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Corinthia NVCP Supporting Document

PREPARED FOR:

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Document history & status

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Document Version:	Rev B
Project Number:	1001622

Section 1 Overview

Cygnet Gold Pty Ltd (Cygnet) is proposing to expand the Corinthia Gold Mine (the Project). The Corinthia Gold Mine is an abandoned open pit from gold mining operations dating back to the early 1900's. The Project is located between two existing projects owned and operated by Cygnet, the Golden Pig Underground Gold mine in Southern Cross, and the Copperhead Mine, in Bullfinch.

The Project is located 15 km north-west of Southern Cross and 290 km east of Perth in the Yilgarn Region of Western Australia (WA) as shown in Figure 1-1. The tenements are wholly owned by Cygnet.

The Corinthia Gold Mine has been under the control of multiple operators since 1909, expanding the operations slowly throughout the decades. During this timeframe, a pit and supporting infrastructure was established within M77/534. In the early 2000s, operations ceased, and the area was abandoned. In 2015, Corinthian Mining Pty Ltd recommenced operations through open pit and underground mining. This mining was supported with waste rock landforms (WRL), Run of Mine Pad (RoM), stockpiles for ore and soils, and other infrastructure primarily within M77/677.

The Project will consist of an open cut pit with underground portal access, WRL, tailings storage facility (TSF), processing plant, haul road and supporting infrastructure on tenements M77/534 and M77/677 (Figure 1-2). These tenements will make up the area for the Project and be defined as the Development Envelope (DE). The Project will involve processing up to 1.5 - 2 million tonnes per annum (mtpa) of gold ore with additional ore trucked up from the Golden Pig and Copperhead underground operations in Southern Cross and Bullfinch, respectively.

Currently, Cygnet have engaged with the Department of Mines, Petroleum and Exploration (DMPE) and the Department of Water and Environmental Regulation (DWER). This Project is not required to be assessed under Part IV of the *Environmental Protection Act 1986* and will not require a referral to the Department of Climate Change, Energy, the Environment and Water under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

All previous Native Vegetation Clearing Permits (NVCP) for the DE have since expired.

1.1 Tenement Details

This NVCP Application relates to tenements M77/532 and M77/677 (**Table 1-1**).

Table 1-1 Tenements relevant to the Project

Tenement	Holder	Area (ha)	Grant Date	Expiry Date
M77/534	Cygnet Gold Pty Ltd	985.75	29/08/1991	03/09/2034
M77/677		12.135	21/11/1994	29/08/2037

1.2 Existing Disturbance Areas

There are no current approvals associated with operations at Corinthia. Previously disturbed areas were rehabilitated under the then Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) Mine Closure Guidelines

Figure: 1.1 - Regional location

LEGEND

- Development envelope
- LGA boundary (LGATE-233)
- Cadastral boundary (LGATE-002)

Roads (LGATE-195)

- Freeways & Highways
- Main Roads
- Towns (LGATE-013)

N

0 2.5 5
kilometres

Scale @A4: 1:275,000
Projection: GDA2020 MGA Zone 50

Client: Cygnet Pty Ltd
Project and Phase:
Data: Geoscience Australia

Main Roads:
Towns (LGATE-013): © Western Australian Land Information Authority (Landgate) 2014.
World Imagery: Earthstar Geographics
Local Government Authority (LGA) Boundaries (LGATE-233):
Freeways & Highways:
Cadastre Address (LGATE-002) :

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DISCLAIMER: CDM Smith has endeavoured to ensure accuracy and completeness of the data. CDM Smith assumes no legal liability or responsibility for any decisions or actions resulting from the information contained within this map. Drawn By: anandagodaic 9/2/2025.
\\cdminc.internal.cdm.com\offices\AUST\Project\1001622 - Golden Pig and Copperhead\7Work\3GIS\aprx\1001622_CorinthiaNVCP.aprx

