are not generally found there due to a lack of suitable habitat. Vagrants can be recorded almost anywhere. Many of the records in these databases are historical, and the species is no longer present in the area (e.g. Bilby). Many bird, mammal, reptile, and amphibian species have specific habitat requirements that may be present in the general area but not in the project area, so they are unlikely to be present. Also, the ecology of many of these species is often poorly understood, and it can be challenging to identify species whose specific habitat requirements are absent in the project area. Therefore, many species will be included in the lists produced from database searches but will not be present in the actual project area.

There are errors in most databases, including the Atlas of Living Australia and the WAM collection. These errors occur due to misidentification of individuals, taxonomic name changes, and incorrect coordinates being entered into the database. Terrestrial Ecosystems was unable to verify the primary records, so it used the provided information. Obvious errors have been removed, but readers should appreciate that species lists and fauna surveys reported in the appendices may include these errors.

3.2 SITE SURVEY

The project area was searched on foot and using a utility all-terrain vehicle (UTV) for species of conservation significance between 8-10 December 2025. The site survey was also used to record fauna habitat types in the project area. Habitat data were collected at 305 points, including habitat types and photographs. The field assessment also completed targeted searches for active and recently active Malleefowl mounds.

3.3 FAUNA HABITAT ASSESSMENT

The fauna habitat assessment had two foci:

- assess fauna habitat types and their condition; and
- to assess the possible presence of and record evidence of species of conservation significance so that mitigation and management strategies might be implemented to reduce potential impacts.

The zoologists stopped at 305 locations within the project area and recorded various factors related to the fauna habitat and condition. This information included descriptions of habitat structure, habitat condition, landform, soils, vegetation, and time since the last fire. The following data were assessed at each location as part of the habitat assessment (Table 1).

Table 1. Variables assessed during the rapid habitat assessment

Observer's Name:	
Coordinates of the location as UTM (GDA94):	
Fire history – options	
<input type="checkbox"/> > 5 years	
<input type="checkbox"/> 1-5 years	
<input type="checkbox"/> < 1 year	
Landform – options	
<input type="checkbox"/> Beach	<input type="checkbox"/> Lower slope
<input type="checkbox"/> Clay plain	<input type="checkbox"/> Mid slope
<input type="checkbox"/> Cliff	<input type="checkbox"/> Ridge
<input type="checkbox"/> Creek line	<input type="checkbox"/> River
<input type="checkbox"/> Dam	<input type="checkbox"/> Rocky outcrop / breakaway
<input type="checkbox"/> Drainage line	<input type="checkbox"/> Salt lake
<input type="checkbox"/> Dune crest	<input type="checkbox"/> Sand dune
<input type="checkbox"/> Dune slope	<input type="checkbox"/> Sand plain
<input type="checkbox"/> Dune swale	<input type="checkbox"/> Stony plain
<input type="checkbox"/> Escarpment	<input type="checkbox"/> Swamp
<input type="checkbox"/> Flat	<input type="checkbox"/> Undulating
<input type="checkbox"/> Gorge	<input type="checkbox"/> Upper slope
<input type="checkbox"/> Gully	<input type="checkbox"/> Wetland
<input type="checkbox"/> Intertidal / mangrove	<input type="checkbox"/> Water hole
<input type="checkbox"/> Lake / lake edge	
Habitat quality – options	
<input type="checkbox"/> <i>High quality fauna habitat</i> – These areas closely approximate the vegetation mix and quality that would have been in the area prior to any disturbance. The habitat is connected to other habitats and is likely to host the most natural vertebrate fauna.	
<input type="checkbox"/> <i>Very good fauna habitat</i> - These areas show minimal signs of disturbance (e.g. grazing, clearing, fragmentation, weeds) and generally retain many of the characteristics of the habitat if it had not been disturbed. The habitat is connected to other habitats, and the assemblages of fauna in these areas are likely to be minimally affected by disturbance.	
<input type="checkbox"/> <i>Good fauna habitat</i> – These areas showed signs of disturbance (e.g. grazing, clearing, fragmentation, weeds) but generally retain many of the characteristics of the habitat if it had not been disturbed. The habitat is connected to other habitats, and the fauna assemblages in these areas are likely to be affected by disturbance.	
<input type="checkbox"/> <i>Disturbed fauna habitat</i> – These areas showed signs of significant disturbance. Many of the trees, shrubs and undergrowth are cleared. These areas may be in the early succession and regeneration stages. Areas may show signs of significant grazing, contain weeds or have been damaged by vehicles or machinery. Habitats are fragmented or have limited connectivity with other fauna habitats. Fauna assemblages in these areas are likely to differ significantly from what might be expected in the area had the disturbance not occurred.	
<input type="checkbox"/> <i>Highly degraded fauna habitat</i> – These areas often have significant vegetation loss, abundant weeds, and many vehicle tracks, or are completely cleared. Limited or no fauna habitat connectivity. Faunal assemblages in these areas are likely to be significantly different from what they were pre-disturbance.	

Habitat structure - options	
<input type="checkbox"/> Tall open woodland	<input type="checkbox"/> Scattered tall trees
<input type="checkbox"/> Tall woodland	<input type="checkbox"/> Scattered trees
<input type="checkbox"/> Open woodland	<input type="checkbox"/> Scattered low trees
<input type="checkbox"/> Woodland	<input type="checkbox"/> Low closed forest
<input type="checkbox"/> Open forest	<input type="checkbox"/> Low open forest
<input type="checkbox"/> Closed forest	<input type="checkbox"/> Low woodland
<input type="checkbox"/> Tall closed forest	<input type="checkbox"/> Low open woodland
<input type="checkbox"/> Tall open forest	
Soil Type – options	
<input type="checkbox"/> Sand	<input type="checkbox"/> Silty loam
<input type="checkbox"/> Loamy sand	<input type="checkbox"/> Sand clay loam
<input type="checkbox"/> Clayey sand	<input type="checkbox"/> Clay
<input type="checkbox"/> Clay loam	<input type="checkbox"/> Peat / organic
<input type="checkbox"/> Silty clay loam	<input type="checkbox"/> Stony
<input type="checkbox"/> Sandy loam	
Soil colour - options	
<input type="checkbox"/> Black	<input type="checkbox"/> Red
<input type="checkbox"/> Brown	<input type="checkbox"/> White
<input type="checkbox"/> Grey	<input type="checkbox"/> Yellow
<input type="checkbox"/> Orange	
Surface stones – options	
<input type="checkbox"/> None	<input type="checkbox"/> Boulders (>250mm)
<input type="checkbox"/> Pebbles (0-50mm)	<input type="checkbox"/> Rocks
<input type="checkbox"/> Cobbles (51-250)	

3.4 MALLEEFOWL MOUNDS

The project area was searched on foot and using a UTV. The national Malleefowl monitoring program uses the following Malleefowl mound profiles (National Malleefowl Recovery Team, 2016) to classify mounds:

Profile 1 (Typical crater with raised rim) – this is the typical mound shape of an inactive (dormant) mound and without any accumulated vegetation in the crater.

Profile 2 (mound dug out) – this is a recently fully dug out mound with steep sides to the crater, with the base forming a box like structure with the sides normally 20-30cm deep. Sometimes litter has been raked into windrows in readiness to be placed in the mound.

Profile 3 (mound filled with litter) – this mound contains litter in the crater and is the next construction stage after profile 2. Layers of litter are evident on the surface and there may or may not be sand mixed with the litter.

Profile 4 (active mound with no crater) – this active mound is closed and dome-shaped. Note that some mounds have a dome and no crater but are not active.

Profile 5 (mound with crater and often a peak at the centre) – this is an active mound that is being opened or closed by Malleefowl.

Profile 6 (disused or extinct mound) – this mound has not been used for some time, and weathering and erosion have ‘flattened’ the original mound.

Profile 7 (very large flat mound) – this mound is very broad and flat and generally measures in excess of 10m in diameter. The mounds are thought to have been made by a species of mega-fauna (bird similar to a Malleefowl) or, in Western Australia, are likely to be extinct Burrowing Bettong or Boodie warrens.

For mounds that could potentially be used again, crossed sticks were placed at the centre of the mound, so if they were moved, then there was a method of indicating use.

3.5 SURVEY AND REPORTING STAFF

Mitch Plozza and Campbell Young, Terrestrial Ecosystems zoologists, undertook the site survey and fauna habitat assessment. Tom Raymond completed fauna habitat mapping, and Dr Graham Thompson drafted this report, and Dr Scott Thompson reviewed it before it was sent to the client.

Drs S and G Thompson have undertaken multiple assessments in the region and are familiar with the habitat and fauna assemblage expected in the region.

Senior scientists have appropriate relevant post-graduate qualifications, extensive experience in conducting fauna assessments in the region, have published research articles on biodiversity, fauna assemblages, conservation significant species, trapping techniques and temporal variations in trapped fauna assemblages based on Western Australian arid zone surveys and are therefore appropriately trained and experienced to undertake the survey and prepare the assessment.

Dr Scott Thompson is the only environmental practitioner in Western Australia who has independent specialist certification (CEnvP – Ecology Specialist) in combination with post-graduate tertiary qualifications and is a licenced pest management technician (LPMT). This unique set of skills and qualifications ensures that Dr S Thompson undertakes fauna surveys, assessments, and control programs to the highest standards of quality assurance.

All staff involved in this survey have undertaken multiple surveys in the goldfields and are familiar with the habitat in the project and surrounding areas. The qualifications and experience of the survey and reporting personnel are shown in Table 2.

Table 2. Project personnel and their qualifications

Name	Qualifications	Experience	Role
Dr Scott Thompson	BSc. (Env. Sc.), MSc. (Env. Mngt.), PhD (Env. Sc./Mngt), Cert III (Vertebrate Pest Mgt), Cert IV (WHS). CEnvP (Ecology Specialist)	> 20 years	Principal zoologist; report review.
Dr Graham Thompson	PhD (Zoology), Cert III (Vertebrate Pest Mgt)	> 20 years	Principal zoologist; report drafting
Mitch Plozza	BSc (Cons. Wildl. Mgt), Cert III (Rural and Env Mgt)	> 6 years	Zoologist; field survey
Campbell Young	BSc (Hons; Zool.)	>3 years	Zoologist; field survey
Tom Raymond	BSc (Hons; Zool.), Cert III (Rural and Env Mgt)	>3 years	Drafting fauna habitats; field survey

3.6 TAXONOMY AND NOMENCLATURE

Taxonomy and nomenclature for fauna species used in this report are generally based on the WA Museum (WAM) species lists. Terrestrial Ecosystems has presumed that the fauna identifications in the appendices or reports used to provide local and regional contextual data were correct, and we have corrected only obvious records where the nomenclature was known to be incorrect.

3.7 LIMITATIONS

This Basic vertebrate fauna survey is based on information contained in the Commonwealth Government's database and other published and unpublished fauna survey data for the bioregion and a site visit. It is acknowledged that multiple surveys conducted in different seasons, repeated over several years, are necessary to fully appreciate the fauna assemblage in the project area.

Lists of species potentially in and around the project area have been compiled from records in the WAM records, Atlas of Living Australia and reports of fauna surveys undertaken nearby. Some records in the Atlas of Living Australia and the WAM are very old, and the species they represent are no longer present in the area. The *EPBC Act* online MNES database for terrestrial fauna includes a wide buffer around previously known locations of threatened species. A search of this database will invariably include species that are either locally extinct or were never present in parts of the search area.

Terrestrial Ecosystems has not been able to verify the primary data and is therefore not able to vouch for the accuracy of these records. All these data sources are known to contain errors, and this should be considered when reading this survey. These errors occur because of a misidentification of individuals, taxonomic name changes and incorrect coordinates being entered into the database.

It is acknowledged that multiple surveys conducted in different seasons, repeated over several years, are necessary to fully appreciate the fauna assemblage in a project area. The EPA (2020) *Technical Guidance Terrestrial Fauna Surveys* suggested that many variables may limit fauna surveys. Limitations associated with each of these variables are assessed in Table 3.

Table 3. Fauna survey limitations and constraints

Limitation and constraint	Possible limitations	Constraint (yes/no); significant, moderate, or negligible
Availability of data and information	No	Vertebrate fauna survey and assessment reports are available for similar habitats near the project areas.
Competency/experience of the survey team, including experience in the bioregion surveyed	No	The authors of this report have appropriate post-graduate qualifications, have undertaken multiple surveys and assessments in the Goldfields, have published a book and multiple refereed journal articles based on fauna surveys in the region, and are familiar with the vertebrate fauna in semi-arid Western Australian fauna habitats.
Scope of the survey, e.g. where faunal groups were excluded from the survey	No	The targeted searches for recently active Malleefowl mounds were sufficient to detect mounds and any Malleefowl tracks in the project area. The search of the project area for Southern Whiteface was sufficient to identify its presence.
Timing, weather, and season	No	The weather was suitable for a site visit.
Disturbance that may have affected results, e.g. fire, flood	No	Disturbances in the project area have been factored into this survey report.
The proportion of fauna identified, recorded, or collected	N/A	
Adequacy of the survey intensity and proportion of survey achieved, e.g. the extent to which the area was surveyed	No	The survey intensity was adequate for its intended purpose, and the Basic vertebrate fauna survey requirements were met.
Access problems	No	The site was accessible to UTV.
Problems with data and analysis, including sampling biases	No	This report collated and commented on data from other reports.

N/A = not applicable, Significant = major impact on the outcome of the assessment; Moderate = impacted parts of the assessment; Negligible = almost no effect on the assessment

4. RESULTS

4.1 FAUNA HABITAT

Terrestrial Ecosystems undertook 305 habitat assessments across the project area (Appendix D). Plates 1 to 9 provide representative images of the fauna habitat types. Fauna habitats in the project area are varied, and many areas lack vegetation. The quality of fauna habitats ranges from good to degraded. The substrate in the project area was mostly sandy clay, with some areas having pebbles, cobbles, and stones. The three broad fauna habitats in Table 4 are the project area.

Table 4. Fauna habitats

Fauna habitats	Area (ha)
Mulga over mixed shrubs	1,242.0
Mulga in ephemeral drainage	194.4
Mulga on stony ridge	36.6
Disturbed	142.8
Rehabilitated	4.9



Plate 1. Mulga over mixed shrubs



Plate 2. Mulga over mixed shrubs



Plate 3. Mulga in ephemeral drainage



Plate 4. Mulga in ephemeral drainage



Plate 5. Mulga on stony ridge



Plate 6. Mulga on stony ridge



Plate 7. Disturbance area



Plate 8. Disturbance area



Plate 9. Disturbance area



Plate 10. Goanna holes

In addition to the fauna habitats, areas have been rehabilitated, and some areas remain disturbed. There were many large patches of bare ground, and the density of trees and shrubs varied. Vegetation in the ephemeral drainage lines was denser than in the adjacent areas (Plates 3 and 4). There was evidence of past anthropogenic activity (Plate 8).

The results of the rapid habitat assessment are provided in Appendix D.

4.1.1 Malleefowl

The project area was searched for Malleefowl, their mounds and tracks. Malleefowl are predominantly ground-dwelling species that walk considerable distances daily to forage for insects and seeds. Their tracks are distinctive, and their presence is easily detected in soft sand or on sand tracks. No Malleefowl, or their mounds or tracks, were observed during the site visit.

4.1.2 Southern Whiteface

An incidental observation was made of four Southern Whiteface in the northern project area (UTM zone 50, 618342mE 7010437mN). There were four individuals in this small flock, and they were sitting in a tree, probably conserving water and seeking shelter because it was hot.

4.2 BIOREGIONAL VERTEBRATE FAUNA ASSEMBLAGE

Appendix B provides a summary of the fauna survey data available near the project area. There are appreciable differences in the recorded fauna assemblages within and among the fauna surveys shown in Appendix B. These differences are partially due to the low survey effort in some surveys. They also reflect variations in soil and vegetation, and temporal variations in the faunal assemblages.

Tables 5-8 provide a list of vertebrate species potentially found near the project areas that have been compiled based on the fauna survey report results shown in Appendix B. These lists include numerous species whose habitat preferences do not occur in the project area, but they do occur in the bioregion. They also include vagrants and species that have become locally extinct. The Atlas of Living Australia and the WAM databases include records dating back many decades, and some of these species have disappeared from the local area. It is not possible to provide a species list for the project area without undertaking a comprehensive survey with multiple phases.

Table 5. Birds that are potentially found near the project area

Family	Species	Common Name
Casuariidae	<i>Dromaius novaehollandiae</i>	Emu
Anatidae	<i>Chenonetta jubata</i>	Australian Wood Duck
	<i>Anas gracilis</i>	Grey Teal
	<i>Malacorhynchus membranaceus</i>	Pink-eared Duck
	<i>Oxyura australis</i>	Blue-billed Duck
Megapodiidae	<i>Leipoa ocellata</i>	Malleefowl
Phasianidae	<i>Coturnix pectoralis</i>	Stubble Quail
Podicipedidae	<i>Tachybaptus novaehollandiae</i>	Australasian Grebe
	<i>Poliocephalus poliocephalus</i>	Hoary-headed Grebe
Columbidae	<i>Phaps chalcoptera</i>	Common Bronzewing
	<i>Ocyphaps lophotes</i>	Crested Pigeon
	<i>Geopelia cuneata</i>	Diamond Dove
Otididae	<i>Ardeotis australis</i>	Australian Bustard
Cuculidae	<i>Chrysococcyx basalis</i>	Horsfield's Bronze-Cuckoo
	<i>Chrysococcyx osculans</i>	Black-eared Cuckoo
	<i>Cacomantis pallidus</i>	Pallid Cuckoo
Aegothelidae	<i>Aegotheles cristatus</i>	Australian Owlet-nightjar
Podargidae	<i>Podargus strigoides</i>	Tawny Frogmouth
Caprimulgidae	<i>Eurostopodus argus</i>	Spotted Nightjar
Apodidae	<i>Apus pacificus</i>	Pacific Swift
Rallidae	<i>Tribonyx ventralis</i>	Black-tailed Nativehen
Burhinidae	<i>Burhinus grallarius</i>	Bush Stone-curlew
Recurvirostridae	<i>Himantopus himantopus</i>	Black-winged Stilt
	<i>Himantopus leucocephalus</i>	Pied Stilt
	<i>Recurvirostra novaehollandiae</i>	Red-necked Avocet
Charadriidae	<i>Vanellus tricolor</i>	Banded Lapwing
	<i>Charadrius ruficapillus</i>	Red-capped Plover
	<i>Erythronyx cinctus</i>	Red-kneed Dotterel
	<i>Thinornis cucullatus</i>	Hooded Plover

Family	Species	Common Name
	<i>Euseyonis melanops</i>	Black-fronted Dotterel
	<i>Peltohyas australis</i>	Inland Dotterel
Scolopacidae	<i>Limosa lapponica</i>	Bar-tailed Godwit
	<i>Calidris acuminata</i>	Sharp-tailed Sandpiper
	<i>Calidris ferruginea</i>	Curllew Sandpiper
	<i>Calidris ruficollis</i>	Red-necked Stint
	<i>Calidris melanotos</i>	Pectoral Sandpiper
	<i>Actitis hypoleucos</i>	Common Sandpiper
	<i>Tringa nebularia</i>	Common Greenshank
	<i>Tringa stagnatilis</i>	Marsh Sandpiper
	<i>Tringa glareola</i>	Wood Sandpiper
Turnicidae	<i>Turnix castanotus</i>	Chestnut-backed Buttonquail
	<i>Turnix velox</i>	Little Buttonquail
Glareolidae	<i>Glareola maldivarum</i>	Oriental Pratincole
Laridae	<i>Gelochelidon nilotica</i>	Gull-billed Tern
	<i>Hydroprogne caspia</i>	Caspian Tern
	<i>Chlidonias leucopterus</i>	White-winged Tern
Ardeidae	<i>Ardea pacifica</i>	White-necked Heron
Threskiornithidae	<i>Plegadis falcinellus</i>	Glossy Ibis
	<i>Platalea flavipes</i>	Yellow-billed Spoonbill
Accipitridae	<i>Elanus axillaris</i>	Black-shouldered Kite
	<i>Hamirostra melanosternon</i>	Black-breasted Buzzard
	<i>Hieraaetus morphnoides</i>	Little Eagle
	<i>Aquila audax</i>	Wedge-tailed Eagle
	<i>Circus assimilis</i>	Spotted Harrier
	<i>Accipiter fasciatus</i>	Brown Goshawk
	<i>Accipiter cirrocephalus</i>	Collared Sparrowhawk
	<i>Haliastur sphenurus</i>	Whistling Kite
Cuculidae	<i>Heteroscenes pallidus</i>	Pallid Cuckoo
Strigidae	<i>Ninox boobook</i>	Southern Boobook
Alcedinidae	<i>Todiramphus pyrrhopygius</i>	Red-backed Kingfisher

Family	Species	Common Name
Meropidae	<i>Merops ornatus</i>	Rainbow Bee-eater
Falconidae	<i>Falco cenchroides</i>	Nankeen Kestrel
	<i>Falco longipennis</i>	Australian Hobby
	<i>Falco berigora</i>	Brown Falcon
	<i>Falco hypoleucos</i>	Grey Falcon
	<i>Falco peregrinus</i>	Peregrine Falcon
Meliphagidae	<i>Lacustroica whitei</i>	Grey Honeyeater
Cacatuidae	<i>Eolophus roseicapilla</i>	Galah
	<i>Nymphicus hollandicus</i>	Cockatiel
Psittaculidae	<i>Pezoporus occidentalis</i>	Night Parrot
	<i>Neopsephotus bourkii</i>	Bourke's Parrot
	<i>Neophema elegans</i>	Elegant Parrot
	<i>Barnardius zonarius</i>	Australian Ringneck
	<i>Psephotus varius</i>	Mulga Parrot
	<i>Melopsittacus undulatus</i>	Budgerigar
Ptilonorhynchidae	<i>Chlamydera guttata</i>	Western Bowerbird
	<i>Ptilonorhynchus maculata</i>	Spotted Bowerbird
Climacteridae	<i>Climacteris affinis</i>	White-browed Treecreeper
Maluridae	<i>Amytornis textilis</i>	Western Grasswren
	<i>Malurus assimilis</i>	Purple-backed Fairywren
	<i>Malurus lamberti</i>	Variagated Fairywren
	<i>Malurus splendens</i>	Splendid Fairywren
	<i>Malurus leucopterus</i>	White-winged Fairywren
Meliphagidae	<i>Certhionyx variegatus</i>	Pied Honeyeater
	<i>Purnella albifrons</i>	White-fronted Honeyeater
	<i>Manorina flavigula</i>	Yellow-throated Miner
	<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater
	<i>Gavicalis virescens</i>	Singing Honeyeater
	<i>Ptilotula penicillata</i>	White-plumed Honeyeater
	<i>Ptilotula keartlandi</i>	Grey-headed Honeyeater
	<i>Conopophila whitei</i>	Grey Honeyeater

Family	Species	Common Name
	<i>Epthianura tricolor</i>	Crimson Chat
	<i>Epthianura aurifrons</i>	Orange Chat
	<i>Epthianura albifrons</i>	White-fronted Chat
	<i>Sugomel nigrum</i>	Black Honeyeater
	<i>Gliciphila melanops</i>	Tawny-crowned Honeyeater
	<i>Lichmera indistincta</i>	Brown Honeyeater
Pardalotidae	<i>Pardalotus rubricatus</i>	Red-browed Pardalote
	<i>Pardalotus striatus</i>	Striated Pardalote
Acanthizidae	<i>Pyrrholaemus brunneus</i>	Redthroat
	<i>Calamanthus campestris</i>	Rufous Fieldwren
	<i>Acanthiza iredalei</i>	Slender-billed Thornbill
	<i>Acanthiza apicalis</i>	Inland Thornbill
	<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill
	<i>Acanthiza uropygialis</i>	Chestnut-rumped Thornbill
	<i>Acanthiza robustirostris</i>	Slaty-backed Thornbill
	<i>Smicromis brevirostris</i>	Weebill
	<i>Gerygone fusca</i>	Western Gerygone
	<i>Aphelocephala leucopsis</i>	Southern Whiteface
	<i>Aphelocephala nigricincta</i>	Banded Whiteface
	<i>Pomatostomus temporalis</i>	Grey-crowned Babbler
Pomatostomidae	<i>Pomatostomus superciliosus</i>	White-browed Babbler
Cinclosomatidae	<i>Cinclosoma clarum</i>	Copperback Quail-thrush
	<i>Cinclosoma castaneothorax</i>	Chestnut-breasted Quail-thrush
	<i>Cinclosoma marginatum</i>	Western Quail-thrush
Campephagidae	<i>Coracina maxima</i>	Ground Cuckooshrike
	<i>Coracina novaehollandiae</i>	Black-faced Cuckooshrike
	<i>Lalage tricolor</i>	White-winged Triller
Neosittidae	<i>Daphoenositta chrysoptera</i>	Varied Sittella
Psophodidae	<i>Psophodes occidentalis</i>	Chiming Wedgebill
Oreocidae	<i>Oreoica gutturalis</i>	Crested Bellbird
Pachycephalidae	<i>Colluricincla harmonica</i>	Grey Shrikethrush

Family	Species	Common Name
	<i>Pachycephala rufiventris</i>	Rufous Whistler
Artamidae	<i>Artamus personatus</i>	Masked Woodswallow
	<i>Artamus superciliosus</i>	White-browed Woodswallow
	<i>Artamus cinereus</i>	Black-faced Woodswallow
	<i>Artamus cyanopterus</i>	Dusky Woodswallow
	<i>Artamus minor</i>	Little Woodswallow
	<i>Cracticus torquatus</i>	Grey Butcherbird
	<i>Cracticus nigrogularis</i>	Pied Butcherbird
	<i>Gymnorhina tibicen</i>	Australian Magpie
	<i>Strepera versicolor</i>	Grey Currawong
Rhipiduridae	<i>Rhipidura leucophrys</i>	Willie Wagtail
	<i>Rhipidura albiscapa</i>	Grey Fantail
Monarchidae	<i>Grallina cyanoleuca</i>	Magpie-lark
Corvidae	<i>Corvus orru</i>	Torresian Crow

Family	Species	Common Name
	<i>Corvus bennetti</i>	Little Crow
	<i>Corvus coronoides</i>	Australian Raven
Petroicidae	<i>Microeca fascians</i>	Jacky Winter
	<i>Petroica goodenovii</i>	Red-capped Robin
	<i>Melanodryas cucullata</i>	Hooded Robin
Locustellidae	<i>Cincloramphus cruralis</i>	Brown Songlark
	<i>Cincloramphus mathewsi</i>	Rufous Songlark
Hirundinidae	<i>Hirundo neoxena</i>	Welcome Swallow
	<i>Petrochelidon ariel</i>	Fairy Martin
	<i>Petrochelidon nigricans</i>	Tree Martin
	<i>Cheramoeca leucosterna</i>	White-backed Swallow
Dicaeidae	<i>Dicaeum hirundinaceum</i>	Mistletoebird
Estrildidae	<i>Taeniopygia guttata</i>	Zebra Finch
Motacillidae	<i>Anthus novaeseelandiae</i>	Australasian Pipit

Table 6. Amphibians that area potentially found near the project area

Family	Species	Common name
Limnodynastidae	<i>Neobatrachus sutor</i>	Shoemaker Frog
	<i>Platyplectrum spenceri</i>	Spencer's Burrowing Frog
Myobatrachidae	<i>Pseudophryne occidentalis</i>	Western Toadlet

Family	Species	Common name
Pelodyridae	<i>Cyclorana maini</i>	Main's Frog
	<i>Cyclorana occidentalis</i>	Western Water-holding Frog
	<i>Colleeneremia rubella</i>	Desert Tree Frog

Table 7. Reptiles that are potentially in the project area

Family	Species	Common name
Agamidae	<i>Ctenophorus caudicinctus</i>	Ring-tailed Dragon
	<i>Ctenophorus isolepis</i>	Central Military Dragon
	<i>Ctenophorus maculatus</i>	Spotted Dragon
	<i>Ctenophorus nuchalis</i>	Central Netted Dragon
	<i>Ctenophorus ornatus</i>	Ornate Crevice Dragon
	<i>Ctenophorus reticulatus</i>	Western Netted Dragon
	<i>Ctenophorus salinarum</i>	Saltpan Dragon
	<i>Ctenophorus scutulatus</i>	Lozenge-marked Dragon
	<i>Diporiphora amphiboluroides</i>	Mulga Dragon
	<i>Gowidon longirostris</i>	Long-nosed Dragon
	<i>Moloch horridus</i>	Thorny Devil

Family	Species	Common name
	<i>Pogona minor</i>	Western Bearded Dragon
	<i>Tympanocryptis cephalus</i>	Pebble Dragon
Carphodactylidae	<i>Nephurus vertebralis</i>	Midline Knob-tail
	<i>Nephurus wheeleri</i>	Banded Knob-tail
	<i>Underwoodisaurus milii</i>	Barking Gecko
Diplodactylidae	<i>Diplodactylus conspicillatus</i>	Fat-tailed Gecko
	<i>Diplodactylus granariensis</i>	Wheatbelt Stone Gecko
	<i>Diplodactylus pulcher</i>	Beautiful Gecko
	<i>Lucasium squarrosum</i>	Mottled Ground Gecko
	<i>Lucasium stenodactylum</i>	Crowned Gecko
	<i>Oedura marmorata</i>	Marbled Velvet Gecko

Family	Species	Common name
	<i>Rhynchoedura ornata</i>	Beaked Gecko
	<i>Strophurus ciliaris</i>	Spiny-tailed Gecko
	<i>Strophurus elderi</i>	Jewelled Gecko
	<i>Strophurus strophurus</i>	Western Spiny-tailed Gecko
	<i>Strophurus wellingtonae</i>	Western Shield Spiny-tailed Gecko
Elapidae	<i>Brachyuropis approximans</i>	North-western Shovel-nosed Snake
	<i>Brachyuropis fasciolatus</i>	Narrow-banded Burrowing Snake
	<i>Brachyuropis semifasciata</i>	Half-girdled Snake
	<i>Furina ornata</i>	Orange-naped Snake
	<i>Suta monachus</i>	Hooded Snake
	<i>Pseudechis butleri</i>	Spotted Mulga Snake
	<i>Pseudonaja mengdeni</i>	Western Brown Snake
	<i>Pseudonaja modesta</i>	Ringed Brown Snake
	<i>Simoselaps bertholdi</i>	Jan's Banded Snake
	<i>Suta fasciata</i>	Rosen's Snake
Gekkonidae	<i>Gehyra australis</i>	Northern Dtella
	<i>Gehyra punctata</i>	Spotted Dtella
	<i>Gehyra purpurascens</i>	Purplish Dtella
	<i>Gehyra variegata</i>	Variiegated Gehyra
	<i>Heteronotia binoei</i>	Bynoe's Gecko
Pygopodidae	<i>Delma australis</i>	Marble-faced Delma
	<i>Delma butleri</i>	Unbanded Delma
	<i>Pygopus nigriceps</i>	Western Hooded Scaly-foot
Pythonidae	<i>Antaresia perthensis</i>	Pygmy Python
	<i>Antaresia stimsoni</i>	Stimson's Python
Scincidae	<i>Cryptoblepharus buchananii</i>	Buchanan's Snake-eyed Skink
	<i>Ctenotus atlas</i>	Southern Mallee Ctenotus

Family	Species	Common name
	<i>Ctenotus grandis</i>	Grand Ctenotus
	<i>Ctenotus helenaee</i>	Clay-soil Ctenotus
	<i>Ctenotus leonhardii</i>	Leonhardi's Ctenotus
	<i>Ctenotus schomburgkii</i>	Barred Wedgesnout Ctenotus
	<i>Ctenotus severus</i>	Stern Ctenotus
	<i>Ctenotus uber</i>	Spotted Ctenotus
	<i>Egernia depressa</i>	Southern Pygmy Spiny-tailed Skink
	<i>Egernia stokesii</i>	Spiny-tailed Skink
	<i>Eremiascincus richardsonii</i>	Broad-banded Sand-swimmer
	<i>Lerista bipes</i>	North-western Sandslider
	<i>Lerista eupoda</i>	West Coast Mulga Slider
	<i>Lerista macropisthopus</i>	Unpatterned Robust Slider
	<i>Lerista muelleri</i>	Wood Mulch-slider
	<i>Lerista nichollsi</i>	Inland Broad-blazed Slider
	<i>Lerista picturata</i>	Southern Robust Slider
	<i>Lerista timida</i>	Timid Slider
	<i>Liopholis inornata</i>	Desert Skink
	<i>Menetia greyii</i>	Common Dwarf Skink
	<i>Morethia butleri</i>	Woodland Morethia Skink
Typhlopidae	<i>Anilius hamatus</i>	Pale-headed Blind Snake
Varanidae	<i>Varanus caudolineatus</i>	Stripe-tailed Monitor
	<i>Varanus eremius</i>	Pygmy Desert Monitor
	<i>Varanus giganteus</i>	Perentie
	<i>Varanus gouldii</i>	Gould's Goanna
	<i>Varanus panoptes</i>	Yellow-spotted Monitor
	<i>Varanus tristis</i>	Black-headed Monitor

Table 8. Mammals that are potentially found in the project area

Family	Species	Common Name	Family	Species	Common Name
Tachyglossidae	<i>Tachyglossus aculeatus</i>	Short-beaked Echidna		<i>Sminthopsis dolichura</i>	Little Long-tailed Dunnart
Bovidae	<i>Bos taurus</i>	Cow		<i>Sminthopsis hirtipes</i>	Hairy-footed Dunnart
	<i>Capra hircus</i>	Goat		<i>Antechinomys longicaudatus</i>	Long-tailed Dunnart
Canidae	<i>Canis lupus</i>	Dingo		<i>Sminthopsis macroura</i>	Stripe-faced Dunnart
	<i>Vulpes vulpes</i>	Red Fox		<i>Sminthopsis ooldea</i>	Ooldea Dunnart
Felidae	<i>Felis catus</i>	Cat	Macropodidae	<i>Lagorchestes hirsutus</i>	Rufous Hare-wallaby
Emballonuridae	<i>Taphozous georgianus</i>	Common Sheathtail Bat		<i>Macropus fuliginosus</i>	Western Grey Kangaroo
	<i>Taphozous hilli</i>	Hill's Sheathtail Bat		<i>Macropus rufogriseus</i>	Euro
Megadermatidae	<i>Macroderma gigas</i>	Ghost Bat		<i>Osphranter robustus</i>	Euro
Molossidae	<i>Austronomus australis</i>	White-striped Freetail Bat		<i>Osphranter rufus</i>	Red Kangaroo
	<i>Ozimops petersi</i>	Inland Free-tailed Bat		<i>Petrogale lateralis</i>	Black-flanked Rock-wallaby
Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	Potoroidae	<i>Bettongia lesueur</i>	Burrowing Bettong
	<i>Mormopterus sp.</i>	Free-tail Bat Sp.	Leporidae	<i>Oryctolagus cuniculus</i>	Rabbit
	<i>Nyctophilus geoffroyi</i>	Lesser Long-eared Bat	Equidae	<i>Equus asinus</i>	Donkey
	<i>Scotorepens balstoni</i>	Inland Broad-nosed Bat		<i>Equus caballus</i>	Horse
	<i>Vespadelus baverstocki</i>	Inland Forest Bat	Muridae	<i>Mus musculus</i>	House Mouse
	<i>Vespadelus caurinus</i>	Northern Cave Bat		<i>Notomys alexis</i>	Spinifex Hopping Mouse
	<i>Vespadelus finlaysoni</i>	Finlayson's Cave Bat		<i>Notomys longicaudatus</i>	Long-tailed Hopping Mouse
Dasyuridae	<i>Antechinomys laniger</i>	Kultarr		<i>Pseudomys desertor</i>	Desert Mouse
	<i>Dasyercus blythi</i>	Brush-tailed Mulgara		<i>Pseudomys hermannsburgensis</i>	Sandy Inland Mouse
	<i>Pseudantechinus woolleyae</i>	Woolley's False Antechinus			
	<i>Sminthopsis crassicaudata</i>	Fat-tailed Dunnart			

4.3 FAUNA OF CONSERVATION SIGNIFICANCE

Fauna species of conservation significance are protected by the *EPBC Act 1999*, and this list includes species covered by international treaties such as the Japan-Australia Migratory Bird Agreement (JAMBA) and China-Australia Migratory Bird Agreement (CAMBA) and the Western Australia (WA) *BC Act 2016*. The *BC Act 2016* provides for the publication of the *Wildlife Conservation (Specially Protected Fauna) Notice*, which lists species under multiple categories. In addition, the DBCA maintains a list of fauna that require monitoring, prioritised according to current knowledge of their distribution, abundance, and threatening processes. The *EPBC Act 1999* and *BC Act 2016* imply legislative requirements for managing anthropogenic impacts to minimise the effects of disturbances on species and their habitats. Priority species lack statutory protection, but the DBCA wishes to monitor potential impacts on them. Environmental consultants and proponents of developments are encouraged to avoid and minimise impacts on these species. Definitions of the significant fauna under the *BC Act 2016* are provided in Appendix C.