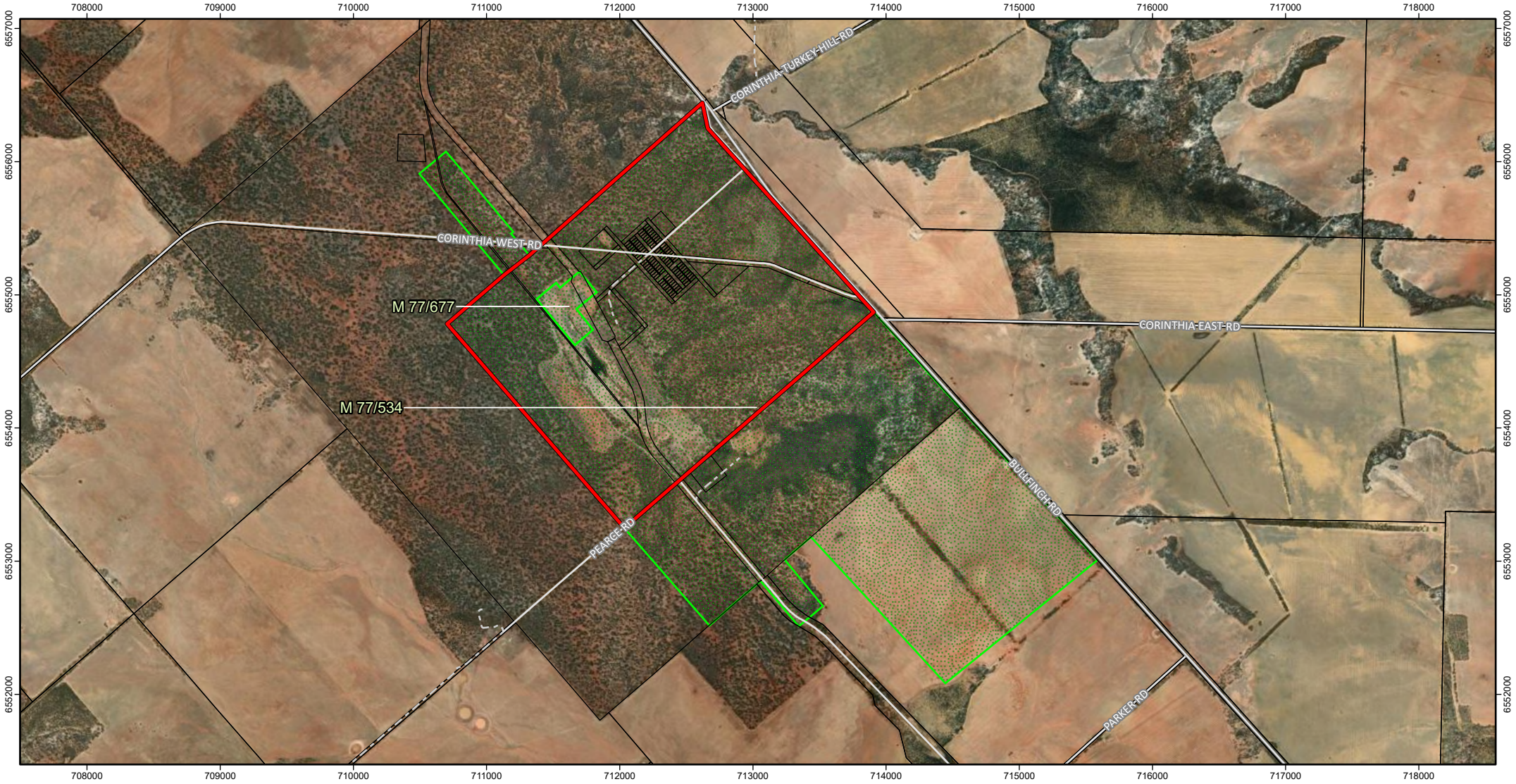

Figure: 1.2 - Tenements

LEGEND

- Development envelope
- Cadastral boundary (LGATE-002)

Mining tenements (DMIRS-003)

- Live

Roads (LGATE-195)

- Main roads
- Minor roads
- Tracks

N

0 0.5 1
kilometres

Scale @A4: 1:40,000
Projection: GDA2020 MGA Zone 50

Client: Cygnet Pty Ltd
Project and Phase:
Data: Geoscience Australia

Mining tenements (DMIRS-003): SLIP / DMIRS
Main roads:
Tracks:
Minor roads:
Cadastre Address (LGATE-002) :
World Imagery: Maxar

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Section 2 Mine Activity Details

Clearing will be required for a variety of Key Mining Activities and Other Mine Activities for the Project, which is shown in Figure 2-1. All disturbance will occur within the DE.