There is no lake or wetland in either of the project areas; however, Lake Anneen is approximately 10km to the north, and as this area was included in the EPBC MNES online database search, so shore- and wetland migratory species [i.e. Curlew Sandpiper (*Calidris ferruginea*), Sharp-tailed Sandpiper (*Calidris acuminata*), Common Greenshank (*Tringa nebularia*), Common Sandpiper (*Actitis hypoleucos*), Pectoral Sandpiper (*Calidris*

melanotos]) have been identified in the database search. It is highly improbable that these species will be in the project area, so they have not been included in Table 9 and in the ecological information for those species that follows.

Appendix E provides a brief description of the ecology of the species listed in Table 9. Table 9 includes a brief statement of the probability of each species being in the project area, based on ecological information about the species.

Table 9. Assessment of the potential presence of a fauna species of conservation significance in the project area

Species	DBCAs Schedule / Priority	Status under Commonwealth EPBC Act	Comment on the potential presence of a species
Night Parrot <i>Pezoporus occidentalis</i>	Critically Endangered	Critically Endangered	There are no mature spinifex hummocks in the project area, and there are feral fauna present. As the preferred roosting and nesting habitat for Night Parrots is absent in the project area, and there is a significant threat (e.g., feral cats), it is highly unlikely that Night Parrots are present there.
Western Spiny-tailed Skink <i>Egernia stokesii badia</i>	Endangered	Endangered	A suitable habitat for the Western Spiny Skink is not present in the project area. It is, therefore, highly unlikely that Western Spiny Skinks are present in the project area.
Southern Whiteface <i>Aphelocephala leucopsis</i>	Vulnerable	Vulnerable	The Southern Whiteface has been recorded in multiple fauna surveys in the region and was recorded in the northern area during the site survey. In recent years, almost every comprehensive avifauna survey in the region has recorded the presence of Southern Whiteface.
Malleefowl <i>Leipoa ocellata</i>	Vulnerable	Vulnerable	There are no recent records of active breeding mounds in or near the project area, and none were found in the site survey.
Grey Falcon <i>Falco hypoleucos</i>	Vulnerable	Vulnerable	The Grey Falcon has not been recorded recently near the project area, was not seen during the site visit, and is unlikely to be in an area largely devoid of trees.
Pilbara Leaf-nosed Bat <i>Rhinioncteris aurantia</i>	Vulnerable	Vulnerable	The Pilbara Leaf-nosed Bat is not present in the project area due to a lack of suitable roosting sites. It is also beyond the recognised southern geographical distribution of this species.
Princess Parrot <i>Polytelis alexandrae</i>	P4	Vulnerable	The project area is probably too far west of the sandy deserts for the Princess Parrot to be seen in this area. It is therefore highly unlikely to be recorded in the project area.
Fork-tailed Swift <i>Apus pacificus</i>	Migratory	Migratory	The Fork-tailed Swift may be infrequently seen in the region.
Oriental Plover <i>Charadrius veredus</i>	Migratory	Migratory	It is improbable that the Oriental Plover is present in the project area due to a lack of suitable habitat.
Grey Wagtail <i>Motacilla cinerea</i>	Migratory	Migratory	Due to a lack of records in the bioregion and lack of suitable habitat, it is highly unlikely that the Grey Fantail would be seen in the project area.
Yellow Wagtail <i>Motacilla flava</i>	Migratory	Migratory	There are no records for this species in inland Western Australia near the project area, so it is highly unlikely to be present.
Peregrine Falcon <i>Falco peregrinus</i>	OS		The Peregrine Falcon was not recorded during the site investigation. The lack of trees in the project area suggests it is unlikely to be there.
Meekatharra Slider <i>Lerista eupoda</i>	P1		The Atlas of Living Australia records indicate that it could be found in the project area.
Long-tailed Dunnart <i>Sminthopsis longicaudata</i>	P4		There is a lack of suitable habitat for Long-tailed Dunnarts in the project area, so it is unlikely to be present.

OS – Other specially protected fauna

5. DISCUSSION

5.1 ADEQUACY OF THE FAUNA SURVEY DATA FOR FAUNA HABITATS REPRESENTED IN THE PROJECT AREA

The EPA's (2020) Technical Guidance on terrestrial fauna surveys indicated that the type of survey should be determined based on:

- level of existing regional knowledge;
- type and comprehensiveness of recent local surveys;
- degree of existing disturbance or fragmentation at the regional scale;
- extent, distribution, and significance of habitats;
- significance of species likely to be present;
- sensitivity of the environment to the proposed activities; and
- scale and nature of impact.

Knowledge of the vertebrate fauna in the bioregion is fair, although little is known about the fauna near the project area due to a lack of detailed surveys. When supplemented with data from the Atlas of Living Australia, a near-complete list of vertebrate fauna species is available for the project area. Additional surveys are unlikely to alter the results of this Basic fauna survey.

The EPA's (2020) *Technical Guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment* is not specific about when a Detailed or Targeted vertebrate fauna survey is required. Rather, it has indicated that the level of survey effort should be determined after consideration of the criteria in Table 10.

Table 10. Criteria for determining survey requirements

Criteria	Response
Level of existing regional knowledge	Multiple surveys have been conducted in the region, and similar habitat types exist in adjacent areas. The local vertebrate fauna can be predicted for other nearby surveys, additional trapping surveys are unlikely to yield new species.
Type and comprehensiveness of recent local surveys	Multiple surveys are available for the bioregion, but none are locally available. They provide contextual information for the project area and have been used to compile a species list.
Degree of existing disturbance or fragmentation at the regional scale	A large portion of the project area consists of bare ground, with very limited vertebrate fauna. In addition, there is limited leaf litter under and around trees and shrubs, so the vertebrate fauna assemblage is likely to be constrained.
Extent, distribution, and significance of habitats	The available fauna habitats are not unique and are widely represented in the bioregion.
Significance of species likely to be present	The Southern Whiteface (Vulnerable) is present in the project area and is widespread across the Midwest, Murchison, Goldfields and sandy desert regions. Additional surveys are unlikely to provide new information that would alter the environmental assessment. The Meekatharra Slider is potentially present in the project area.
Sensitivity of the environment to the proposed activities	There was no evidence to suggest that the project area has a unique vertebrate fauna habitat that is environmentally sensitive from a vertebrate fauna perspective.
Scale and nature of impact	The project's scale is small relative to the availability of similar fauna habitats in adjacent areas.

5.1.1 Amphibians

Frogs are usually only detected immediately after rainfall or around semi-permanent pools. There was some evidence of long-standing drainage channels filled with water after heavy rains in the project area, a habitat that would support arid-adapted frogs. *Cyclorana maini*, *C. occidentalis*, *P. occidentalis*, *N. sutor*, and *C. rubella* could be recorded near the project area. *Cyclorana* sp. and *Neobatrachus* sp. burrow into the ground and aestivate between rainfall events. *P. occidentalis* and *C. rubella* find shelter under rocks and crevices during the dry periods and enter temporary ponds to breed after major rainfall events. All species have a widespread distribution and are abundant. Development of the project area is likely to result in a loss of individuals within the disturbed area; however, it is unlikely to impact these species significantly when assessed in a regional context.

5.1.2 Reptiles

Typically, between 25 and 35 species of reptiles are caught in mixed shrubland and open Mulga woodland. There is very little understorey or leaf litter in the project area, and a large proportion of it is bare ground. Hence, the abundance of individuals and species is likely much lower than in more heterogeneous areas with abundant leaf litter.

Based on records in the Atlas of Living Australia, the Meekatharra Slider is potentially in the project area. It is also likely to be present in similar densities in neighbouring habitats. This small fossorial skink will be lost during vegetation clearing, but this is unlikely to be of conservation significance, given the abundance of this habitat in adjacent areas.

5.1.3 Birds

The number of birds and bird species in the Midwest and Murchison fluctuates seasonally and is based on recent rainfall (Craig & Chapman, 2003). Semi-arid and arid areas of inland Australia support a diverse range of transient and nomadic species that move through large areas in search of available resources. Heavy rain, followed by flowering and seeding of many plant species, is often sufficient to draw many nomadic species to the general area. These species move on to other areas once the resource is depleted or better resources are available in adjacent areas.

The Southern Whiteface (listed as Vulnerable under the *EPBC Act* and *BC Act*) is present, and Peregrine Falcon (Specially protected under the *BC Act*) could be present in adjacent areas. The Peregrine Falcon will generally have an extensive home range, of which the project area is a very small part.

5.1.4 Mammals

The diversity of small terrestrial mammals potentially caught in the project area would be low due to the large area of bare ground, sparsely vegetated habitat and feral and pest fauna.

Batmap indicates that *Austronomus australis*, *Chalinolobus gouldii*, *Nyctophilus geoffroyi*, *Saccolaimus flaviventris*, *Scotorepens balstoni*, *Taphozous hilli* and *Vespadelus finlaysoni* are potentially in the project area. Other than *Nyctophilus geoffroyi* and *Taphozous hilli*, these bats roost in tree hollows and under bark. Given the lack of substantial trees in most of the project area, the bat fauna is likely to be very sparse.

There are no other mammals of conservation significance likely to be in the project area.

5.2 BIODIVERSITY VALUE

An ecological assessment of a site should consider its biodiversity value at the genetic, species, and ecosystem levels and its ecological functional value at the ecosystem level. Inadequate data exist to assess the ecological value at the genetic level.

Fauna habitat types represented in the project area are abundant and similar in adjacent areas. Feral cats are likely to be present, and this species will, over many years, have significantly impacted the native vertebrate fauna. The habitat types identified in the project area are also abundant in adjacent areas, so the vertebrate fauna in the project area will be present in neighbouring areas.

5.2.1 Ecological functional value at the ecosystem level

Vertebrate species potentially in the project area are wide-ranging and have been recorded in various other fauna surveys in the bioregion (Appendix B). The project area will likely have a relatively low abundance of reptiles and mammals due to the sparseness of the vegetation and areas of bare ground, the lack of leaf litter in many areas, and degradation by cattle and feral fauna.

5.2.2 Maintenance of a threatened ecological community

There are no threatened fauna ecological communities in the project area.

The Southern Whiteface and possibly the Meekatharra Slider were the only conservation-significant fauna species identified as being in the project area. The Southern Whiteface is present across the region and will move to adjacent areas if the project area is cleared.

5.2.3 Condition of the fauna habitats

The undisturbed fauna habitat in the project area is like many square kilometres of adjacent habitat and is generally in poor condition.

5.2.4 Ecological linkages

The project area does not provide an important ecological linkage or a fauna movement corridor.

5.2.5 Size and scale of the proposed disturbance

The project area is a small (i.e. ~1,620ha) proportion of similar fauna habitats in the adjacent and regional areas.

5.2.6 Abundance and distribution of similar habitats in the adjacent areas

Fauna habitats present in the project area are abundant in adjacent areas. The fauna assemblage will therefore be like that of the many square kilometres of similar habitat in adjoining areas and the bioregion.

6. SUMMARY

Terrestrial Ecosystems was commissioned by Odyssey Gold Ltd to undertake a Basic and targeted survey of the Tuckanurra Gold project area. The Tuckanurra project survey included two separate areas. The northern area (~437.3ha) is on the western side of the Great Northern Highway, about 57 km south of Meekatharra, and the southern area straddles the Great Northern Highway (~1,182.5ha) and is 69km south of Meekatharra. The total assessed area was ~1,620ha.

Fauna habitats in the project area are varied, and many areas lack vegetation. The quality of fauna habitats ranges from good to degraded. The substrate in the project area was mostly sandy clay, with some areas having pebbles, cobbles, and stones. The following three broad fauna habitats are in the project area:

- Mulga over mixed shrubs;
- Mulga in ephemeral drainage; and
- Mulga on stony ridge.

In addition to the fauna habitats, areas have been rehabilitated, and some areas remain disturbed. There were many large patches of bare ground, and the density of trees and shrubs varied. Vegetation in the ephemeral drainage lines was denser than in the adjacent areas, and there was evidence of past anthropogenic activity.

The Southern Whiteface, which is listed as Vulnerable under State and Commonwealth Government legislation, was recorded in the northern project area, and is potentially in the southern area as well. The Atlas of Living Australia indicates that the project area falls within the geographic range of the Meekatharra Slider (*L. eupoda*; Priority 1 species), so it may be present. No targeted searches were undertaken for the Meekatharra Slider.

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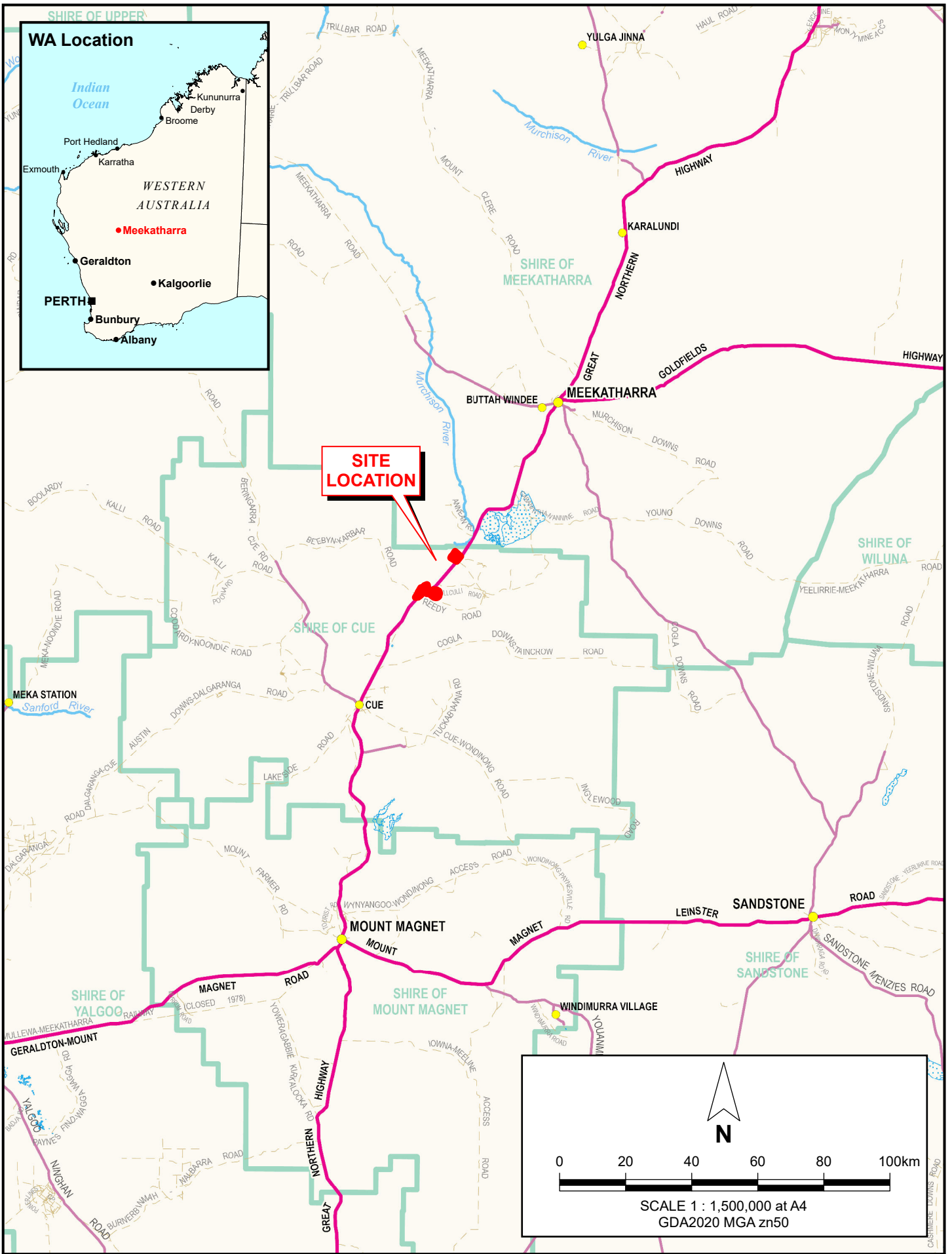
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Figures

Basic and targeted vertebrate fauna survey
Tuckanarra Project Area





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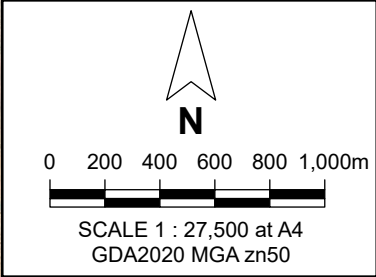
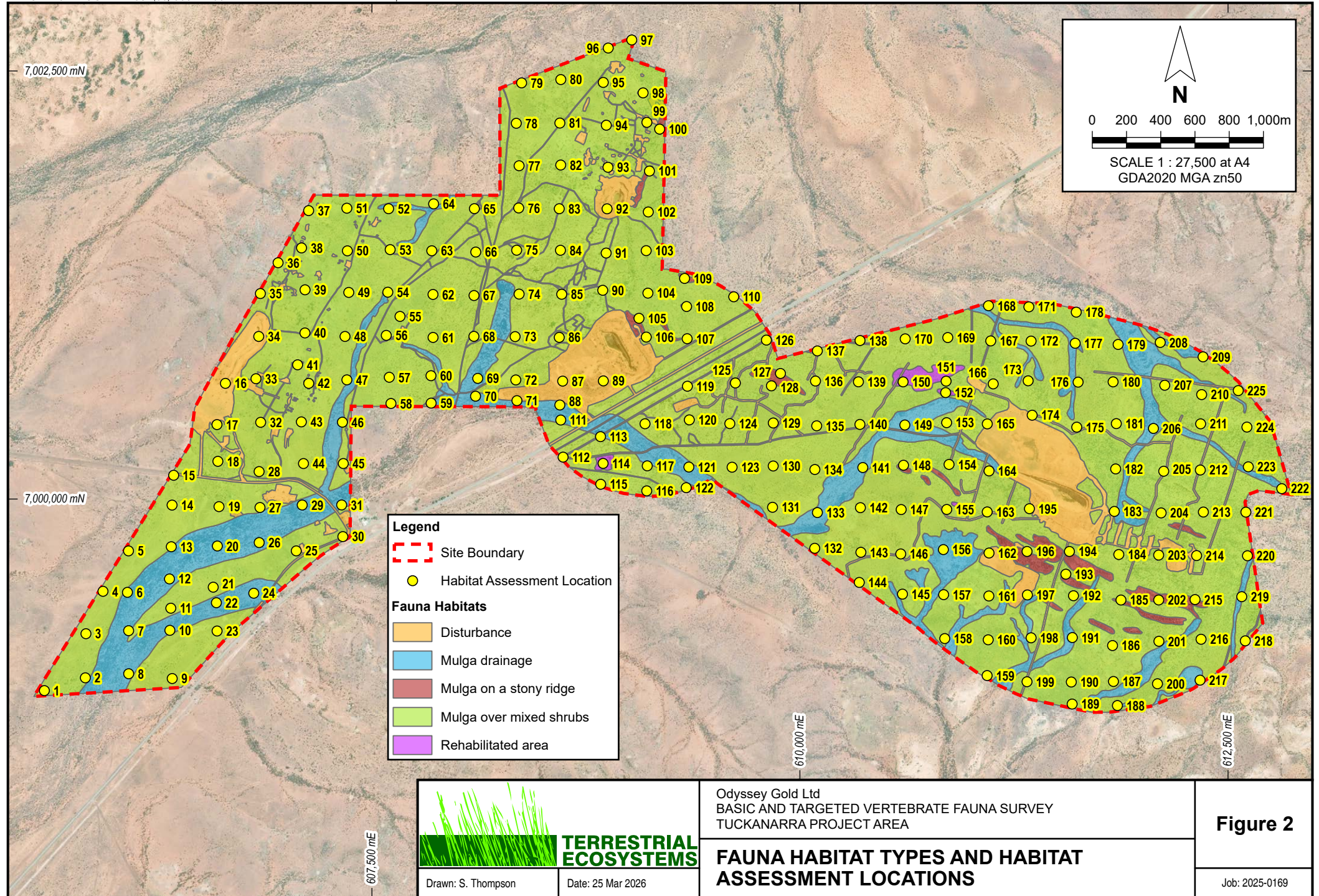
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Odyssey Gold Ltd
 BASIC AND TARGETED VERTEBRATE FAUNA SURVEY
 TUCKANARRA PROJECT AREA

REGIONAL LOCATION

Figure 1

Job: 2025-0169



Drawn: S. Thompson

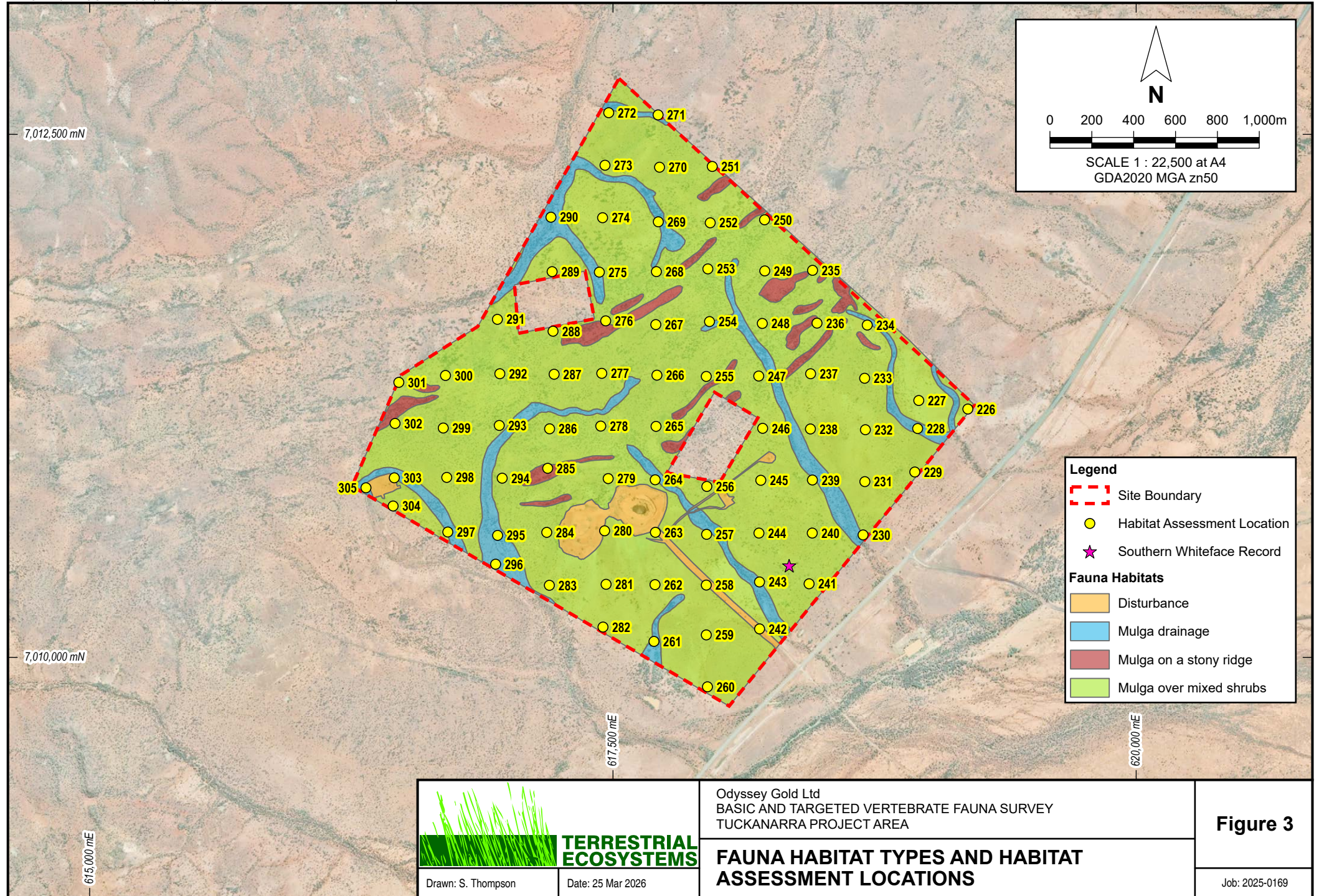
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Odyssey Gold Ltd
 BASIC AND TARGETED VERTEBRATE FAUNA SURVEY
 TUCKANARRA PROJECT AREA

FAUNA HABITAT TYPES AND HABITAT ASSESSMENT LOCATIONS

Figure 2

Job: 2025-0169



N

0 200 400 600 800 1,000m

SCALE 1 : 22,500 at A4
GDA2020 MGA zn50

Legend

- Site Boundary
- Habitat Assessment Location
- ★ Southern Whiteface Record

Fauna Habitats

- Disturbance
- Mulga drainage
- Mulga on a stony ridge
- Mulga over mixed shrubs

TERRESTRIAL ECOSYSTEMS

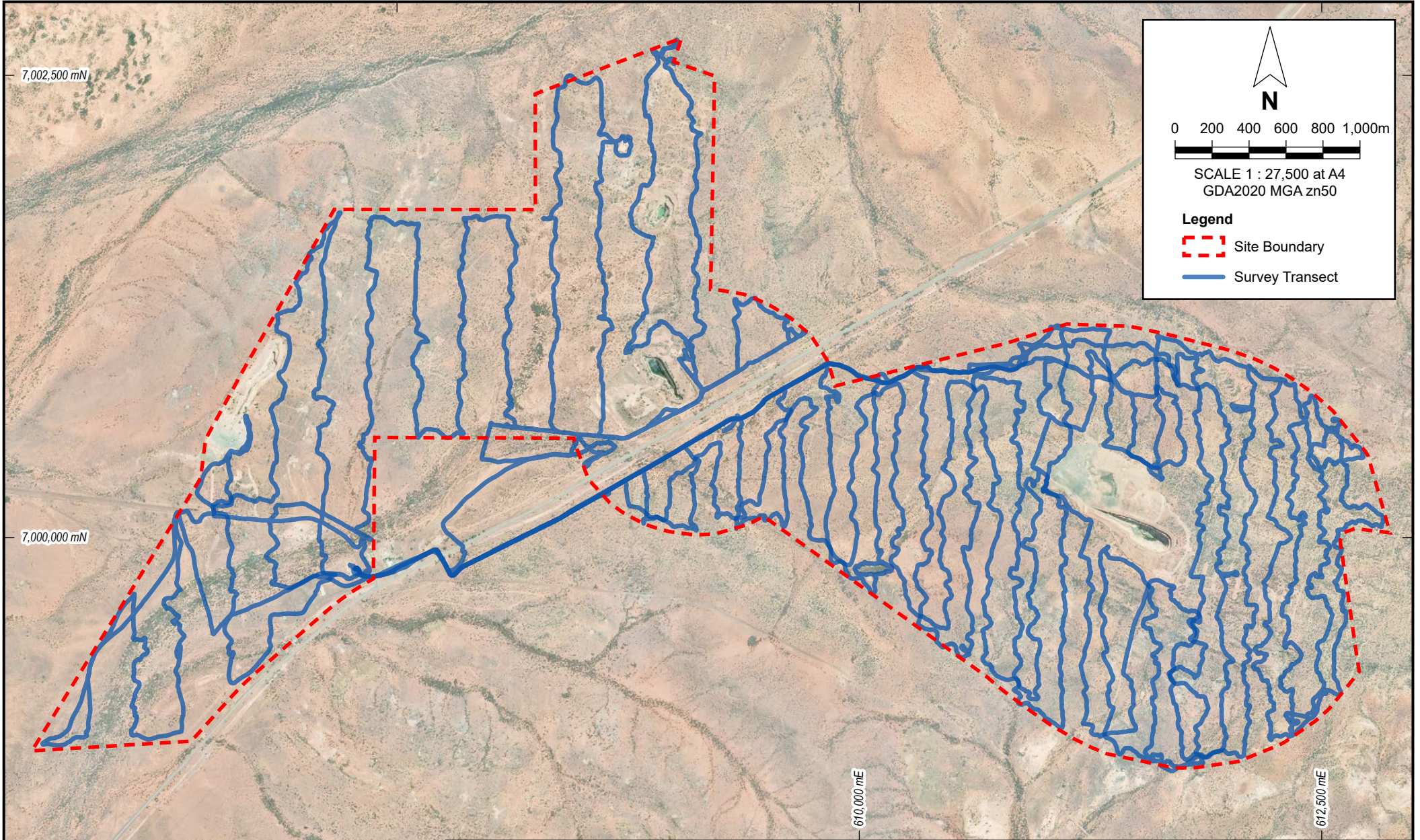
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BASIC AND TARGETED VERTEBRATE FAUNA SURVEY
TUCKANARRA PROJECT AREA

FAUNA HABITAT TYPES AND HABITAT ASSESSMENT LOCATIONS

Figure 3

Job: 2025-0169



TERRESTRIAL ECOSYSTEMS

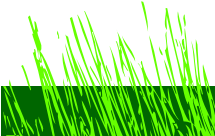
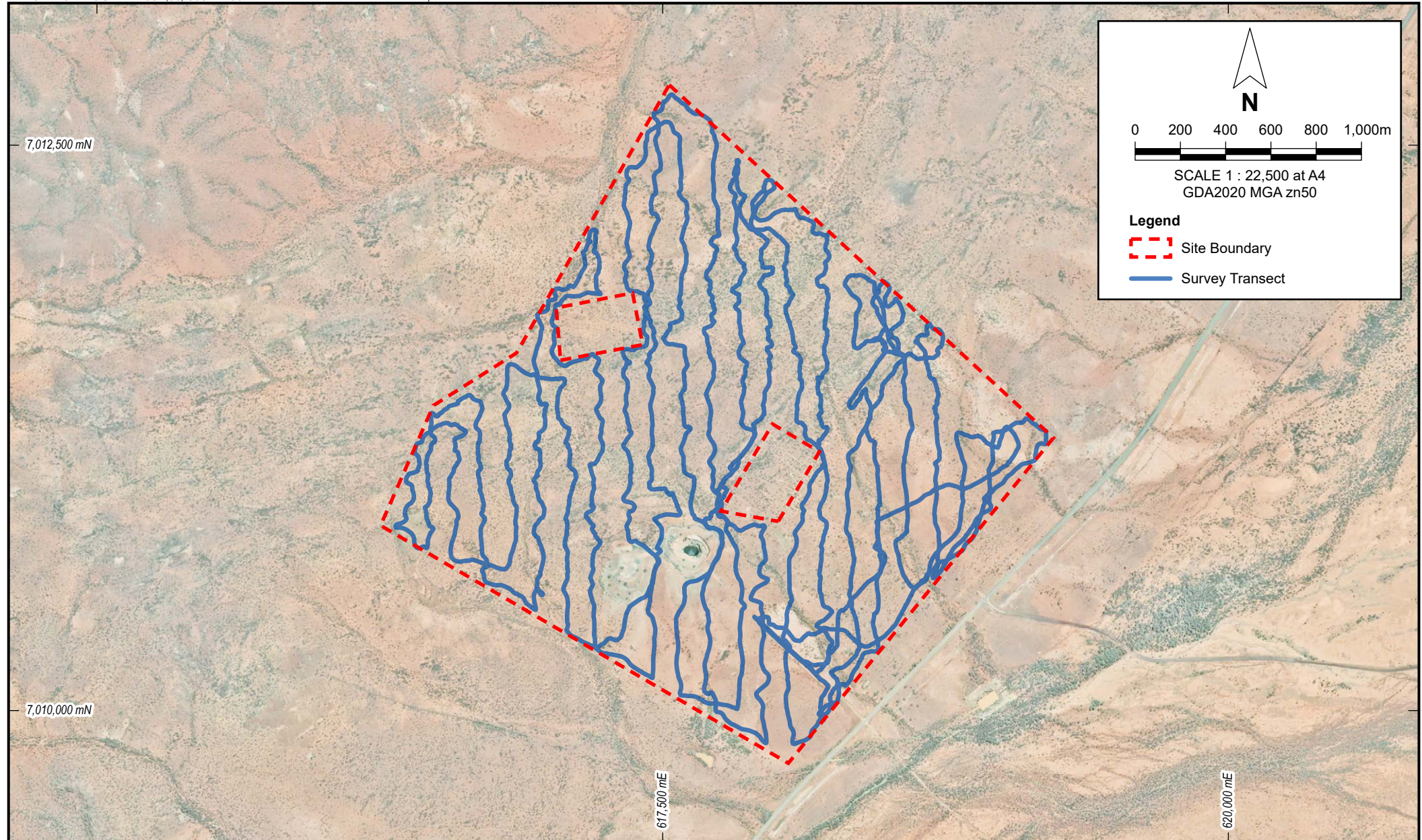
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Odyssey Gold Ltd
BASIC AND TARGETED VERTEBRATE FAUNA SURVEY
TUCKANARRA PROJECT AREA

SURVEY EFFORT

Figure 4

Job: 2025-0169



TERRESTRIAL ECOSYSTEMS

Drawn: S. Thompson Date: 25 Mar 2026

Odyssey Gold Ltd
BASIC AND TARGETED VERTEBRATE FAUNA SURVEY
TUCKANARRA PROJECT AREA

SURVEY EFFORT

Figure 5

Job: 2025-0169

Appendix A.