Some disturbance within the DE includes existing disturbances from historical activities, these previously disturbed areas will be incorporated into the Project which will minimise overall clearing requirements.

Conventional mining will be undertaken, including a drill and blast program, with ore hauled to the ROM pad for processing. Waste rock will be used to construct the WRL and TSF.

Infrastructure will be required for development of the Project and may include, but is not limited to:

- Corinthia Pit expansion
- Process Plant
- ROM
- WRL
- TSF
- Onsite Power generation
- Waste management – landfill
- Laydowns
- Workshops
- Tracks, Haul Road & Access Roads
- Refuelling
- Local Road detour
- Water Pipeline Diversion.

2.1 Clearing Requirements

The Project will require a total of 486.04 ha to be disturbed including ROM, plant area, IWL TSF, pit expansion, roads and supporting infrastructure. Of the total amount of clearing required, 98.12 ha is previously disturbed land classified as cleared, which includes the existing pit. Therefore, total vegetation disturbance will be 387.92 ha. This is defined as the Disturbance Footprint (DF) within the Project area of M77/534 and M77/634 (Figure 2-2).

Historical activities resulted in pre-existing disturbances that will be incorporated into the DF and reduce the overall clearing of native vegetation. This disturbance has been captured from the most recent survey done by AECOM (2025) (Appendix A) and covers an area of 324.7 ha.