Results of the EPBC Act Protected Matters Search

Basic and targeted vertebrate fauna survey
Tuckanarra Project Area





Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 25-Jan-2026

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	1
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	10
Listed Migratory Species:	8

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	10
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	2
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

National Heritage Places			[Resource Information]
Name	State	Legal Status	Buffer Status
Indigenous			
Wilgie Mia Aboriginal Ochre Mine	WA	Listed place	In buffer area only

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat known to occur within area	In feature area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pezoporus occidentalis Night Parrot [59350]	Critically Endangered	Species or species habitat may occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In buffer area only

PLANT

Scientific Name	Threatened Category	Presence Text	Buffer Status
Eremophila rostrata Beaked Eremophila [65124]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
REPTILE			
Egernia stokesii badia Western Spiny-tailed Skink, Baudin Island Spiny-tailed Skink [64483]	Endangered	Species or species habitat may occur within area	In buffer area only
SPIDER			
Idiosoma nigrum Shield-backed Trapdoor Spider, Black Rugose Trapdoor Spider [66798]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Listed Migratory Species		[Resource Information]	
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area	In buffer area only

Extra Information

EPBC Act Referrals				[Resource Information]	
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status	
Weld Range Iron Ore Project	2011/6030		Completed	In buffer area only	
Not controlled action					
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area	

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

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Department of Climate Change, Energy, the Environment and Water

GPO Box 3090

Canberra ACT 2601 Australia

+61 2 6274 1111

Appendix B.

Vertebrate Fauna Recorded in Biological Surveys in the Region

Basic and targeted vertebrate fauna survey
Tuckanarra Project Area



Family	Species	Common name	A										B					C					D	E	F	G	H	I	J	
			Unknown	OPR-WR Opp	OPR-B6	OPR-MD2	OPR-MD Opp	OPR-MD3	OPR-MD4	OPR-WR1	OPR-WR2	OPR-MD1	OPR-MD5	OPR-B Opp	OPR-B8	Site 5	Site 1	Site 3	Site 6	Site 4	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	WR1
Phasianidae	<i>Coturnix pectoralis</i>	Stubble Quail	8														2													
Podicipedidae	<i>Poliiocephalus poliocephalus</i>	Hoary-headed Grebe																								2				
Columbidae	<i>Phaps chalcoptera</i>	Common Bronzewing	1	2								7	10	1		6	1	X	1						18		X			
	<i>Ocyphaps lophotes</i>	Crested Pigeon		48				28	3		64	9	39					X	2	1	3						X			
	<i>Geopelia cuneata</i>	Diamond Dove		6					5		1	1	139	327	7	27	27	X									X			
Otididae	<i>Ardeotis australis</i>	Australian Bustard	1			1						2															X			
Cuculidae	<i>Chrysococcyx basalis</i>	Horsfield's Bronze-Cuckoo			1				2							1											X			
	<i>Chrysococcyx osculans</i>	Black-eared Cuckoo									1													5						
	<i>Cacomantis pallidus</i>	Pallid Cuckoo																									X			
Aegothelidae	<i>Aegotheles cristatus</i>	Australian Owlet-nightjar		1							1							X						1		X				
Podargidae	<i>Podargus strigoides</i>	Tawny Frogmouth	1	1					1										X								X			
Caprimulgidae	<i>Eurostopus argus</i>	Spotted Nightjar									1													1			X			
Apodidae	<i>Apus pacificus</i>	Pacific Swift																									1			
Burhinidae	<i>Burhinus grallarius</i>	Bush Stone-curlew										2																		
Recurvirostridae	<i>Himantopus himantopus</i>	Black-winged Stilt																										X		
	<i>Himantopus leucocephalus</i>	Pied Stilt		1																										
	<i>Recurvirostra novaehollandiae</i>	Red-necked Avocet																		1								X		
Charadriidae	<i>Vanellus tricolor</i>	Banded Lapwing						1				1																X		
	<i>Charadrius ruficapillus</i>	Red-capped Plover																										X		
	<i>Erythrogony cinctus</i>	Red-kneed Dotterel																										X		
	<i>Thinornis cucullatus</i>	Hooded Plover																								6				
	<i>Eseyornis melanops</i>	Black-fronted Dotterel											10															X		
	<i>Peltohyas australis</i>	Inland Dotterel																									X			
Scolopacidae	<i>Limosa lapponica</i>	Bar-tailed Godwit																										1		
	<i>Calidris acuminata</i>	Sharp-tailed Sandpiper																										8		
	<i>Calidris ferruginea</i>	Curlew Sandpiper																										3		
	<i>Calidris ruficollis</i>	Red-necked Stint																										2		
	<i>Calidris melanotos</i>	Pectoral Sandpiper																										1		
	<i>Actitis hypoleucos</i>	Common Sandpiper																										3		
	<i>Tringa nebularia</i>	Common Greenshank																										24		
	<i>Tringa stagnatilis</i>	Marsh Sandpiper																										4		
	<i>Tringa glareola</i>	Wood Sandpiper																									7			
Turnicidae	<i>Turnix castanotus</i>	Chestnut-backed Buttonquail																										X		
	<i>Turnix velox</i>	Little Buttonquail						7	8				1			2	3													
Glareolidae	<i>Glareola maldivarum</i>	Oriental Pratincole																										1		
Laridae	<i>Gelochelidon nilotica</i>	Gull-billed Tern																										38		
	<i>Hydroprogne caspia</i>	Caspian Tern																										1		
	<i>Chlidonias leucopterus</i>	White-winged Tern																										3		
Ardeidae	<i>Ardea pacifica</i>	White-necked Heron										5																		
Threskiornithidae	<i>Plegadis falcinellus</i>	Glossy Ibis																										4		
	<i>Elanus axillaris</i>	Black-shouldered Kite	1						1																					
Accipitridae	<i>Hamirostra melanosternon</i>	Black-breasted Buzzard	1	1					1																			X		
	<i>Hieraetus morphnoides</i>	Little Eagle		1																										
	<i>Aquila audax</i>	Wedge-tailed Eagle	1	7		2	1				1		2		3		1	X	1	1	1						X			
	<i>Circus assimilis</i>	Spotted Harrier		1								1																X		

Family	Species	Common name	A														B					C					D	E	F	G	H	I	J
			Unknown	OPR-WR Opp	OPR-B6	OPR-MD2	OPR-MD Opp	OPR-MD3	OPR-MD4	OPR-WR1	OPR-WR2	OPR-MD1	OPR-MD5	OPR-B Opp	OPR-B8	Site 5	Site 1	Site 3	Site 6	Site 4	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	WR1			
	<i>Accipiter fasciatus</i>	Brown Goshawk		2								2	7					X				2		X									
	<i>Accipiter cirrocephalus</i>	Collared Sparrowhawk																															
	<i>Haliastur sphenurus</i>	Whistling Kite	1	8		1		1						1																			
Alcedinidae	<i>Todiramphus pyrrhopygius</i>	Red-backed Kingfisher																X															
Meropidae	<i>Merops ornatus</i>	Rainbow Bee-eater																				1	8										
Falconidae	<i>Falco cenchroides</i>	Nankeen Kestrel		6		1	1	1	1			6		3	8			X				1	2										
	<i>Falco longipennis</i>	Australian Hobby	1															X															
	<i>Falco berigora</i>	Brown Falcon		1		1		1	3					2				X				1											
	<i>Falco hypoleucos</i>	Grey Falcon																								1							
	<i>Falco peregrinus</i>	Peregrine Falcon																				1	16										
Cacatuidae	<i>Eolophus roseicapilla</i>	Galah	6	41	6	130				3		37	2	4				X															
	<i>Nymphicus hollandicus</i>	Cockatiel							11			4		28	9		8	X															
Psittaculidae	<i>Pezoporus occidentalis</i>	Night Parrot																								1							
	<i>Neopsephotus bourkii</i>	Bourke's Parrot		127				8	12	31		2	48	3	8			X			25												
	<i>Neophema elegans</i>	Elegant Parrot																															
	<i>Barnardius zonarius</i>	Australian Ringneck	2	10					1	2	2	14						X			1	1											
	<i>Psephotus varius</i>	Mulga Parrot		113					15	10	5	2	17		6	3		2	X		1	2											
	<i>Melopsittacus undulatus</i>	Budgerigar		97					22	8			44	55	59	62	78	66	X														
Ptilonorhynchidae	<i>Chlamydera guttata</i>	Western Bowerbird	X	11					1	1			14						X														
	<i>Ptilonorhynchus maculata</i>	Spotted Bowerbird																			1												
Climacteridae	<i>Climacteris affinis</i>	White-browed Treecreeper	X	8																													
Maluridae	<i>Amytornis textilis</i>	Western Grasswren																								4							
	<i>Malurus assimilis</i>	Purple-backed Fairywren																															
	<i>Malurus lamberti</i>	Variiegated Fairywren	X	42		26		7			4	5																					
	<i>Malurus splendens</i>	Splendid Fairywren	X	58		9			2		17	20					13	10							14								
	<i>Malurus leucopterus</i>	White-winged Fairywren	X	136								26									1												
Meliphagidae	<i>Certhionyx variegatus</i>	Pied Honeyeater	X	78	4	20	8	11	52	15	10	9	13																				
	<i>Purnella albifrons</i>	White-fronted Honeyeater	X	22		1	3		11	8	2	33																					
	<i>Manorina flavigula</i>	Yellow-throated Miner	X	51		3		7	9	9	1	6	15		2				X						4								
	<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater	X	1											1		1	1	X			1	65										
	<i>Gavicalis virescens</i>	Singing Honeyeater	X	22							18	13	5	7	10	9			X		1	28											
	<i>Ptilotula penicillata</i>	White-plumed Honeyeater	X									1							X														
	<i>Ptilotula keartlandi</i>	Grey-headed Honeyeater	X																														
	<i>Conopophila whitei</i>	Grey Honeyeater	X	1	3	1						54																					
	<i>Epthianura tricolor</i>	Crimson Chat	X	103								2					76																
	<i>Epthianura aurifrons</i>	Orange Chat	X																														
	<i>Epthianura albifrons</i>	White-fronted Chat	X																														
	<i>Sugomel nigrum</i>	Black Honeyeater	X																														
	<i>Gliciphila melanops</i>	Tawny-crowned Honeyeater		3																													
	<i>Lichmera indistincta</i>	Brown Honeyeater	X																							38							
Pardalotidae	<i>Pardalotus rubricatus</i>	Red-browed Pardalote																								11							
	<i>Pardalotus striatus</i>	Striated Pardalote	X									13																					
Acanthizidae	<i>Pyrrholaemus brunneus</i>	Redthroat	X	33		1		4		4	6	4	1								1	24											
	<i>Calamanthus campestris</i>	Rufous Fieldwren	X																														
	<i>Acanthiza tredalei</i>	Slender-billed Thornbill	X																														

Family	Species	Common name	Opportunistic	A																		B																Birds			
				Site 1	Site 12	Site 14	Site 5	Site 6	Site 16	Site 2	Site 3	Site 4	Site 10	Site 8	Site 13	Site 15	Site 11	Site 17	Site 7	Site 9	Wiggle Mia	WR2	WR3	WR1	WR5	WR6	Site 12	Site 10	Site 8	Site 9	Site 1	Site 13	Site 11	Site 2	Site 15	Site 14	Site 7		Site 6	Site 3	Site 16
	<i>Menetia greyii</i>	Common Dwarf Skink	7		11	6	6	6	18	4	14	3	3	10	4	8	4	5																							
Typhlopidae	<i>Anilius hamatus</i>	Pale-headed Blind Snake						1																																	
Varanidae	<i>Varanus caudolineatus</i>	Stripe-tailed Monitor			3	1							3	7	2	2										1															
	<i>Varanus giganteus</i>	Perentie	1	2																																					
	<i>Varanus panoptes</i>	Yellow-spotted Monitor			1	2	3	1	2		3	5		1	1		5																						7		
	<i>Varanus tristis</i>	Black-headed Monitor														1																									
Birds																																									
Casuariidae	<i>Dromaius novaehollandiae</i>	Emu	1	2	3	1						7	2	1																									2		
Anatidae	<i>Chenonetta jubata</i>	Australian Wood Duck																																						1	
	<i>Anas gracilis</i>	Grey Teal																																						1	
	<i>Malacorhynchus membranaceus</i>	Pink-eared Duck																																					1		
Podicipedidae	<i>Tachybaptus novaehollandiae</i>	Australasian Grebe																																					2		
Columbidae	<i>Phaps chalcoptera</i>	Common Bronzewing	1			3	1	8	1	2	2	25	2	4	6																							6	4		
	<i>Ocyphaps lophotes</i>	Crested Pigeon	1			4		36	6	1	1	39	21	19	9																								5		
	<i>Geopelia cuneata</i>	Diamond Dove	2	4		1	4					24																											7		
Cuculidae	<i>Chrysococcyx basalus</i>	Horsfield's Bronze-Cuckoo														1																									
	<i>Chrysococcyx osculans</i>	Black-eared Cuckoo				1	2		1	1						1																									
Aegothelidae	<i>Aegotheles cristatus</i>	Australian Owlet-nightjar		1	2				1	1			1		3	1																									
Podargidae	<i>Podargus strigoides</i>	Tawny Frogmouth	4		1									2																											
Caprimulgidae	<i>Eurostopus argus</i>	Spotted Nightjar	3				1		2			3			2	1																							1		
Rallidae	<i>Tribonyx ventralis</i>	Black-tailed Nativehen																																					1		
Burhinidae	<i>Burhinus grallarius</i>	Bush Stone-curlew	1											4																								2	1		
Recurvirostridae	<i>Recurvirostra novaehollandiae</i>	Red-necked Avocet																																				2			
Turnicidae	<i>Turnix velox</i>	Little Buttonquail	1						1			4	1																												
Ardeidae	<i>Ardea pacifica</i>	White-necked Heron																																					1		
Accipitridae	<i>Hamirostra melanosternon</i>	Black-breasted Buzzard																																					1		
	<i>Aquila audax</i>	Wedge-tailed Eagle	1	1	1	3			3	3	3	2	1	3	2	2																						1	4		
	<i>Accipiter fasciatus</i>	Brown Goshawk				1	1					3	1																												
	<i>Accipiter cirrocephalus</i>	Collared Sparrowhawk	1		1		1								2																								1		
	<i>Haliastur spheurnus</i>	Whistling Kite	1		1																																				
Cuculidae	<i>Heteroscytes pallidus</i>	Pallid Cuckoo				1						5																													
Strigidae	<i>Ninox boobook</i>	Southern Boobook	1																																						
Falconidae	<i>Falco cenchroides</i>	Nankeen Kestrel	1	1	1			4		3			1	2																											
	<i>Falco longipennis</i>	Australian Hobby	2											1	1																										
	<i>Falco berigora</i>	Brown Falcon	1				1					1	3		6																							1	3		
	<i>Falco peregrinus</i>	Peregrine Falcon	1																																						
Cacatuidae	<i>Eolophus roseicapilla</i>	Galah	3	3		7	2		3	1		12	53	10	1	6																							1		
	<i>Nymphicus hollandicus</i>	Cockatiel					3	3	5		4	37																											2		
Psittaculidae	<i>Neopsephotus bourkii</i>	Bourke's Parrot	4			57		6	2			9																											3		
	<i>Neophema elegans</i>	Elegant Parrot	1																																						
	<i>Barnardius zonarius</i>	Australian Ringneck				2	4			1		7	1	4	33																								3		
	<i>Psephotus varius</i>	Mulga Parrot	6	1	24	15	4	18	51	5		8	35	21	1	40	2																						6		
	<i>Melopsittacus undulatus</i>	Budgerigar					17	77		3		12	285																										13		
Ptilonorhynchidae	<i>Chlamydera guttata</i>	Western Bowerbird	1		3	7	11	3		1	10	12	1			1	1																					2			
Climacteridae	<i>Climacteris affinis</i>	White-browed Treecreeper																																					1		
Maluridae	<i>Malurus assimilis</i>	Purple-backed Fairywren																																					2		

Appendix C. Definitions of Significant Fauna under the *WA Biodiversity Conservation Act 2016* and Priority Species

Basic and targeted vertebrate fauna survey
Tuckanarra Project Area



C.1 DEFINITIONS OF SIGNIFICANT FAUNA UNDER THE WA *BIODIVERSITY CONSERVATION ACT 2016*

Threatened, Extinct and Specially Protected fauna or flora¹ are species² which have been adequately searched for and are deemed to be, in the wild, threatened, extinct or in need of special protection, and have been gazetted as such. The *Wildlife Conservation (Specially Protected Fauna) Notice 2018* and the *Wildlife Conservation (Rare Flora) Notice 2018* have been transitioned under regulations 170, 171 and 172 of the *Biodiversity Conservation Regulations 2018* to be the lists of Threatened, Extinct and Specially Protected species under Part 2 of the *Biodiversity Conservation Act 2016*. Categories of Threatened, Extinct and Specially Protected fauna and flora are:

T Threatened Species

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

Threatened fauna is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

Threatened flora is that subset of 'Rare Flora' listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR **Critically endangered species**

Threatened species considered to be "*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

¹ The definition of flora includes algae, fungi and lichens

² Species includes all taxa (plural of taxon - a classificatory group of any taxonomic rank, e.g. a family, genus, species or any infraspecific category i.e. subspecies or variety, or a distinct population).

EN Endangered species

Threatened species considered to be *"facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines"*.

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU Vulnerable species

Threatened species considered to be *"facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines"*.

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

Extinct Species

Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild.

EX Extinct species

Species where *"there is no reasonable doubt that the last member of the species has died"*, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW Extinct in the wild species

Species that *"is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form"*, and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially Protected Species

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

MI Migratory birds protected under an international agreement

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD Species of special conservation interest (conservation dependant fauna)

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS Other specially protected species

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

P Priority species

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations

P1 Priority 1: Poorly-known species

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2 Priority 2: Poorly-known species

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3 Priority 3: Poorly-known species

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

P4 Priority 4: Rare, Near Threatened and other species in need of monitoring

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.

(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

Appendix D.

Fauna habitat assessment results

Basic and targeted vertebrate fauna survey
Tuckanarra Project Area



Date: 8/12/2025

Habitat Assessment #: 1

Observer:

GDA94 50; 605587 mE 6998881 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 8/12/2025

Habitat Assessment #: 2

Observer:

GDA94 50; 606320 mE 6999233 mN

Fire History:

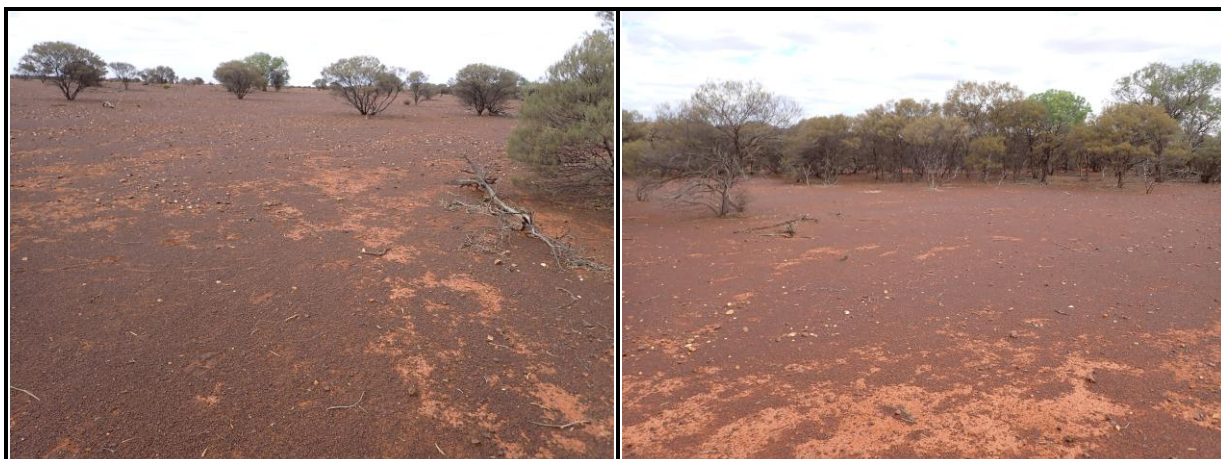
Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 8/12/2025

Habitat Assessment #: 3

Observer:

GDA94 50; 609180 mE 7002160 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 8/12/2025

Habitat Assessment #: 4

Observer:

GDA94 50; 609120 mE 7001916 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 8/12/2025

Habitat Assessment #: 5

Observer:

GDA94 50; 609114 mE 7001677 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 8/12/2025

Habitat Assessment #: 6

Observer:

GDA94 50; 609102 mE 7001451 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Sand

Habitat Type: Mulga in ephemeral drainage



Date: 8/12/2025

Habitat Assessment #: 7

Observer:

GDA94 50; 609112 mE 7001203 mN

Fire History:

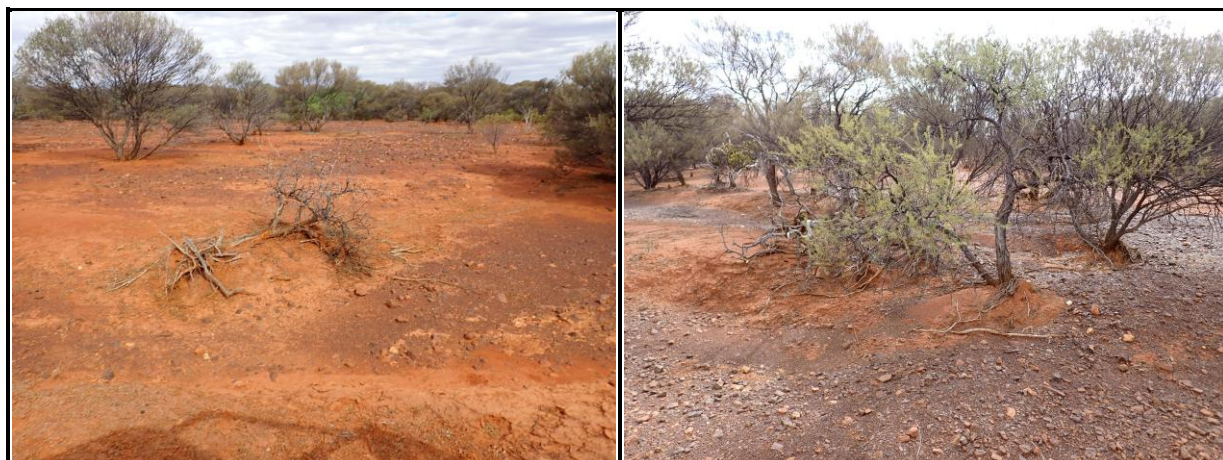
Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Cobbles

Habitat Type: Mulga in ephemeral drainage



Date: 8/12/2025

Habitat Assessment #: 8

Observer:

GDA94 50; 609059 mE 7001055 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga in ephemeral drainage



Date: 8/12/2025

Habitat Assessment #: 9

Observer:

GDA94 50; 609102 mE 7000946 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 8/12/2025

Habitat Assessment #: 10

Observer:

GDA94 50; 609341 mE 7000936 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga in ephemeral drainage



Date: 8/12/2025

Habitat Assessment #: 11

Observer:

GDA94 50; 609337 mE 7001124 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 8/12/2025

Habitat Assessment #: 12

Observer:

GDA94 50; 609326 mE 7001288 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Sand, pebbles

Habitat Type: Mulga in ephemeral drainage



Date: 8/12/2025

Habitat Assessment #: 13

Observer:

GDA94 50; 606326 mE 6999362 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Sand, pebbles

Habitat Type: Mulga in ephemeral drainage



Date: 8/12/2025

Habitat Assessment #: 14

Observer:

GDA94 50; 609613 mE 7001181 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 8/12/2025

Habitat Assessment #: 15

Observer:

GDA94 50; 608603 mE 7000461 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Disturbed habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 8/12/2025

Habitat Assessment #: 16

Observer:

GDA94 50; 608616 mE 7000245 mN

Fire History:

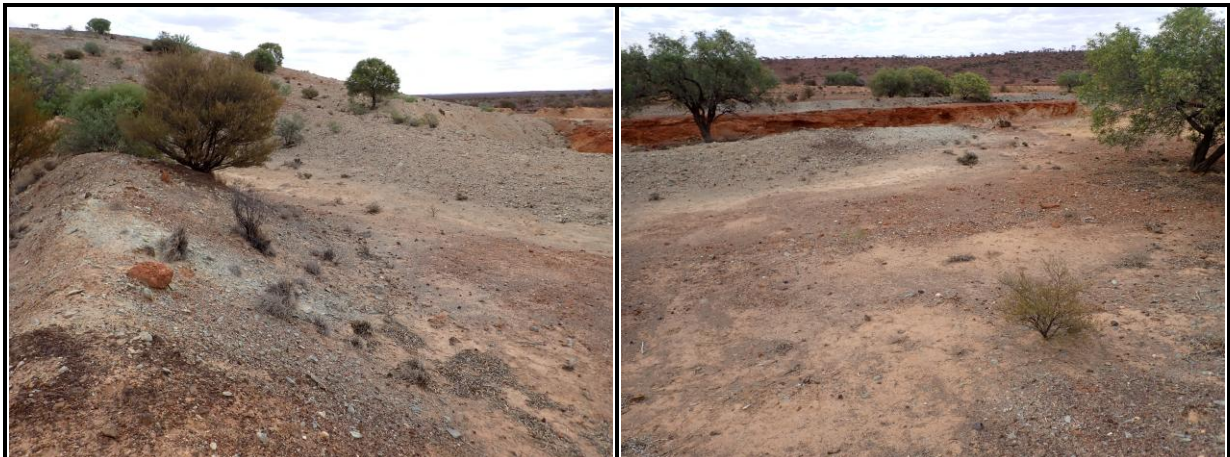
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Disturbed habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 8/12/2025

Habitat Assessment #: 17

Observer:

GDA94 50; 608835 mE 7000364 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 8/12/2025

Habitat Assessment #: 18

Observer:

GDA94 50; 608850 mE 7000208 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 8/12/2025

Habitat Assessment #: 19

Observer:

GDA94 50; 608836 mE 7000086 mN

Fire History:

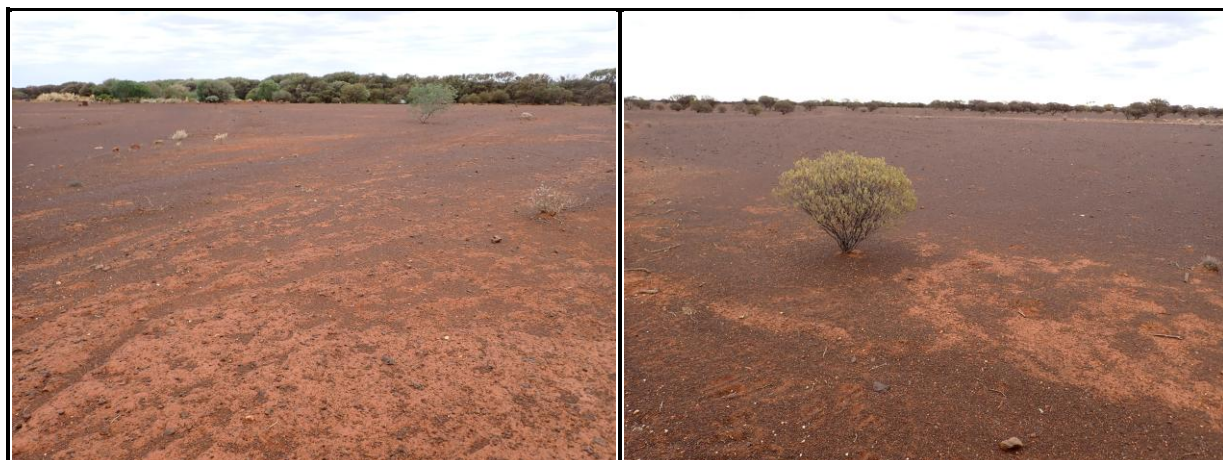
Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 8/12/2025

Habitat Assessment #: 20

Observer:

GDA94 50; 609105 mE 7000048 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Sand, pebbles

Habitat Type: Mulga in ephemeral drainage



Date: 8/12/2025

Habitat Assessment #: 21

Observer:

GDA94 50; 609108 mE 7000194 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 8/12/2025

Habitat Assessment #: 22

Observer:

GDA94 50; 609095 mE 7000440 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga in ephemeral drainage



Date: 8/12/2025

Habitat Assessment #: 23

Observer:

GDA94 50; 609342 mE 7000659 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 8/12/2025

Habitat Assessment #: 24

Observer:

GDA94 50; 606318 mE 6999533 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 8/12/2025

Habitat Assessment #: 25

Observer:

GDA94 50; 609353 mE 7000462 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Disturbed habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 26

Observer:

GDA94 50; 609351 mE 7000187 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga in ephemeral drainage



Date: 9/12/2025

Habitat Assessment #: 27

Observer:

GDA94 50; 609335 mE 7000066 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 28

Observer:

GDA94 50; 609603 mE 7000186 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 29

Observer:

GDA94 50; 609590 mE 7000440 mN

Fire History:

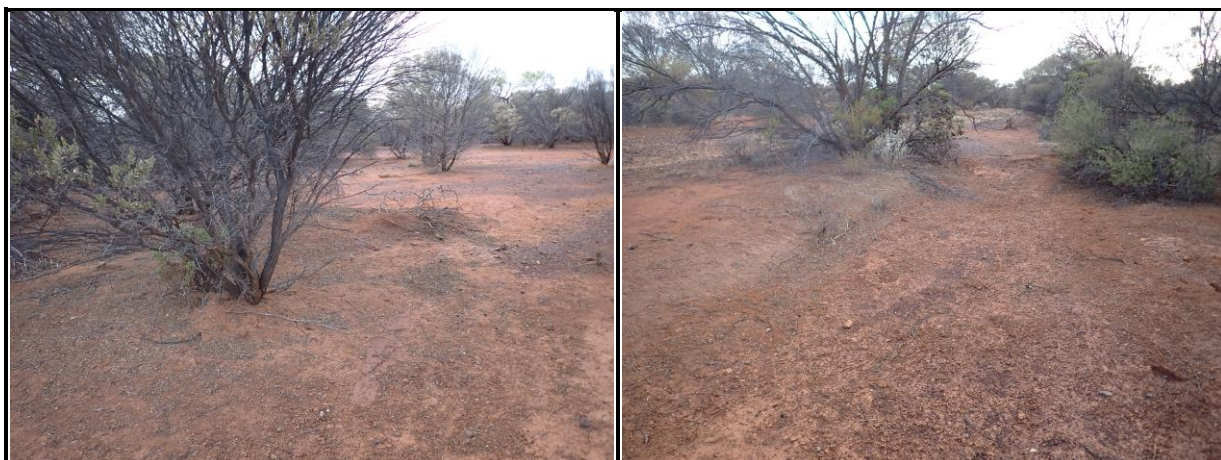
Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga in ephemeral drainage



Date: 9/12/2025

Habitat Assessment #: 30

Observer:

GDA94 50; 609622 mE 7000678 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Disturbed habitat

Surface: Sand, pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 31

Observer:

GDA94 50; 609804 mE 7000928 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga in ephemeral drainage



Date: 9/12/2025

Habitat Assessment #: 32

Observer:

GDA94 50; 609886 mE 7000733 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 33

Observer:

GDA94 50; 609833 mE 7000661 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 34

Observer:

GDA94 50; 609844 mE 7000444 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Highly degraded

Surface: Pebbles, cobbles

habitat

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 35

Observer:

GDA94 50; 606328 mE 6999721 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 36

Observer:

GDA94 50; 609843 mE 7000193 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 37

Observer:

GDA94 50; 609839 mE 6999952 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 38

Observer:

GDA94 50; 610086 mE 6999712 mN

Fire History:

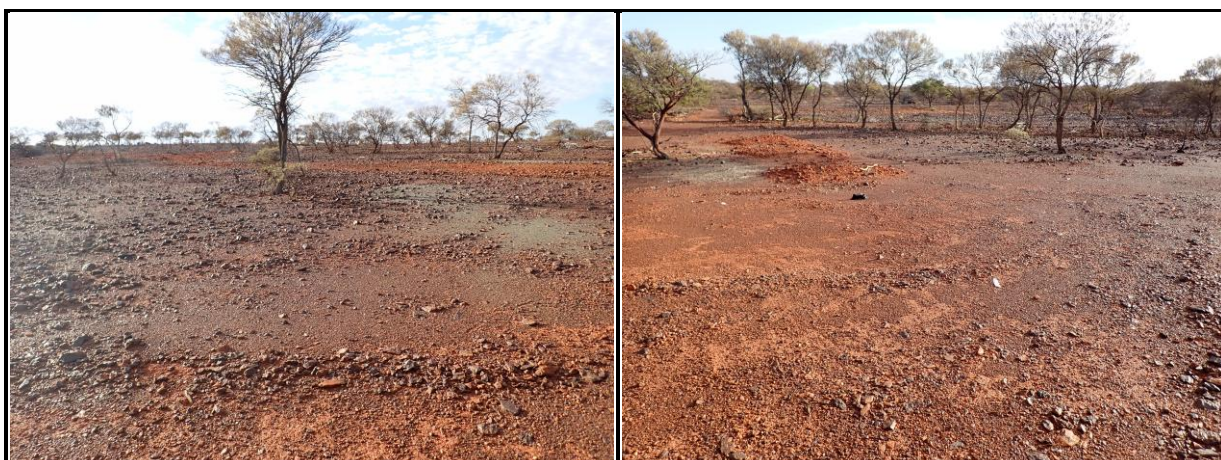
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 39

Observer:

GDA94 50; 610101 mE 6999921 mN

Fire History:

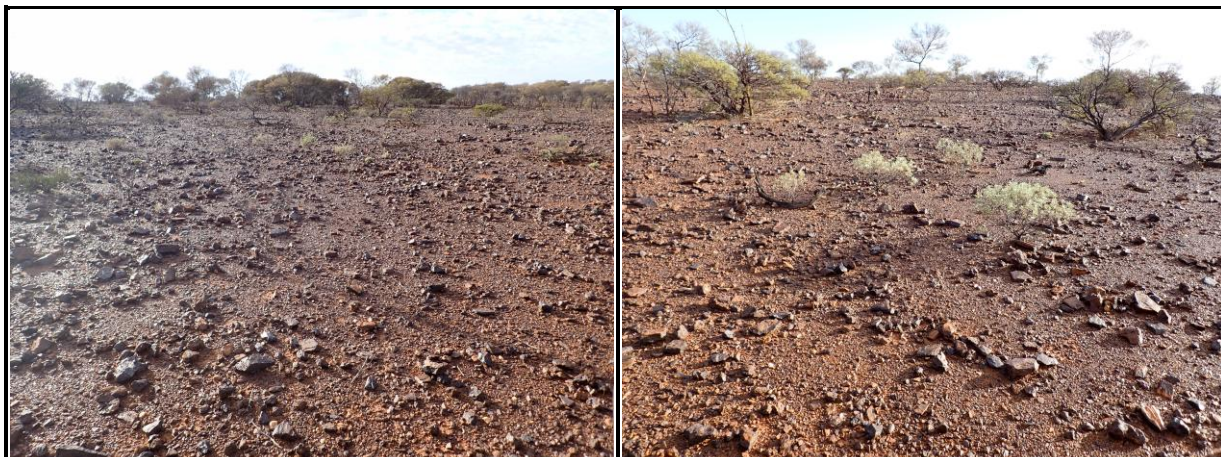
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 40

Observer:

GDA94 50; 610086 mE 7000172 mN

Fire History:

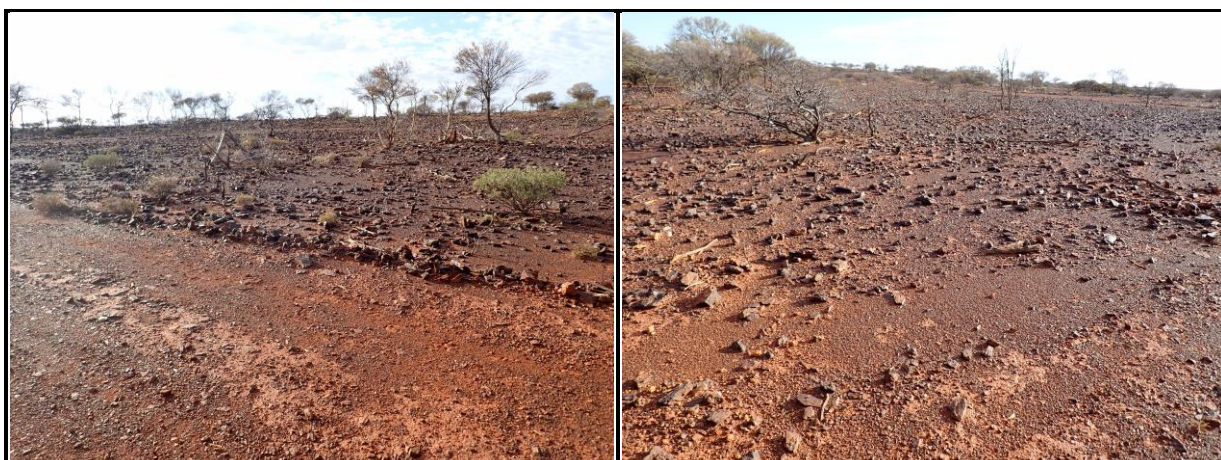
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 41

Observer:

GDA94 50; 610097 mE 7000428 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 42

Observer:

GDA94 50; 610090 mE 7000689 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Disturbed habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 43

Observer:

GDA94 50; 610101 mE 7000865 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 44

Observer:

GDA94 50; 610350 mE 7000926 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 45

Observer:

GDA94 50; 610341 mE 7000684 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 46

Observer:

GDA94 50; 606333 mE 6999965 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga in ephemeral drainage



Date: 9/12/2025

Habitat Assessment #: 47

Observer:

GDA94 50; 610349 mE 7000436 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 48

Observer:

GDA94 50; 610366 mE 7000184 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 49

Observer:

GDA94 50; 610352 mE 6999949 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 50

Observer:

GDA94 50; 610355 mE 6999689 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 51

Observer:

GDA94 50; 610346 mE 6999513 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 52

Observer:

GDA94 50; 610598 mE 6999444 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 53

Observer:

GDA94 50; 610588 mE 6999679 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 54

Observer:

GDA94 50; 610591 mE 6999938 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 55

Observer:

GDA94 50; 610604 mE 7000197 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 56

Observer:

GDA94 50; 610612 mE 7000432 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 57

Observer:

GDA94 50; 606342 mE 7000139 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 58

Observer:

GDA94 50; 610602 mE 7000684 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 59

Observer:

GDA94 50; 610853 mE 7000688 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 60

Observer:

GDA94 50; 610850 mE 7000622 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 61

Observer:

GDA94 50; 610856 mE 7000446 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 62

Observer:

GDA94 50; 610870 mE 7000202 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 63

Observer:

GDA94 50; 610857 mE 6999939 mN

Fire History:

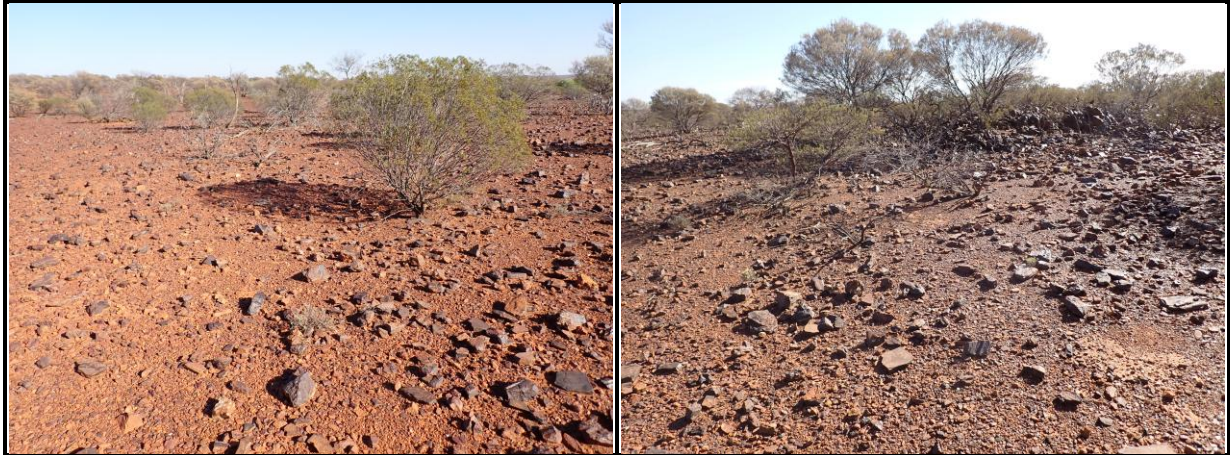
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 64

Observer:

GDA94 50; 610837 mE 6999705 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 65

Observer:

GDA94 50; 610838 mE 6999441 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 66

Observer:

GDA94 50; 610845 mE 6999185 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 67

Observer:

GDA94 50; 611092 mE 6998969 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 68

Observer:

GDA94 50; 606644 mE 7000676 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 69

Observer:

GDA94 50; 611099 mE 6999178 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga in ephemeral drainage



Date: 9/12/2025

Habitat Assessment #: 70

Observer:

GDA94 50; 611102 mE 6999434 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga in ephemeral drainage



Date: 9/12/2025

Habitat Assessment #: 71

Observer:

GDA94 50; 611104 mE 6999685 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga in ephemeral drainage



Date: 9/12/2025

Habitat Assessment #: 72

Observer:

GDA94 50; 611093 mE 6999925 mN

Fire History:

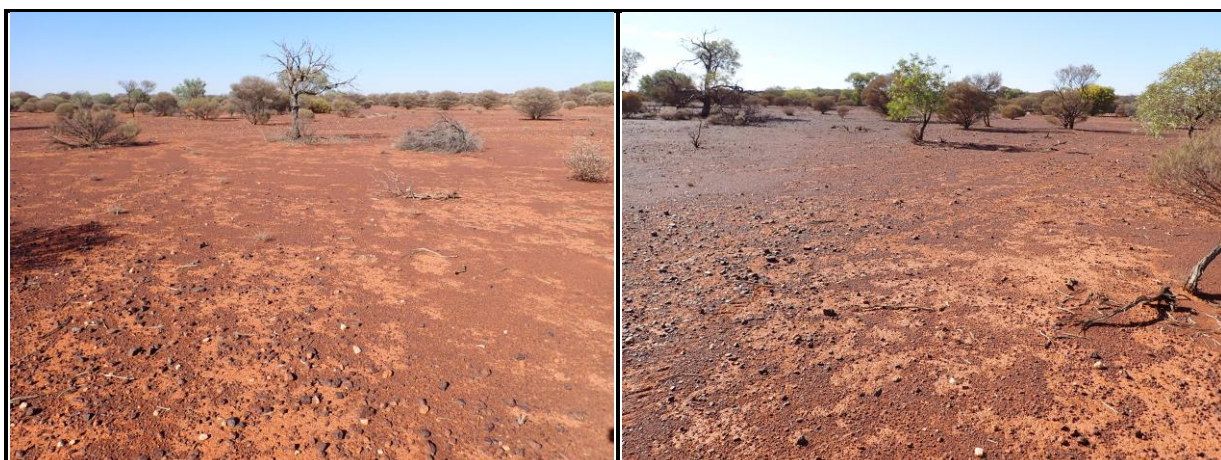
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 73

Observer:

GDA94 50; 611103 mE 7000164 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 74

Observer:

GDA94 50; 611093 mE 7000439 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 75

Observer:

GDA94 50; 611128 mE 7000672 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 76

Observer:

GDA94 50; 611113 mE 7000923 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 77

Observer:

GDA94 50; 611100 mE 7001129 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 78

Observer:

GDA94 50; 610863 mE 7000943 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 79

Observer:

GDA94 50; 606595 mE 7000435 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 80

Observer:

GDA94 50; 610614 mE 7000935 mN

Fire History:

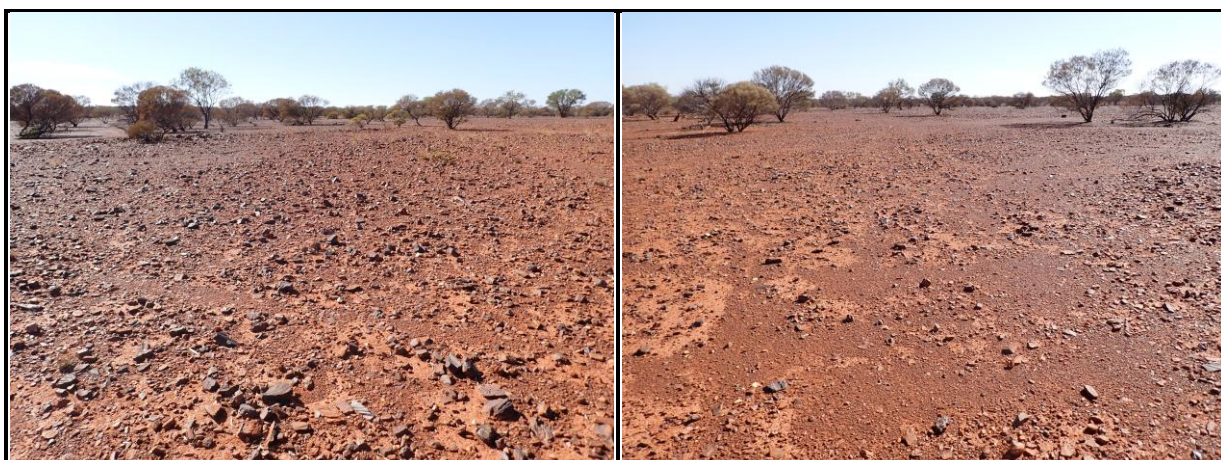
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 81

Observer:

GDA94 50; 611336 mE 7001122 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 82

Observer:

GDA94 50; 611349 mE 7000922 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 83

Observer:

GDA94 50; 611332 mE 7000690 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 84

Observer:

GDA94 50; 611355 mE 7000489 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 85

Observer:

GDA94 50; 611616 mE 7000420 mN

Fire History:

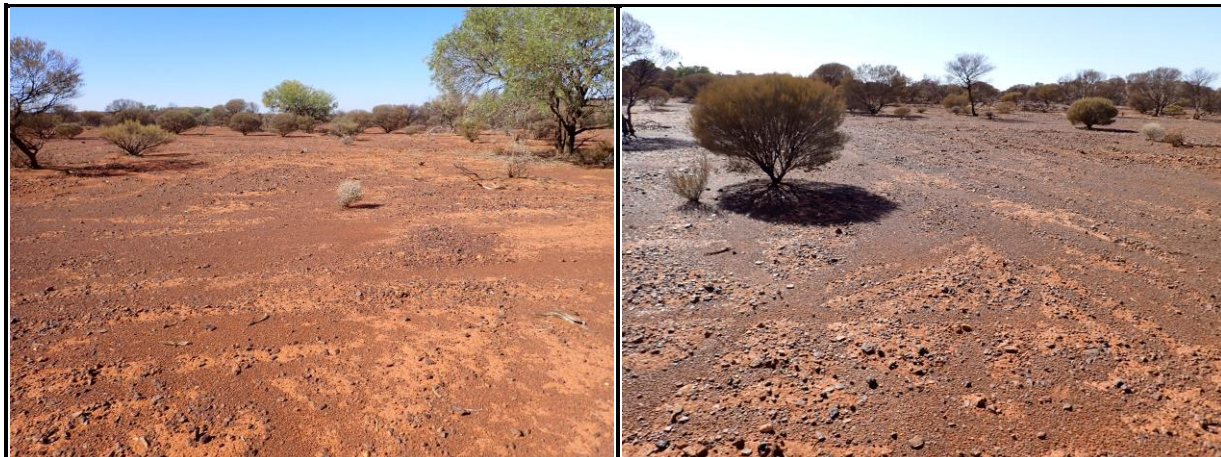
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 86

Observer:

GDA94 50; 611624 mE 7000683 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 87

Observer:

GDA94 50; 611607 mE 7000910 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Disturbed habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 88

Observer:

GDA94 50; 611613 mE 7001091 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga in ephemeral drainage



Date: 9/12/2025

Habitat Assessment #: 89

Observer:

GDA94 50; 611857 mE 7000903 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Disturbed habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 90

Observer:

GDA94 50; 606600 mE 7000220 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 91

Observer:

GDA94 50; 611828 mE 7000684 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 92

Observer:

GDA94 50; 611847 mE 7000440 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Disturbed habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 93

Observer:

GDA94 50; 611843 mE 7000176 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Disturbed habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 94

Observer:

GDA94 50; 611835 mE 6999927 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 95

Observer:

GDA94 50; 611861 mE 6999676 mN

Fire History:

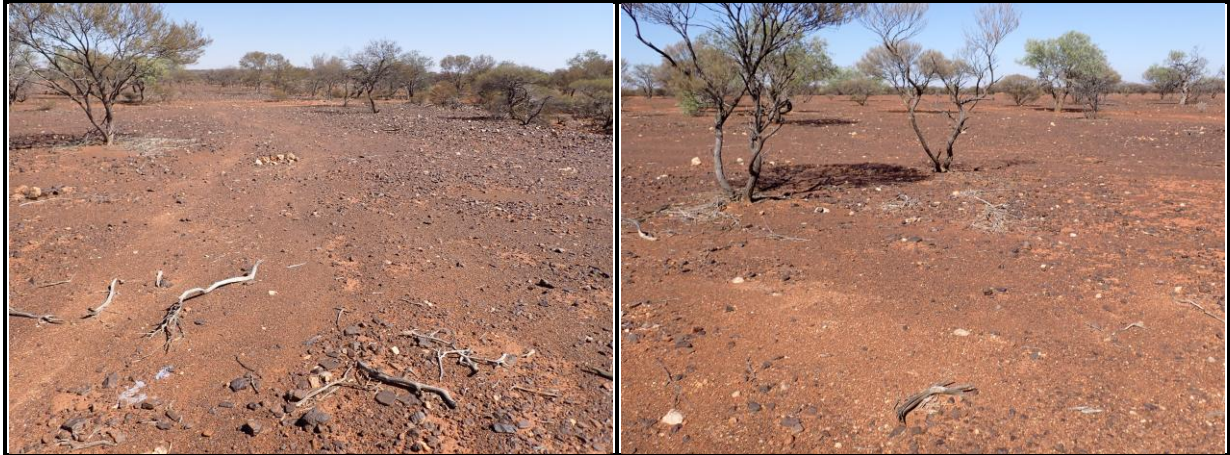
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 96

Observer:

GDA94 50; 611874 mE 6999410 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 97

Observer:

GDA94 50; 611825 mE 6999144 mN

Fire History:

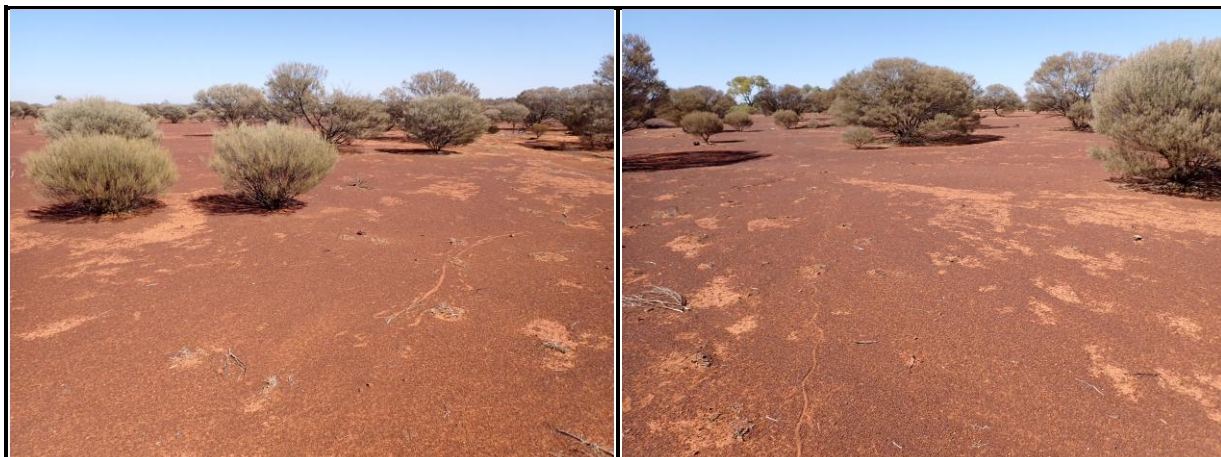
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 98

Observer:

GDA94 50; 611830 mE 6998934 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 99

Observer:

GDA94 50; 611853 mE 6998794 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Disturbed habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 100

Observer:

GDA94 50; 611589 mE 6998802 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga on stony ridge



Date: 9/12/2025

Habitat Assessment #: 101

Observer:

GDA94 50; 606607 mE 6999956 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga on stony ridge



Date: 9/12/2025

Habitat Assessment #: 102

Observer:

GDA94 50; 611584 mE 6998931 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 103

Observer:

GDA94 50; 611590 mE 6999191 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 104

Observer:

GDA94 50; 611597 mE 6999435 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 105

Observer:

GDA94 50; 611552 mE 6999561 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga on stony ridge



Date: 9/12/2025

Habitat Assessment #: 106

Observer:

GDA94 50; 611573 mE 6999694 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 107

Observer:

GDA94 50; 611339 mE 6999944 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 108

Observer:

GDA94 50; 611326 mE 6999694 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga on stony ridge



Date: 9/12/2025

Habitat Assessment #: 109

Observer:

GDA94 50; 611328 mE 6999440 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga on stony ridge



Date: 9/12/2025

Habitat Assessment #: 110

Observer:

GDA94 50; 611349 mE 6999189 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 111

Observer:

GDA94 50; 611325 mE 6998933 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 112

Observer:

GDA94 50; 605827 mE 6998956 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 113

Observer:

GDA94 50; 606597 mE 6999726 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 114

Observer:

GDA94 50; 612087 mE 6998921 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Rehabilitation



Date: 9/12/2025

Habitat Assessment #: 115

Observer:

GDA94 50; 612095 mE 6999169 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 116

Observer:

GDA94 50; 612094 mE 6999410 mN

Fire History:

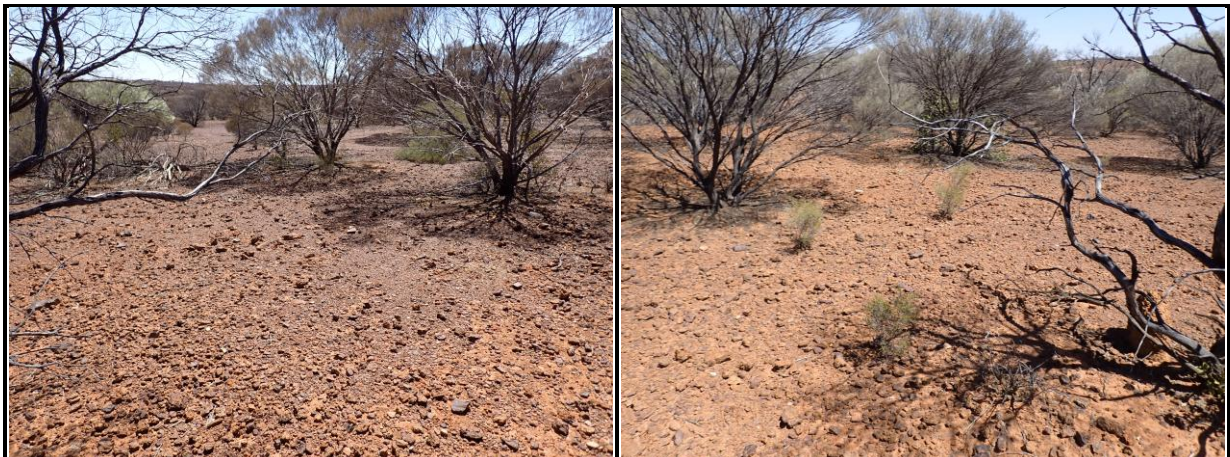
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 117

Observer:

GDA94 50; 612094 mE 6999673 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 118

Observer:

GDA94 50; 612108 mE 6999919 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 119

Observer:

GDA94 50; 612123 mE 7000162 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 120

Observer:

GDA94 50; 612064 mE 7000412 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 121

Observer:

GDA94 50; 612130 mE 7000664 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga in ephemeral drainage



Date: 9/12/2025

Habitat Assessment #: 122

Observer:

GDA94 50; 612103 mE 7000915 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 123

Observer:

GDA94 50; 612353 mE 7000830 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 124

Observer:

GDA94 50; 606573 mE 6999485 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 125

Observer:

GDA94 50; 612345 mE 7000610 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 126

Observer:

GDA94 50; 612339 mE 7000439 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 127

Observer:

GDA94 50; 612337 mE 7000169 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga on stony ridge



Date: 9/12/2025

Habitat Assessment #: 128

Observer:

GDA94 50; 612355 mE 6999924 mN

Fire History:

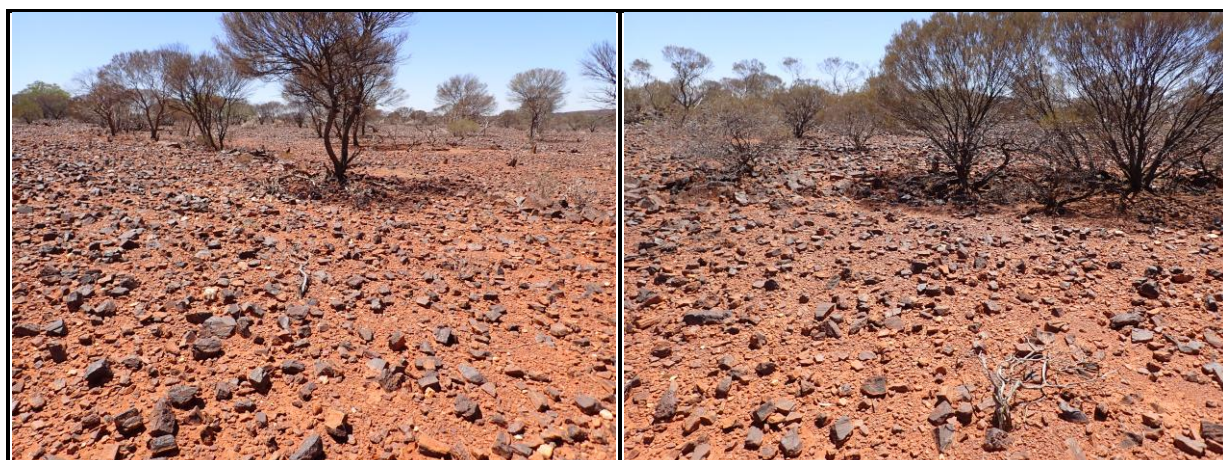
Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 129

Observer:

GDA94 50; 612316 mE 6999670 mN

Fire History:

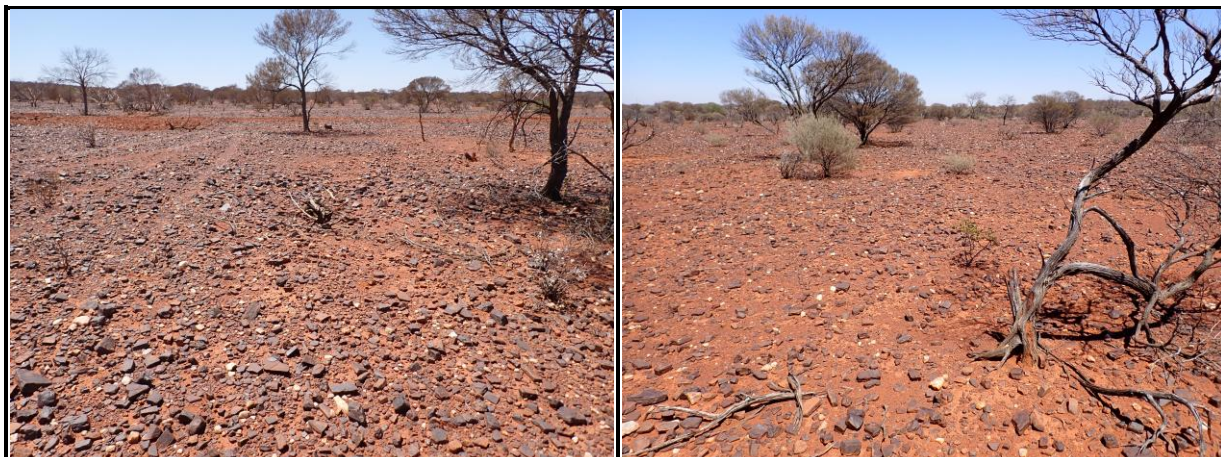
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 130

Observer:

GDA94 50; 612306 mE 6999413 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 131

Observer:

GDA94 50; 612342 mE 6999181 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 132

Observer:

GDA94 50; 612336 mE 6998942 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 133

Observer:

GDA94 50; 612600 mE 6999172 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 134

Observer:

GDA94 50; 612579 mE 6999430 mN

Fire History:

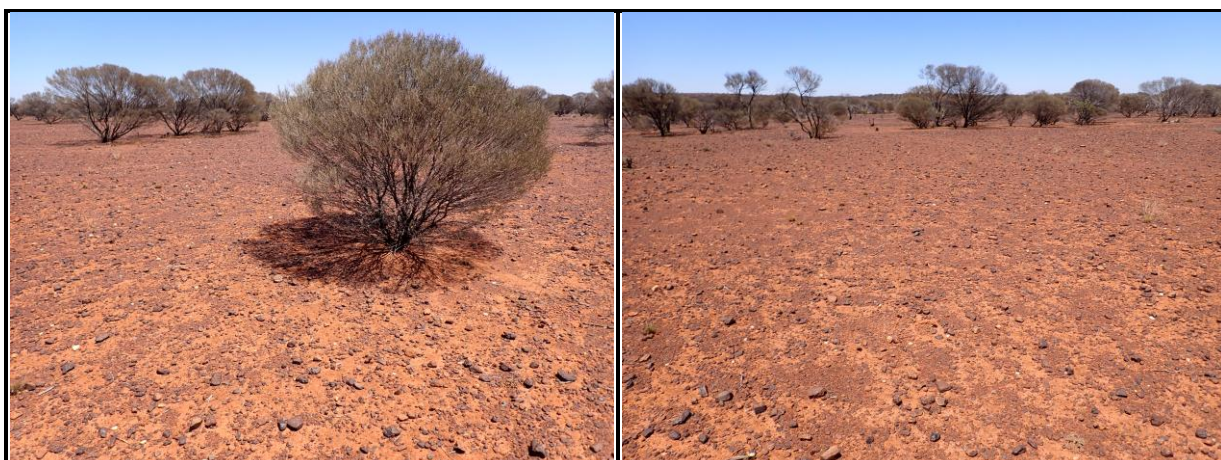
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 135

Observer:

GDA94 50; 606592 mE 6999394 mN

Fire History:

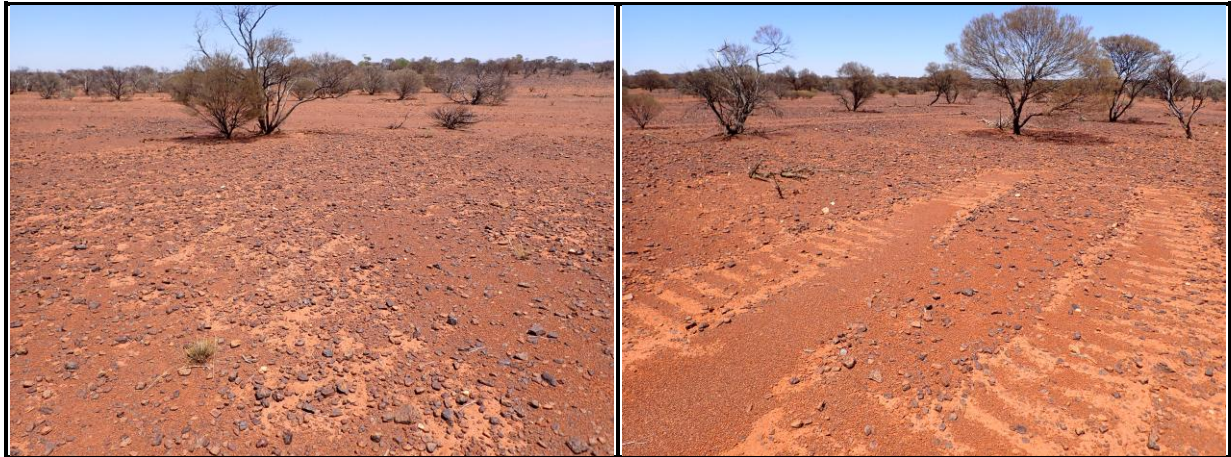
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 136

Observer:

GDA94 50; 612613 mE 6999669 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 137

Observer:

GDA94 50; 612603 mE 6999924 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 138

Observer:

GDA94 50; 612813 mE 7000061 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 139

Observer:

GDA94 50; 612617 mE 7000188 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 140

Observer:

GDA94 50; 612609 mE 7000420 mN

Fire History:

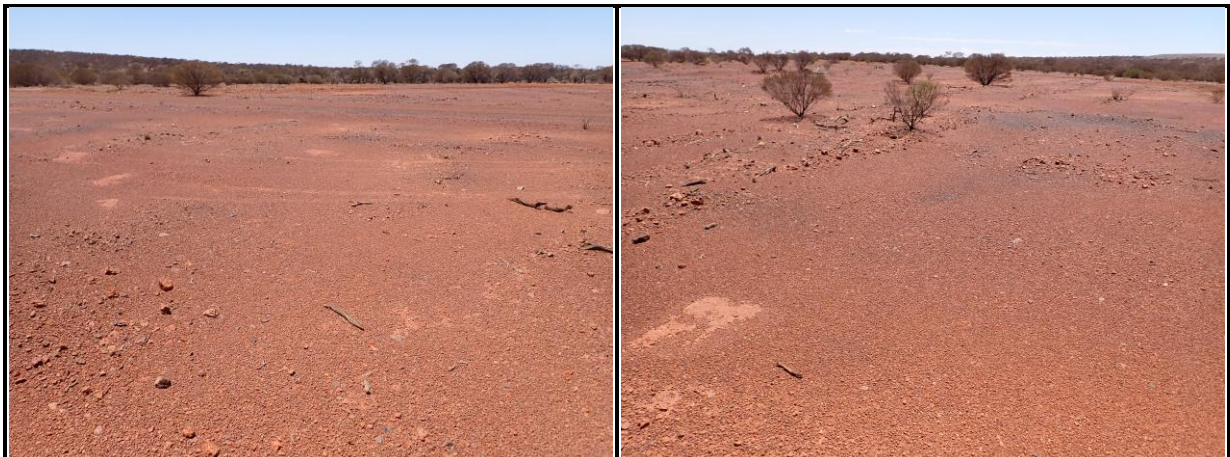
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Disturbed habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 141

Observer:

GDA94 50; 612559 mE 7000633 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga in ephemeral drainage



Date: 9/12/2025

Habitat Assessment #: 142

Observer:

GDA94 50; 619195 mE 7011186 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 143

Observer:

GDA94 50; 618961 mE 7011227 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 144

Observer:

GDA94 50; 618955 mE 7011093 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 145

Observer:

GDA94 50; 618942 mE 7010885 mN

Fire History:

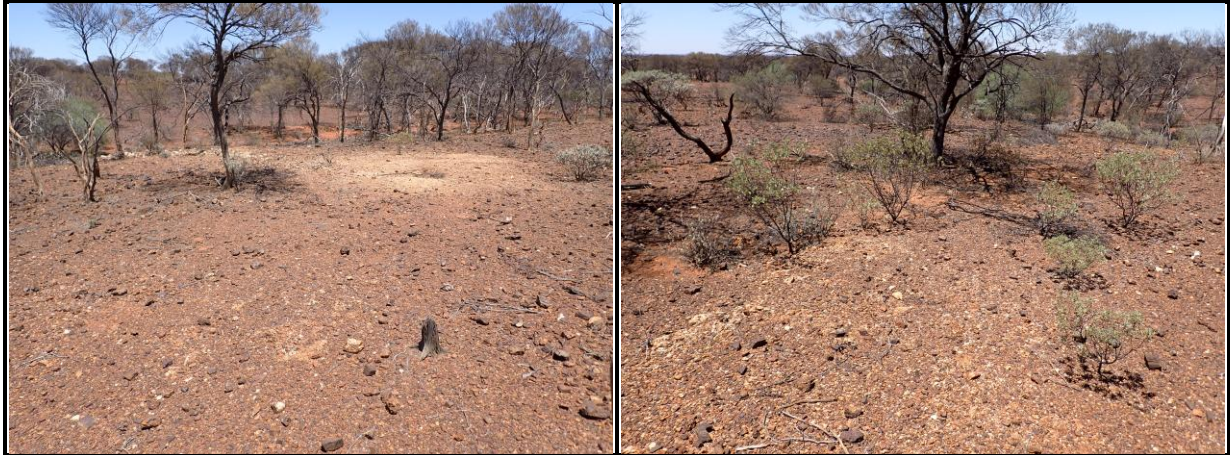
Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 146

Observer:

GDA94 50; 606596 mE 6999229 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 147

Observer:

GDA94 50; 618695 mE 7010585 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 148

Observer:

GDA94 50; 618703 mE 7010839 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga on stony ridge



Date: 9/12/2025

Habitat Assessment #: 149

Observer:

GDA94 50; 618706 mE 7011087 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga in ephemeral drainage



Date: 9/12/2025

Habitat Assessment #: 150

Observer:

GDA94 50; 618702 mE 7011333 mN

Fire History:

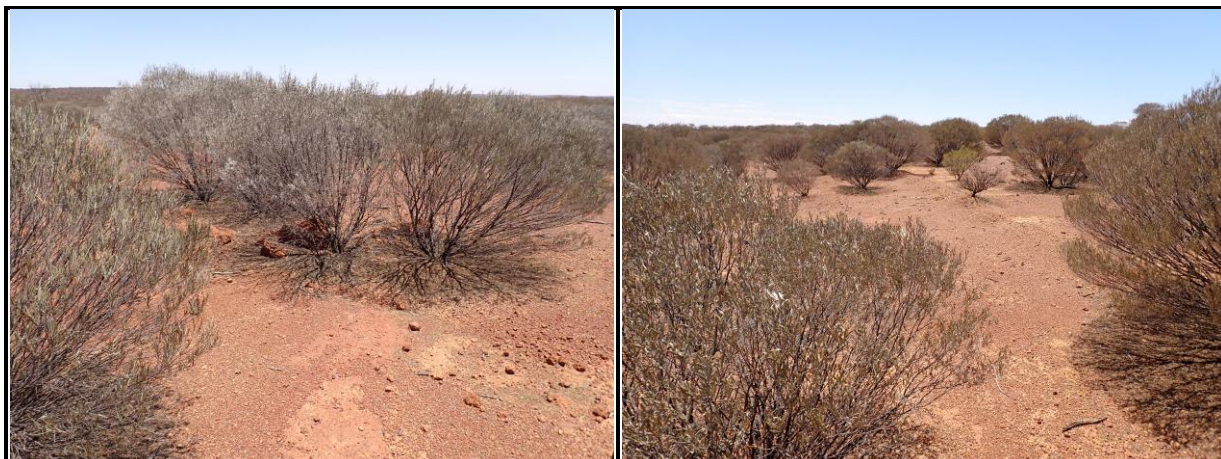
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Rehabilitation



Date: 9/12/2025

Habitat Assessment #: 151

Observer:

GDA94 50; 618715 mE 7011587 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 152

Observer:

GDA94 50; 618453 mE 7011849 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Rehabilitation



Date: 9/12/2025

Habitat Assessment #: 153

Observer:

GDA94 50; 618475 mE 7011597 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 154

Observer:

GDA94 50; 618444 mE 7011355 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 155

Observer:

GDA94 50; 618443 mE 7011091 mN

Fire History:

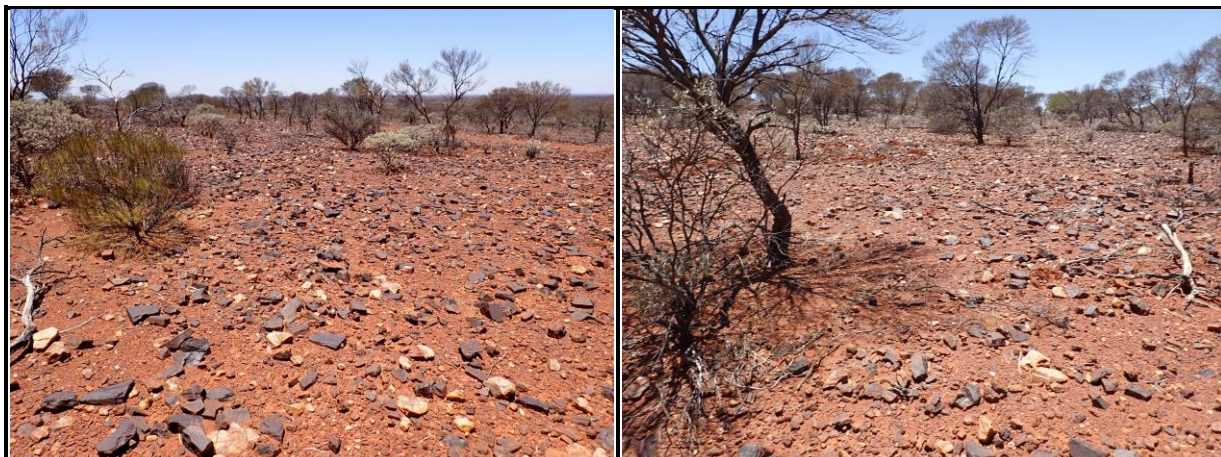
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 156

Observer:

GDA94 50; 618453 mE 7010847 mN

Fire History:

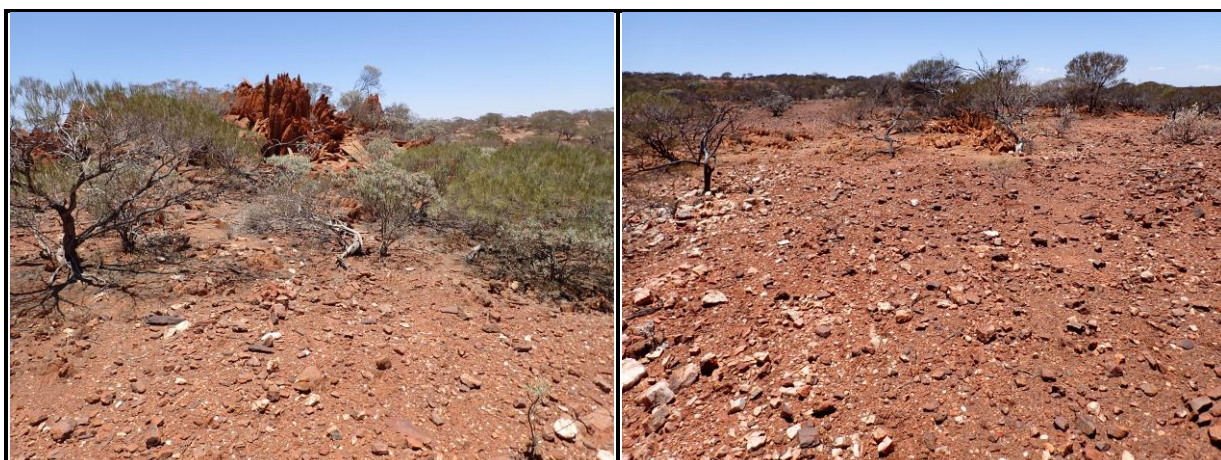
Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 157

Observer:

GDA94 50; 606810 mE 6999450 mN

Fire History:

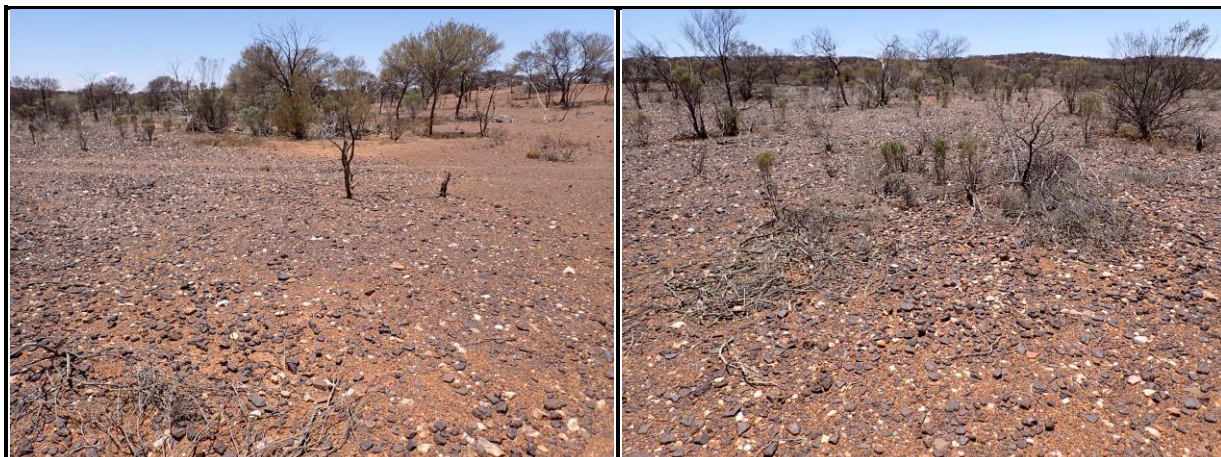
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 158

Observer:

GDA94 50; 618452 mE 7010593 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 159

Observer:

GDA94 50; 618437 mE 7010351 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 160

Observer:

GDA94 50; 618200 mE 7010136 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 161

Observer:

GDA94 50; 618200 mE 7010360 mN

Fire History:

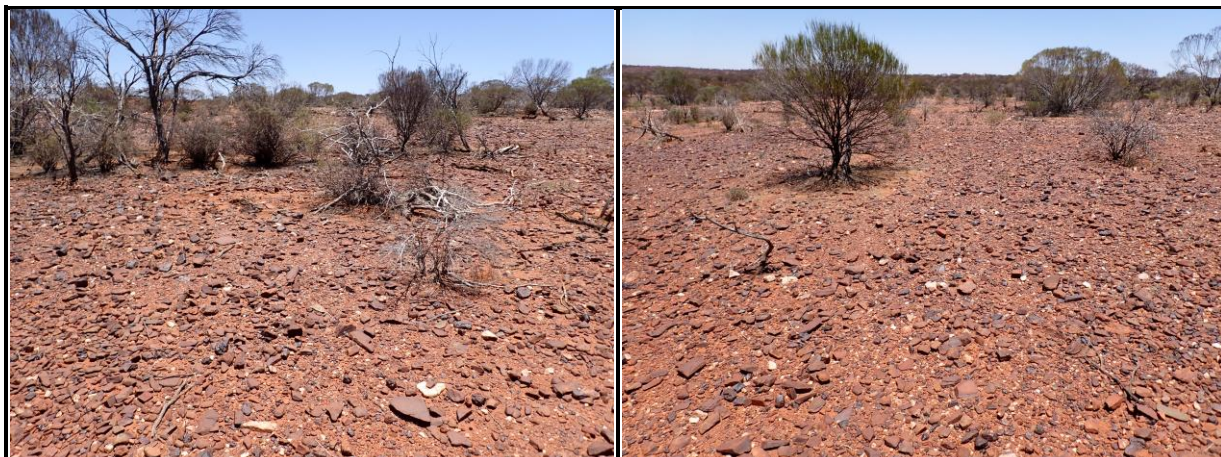
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 162

Observer:

GDA94 50; 618197 mE 7010593 mN

Fire History:

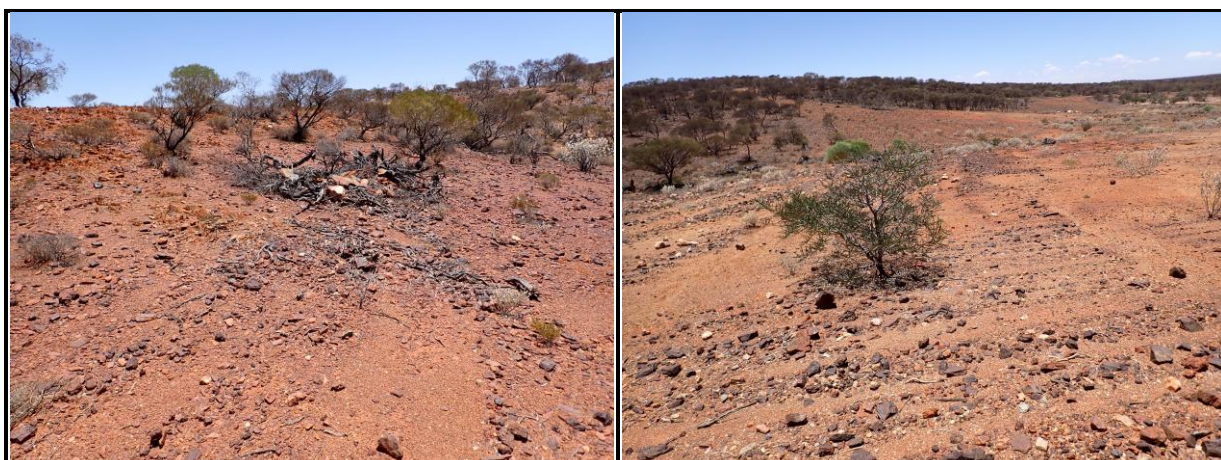
Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 163

Observer:

GDA94 50; 618206 mE 7010846 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 164

Observer:

GDA94 50; 618215 mE 7011094 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 165

Observer:

GDA94 50; 618196 mE 7011344 mN

Fire History:

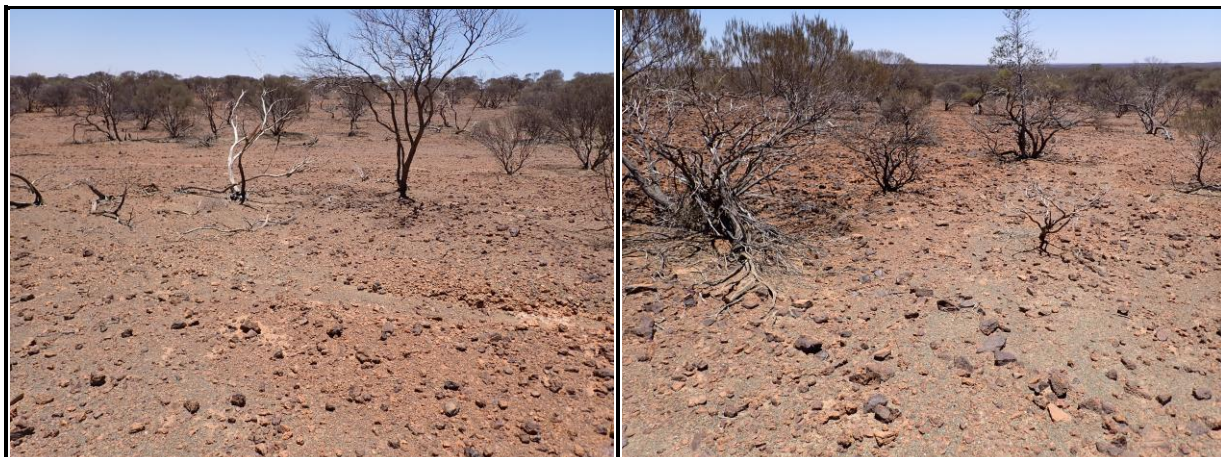
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 166

Observer:

GDA94 50; 618213 mE 7011595 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 167

Observer:

GDA94 50; 618225 mE 7011846 mN

Fire History:

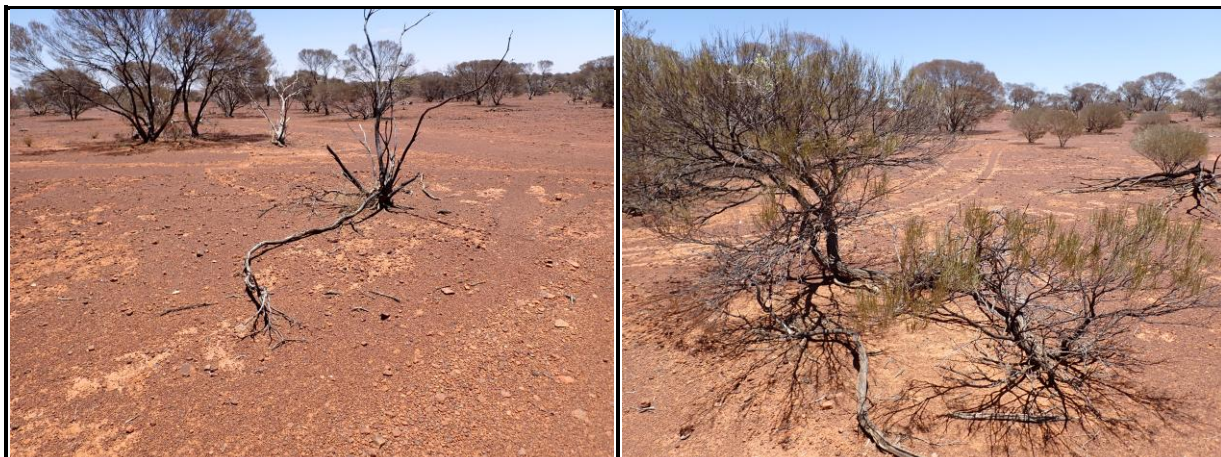
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 168

Observer:

GDA94 50; 607058 mE 6999697 mN

Fire History:

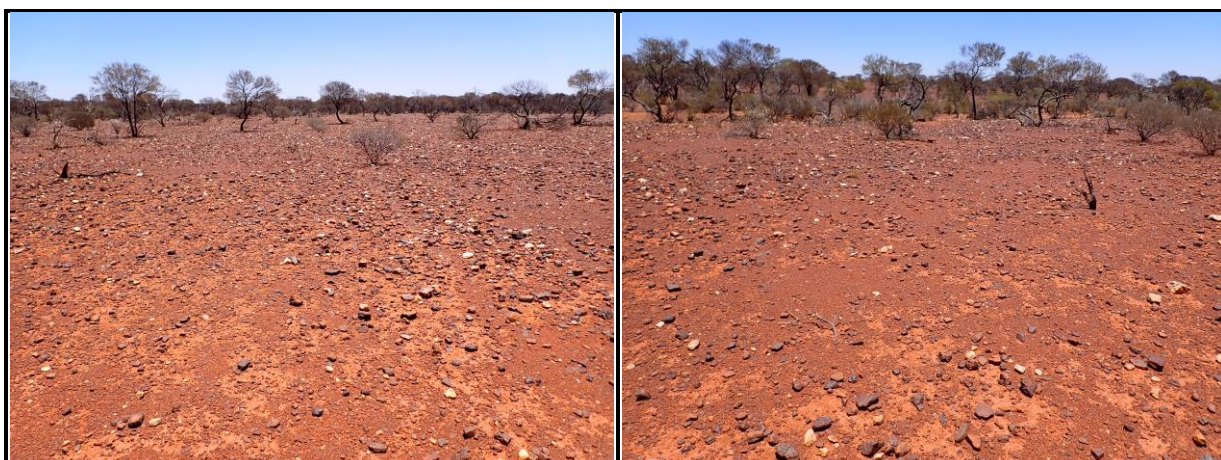
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 169

Observer:

GDA94 50; 618224 mE 7012091 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 170

Observer:

GDA94 50; 617974 mE 7012345 mN

Fire History:

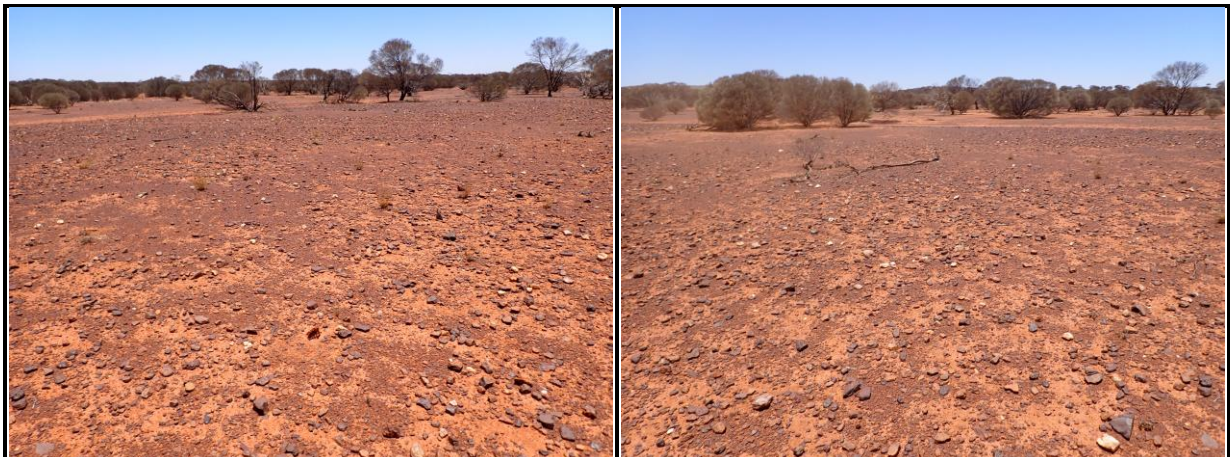
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 171

Observer:

GDA94 50; 617964 mE 7012076 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 172

Observer:

GDA94 50; 617953 mE 7011856 mN

Fire History:

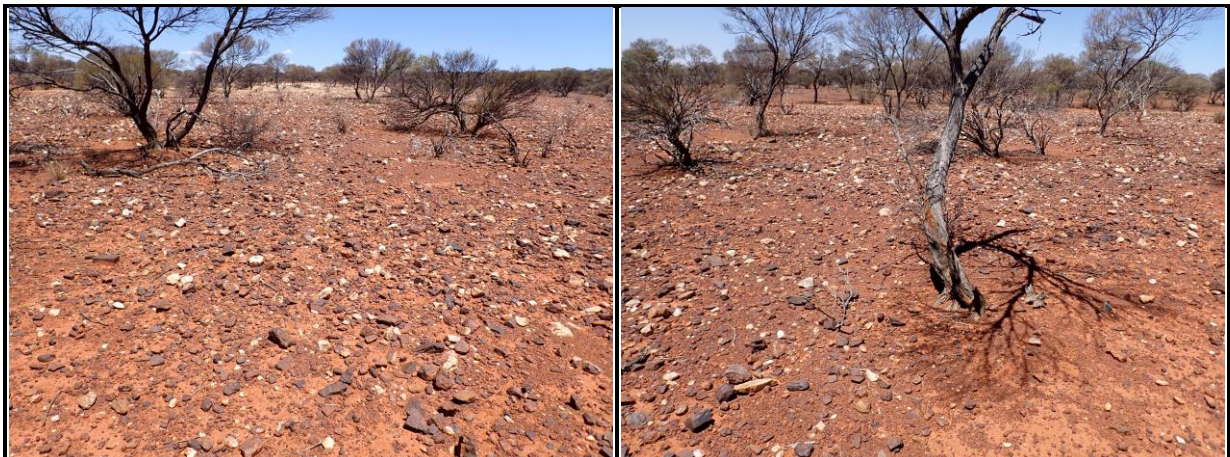
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 173

Observer:

GDA94 50; 617961 mE 7011604 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 174

Observer:

GDA94 50; 617946 mE 7011342 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 175

Observer:

GDA94 50; 617948 mE 7010816 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 176

Observer:

GDA94 50; 617947 mE 7010587 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 177

Observer:

GDA94 50; 617946 mE 7010345 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 178

Observer:

GDA94 50; 617946 mE 7010107 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 179

Observer:

GDA94 50; 606842 mE 6999746 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 180

Observer:

GDA94 50; 617951 mE 7009859 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga in ephemeral drainage



Date: 9/12/2025

Habitat Assessment #: 181

Observer:

GDA94 50; 617696 mE 7010076 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 182

Observer:

GDA94 50; 617701 mE 7010347 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 183

Observer:

GDA94 50; 617702 mE 7010597 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 184

Observer:

GDA94 50; 617702 mE 7010848 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 185

Observer:

GDA94 50; 617706 mE 7011103 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga on stony ridge



Date: 9/12/2025

Habitat Assessment #: 186

Observer:

GDA94 50; 617710 mE 7011348 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 187

Observer:

GDA94 50; 617705 mE 7011590 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 188

Observer:

GDA94 50; 617707 mE 7011843 mN

Fire History:

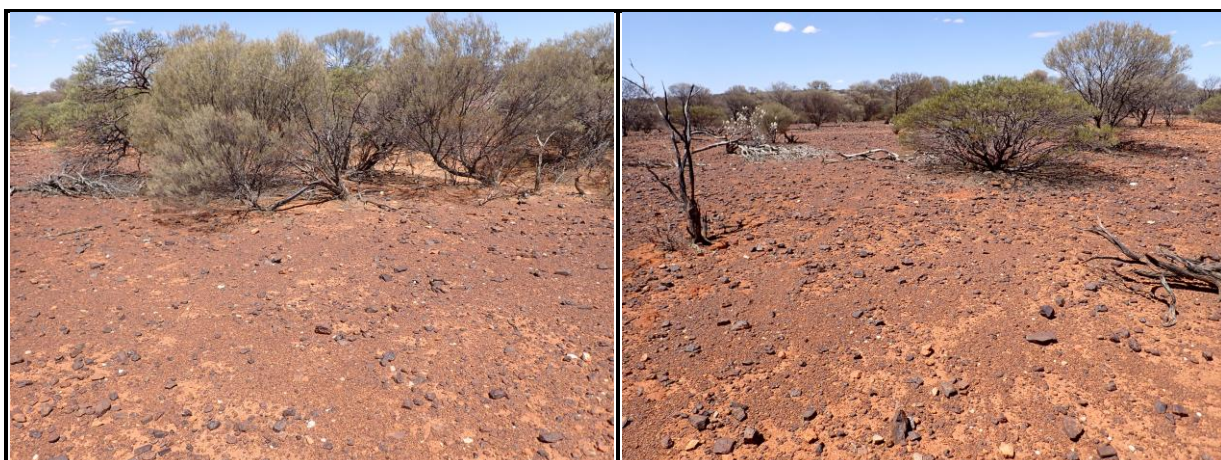
Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga in ephemeral drainage



Date: 9/12/2025

Habitat Assessment #: 189

Observer:

GDA94 50; 617716 mE 7012081 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 190

Observer:

GDA94 50; 606846 mE 6999950 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 191

Observer:

GDA94 50; 617722 mE 7012342 mN

Fire History:

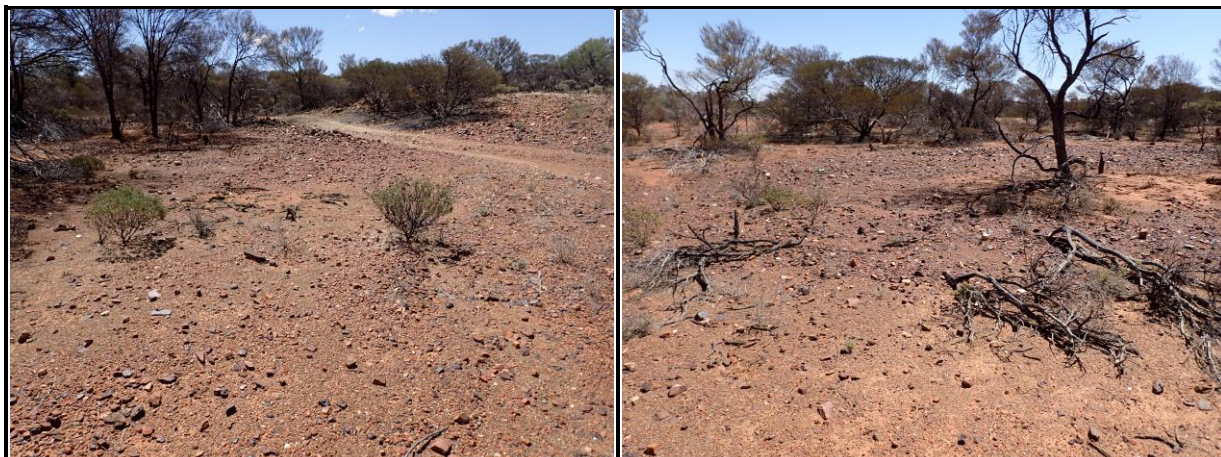
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 192

Observer:

GDA94 50; 617715 mE 7012592 mN

Fire History:

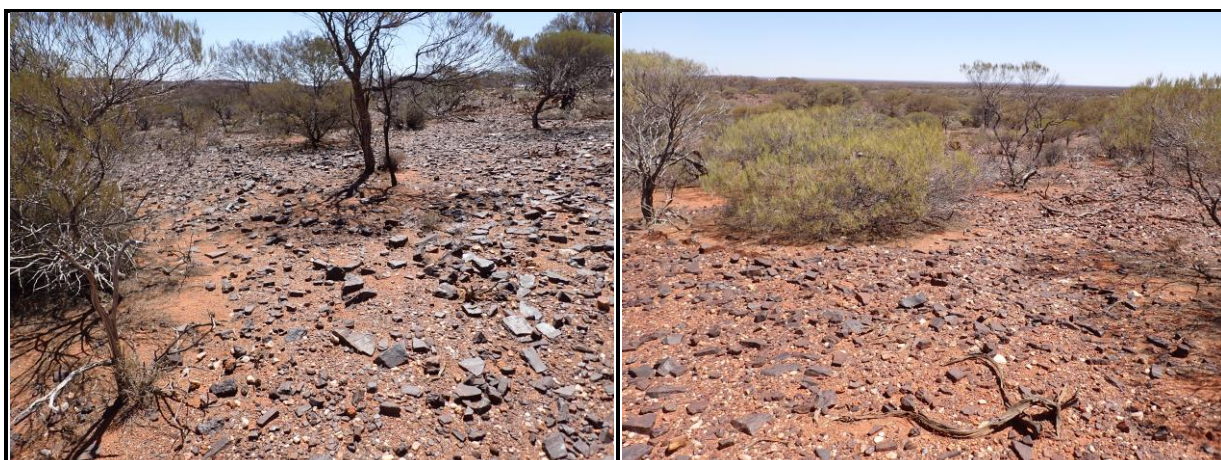
Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 193

Observer:

GDA94 50; 617480 mE 7012602 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga on stony ridge



Date: 9/12/2025

Habitat Assessment #: 194

Observer:

GDA94 50; 617462 mE 7012351 mN

Fire History:

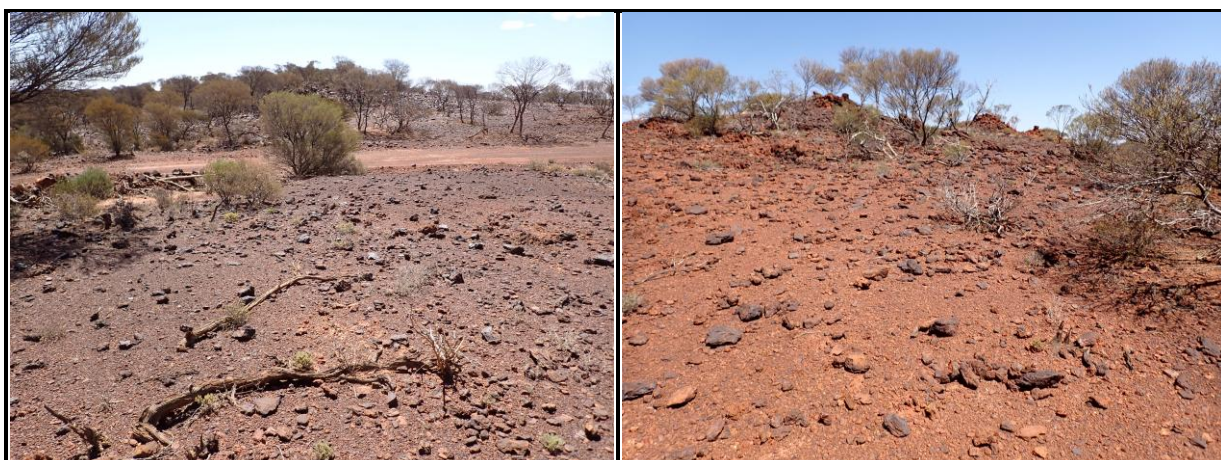
Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga on stony ridge



Date: 9/12/2025

Habitat Assessment #: 195

Observer:

GDA94 50; 617450 mE 7012100 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 196

Observer:

GDA94 50; 617435 mE 7011840 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga on stony ridge



Date: 9/12/2025

Habitat Assessment #: 197

Observer:

GDA94 50; 617465 mE 7011608 mN

Fire History:

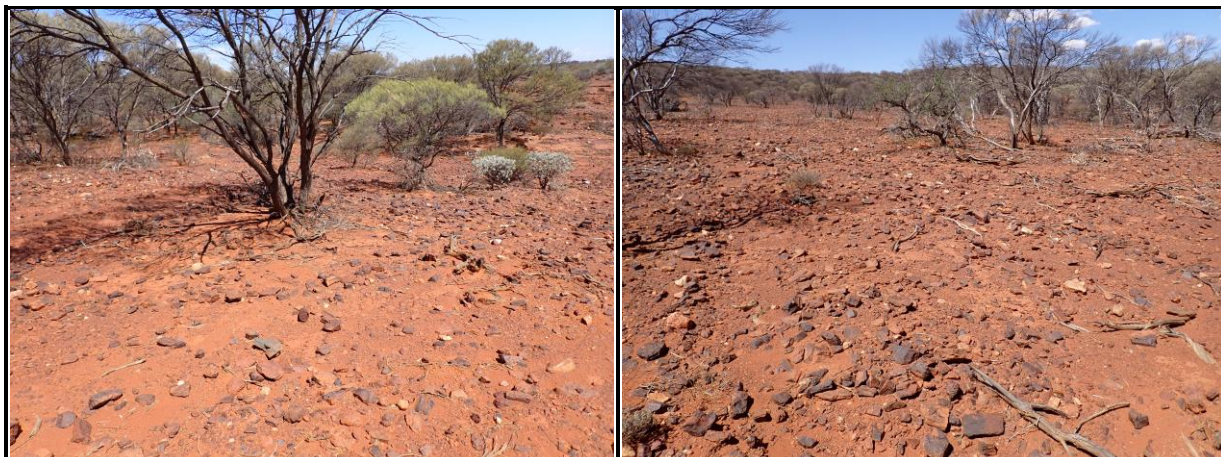
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 198

Observer:

GDA94 50; 617446 mE 7011357 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 199

Observer:

GDA94 50; 617441 mE 7011105 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 200

Observer:

GDA94 50; 617477 mE 7010854 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 201

Observer:

GDA94 50; 606841 mE 7000160 mN

Fire History:

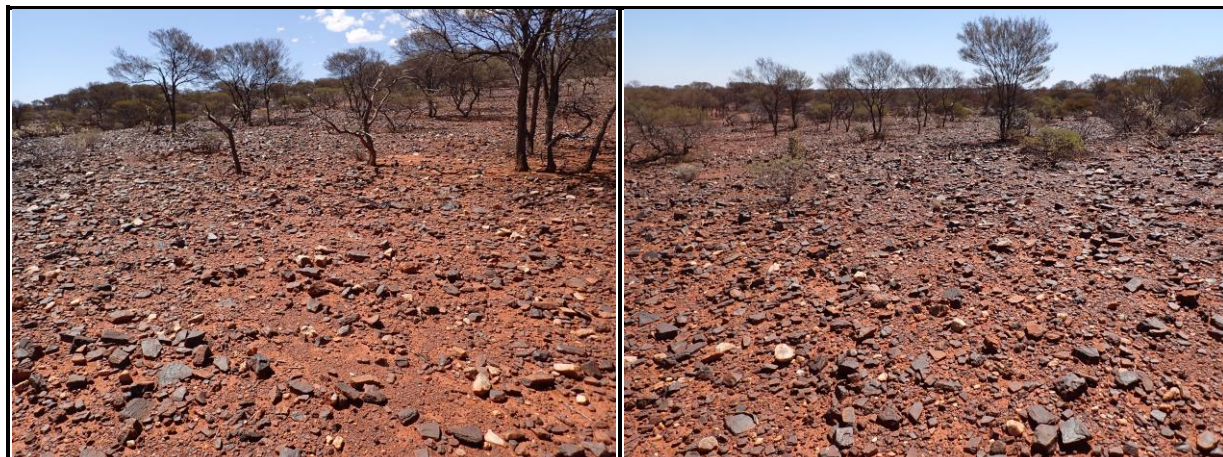
Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 202

Observer:

GDA94 50; 617460 mE 7010604 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga on stony ridge



Date: 9/12/2025

Habitat Assessment #: 203

Observer:

GDA94 50; 617467 mE 7010349 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 204

Observer:

GDA94 50; 617452 mE 7010144 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 205

Observer:

GDA94 50; 617196 mE 7010344 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 206

Observer:

GDA94 50; 617183 mE 7010597 mN

Fire History:

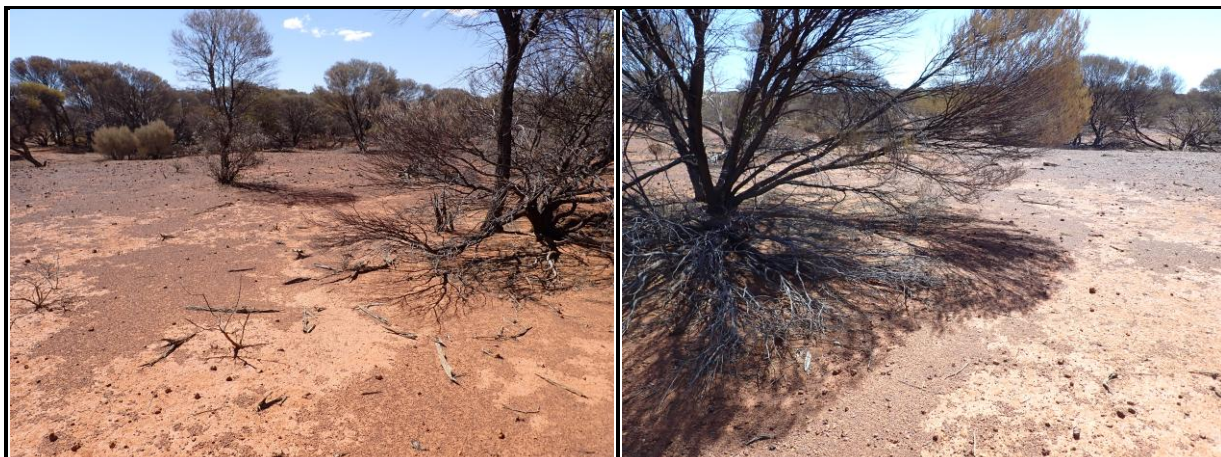
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 207

Observer:

GDA94 50; 617188 mE 7010903 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 208

Observer:

GDA94 50; 617197 mE 7011092 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 209

Observer:

GDA94 50; 617219 mE 7011352 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 210

Observer:

GDA94 50; 617213 mE 7011558 mN

Fire History:

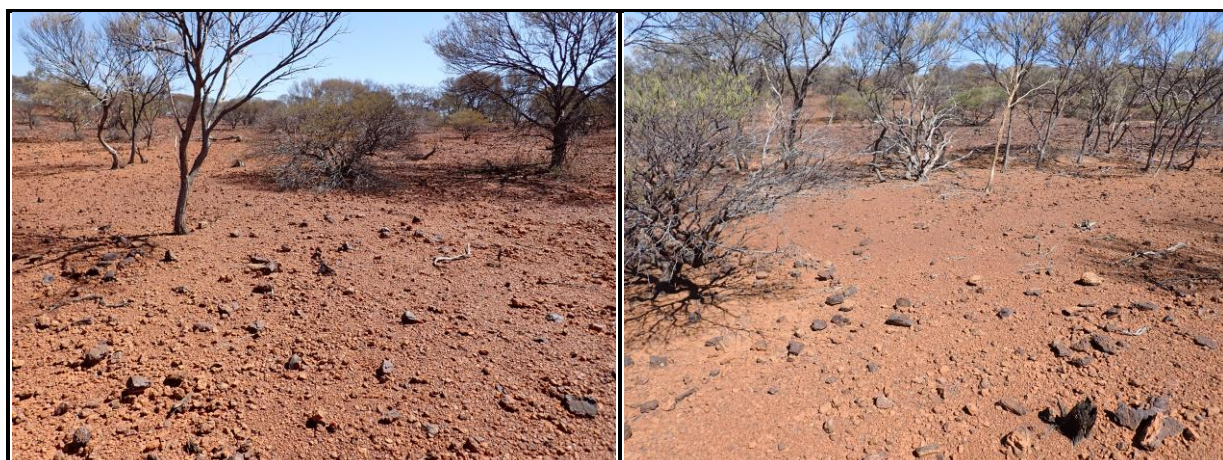
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 211

Observer:

GDA94 50; 617209 mE 7011843 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 212

Observer:

GDA94 50; 607093 mE 6999965 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 213

Observer:

GDA94 50; 617203 mE 7012103 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 214

Observer:

GDA94 50; 616948 mE 7011615 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 215

Observer:

GDA94 50; 616959 mE 7011355 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga on stony ridge



Date: 9/12/2025

Habitat Assessment #: 216

Observer:

GDA94 50; 616957 mE 7011108 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 217

Observer:

GDA94 50; 616971 mE 7010856 mN

Fire History:

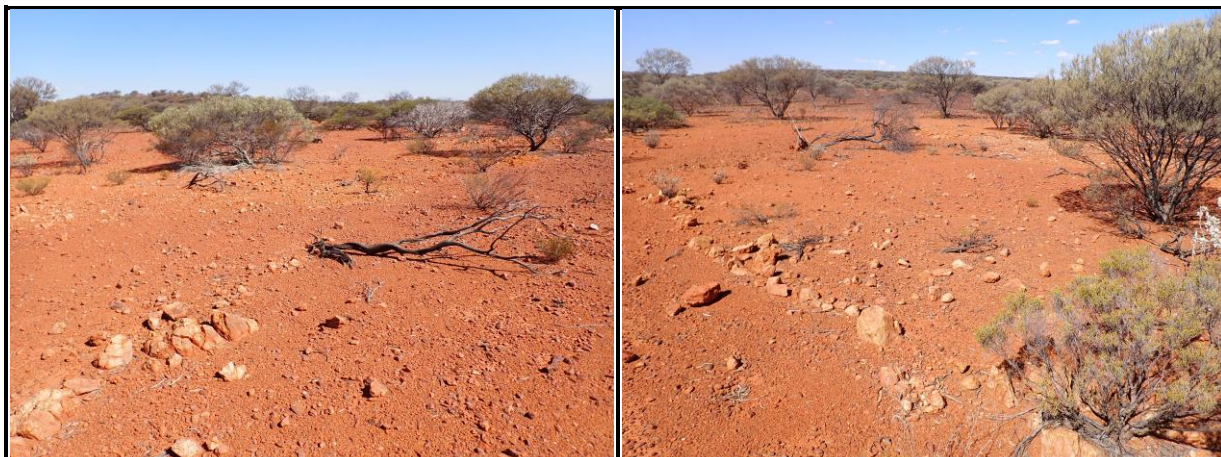
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 218

Observer:

GDA94 50; 616949 mE 7010582 mN

Fire History:

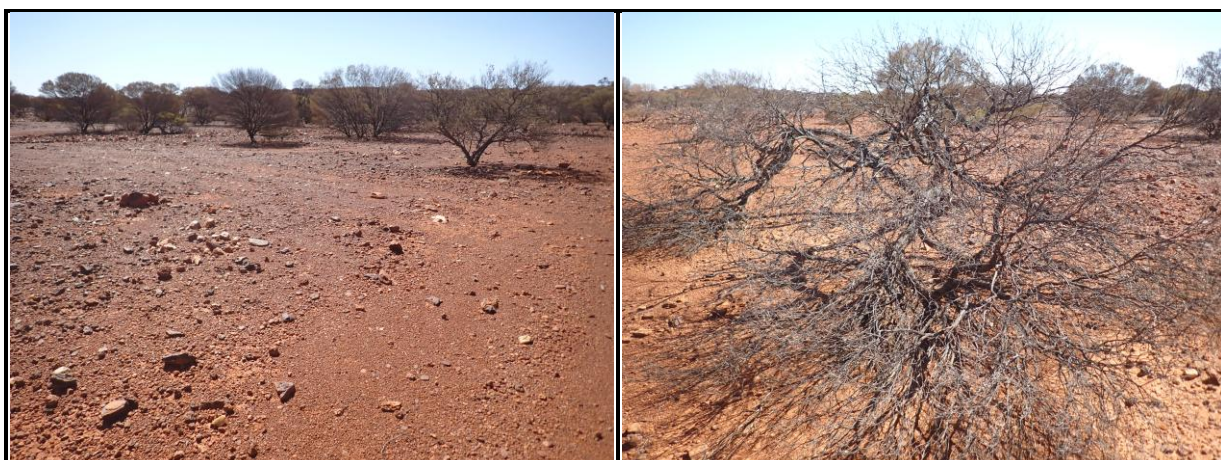
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 219

Observer:

GDA94 50; 616939 mE 7010445 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 220

Observer:

GDA94 50; 616711 mE 7010599 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 221

Observer:

GDA94 50; 616706 mE 7010859 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 222

Observer:

GDA94 50; 616689 mE 7011095 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 223

Observer:

GDA94 50; 605830 mE 6999213 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 224

Observer:

GDA94 50; 607330 mE 6999780 mN

Fire History:

Landform: Breakaway

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 9/12/2025

Habitat Assessment #: 225

Observer:

GDA94 50; 616700 mE 7011347 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 226

Observer:

GDA94 50; 616477 mE 7011314 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 227

Observer:

GDA94 50; 616459 mE 7011117 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 228

Observer:

GDA94 50; 616455 mE 7010857 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga in ephemeral drainage



Date: 10/12/2025

Habitat Assessment #: 229

Observer:

GDA94 50; 616449 mE 7010723 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 230

Observer:

GDA94 50; 616320 mE 7010810 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 231

Observer:

GDA94 50; 607323 mE 6999965 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 232

Observer:

GDA94 50; 606850 mE 7000448 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 233

Observer:

GDA94 50; 606823 mE 7000703 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 234

Observer:

GDA94 50; 606839 mE 7000950 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 235

Observer:

GDA94 50; 606849 mE 7001200 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 236

Observer:

GDA94 50; 606952 mE 7001380 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga on stony ridge



Date: 10/12/2025

Habitat Assessment #: 237

Observer:

GDA94 50; 607130 mE 7001684 mN

Fire History:

Landform: Slope

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 238

Observer:

GDA94 50; 607089 mE 7001467 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 239

Observer:

GDA94 50; 607109 mE 7001222 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 240

Observer:

GDA94 50; 605930 mE 6999461 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 241

Observer:

GDA94 50; 607109 mE 7000970 mN

Fire History:

Landform: Flat Plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 242

Observer:

GDA94 50; 607066 mE 7000784 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 243

Observer:

GDA94 50; 607131 mE 7000675 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga in ephemeral drainage



Date: 10/12/2025

Habitat Assessment #: 244

Observer:

GDA94 50; 607088 mE 7000451 mN

Fire History:

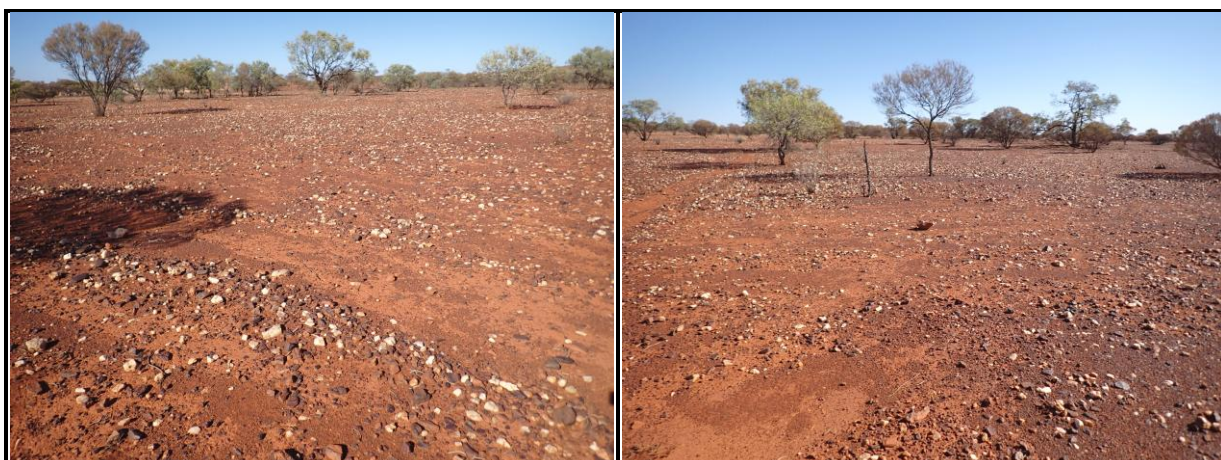
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 245

Observer:

GDA94 50; 607100 mE 7000207 mN

Fire History:

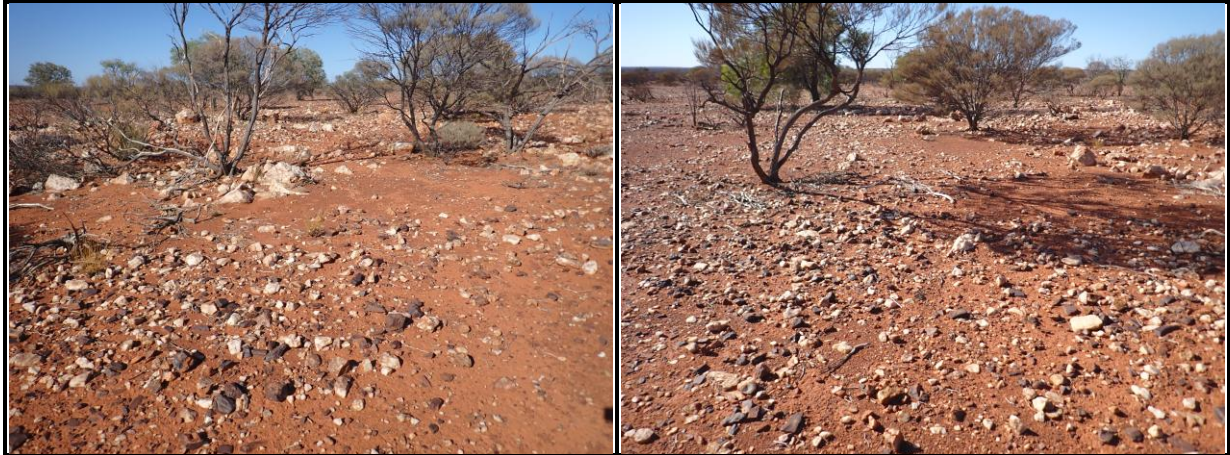
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 246

Observer:

GDA94 50; 607333 mE 7000207 mN

Fire History:

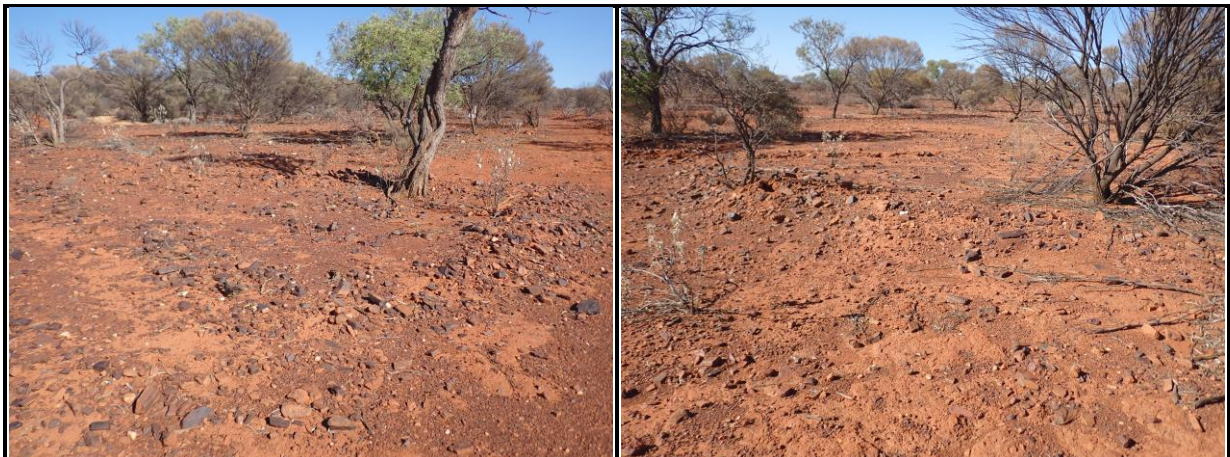
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 247

Observer:

GDA94 50; 607328 mE 7000449 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga on stony ridge



Date: 10/12/2025

Habitat Assessment #: 248

Observer:

GDA94 50; 607354 mE 7000696 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 249

Observer:

GDA94 50; 607343 mE 7000949 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 250

Observer:

GDA94 50; 607365 mE 7001207 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 251

Observer:

GDA94 50; 606079 mE 6999697 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 252

Observer:

GDA94 50; 607357 mE 7001450 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 253

Observer:

GDA94 50; 607353 mE 7001698 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 254

Observer:

GDA94 50; 607597 mE 7001696 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 255

Observer:

GDA94 50; 607607 mE 7001457 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 256

Observer:

GDA94 50; 607593 mE 7001208 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 257

Observer:

GDA94 50; 607664 mE 7001066 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 258

Observer:

GDA94 50; 607584 mE 7000956 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 259

Observer:

GDA94 50; 607601 mE 7000711 mN

Fire History:

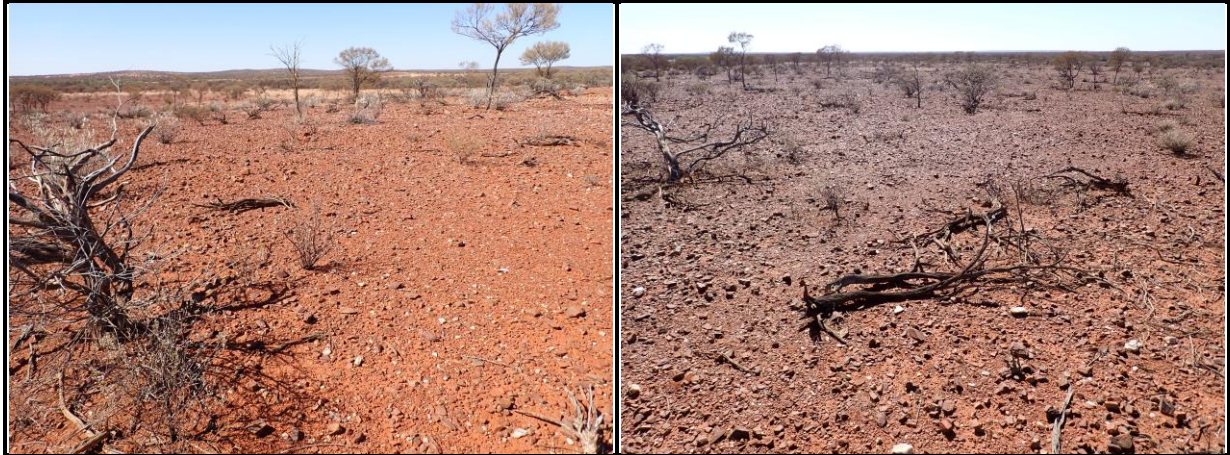
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 260

Observer:

GDA94 50; 607611 mE 7000558 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 261

Observer:

GDA94 50; 607846 mE 7000560 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga in ephemeral drainage



Date: 10/12/2025

Habitat Assessment #: 262

Observer:

GDA94 50; 606072 mE 6999455 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 263

Observer:

GDA94 50; 607845 mE 7000720 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Disturbed habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 264

Observer:

GDA94 50; 607857 mE 7000944 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 265

Observer:

GDA94 50; 607857 mE 7001195 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 266

Observer:

GDA94 50; 607850 mE 7001450 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 267

Observer:

GDA94 50; 607860 mE 7001724 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 268

Observer:

GDA94 50; 608098 mE 7001696 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 269

Observer:

GDA94 50; 608106 mE 7001443 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga in ephemeral drainage



Date: 10/12/2025

Habitat Assessment #: 270

Observer:

GDA94 50; 608096 mE 7001188 mN

Fire History:

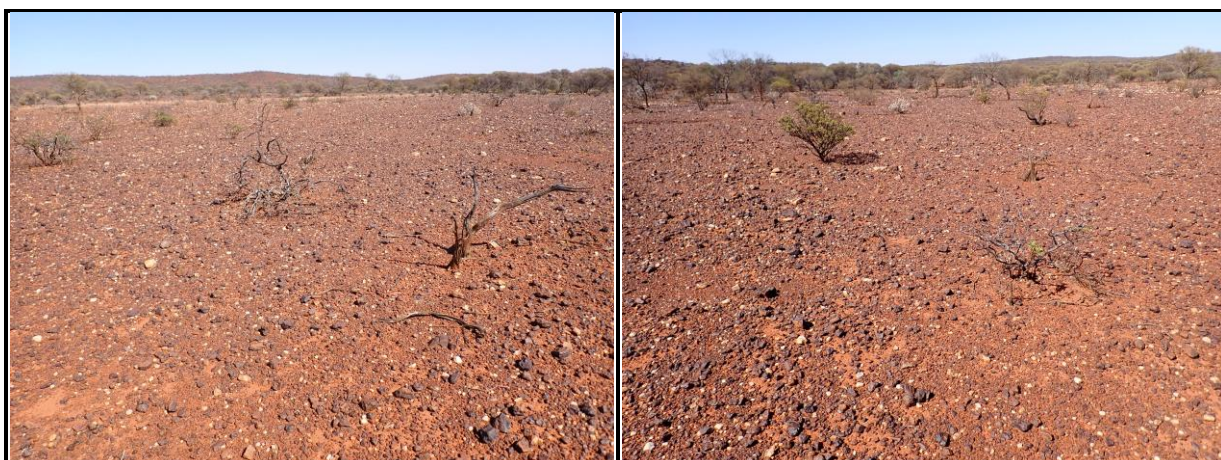
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 271

Observer:

GDA94 50; 608095 mE 7000950 mN

Fire History:

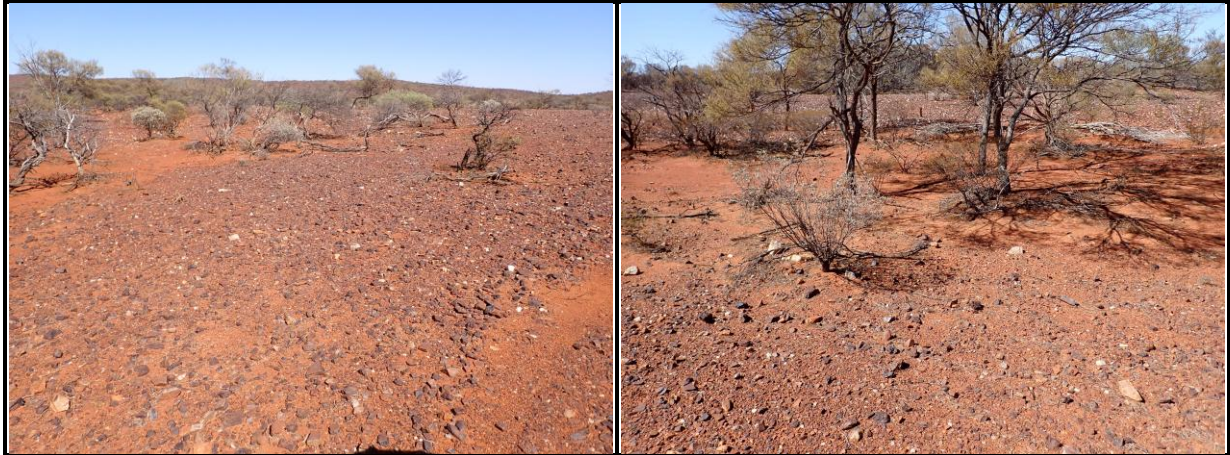
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 272

Observer:

GDA94 50; 608118 mE 7000705 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 273

Observer:

GDA94 50; 606079 mE 6999231 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 274

Observer:

GDA94 50; 608105 mE 7000600 mN

Fire History:

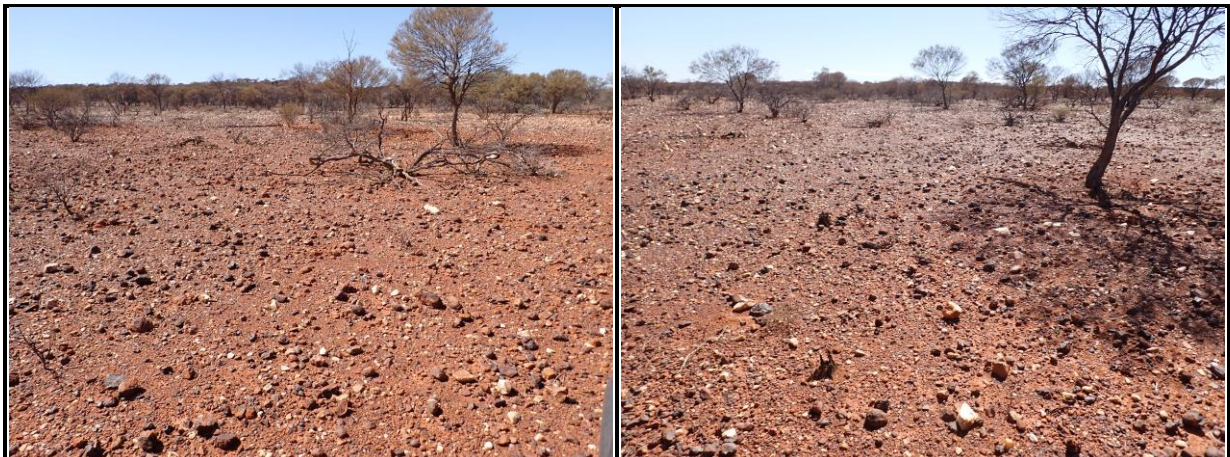
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 275

Observer:

GDA94 50; 608347 mE 7000575 mN

Fire History:

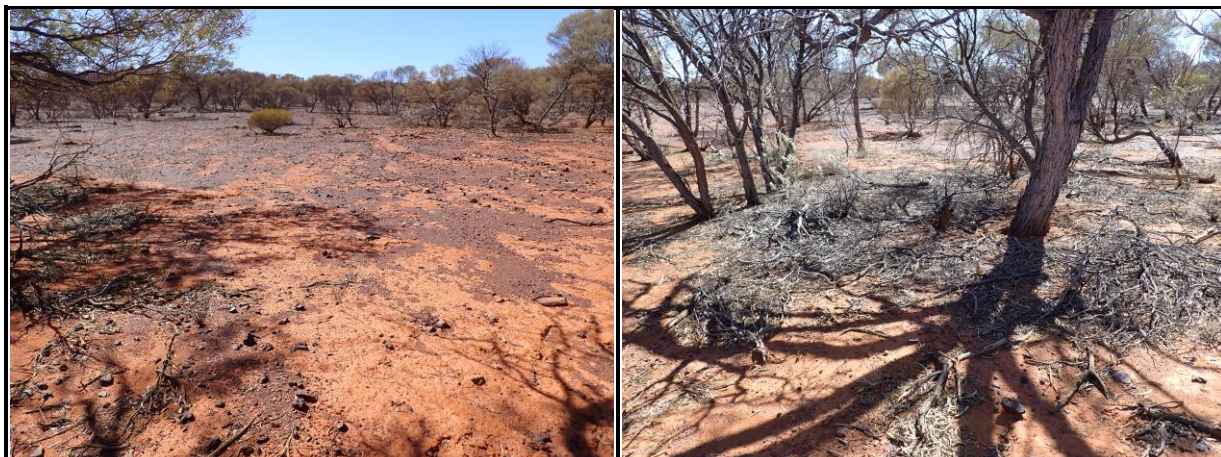
Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga in ephemeral drainage



Date: 10/12/2025

Habitat Assessment #: 276

Observer:

GDA94 50; 608340 mE 7000695 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 277

Observer:

GDA94 50; 608336 mE 7000949 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 278

Observer:

GDA94 50; 608359 mE 7001197 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 279

Observer:

GDA94 50; 608345 mE 7001453 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Disturbed habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 280

Observer:

GDA94 50; 608357 mE 7001700 mN

Fire History:

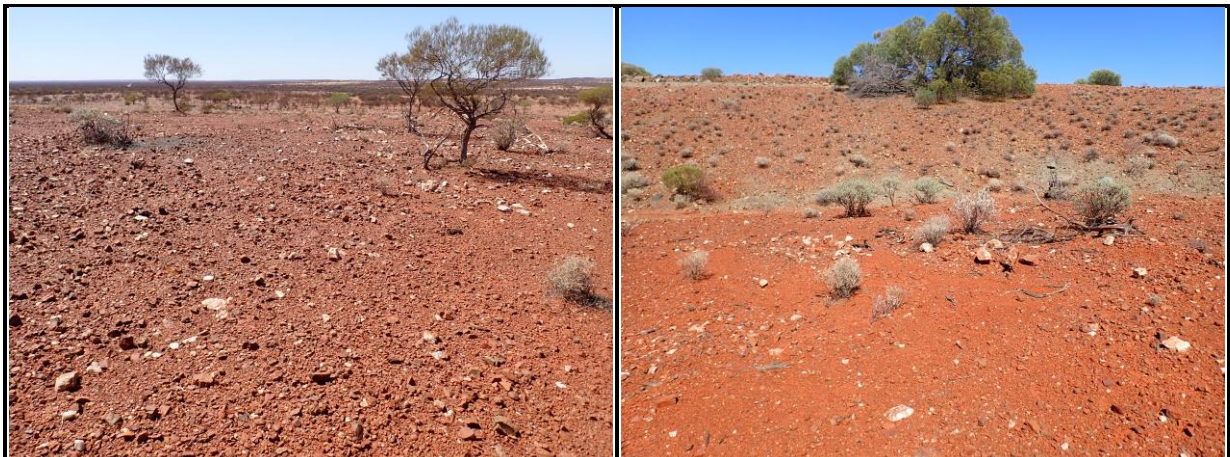
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Disturbed habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 281

Observer:

GDA94 50; 608359 mE 7001946 mN

Fire History:

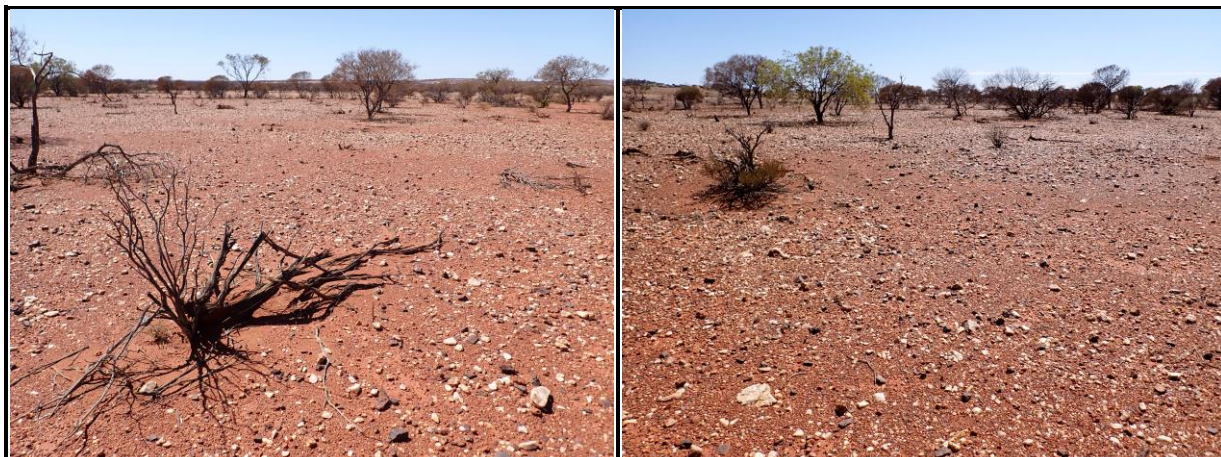
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 282

Observer:

GDA94 50; 608343 mE 7002194 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 283

Observer:

GDA94 50; 608374 mE 7002431 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 284

Observer:

GDA94 50; 606080 mE 6998979 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 285

Observer:

GDA94 50; 608603 mE 7002450 mN

Fire History:

Landform: Stony ridge

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Stones

Habitat Type: Mulga on stony ridge



Date: 10/12/2025

Habitat Assessment #: 286

Observer:

GDA94 50; 608597 mE 7002196 mN

Fire History:

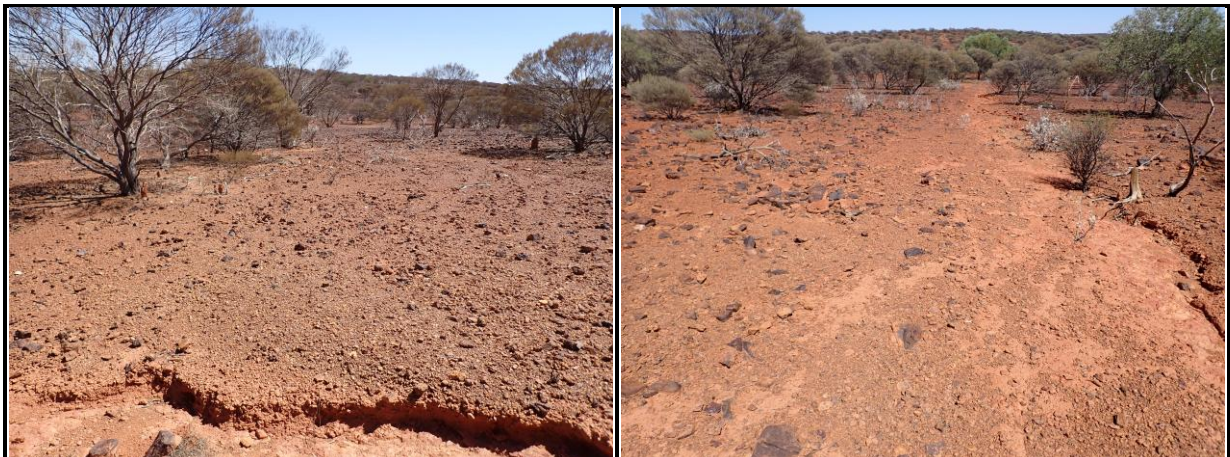
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 287

Observer:

GDA94 50; 608602 mE 7001951 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Very good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 288

Observer:

GDA94 50; 608594 mE 7001695 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 289

Observer:

GDA94 50; 608601 mE 7001453 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 290

Observer:

GDA94 50; 608608 mE 7001196 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand

Habitat Type: Mulga in ephemeral drainage



Date: 10/12/2025

Habitat Assessment #: 291

Observer:

GDA94 50; 608594 mE 7000944 mN

Fire History:

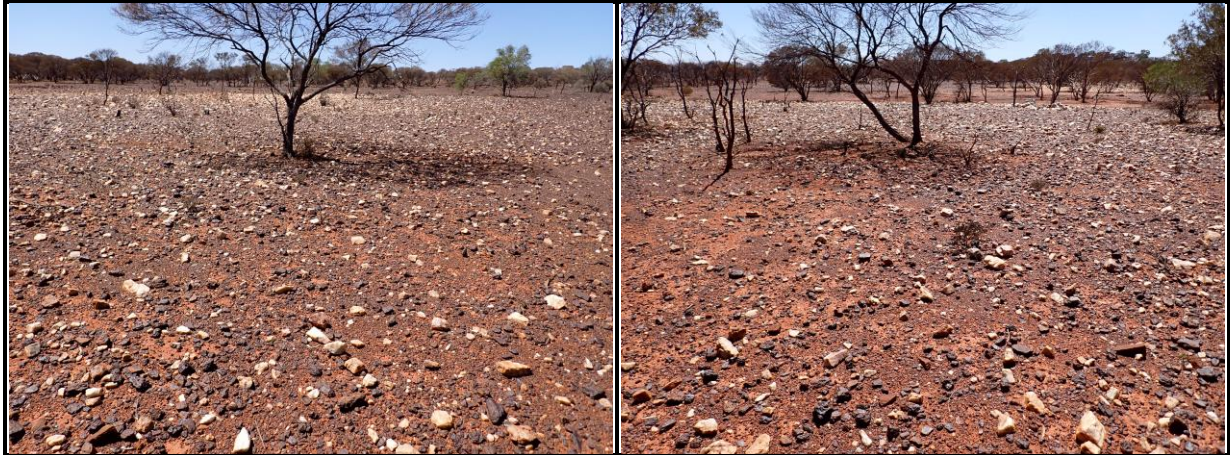
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 292

Observer:

GDA94 50; 608614 mE 7000689 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 293

Observer:

GDA94 50; 608597 mE 7000549 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 294

Observer:

GDA94 50; 608851 mE 7000690 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 295

Observer:

GDA94 50; 606334 mE 6998952 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga in ephemeral drainage



Date: 10/12/2025

Habitat Assessment #: 296

Observer:

GDA94 50; 608848 mE 7001219 mN

Fire History:

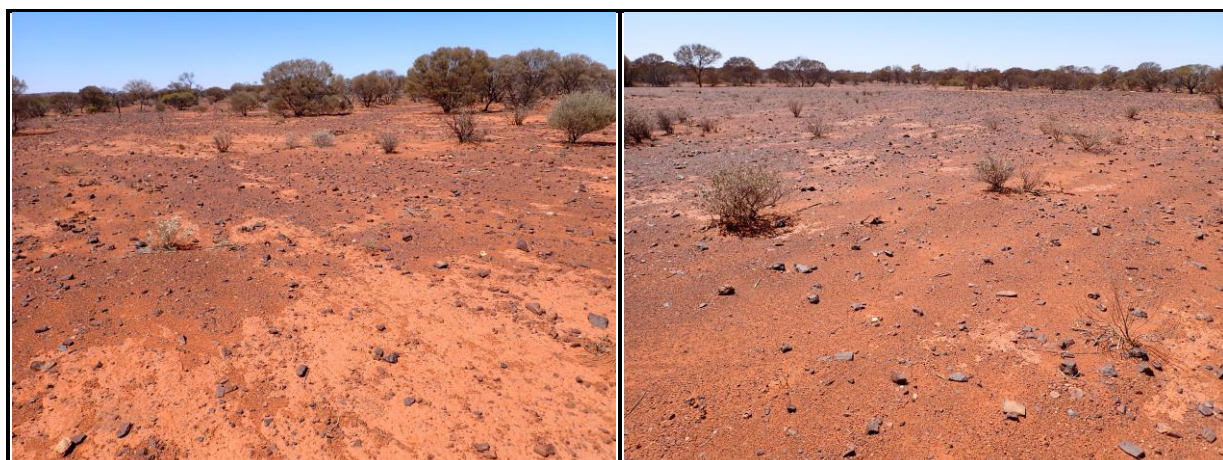
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 297

Observer:

GDA94 50; 608868 mE 7001437 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 298

Observer:

GDA94 50; 608873 mE 7001695 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 299

Observer:

GDA94 50; 608878 mE 7001937 mN

Fire History:

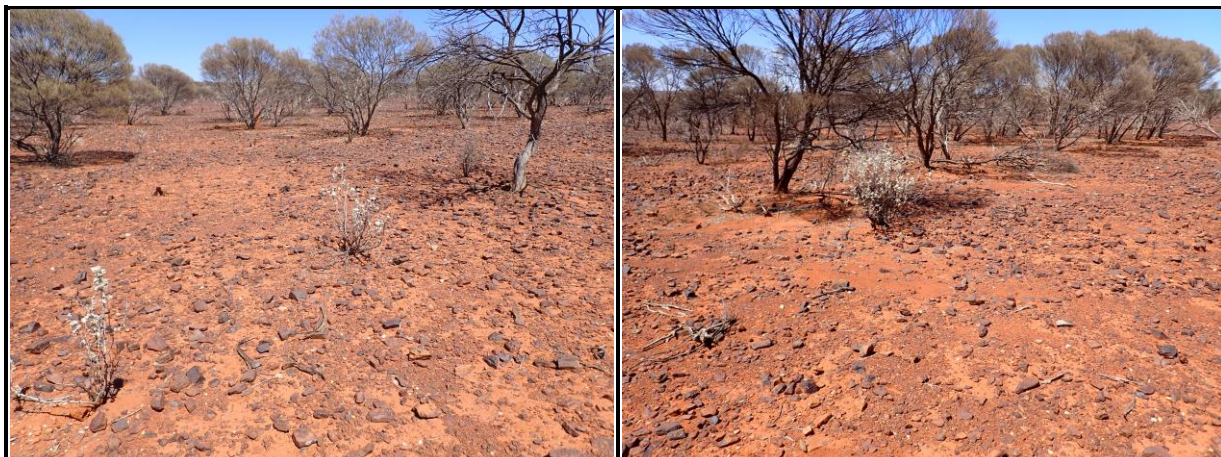
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 300

Observer:

GDA94 50; 608869 mE 7002183 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 301

Observer:

GDA94 50; 608851 mE 7002433 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 302

Observer:

GDA94 50; 608880 mE 7002634 mN

Fire History:

Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Disturbed habitat

Surface: Cobbles, stones

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 303

Observer:

GDA94 50; 609017 mE 7002681 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Sand, pebbles

Habitat Type: Mulga in ephemeral drainage



Date: 10/12/2025

Habitat Assessment #: 304

Observer:

GDA94 50; 609083 mE 7002372 mN

Fire History:

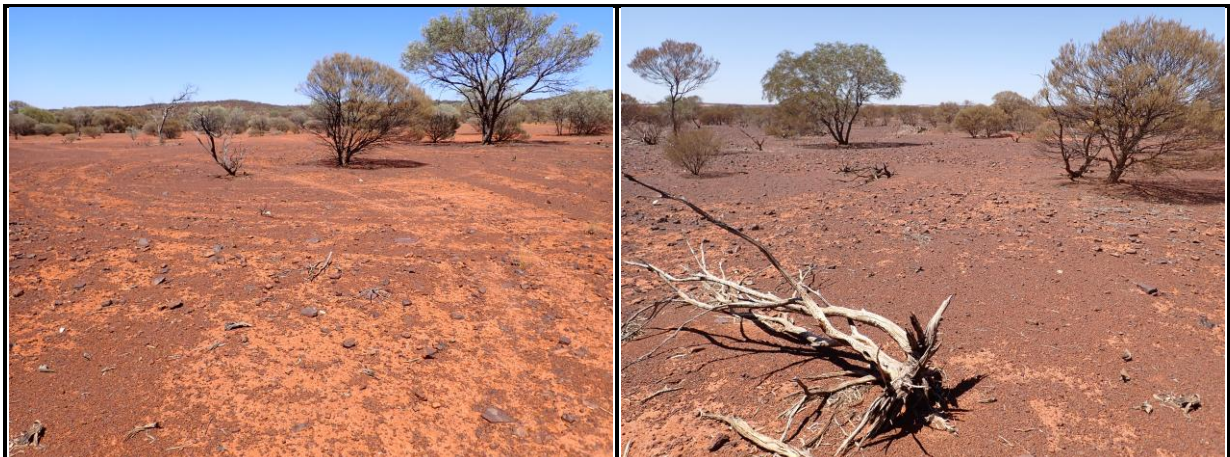
Landform: Undulating plain

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles, cobbles

Habitat Type: Mulga over mixed shrubs



Date: 10/12/2025

Habitat Assessment #: 305

Observer:

GDA94 50; 609106 mE 7002200 mN

Fire History:

Landform: Drainage

Soil Type: Sandy Clay

Habitat Quality: Good habitat

Surface: Pebbles

Habitat Type: Mulga in ephemeral drainage



Appendix E.

Summary of the ecological information on species of conservation significance potentially in the project area

Basic and targeted vertebrate fauna survey
Tuckanarra Project Area



Night Parrot (*Pezoporus occidentalis*) - Critically Endangered under the *BC Act 2016* and the *EPBC Act 1999*

The Night Parrot is a small, arid-adapted, nocturnal, ground-feeding parrot (Blyth, 1996; Johnstone & Storr, 1998; Threatened Species Scientific Committee, 2016b). Its length is 22-25cm, with a body mass of approximately 104g (Threatened Species Scientific Committee, 2016b), although it was suggested that they were semi-nomadic, the Night Parrots in south-western Queensland appear to be sedentary (Murphy, 2015). Adults are bright green with black and yellow markings that include streaks, spots and bars and a bright yellow belly.

The Night Parrot was probably distributed initially over much of semi-arid and arid Australia (Garnett et al., 1993; Threatened Species Scientific Committee, 2016b). Records in north-west and western Queensland in the early 1990-2000s were in a broad cross-section of the habitats available (Boles et al., 1994; Cupitt & Cupitt, 2008; Garnett et al., 1993). There have been recent sightings in the Pilbara in 1980, 2005 and 2017, central WA in 1979, north-eastern South Australia in 1979, western Queensland (including Pullen-Pullen-Mt Windsor-Diamantina population) in 1980, 1990, 1993, 2006 and 2013-17 (Davis & Metcalf, 2008; Garnett et al., 2011; Palaszczuk & Miles, 2017), Pilbara in 2017 (Jones, 2017), near Lake Eyre in 2017 (McCarthy, 2017) and Lake Mackay (Ngururrpa Rangers et al., 2024). Garnett et al. (2011) suggested that there were between 50-250 mature individuals in less than 5% of its previous range.

Some of the night parrot calls include a "ding-ding" sound, a frog like "griect" and some other three and four-note calls (Threatened Species Scientific Committee, 2016b).

The extant geographic distribution of Night Parrots is unknown. Long-term records suggest that they were widespread and occupied a range of habitats. Night Parrots are nocturnal and highly cryptic, roosting in dense vegetation during the day and becoming active at dusk. They are nomadic, moving in response to the availability of food and water. While generally sedentary, individuals have been recorded travelling up to 41km in a single night (Queensland Government, 2024)

Wilson's (1937) early summary of observations provided information on the early records of Night Parrots' preferred habitat and breeding sites. Most direct observations indicated that it roosts in tunnels or burrows during the day under clumps of spinifex (i.e. porcupine grass) or samphire bushes (Blyth, 1996; Olsen, 2018). Recent information indicates its preferred habitat appears to be in *Triodia* grasslands, chenopod shrublands, shrubby samphire and floristically diverse habitats dominated by large-seeded species (Blyth, 1996; McCarthy, 2017; Murphy, Silcock, et al., 2017; Threatened Species Scientific Committee, 2016b). Night parrots inhabit mature spinifex (*Triodia* spp.) grasslands, often in stony or sandy terrain. Roosting and nesting sites are typically in long-unburnt, dense spinifex hummocks. They may also use chenopod shrublands, samphire flats, and mallee woodlands. Proximity to water and foraging grounds is important (Department of Biodiversity Conservation and Attractions, 2024).

Night Parrots are granivorous, feeding primarily on seeds of grasses and herbs, especially *Triodia* species. Foraging occurs at night in floodplains and low-lying areas rich in forbs and grasses. They may travel several kilometres from roost sites to feed (Department of Biodiversity Conservation and Attractions, 2024; Threatened Species Scientific Committee, 2016b).

Both roosting and foraging habitats are typically on flat or gently sloping ground, with few trees or shrubs associated with paleodrainages or eroded rocky areas (Department of Biodiversity Conservation and Attractions, 2024). Contemporary Night Parrots establish long-term, stable roost sites in long-unburnt *Triodia* sp., but historically they have also used chenopods, such as samphire and *Sclerolaena*, and, in some cases, lignum. These sites typically support a pair or small group of Night Parrots, with individual roosts spread across an area up to several hectares (Adaptive NRM, 2021). These roost sites are in open landscapes (Jackett et al., 2017; Murphy, Austin, et al., 2017) with some scattered shrubs or isolated trees, although they are predominantly treeless. Night Parrot's perceived lower visual acuity may compromise its capacity to fly in treed

areas, so it seems to select sites to reduce potential collisions when flying (Iwaniuk et al., 2020). The Department of Biodiversity Conservation and Attractions (2024) described localised Night Parrot habitat as long unburnt *Triodia* hummocks, especially ring-forming species (e.g. *Triodia longiceps*) in a structurally diverse area with a mix of hummock sizes, but including hummocks exceeding 40cm in height.

Night Parrots forage on seeds in areas of higher productivity in paleodrainages, including salt lake edges and nearby interdunal claypans, although chenopod-dominated areas are also considered potential foraging habitat (Department of Biodiversity Conservation and Attractions, 2024). Murphy et al. (2017) placed a GPS tag on two Night Parrots and reported that the birds called at dusk from their diurnal roosts among spinifex hummocks and then flew to more floristically diverse habitats dominated by large-seeded, prolifically seeding species to feed. Night Parrots are feeding in floodplains and run-on areas rich in forbs, grasses and grass-like plants (Department of Biodiversity Conservation and Attractions, 2024; Olsen, 2018). Olsen (2018) provides multiple examples of Night Parrots being recorded in the vicinity of breakaways and coming into isolated pools of water to drink. Water management modelling (Kearney et al., 2016) suggested that Night Parrots may require access to freshwater or succulent plants such as *Sclerolaena* in hot conditions.

'Flyways' connect areas between where Night Parrots forage and roost and could include areas of low mixed grassland, shrubs, herbs and chenopods with bare gibber (Boles et al., 1994; Cupitt & Cupitt, 2008). Murphy et al. (2017) reported Night Parrots flying tens of kilometres when moving between foraging and perhaps drinking water, and probably traverse a variety of habitat types.

At Pullen Pullen Reserve it nests in large, more or less ring-shaped *Triodia*, and the nest consists of a tunnel (25-30° and 0° to the ground; 20-33cm long) through an apron of dead spinifex leaves that leads to a chamber under a live hummock, with a shallow-rudimentary depression (3-4cm) excavated into the gravelly/sandy soil (Murphy, Austin, et al., 2017). In the northern Goldfields, the nest was again in a spinifex hummock; it was circular, with an excavated depression (~1.5-2.0cm) in sandy substrate (Hamilton et al., 2017; Jackett et al., 2017). The entrance tunnel was 62cm long and was downward sloping (27°) with the entrance 28cm above the ground (Hamilton et al., 2017). It has clutches of typically four (but could be 2-6) sub-elliptical, white eggs with a lustrous appearance (Andrews, 1883; Murphy, Austin, et al., 2017; Keartland in North, 1898; Olsen, 2018; Bourgoin in Wilson, 1937). Breeding followed significant rainfall in March for the observations in Pullen-Pullen Reserve and in April in the northern Goldfields (Hamilton et al. 2017; Murphy et al. 2017a), but breeding is generally thought to occur between April and October (Murphy, Austin, et al., 2017). Breeding is opportunistic, often triggered by significant rainfall. Nests are built on the ground within spinifex clumps or under chenopod shrubs. Clutches typically contain 2-4 eggs. Juveniles have been observed in August, but breeding may occur year-round if conditions are favourable (NSW Government- Office of Environment & Heritage, 2017).

Main threats to night parrots include predation by feral predators, habitat/vegetation destruction by livestock, inappropriate fire regimes, disease, illegal collection and habitat loss (Threatened Species Scientific Committee, 2016b).

There are no mature spinifex hummocks in the project area, and there is feral fauna present. As the preferred roosting and nesting habitat for Night Parrots is not present in the project area, and it is likely that there is a significant threat to the species in the area (e.g., feral cats), the Night Parrot is highly unlikely to be present in the project area.

Western Spiny-tailed Skink (*Egernia stokesii badia*) –Endangered under the *EPBC Act 1999* and Vulnerable under the *BC Act 2016*

The Western Spiny-tailed Skink is a stout skink species with a SVL of approximately 194mm and is reddish brown with pale blotches in irregular bands (Wilson & Swan, 2021). As with other *E. stokesii* subspecies, *E. s. badia* has two spines on each dorsal scale that become large spines on its short, flat tails (Wilson & Swan, 2021).

The subspecies *E. s. badia* is found in the northern and central wheatbelt from Kellerberrin north to Carnarvon and as far east as Mukinbudin and Perenjori in Western Australia (Department of Environment and Conservation, 2012; How et al., 2003). It lives in small groups of related individuals numbering up to 17, staying together for up to 5 years. These families have small home ranges of up to 1.5 ha (Department of Environment and Conservation, 2012).

Western Spiny-tailed Skinks inhabit open eucalypt woodlands and Acacia-dominated shrublands (Department of Environment and Conservation, 2012; How et al., 2003). Most common woodland types include York Gum (*Eucalyptus loxophleba*), Gimlet (*E. salubris*) and Salmon Gum (*E. salmonophloia*) (Department of Environment and Conservation, 2012; How et al., 2003). It utilises logs over 25cm in diameter, cavities, tree trunks, branches and shrubs and even old corrugated iron, houses and ruins for shelter, but has a preference for log piles where several overlapping hollow logs provide numerous openings and retreat sites (Department of Environment and Conservation, 2012; How et al., 2003).

The diet of the Western Spiny-tailed skinks is mostly insects, with some plant material (Department of Environment and Conservation, 2012). *Egernia s. badia* is viviparous, breeding in late September or early November, and young are born between February and March (Department of Environment and Conservation, 2012).

Current known threats to the Western Spiny-tailed Skink include habitat loss due to vegetation clearing, degradation and unregulated modifications, collecting firewood and the removal of alternative refugia (e.g. old infrastructures and anthropogenic environments; Department of Environment and Conservation, 2012). Other potential threats include invasive predators, wildfires, illegal collecting of wild specimens and climate change (Department of Environment and Conservation, 2012).

Suitable habitat for the Western Spiny Skink is not present in the project area, so it is improbable that it is present in the project area.

Southern Whiteface (*Aphelocephala leucopsis*) - Vulnerable under the *BC Act 2016* and the *EPBC Act 1999*

The Southern Whiteface is a small, distinctive bird with a thornbill-like appearance, measuring ~11.5cm in length. It has a dark crown, extending from the forehead to the nape, and a white face. The upperparts are predominantly brownish-grey, and the underparts are white. Its short, pointed bill is finch-like in appearance and adapted for feeding on seeds and insects (Nevill, 2018). Some individuals have a distinct chestnut flank. The tail is black with a narrow white tip. It has a cream-coloured eye and grey legs. Adults are sexually monomorphic, while juveniles lack a black rear band on the face (Schodde & Mason, 1999).

There are two recognised subspecies of Southern Whiteface *A. l. leucopsis* (south-eastern southern whiteface), which is found throughout south-eastern and central Australia, and *A. l. castaneiventris* (south-west southern whiteface) found in central and southern regions of Western Australia (Department of Climate Change Energy the Environment and Water, 2023). The subspecies have overlapping ranges and hybridise in overlapping areas.

The Southern Whiteface's geographic distribution has declined substantially over the last 24 years, with an estimated reduction in population of 30-50% every 10 years (Department of Climate Change Energy the Environment and Water, 2023). The population of *A. l. leucopsis* is estimated at between 36,000 and 134,000, while the population of *A. l. castaneiventris* is estimated at between 236,000 and 954,000 (Department of Climate Change Energy the Environment and Water, 2023).

The Southern Whiteface occurs across an area of over 4,910,000km² across Australia. However, within this area, its area of occupancy is estimated to be 34,400-140,000km² (Ehmke et al., 2021). In Western Australia, it can be found as far north as Carnarvon, down to the south coast and from the WA west coast near Hamelin Bay through the Great Victoria Desert into the arid areas of South Australia.

In WA, the Southern Whiteface has been found in numerous IBRAs during surveys, including but not exclusive to the Pilbara, Carnarvon, Gascoyne, Yalgoo, Murchison, Coolgardie, Little Sandy Desert, Gibson Desert, Great Victoria Desert, Central Ranges, Geraldton Sand Plains, Avon Wheatbelt, Nullarbor, and Mallee.

The movements, home range, and social structure of Southern Whiteface are poorly understood. Some consider it sedentary; however, records indicate that birds will move locally to new areas, particularly in drought years (Higgins & Peter, 2002). Craig and Moore (2020) recorded this bird being present and absent during surveys near Bungalbin in Western Australia, suggesting it was mobile, probably with a shifting activity area. In multiple Terrestrial Ecosystems surveys near the Mt Weld mining area, near Laverton in the Goldfields, there was evidence of shifts in its activity area (Terrestrial Ecosystems, 2024a).

Its geographic distribution covers a wide range of habitat types. Acacias and Eucalypts usually dominate these habitats and consist of open woodlands and shrublands on ranges, foothills, lowlands, and plains (Higgins & Peter, 2002). It forages on the ground, feeding on insects, spiders, and seeds found on bare ground or in leaf litter (Antos & Bennet, 2006; Higgins & Peter, 2002). These birds will generally forage in small groups of 2-8; however, they have been known to congregate in larger groups and mixed flocks, particularly with other whiteface and thornbill species, and during the non-breeding season with foraging parties of up to 70 birds in winter (Higgins & Peter, 2002).

Critical habitat for this species is considered to be relatively undisturbed open woodlands and shrublands with an understorey of grass or shrubs near areas of low tree densities with a herbaceous understorey for foraging habitat and living and dead trees with hollows and crevices, which are needed for roosting and nesting (Department of Climate Change Energy the Environment and Water, 2023).

Southern Whiteface generally breeds between July and October; however, in arid regions, rainfall can affect breeding (Higgins & Peter, 2002; Terrestrial Ecosystems, 2024a). This bird nests in a variety of locations, including hollows and crevices to low bushes, and it constructs a large, bulky, domed nest of grass, bark, and roots (Higgins & Peter, 2002). Clutches consist of 3-4 eggs. The incubation period is unknown, but young fledge between 14-19 days. Birds generally nest in pairs, but examples of cooperative breeding have been observed (Higgins & Peter, 2002). The generational length is estimated at 2.8 years (Bird et al., 2020).

The conservation advice for the Southern Whiteface lists habitat loss as one of the major threats to the species, particularly on the east coast of Australia (Department of Climate Change Energy the Environment and Water, 2023).

Across much of the Southern Whiteface's range in WA, the threat to the species is a combination of secondary effects from overgrazing affecting understorey habitat, feral species predation, extreme climate events such as drought and climate change.

The Southern Whiteface has been recorded in multiple fauna surveys in the region and was recorded in the northern area during the site assessment.

Malleefowl (*Leipoa ocellata*) - Vulnerable under the *BC Act 2016* and the *EPBC Act 1999*

Malleefowl are a medium-sized, predominantly ground-dwelling bird that is comparable in size to that of a large domestic fowl. Adults range from 1.5 to 2.5kg, with males slightly larger. They can be challenging to find in the wild because of their excellent camouflage, though they are commonly seen near their large, distinctive breeding mounds.

Appearance-wise, they have a distinctive grey, black and white banding across their bodies and wings, while their neck and head are greyish with a white stripe under their eye, and their belly and breast are a cream-white in appearance (Department of Parks and Wildlife, 2016b). From the front of the crown to their nape, Malleefowl have a dark crest that will raise when the bird is alarmed (Department of Parks and Wildlife, 2016b).

Malleefowl are sexually monomorphic but do have differing calling patterns between the sexes. Males will make either deep two-toned bellowing or booming calls or loud clucks, while females will make high-pitched crowing, soft crooning, or low grunting calls (Department of Parks and Wildlife, 2016b). Malleefowl are known for building large mounds on the ground to make their nests during the breeding season. To successfully incubate their eggs, they will add or remove leaf litter and sand to maintain an optimal temperature of between 32-34°C (Hossain et al., 2022). Malleefowl mounds can consist of sand, rock and/or pebble, and can be between three-five metres in diameter (Sackmann & Jamieson, 2018) and up to one meter in height (Parvin et al., 2021).

After an egg is laid, the female Malleefowl will devote much of her energy and time to foraging to ensure she produces large yolk-rich eggs that are yet to be laid. Meanwhile, the male will tend to the mound and ensure it stays at optimum incubation temperatures (Weathers & Seymour, 1998), however, often both parents will regulate the temperature in the mound. While traditionally thought to be behaviourally monogamous, some studies have shown that they exhibit extra-pair paternity and polygyny (Stenhouse, 2022). Malleefowl has a high fecundity, producing up to 35 eggs per breeding season (Department of Parks and Wildlife, 2016a), but it is generally within the 14-20 range (Priddel & Wheeler, 2005). Higher food availability can lead to increased fecundity (Priddel & Wheeler, 2005).

Historically, the range of the Malleefowl in Western Australia spans from north of Carnarvon to east of Esperance, and they have also been recorded over the majority of southern WA (Parsons et al., 2008). With colonisation, the natural geographical range of the Malleefowl has contracted, and this contraction is predicted to continue (Parsons et al., 2008). This contraction is primarily attributed to land use for grazing and the introduction of predators (e.g., foxes; Benshemesh 2007);

Malleefowl can wander up to several kilometres from their normal activity area (Department of Parks and Wildlife, 2016b). They do not defend a territory, and their home ranges will often overlap with other individuals (Department of Parks and Wildlife, 2016b). These birds will move throughout their home range predominantly on foot, but can fly on rare occasions (Benshemesh, 2007). They mostly fly to a nocturnal roosting site, which provides some protection against terrestrial predators.

Malleefowl, as their name suggests, are most commonly found in mallee shrubland and woodlands (Department of Parks and Wildlife, 2016b). Other vegetation types they have been frequently found in include Mulga (*Acacia aneura*), Broombush (*Melaleuca uncinata*), Scrub Pine (*Callitris verrucosa*), Eucalyptus woodlands and coastal heathlands (Department of Parks and Wildlife, 2016b). For habitats with the vegetation types listed above to be suitable, they require sandy soils and plenty of leaf litter for Malleefowl to build their nest mounds (Department of Parks and Wildlife, 2016b).

Malleefowl is an opportunistic forager whose diet is affected by seasonal availability, but it mainly consists of a mixture of plant and insect materials (Animal Plant Mineral, 2012).

According to the National Malleefowl Monitoring manual there are seven profiles for Malleefowl nest mounds (National Malleefowl Recovery Team, 2016). Their descriptions are as follows:

1. Typical crater with raised rim. This is the typical shape of an inactive (dormant) mound.
2. Mound fully dug out. The crater slopes down steeply, and at the base the sides drop vertically to form a box-like structure with sides usually 20-30cm deep. Often litter will have been raked into windrows and may have started to enter the mound.
3. Mound with litter. This is the next stage after Profile 2. Litter will have been raked into the mound by Malleefowl, and thick layers of litter are evident on the surface. There may or may not be some sand mixed with the litter at this stage.
4. Mound mounded up (no crater) an active but unopened Malleefowl mound.

5. Mound that has a sandy crater with peak in centre. An active mound which is in the process of being closed by Malleefowl.
6. Mound low and flat without peak or crater. A very long unused mound or a deliberately flattened mound late in a breeding season to capture heat from the sun.
7. Very large flat mound. Very broad and flat and will generally measure more than 10m in diameter. These mounds are thought to have been made by a species of megafauna, a bird similar to Malleefowl but much larger. The mega mound may have a more recent mound on top of it.

Land clearing and fragmentation are the biggest threats to Malleefowl populations (Benshemesh, 2007). The ideal habitat for Malleefowl also unfortunately has the best soil conditions for wheat and sheep production, which has led to 80% of the wheat belts in Western Australia and the eastern states being cleared (Benshemesh, 2007). While agriculture is the primary reason for Malleefowl habitat loss, there has also been an increased interest in these areas by mining and waste containment (Benshemesh, 2007). The National Malleefowl Recovery Plan recommends that destructive mining be prohibited in suitable remnant vegetation and Malleefowl-dense areas unless there are clear long-term improvements for Malleefowl populations (Benshemesh, 2007). Consequently, this clearing has also had the run-off effect of fragmenting any remaining suitable Malleefowl habitat (Benshemesh, 2007).

Increased agricultural activity throughout Australia has led to a surge in sheep and other grazing animals in the Wheatbelt. This increased grazing has been shown to reduce the breeding densities of Malleefowl by between 85-90% (Benshemesh, 2007). These grazing animals have also led to decreased food supplies and vegetation cover for the Malleefowl, making them more vulnerable to predation and reducing their chances of survival due to competition for food resources (Benshemesh, 2007). Introduced predators, such as foxes and cats, have also heightened the risk of predation for the Malleefowl, drastically impacting chick and adult survival rates (Benshemesh, 2007). Foxes in particular are a significant threat because they will prey on Malleefowl during all life stages and are the only documented predators to target Malleefowl eggs, other than humans (Benshemesh, 2007).

There are also some threats outlined in the National Recovery Plan for Malleefowl that have yet to have any proof of direct impact on Malleefowl populations, but are included because they are highly likely to influence their populations in the future or will impact efforts to monitor/conservate existing populations. These include changing fire regimes, disease, inbreeding, chemical exposure and climate change (Benshemesh, 2007).

There are no recent records of active breeding mounds in or near the project area, and none were found in the site assessment.

Grey Falcon (*Falco hypoleucos*) - Vulnerable under the *BC Act 2016* and *EPBC Act 1999*

The Grey Falcon has an estimated wild population of <1000 (Threatened Species Scientific Committee, 2020) and is the rarest member of the *Falco* genus in Australia, and in the top five rarest Falcon species in the world (Schoenjahn et al., 2019).

The Grey Falcon is a medium-sized falcon that has a pale-grey underbody with a medium-grey back, black outer wings, and off-white underwings (Mullin et al., 2019). Compared to other falcons, its lighter plumage stands out (Mullin et al., 2019). They stand at about 30-45cm tall, with wingspans ranging from 85-95cm (Morcombe, 2017). Males have an average body mass of 390g, while females have an average 560g, displaying reverse sexual dimorphism (Schoenjahn et al., 2019). Grey Falcons are usually a quiet species, but during their breeding season, they will make loud, slow "kek-kek-kek" or "kak-ak-ak-ak", which sounds similar to the call of a Peregrine Falcon but is slower, deeper, and harsher (Morcombe, 2017).

This species is sparsely recorded throughout much of arid, semi-arid Australia and inland Australia. Their range has been reduced to northern WA, with only rare occurrences south of 26°S (Schoenjahn et al. 2019). When

sighted, Grey Falcons have been observed in areas with annual rainfall less than 500mm, except during wet years followed by drought, which can cause the species to become marginally more widespread (Threatened Species Scientific Committee 2020). They have also been sighted outside of breeding season in Derby, Western Australia (Schoenjahn et al. 2019). There have been sightings further south; however, many Grey Falcon sightings are believed to be misidentifications (Schoenjahn et al. 2019).

The Grey Falcon is a wide-roaming bird that is commonly recorded in drainages, along watercourses, or anywhere where there is permanent water throughout arid and semi-arid regions of Western Australia. There is a suggestion that their movements are seasonal, tending to move within rainfall areas of 150 or 250mm on the middle latitudes of Australia in the spring, and moving towards the coast while avoiding the north in the rainy seasons (Olsen & Olsen, 1986). During autumn and winter, Grey Falcons may move further north, where it is drier (Olsen & Olsen, 1986) and are commonly referred to as being nomadic due to a lack of substantial studies on their movements (Schoenjahn et al., 2019). When recorded, they have been found as individuals or in pairs. In times of severe drought, groups of up to six falcons have been spotted around the junction of the Murray and Darling rivers in the eastern states of Australia (Olsen & Olsen, 1986), but there is no information regarding whether anything similar occurs in Western Australia.

The Grey Falcon is most likely to inhabit the timbered country in stony plains, shrublands (especially *Acacia*), grasslands (i.e. spinifex and tussock), and wooded areas of arid/semi-arid regions (Olsen & Olsen, 1986). They can also inhabit open coastal woodlands, but this is primarily during droughts (Olsen & Olsen, 1986). It has been noted that in winter, Grey Falcons are more likely to be found in tussock grassland and open woodland.

Grey Falcons have been observed hunting in treeless areas and are known for having large foraging ranges. Their prey predominantly consists of birds, but they also hunt small mammals, reptiles, and insects (Olsen & Olsen, 1986). Grey Falcons prefer ground-feeding and flocking birds, including parrots, pigeons, and wrens (Olsen & Olsen, 1986). Their diet becomes more avian based during the breeding season. While they are said to hunt in treeless areas, most accounts of their feeding have involved them feeding on the ground, especially near outback verges and tracks (Schoenjahn, 2018).

Breeding habitat appears to be localised in zones with the highest annual average temperatures and in areas with persistently dry and winter-drought climatic conditions. The breeding season for Grey Falcons is from mid-late winter to the end of spring (June to November). During the breeding season, they nest in tall trees on watercourses and occasionally on man-made structures such as transmission line towers. Grey Falcons are said to be opportunistic and frequently use already existing structures from other bird species, typically corvids and other raptors, with rare reports indicating that they will make their nests (Schoenjahn, 2018). Grey Falcons will lay clutches of one to four eggs (Threatened Species Scientific Committee, 2020). Eggs take 35 days to incubate and another 49–52 days before they fledge (Schoenjahn, 2018).

Even though multiple reports have recorded threats to the Grey Falcon, none of these have been substantiated and are often considered to be speculative (Schoenjahn, 2018; Threatened Species Scientific Committee, 2020). These are:

- Predation by cats;
- Increased temperatures in arid and semi-arid Australia;
- Small population size;
- Grazing by exotic herbivores;
- Nest shortage;
- Birdwatchers and photographers;
- Collision with traffic;
- Collision with fences and powerlines;
- Egg collecting; and
- Falconry.

Predation by cats has been listed as the highest priority, as Grey Falcons can roost on the bare ground and have been previously found in the stomach contents of feral cats (Threatened Species Scientific Committee, 2020). A small population size means that the Grey Falcon is susceptible to demographic and genetic stochastic events, which could impact the long-term survival of the species, making it a very high threat (Threatened Species Scientific Committee, 2020). Threats 2, 4, and 5, above, are also listed as very high priority, but there is no evidence that these have impacted Grey Falcons (Threatened Species Scientific Committee, 2020). Disturbance by birdwatchers and photographers is a moderate threat to Grey Falcons, as they may interrupt breeding success with repeated visits to known breeding sites (Threatened Species Scientific Committee, 2020). Direct mortality from traffic, fences, and power lines is also considered a moderate threat; however, unlike birdwatchers, there is evidence for this threat (Threatened Species Scientific Committee, 2020). Egg collecting and falconry are the least impactful of these threats because they are least likely to occur.

The Grey Falcon has not been recorded recently near the project area, was not seen during the site visit, and the project area is unlikely to be in an area largely devoid of trees, so it is improbable that it is present.

Pilbara Leaf-nosed Bat (*Rhinonictoris aurantia*) - Vulnerable under the *BC Act 2016* and *EPBC Act 1999*

The Pilbara Leaf-nosed Bat is endemic to northern Australia, including an isolated population with a slightly divergent form in the semi-desert Pilbara region of Western Australia. It is a small 9.5g (range 8 to 11 g), insectivorous, obligate cave-roosting bat with orange, pale yellow, white, pale grey or light brown fur (Bat Call WA, 2021; Threatened Species Scientific Committee, 2016a).

It is endemic to the Pilbara of Western Australia and adjoining regions of the Ashburton, upper Gascoyne and Little Sandy Desert bioregions. They are found on either side of the Fortescue River and marsh, mainly in rocky areas.

Bat Call (2021) reported Pilbara Leaf-nosed Bats flying up to 20km from diurnal roosts, and occasionally longer distances. Roost sites include caves, rock crevices and disused mine adits, with constricted entrances that maintain the internal humidity, with the actual roost beyond the twilight zone in caves and underground mines where there is a stable, warm and humid microclimate because of its poor ability to maintain its heat and water balance, within flying range of freshwater (Bat Call WA, 2021).

The Commonwealth Government's conservation advice (Threatened Species Scientific Committee, 2016a) indicates that habitats critical to its survival are typically deep caves or complex mines with constant high humidity, within flying distance of permanent water. The Threatened Species Scientific Committee (2016a) indicated the following four categories of roosts:

- Permanent diurnal roosts (Priority 1)—occupied year-round and likely the focus for some part of the 9-month breeding cycle; considered as critical habitat that is essential for the daily survival of the PLNB.
- Non-permanent breeding roosts (Priority 2)—evidence of usage during some part of the 9-month breeding cycle (July–March) but not occupied year-round; considered as critical habitat that is essential for both the daily and long-term survival of the PLNB.
- Transitory diurnal roosts (Priority 3)—occupied for part of the year only, outside the breeding season (i.e. April–June), and which could facilitate long-distance dispersal in the region; considered as critical habitat that is essential for both the daily and long-term survival of the PLNB.
- Nocturnal refuge (Priority 4)—occupied or entered at night for resting, feeding or other purposes, with perching not a requirement. Excludes overhangs. Not considered critical habitat, but they are important for persistence in a local area.

The Pilbara Leaf-nosed Bat typically forages in spinifex hummock grasslands on low hills and shallow gullies, often over watercourses and pools. Bat Call (2021) indicate that high-priority foraging areas were characterised by vegetation complexity near semi-permanent watercourses. The Threatened Species Scientific Committee (2016a) indicated the following five categories of foraging habitat:

- Gorges with pools (Priority 1)—watercourses through upland areas bounded by sheer rock walls for parts of their length, often containing pools that remain for weeks or months, sites of relatively large biomass production, sometimes containing caves;
- Gullies (Priority 2)—primary drainage with limited riparian development in upland rocky habitats, sometimes containing small pools that may last for weeks, with less biomass production than Priority 1 gorge habitat;
- Rocky outcrop (Priority 3)—areas of exposed rock at the top of rocky outcrop and mesa hills that contain caves and overhangs, and boulder piles in the granite terrains;
- Major watercourses (Priority 4)—riparian vegetation on flat land plus the main gravelly or sandy channel of the river bed, sometimes containing pools that persist for weeks or months, and generally supporting higher productivity of biomass than the surrounding habitats;
- Open grassland and woodland (Priority 5)—dominated by *Triodia*, on lowland plains, colluvial slopes and hilltops.

The Pilbara Leaf-nosed Bat mates at the beginning of July. Young are born in December, following a prolonged gestation period and young are independent in February and March.

The Pilbara Leaf-nosed Bat is not present in the project area due to a lack of suitable roosting sites, and it is beyond the recognised southern geographical distribution of this species.

Princess Parrot (*Polytelis alexandrae*) - Vulnerable under the *EPBC Act 1999* and a Priority 4 species with DBCA

Princess Parrots are a medium-sized parrot with a bright red/orange beak that grows between 40-45cm tall. Its plumage is predominantly dull olive green with paler underparts, yellow-green shoulders and a blue-grey crown (Threatened Species Scientific Committee, 2018). The chin, throat and front side of their neck are coated in pink feathers, while their back and rump are a dull blue colour (Threatened Species Scientific Committee, 2018). Males are brighter in colour and have longer tails than females (Threatened Species Scientific Committee, 2018).

Princess Parrots are scattered throughout the arid regions of Australia. Records have shown sightings from near Oodnadatta in SA, to Coolgardie and east of Murchison River in WA and north past Fitzroy Crossing in WA and Howell Ponds in the NT (Threatened Species Scientific Committee, 2018). Their distribution is also thought to be concentrated in the Great Sandy, Gibson, Tanami, Great Victoria Deserts and the central ranges of Australia (Threatened Species Scientific Committee, 2018).

Princess Parrots are a highly nomadic species that appear in sporadic booms rather than regular patterns. Movements of this species appear to be linked to rainfall events and flower blooming events (Baxter & Henderson, 2000).

Princess Parrots prefer shrublands and savanna woodlands located in swales amongst dunes. (Threatened Species Scientific Committee, 2018). Preferred vegetation includes *Triodia* species with a variety of shrubs and scattered emergent trees (Threatened Species Scientific Committee, 2018). Some sightings have been found in vegetated rivers and littoral areas (Threatened Species Scientific Committee, 2018).

This species' diet consists of leaves, grass seeds, acacia pods, along with the nectar of flowering trees and shrubs (Threatened Species Scientific Committee, 2018).

Princess Parrots are considered an irruptive breeder (Pavey et al., 2014) and utilise tree hollows for their nests, and they have been shown not to nest in trees occupied by other Princess Parrots (Pavey et al., 2014). Breeding appears to coincide with above-average rainfall events, with nesting occurring afterwards (Pavey et al., 2014). Nesting occurs in *Eucalyptus camaldulensis* (River Red Gum), *E. gongylocarpa* (Marble Gum) and *Allocasuarina decaisneana* (Desert Oak) trees (Threatened Species Scientific Committee, 2018). A mated pair can fledge

between two and five offspring from egg clutches between three and six (Pavey et al., 2014; Threatened Species Scientific Committee, 2018).

There are no current recorded threats to Princess Parrots, but several events have the potential to become threats. These include: increased fire events affecting hollow and habitat availability, increased water availability in arid zones from agriculture leading to increased competition from more water-dependent parrots, habitat degradation from grazing animals and human activities and increased spread of Psittacine Beak and Feather disease (Pbfd) causing direct mortalities of many parrot species (Threatened Species Scientific Committee, 2018).

The project area is probably too far west of the sandy deserts for it to move into this area, so it is very improbable that it would be recorded in the project area.

Fork-tailed Swift (*Apus pacificus*) - Migratory species under the *EPBC Act 1999* and *BC Act 2016*

This species breeds in northeast and mid-east Asia and winters in Australia and southern New Guinea. It is a visitor to most parts of Western Australia, arriving in the Kimberley in late September, in the Pilbara in November, and in the Southwest Land Division in mid-December, and departing by late April. The Fork-tailed swift is almost exclusively an aerial species, foraging and sleeping on the wing. It is common in the Kimberley, uncommon to moderately common near northwest, west, and southeast coasts, and rare to scarce elsewhere. It rarely comes to the ground, usually only for breeding, so it is unlikely to be significantly impacted by vegetation clearing and low-impact disturbance in the project area. It is rarely seen in the Goldfields and Midwest (Plate 11).

The Fork-tailed Swift may very infrequently be seen in the bioregion.

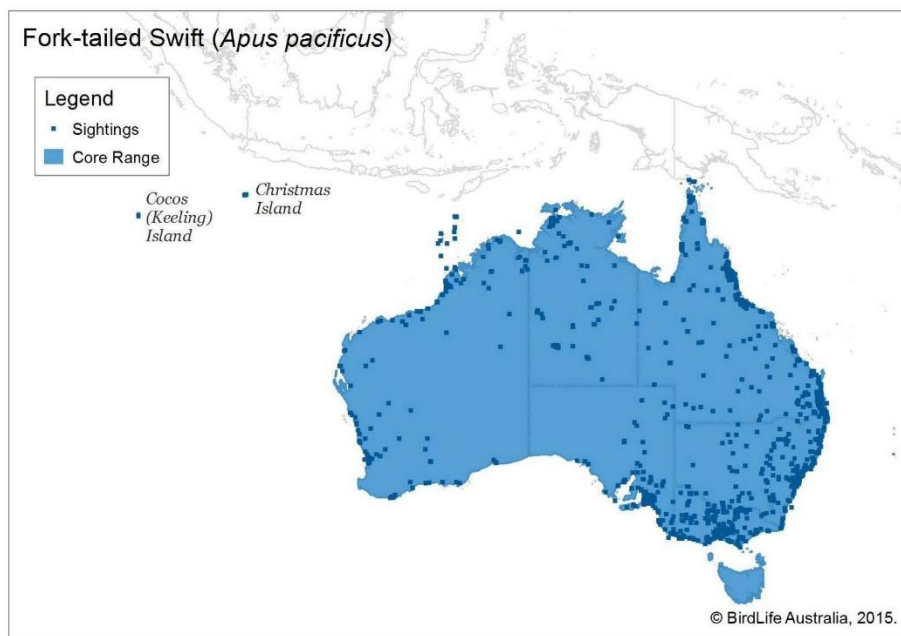


Plate 11. Range and actual reported sightings of the Fork-tailed Swift

(taken from <http://www.environment.gov.au/biodiversity/threatened/publications/epbc-act-referral-guidelines-migratory-birds>)

Oriental Plover (*Charadrius veredus*) - Migratory species under the *EPBC Act 1999* and *BC Act 2016*

Oriental Plovers are a medium-sized plover, standing approximately 25cm tall. They have yellow legs, and in non-breeding plumage, they have grey backs with a light brown front and white underside (BirdLife Australia, 2020). During breeding season, they gain an orange and black band across their fronts (BirdLife Australia, 2020).

Oriental Plovers are a migratory species that comes to Indonesia and Northern Australia (Branson & Minton, 2006) during the summer months (December-February). This usually coincides with increased food sources, such as grasshoppers, and wet weather (Eberhart-Hertel, 2019). While during the rest of the year it is found in Mongolia and North-East China (Branson & Minton, 2006).

Oriental Plovers are insectivorous, mainly observed foraging for insects in Australia (Ozerskaya & Zabelin, 2006). Ideal habitat for Oriental Plovers has been described as open short-grass plains, as these are ideal for insect foraging (Ozerskaya & Zabelin, 2006). Oriental Plovers can be found in inland and coastal habitats, including semi-arid or overgrazed plains, paddocks, airfields and playing fields, as well as salt marshes, mudflats and beaches (Gynther et al., 1995; Ozerskaya & Zabelin, 2006).

Oriental Plovers breed overseas in Central Asia (Ozerskaya & Zabelin, 2006). Males will perform display flights to attract a female's attention. These displays show them flying in zig-zag patterns with wings fully extended (Ozerskaya & Zabelin, 2006). Breeding begins in May, with pairs laying clutches of three to four eggs, which hatch in June (Ozerskaya & Zabelin, 2006). The young are fully fledged and flying by July, with the young staying close to their parents' territories until they are fully matured (Ozerskaya & Zabelin, 2006).

There are no recorded threats to this species; however, as it is only found in Australia for a limited period. It is improbable that the Oriental Plover is present in the project area due to a lack of suitable habitat.

Grey Wagtail (*Motacilla cinerea*) - Migratory under the *EPBC Act 1999* and *BC Act 2016*

The Grey Wagtail is a small, yellow-breasted bird with a grey back and head. Johnstone and Storr (2004) reported that this migratory species breeds in the Palearctic from western Europe, and then flies to Africa, Southeast Asia, Indonesia, the Philippines, New Guinea, and Australia for the southern hemisphere summer. Its preferred habitat in Australia is banks and rocks in fast-running fresh water, including rivers, streams, and creeks, where it feeds on insects.

The Atlas of Living Australia records two sightings on the south coast of Western Australia (Plate 12) and none around the project area. Due to a lack of records and suitable habitat, it is highly unlikely to be seen in the project area.

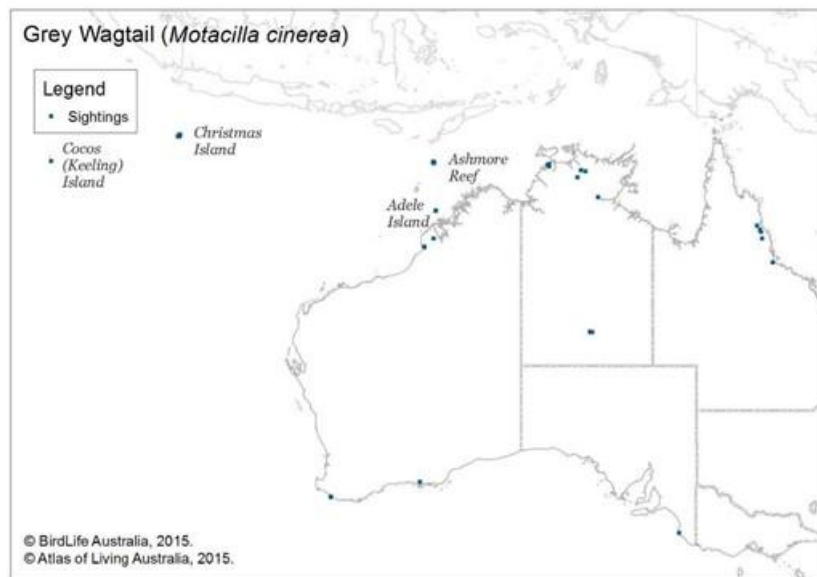


Plate 12. Reported sightings of the Grey Wagtail

(taken from <http://www.environment.gov.au/biodiversity/threatened/publications/epbc-act-referral-guidelines-migratory-birds>)

Yellow Wagtail (*Motacilla flava*) - Migratory under the *EPBC Act 1999* and *BC Act 2016*

The Yellow Wagtail is found in the millions in the northern hemisphere, and the Atlas of Living Australia has multiple records of this bird in Australia's coastal areas.

There are no records for this species in inland Western Australia near the project area (Plate 13), so it is highly unlikely to be significantly impacted by vegetation clearing and low-impact disturbance in the project area.

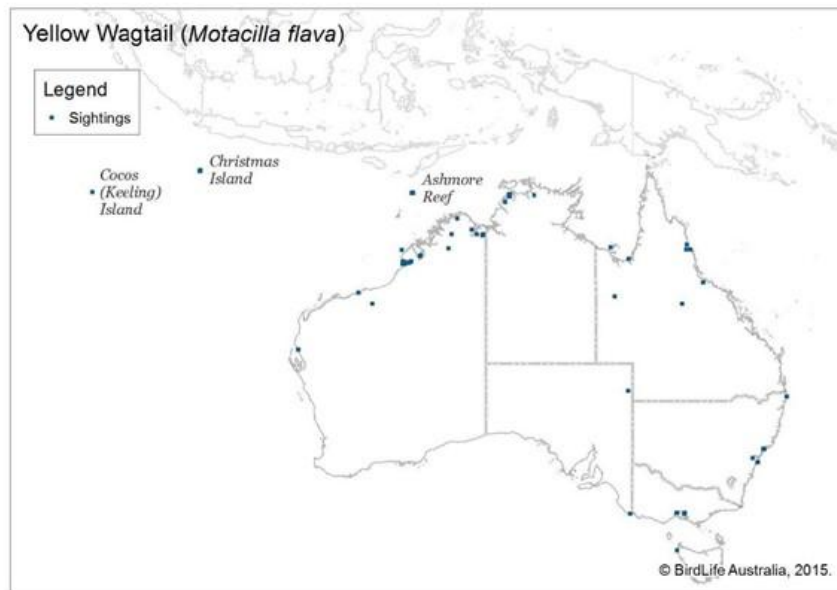


Plate 13. Reported sightings of the Yellow Wagtail

(taken from <http://www.environment.gov.au/biodiversity/threatened/publications/epbc-act-referral-guidelines-migratory-birds>)

Peregrine Falcon (*Falco peregrinus*) - Otherwise specially protected under the *BC Act 2016*

The Peregrine Falcon stands between 35-50cm tall, with females approximately 15% larger than males (Kinross, 2023). Amongst Australian falcons, they are considered on the larger side with a powerfully built body and are identified by their black hood, deep white to brown (SW buff fronted form) chest with dark barring below the chest (Morcombe, 2017). As they mature, Peregrine Falcons possess bright yellow cere and eye rings, and their beaks are dark grey (Morcombe, 2017). When in flight, their tail is square-tipped, and their flight wings have rounded to blunt tips, with the wingspan of a peregrine falcon ranging from 85-100cm (Morcombe, 2017).

The Peregrine Falcon is a widespread species found on almost every continent except Antarctica (Altwegg et al., 2013). In Western Australia, this species is considered uncommon to rare. They live in many habitats, ranging from rainforests to arid scrublands and coastal heath to alpine areas (Morcombe, 2017), even thriving under extreme anthropogenic conditions by choosing to nest in active construction sites (Clayton et al., 1988). However, all their habitats require secure nesting sites and abundant food (Morcombe, 2017).

The Peregrine Falcon is the fastest flying bird and can reach speeds of 300 km/hr whilst hunting (Australian Geographic, n.d). This species is considered philopatric in Australia (Australian Geographic, n.d).

The diet of a Peregrine Falcon is highly variable, consisting of numerous species, but the most consistent prey items are birds, although insects are also common in their diet (Olsen et al., 2004) and mammalian prey appears to make up a tiny portion of their diet, and may be a more opportunistic prey item (Palmer et al., 2019). Peregrine Falcons found in the goldfields of Western Australia have been observed eating mostly parrot species, such as the Purple-crowned Lorikeet, but they will also eat microbats and small rodents (Palmer et al., 2019). In eastern Australia, populations of Peregrine Falcons may also prey on Silver Gulls and corvid species (Olsen et al., 2004).

In Australia, Peregrine Falcons will build their nests in a variety of habitats (Olsen et al., 2004). Critical features of suitable nesting sites include adequate protection from weather and predators, an appropriate substrate for creating scrapes to lay eggs, and suitable directional exposure for temperature control (Gahbauer et al., 2015).

When this species experiences population pressure, younger mating pairs have been seen using nesting sites that older, more experienced pairs would pass over (Clayton et al., 1988).

Clutch size has been shown to vary based on location. For example, in France, clutch size averaged at four eggs, while in Australia, it is estimated to range between 2-3 eggs (Kinross, 2023). Both male and female brood the eggs over the 29-35 day incubation period (Kinross, 2023). Incubation times may be longer in cooler temperatures (Kinross, 2023).

The main threat to the Peregrine Falcon in Australia is the use of pesticides. Before 1970, there was a severe decline in populations due to the use of DDT (dichloro-diphenyl-trichloroethane) by farmers (Mundy, 2018). Most modern pesticides and rodenticides can be accumulated in predator species. This poses a threat to predatory species (Melbourne's Wild Heart, n.d.). Because of how fast these birds can fly, they are also at risk of fatalities when they collide with structures (BirdLife Australia, 2017).

The Peregrine Falcon was not recorded during the site investigation and the presence of very few trees in the project area suggests it is unlikely to be present.

Meekatharra Slider (*Lerista eupoda*) – Priority 1 with DBCA

Lerista eupoda is a small, fossorial skink with two fingers and three toes and a solid black-brown vertebral stripe (Smith, 1996). It has a maximum SVL of 87mm and is found in open Mulga on red loam and sandy loam soils (Smith, 1996).

The Atlas of Living Australia records indicate that it could be found in the project area.

Long-tailed Dunnarts (*Sminthopsis longicaudata*) – Priority 4 species with DBCA

The Long-tailed Dunnart is a small, nocturnal marsupial belonging to the Dasyuridae family. Its most notable feature is the elongated tail, which is twice the length of its head-body length (Gynther et al., 2013). The tail is scaly with short, fine hairs and a fine, brushy tip (Gynther et al., 2013). Long-tailed Dunnarts have a grey body and a pale cream-white underbelly with white legs and feet (Gynther et al., 2013). Head-to-body length is around 80-100mm for males and 80-90mm for females, and they weigh between 15-25g (Gynther et al., 2013).

Its geographic distribution includes arid and semi-arid regions of Western Australia, South Australia, Northern Territory, and Queensland. In Western Australia, it is found in the areas between the Pilbara, the northeastern Goldfields and the sandy deserts (Menkhorst & Knight, 2018).

The Long-tailed Dunnart is agile, moving quickly to evade predators and hunt for prey. It is an excellent climber, utilising its strong hind legs and long tail to navigate rocky terrains and vegetation. It is most often observed darting between rocks and shrubs during the night.

Habitat types used by the Long-tailed Dunnart include rocky outcrops, scree slopes, stony plateaus with shrubs over spinifex hummock grasslands (Gynther et al., 2013). During the day, Long-tailed Dunnarts take refuge in rock crevices, under fallen logs, or abandoned burrows to avoid predators and extreme temperatures.

Long-tailed Dunnarts are insectivorous, primarily feeding on insects and other small invertebrates. Its diet includes beetles, ants, spiders, and occasionally small vertebrates. It hunts at night, using its keen sense of hearing and smell to locate prey. The species is known for its high metabolism, which requires it to consume a substantial amount of food relative to its body size.

Woolley and Valente (1986) reported that under laboratory conditions, the Long-tailed Dunnart is polyoestrous and in breeding condition from late winter to early summer (August-December). Females give birth to litters of up to eight young after a short gestation period of around 13 to 16 days, and both males and females can breed multiple times in a season (Woolley & Valente, 1986). More recent information indicates that mating occurs during October-November and will produce up to 6 young (Menkhorst & Knight, 2018).

The Long-tailed Dunnart faces several threats, including habitat destruction, predation by introduced species such as cats and foxes, and the impacts of climate change. Habitat destruction, resulting from land clearing for agriculture, mining, and urban development, reduces the species' available shelter and food sources. Introduced predators pose a significant risk, as they prey on small marsupials, further decreasing their populations.

There is a lack of suitable habitat for Long-tailed Dunnarts in the project area, so it is unlikely to be present.