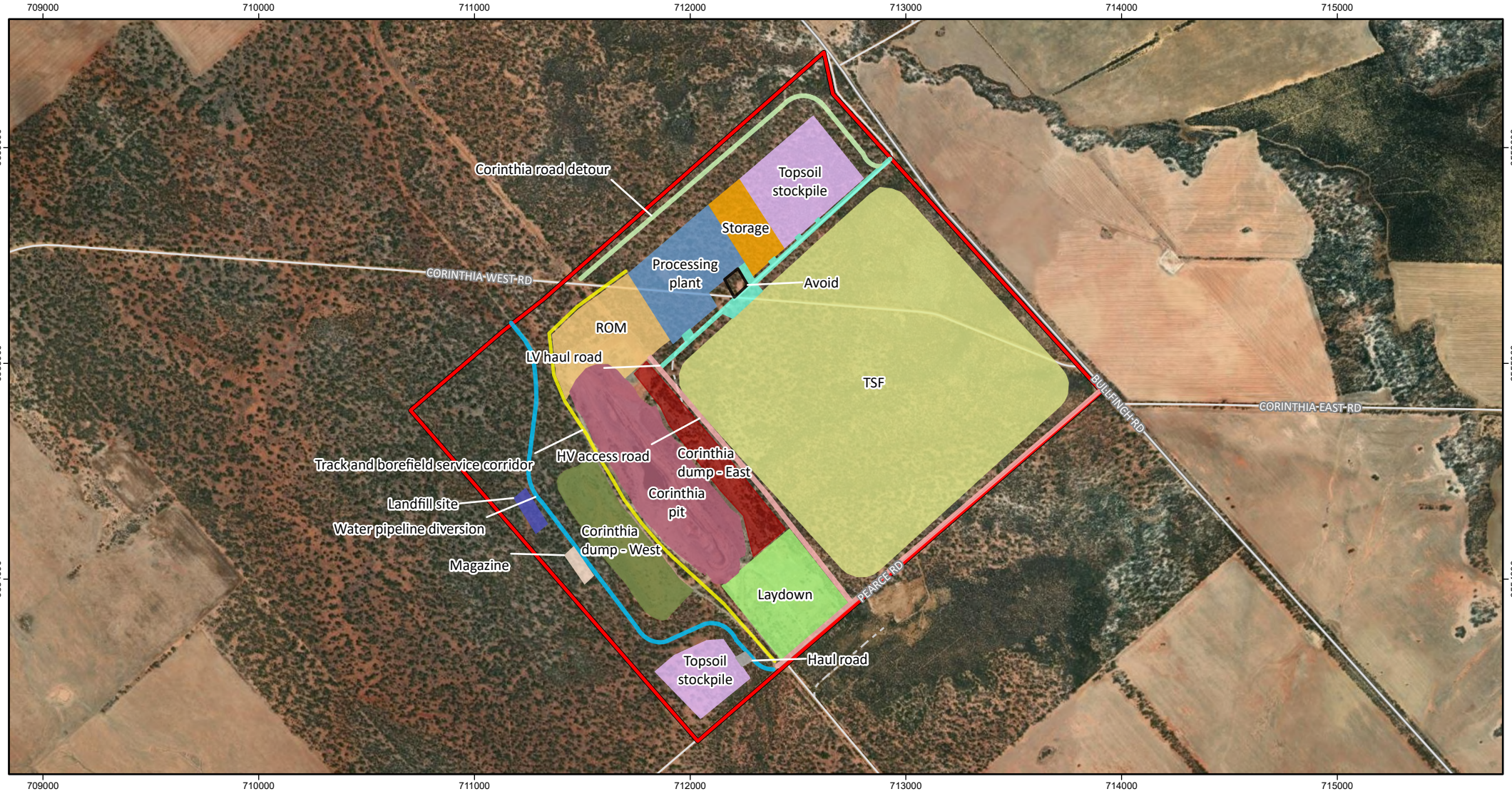

Figure: 2.1 - Project Layout

LEGEND

- Development envelope
- Corinthia layout
- Avoid
- Corinthia dump - East
- Corinthia dump - West
- Corinthia pit
- Corinthia road detour
- HV access road
- Haul road
- LV haul road
- Landfill site
- Laydown
- Magazine
- Processing plant
- ROM
- Storage
- TSF
- Topsoil stockpile
- Track and borefield service corridor
- Water pipeline diversion
- Roads (LGATE-195)
- Main roads
- Minor roads
- Tracks

N

0 250 500
Metres

Scale @A4: 1:25,000
Projection: GDA2020 MGA Zone 50

Client: Cygnet Pty Ltd
Project and Phase:
Data: Geoscience Australia

World Imagery: Earthstar Geographics
Main roads:
Tracks:
Minor roads:

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Figure: 2.2 - Disturbance Footprint

LEGEND

- Development envelope
- Disturbance

Roads (LGATE-195)

- Main roads
- Minor roads
- Tracks

N

0 250 500
Metres

Scale @A4: 1:27,500
Projection: GDA2020 MGA Zone 50

Client: Cygnet Pty Ltd
Project and Phase:
Data: Geoscience Australia

Aboriginal Cultural Heritage - Lodged (DPLH-100):
Main roads:
Tracks:
Minor roads:
World Imagery: Maxar

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Section 3 Environmental Setting

3.1 Climate

The Project is located within an area that experiences a Mediterranean climate of arid to semi-arid, dry, warm weather with temperatures reaching over 40°C in the summer months to temperatures below 0°C in the winter months. Climate data, available from 1996 to 2024 from the Australian Bureau of Meteorology climate station at Southern Cross Airfield (station number 012320), shows the seasonal fluctuation of temperature and rainfall (refer toFigure 3-1).

The mean maximum monthly temperatures range from 16.8°C in July to 34.8°C in January and the mean minimum temperature range from 3.7°C in July to 17.9°C in January and February. Rainfall data from station 012320 indicates the average rainfall is 301.2 mm with highest level of rainfall occurs in July with 34.7 mm and the lowest rainfall in December of 13.9 mm. Large, rainfall events, generally caused by cyclone events in the north or local thunderstorms, can occur during the summer months.

Annual pan evaporation in Southern Cross is between 2000 mm and 2400 mm which means that evaporation exceeds monthly rainfall for all months and by order of magnitude over the summer months (Figure 3-2). Perennial surface water bodies in the area are uncommon, as the annual rainfall only accounts for 10% of the annual potential evaporation. After large rainfall events, intermittent surface runoff flows can be expected within the area which are generally of a short duration.

Winds are predominately from the north-east during the winter, whilst the remainder of the year, the winds prevail from the south-easterly sectors.

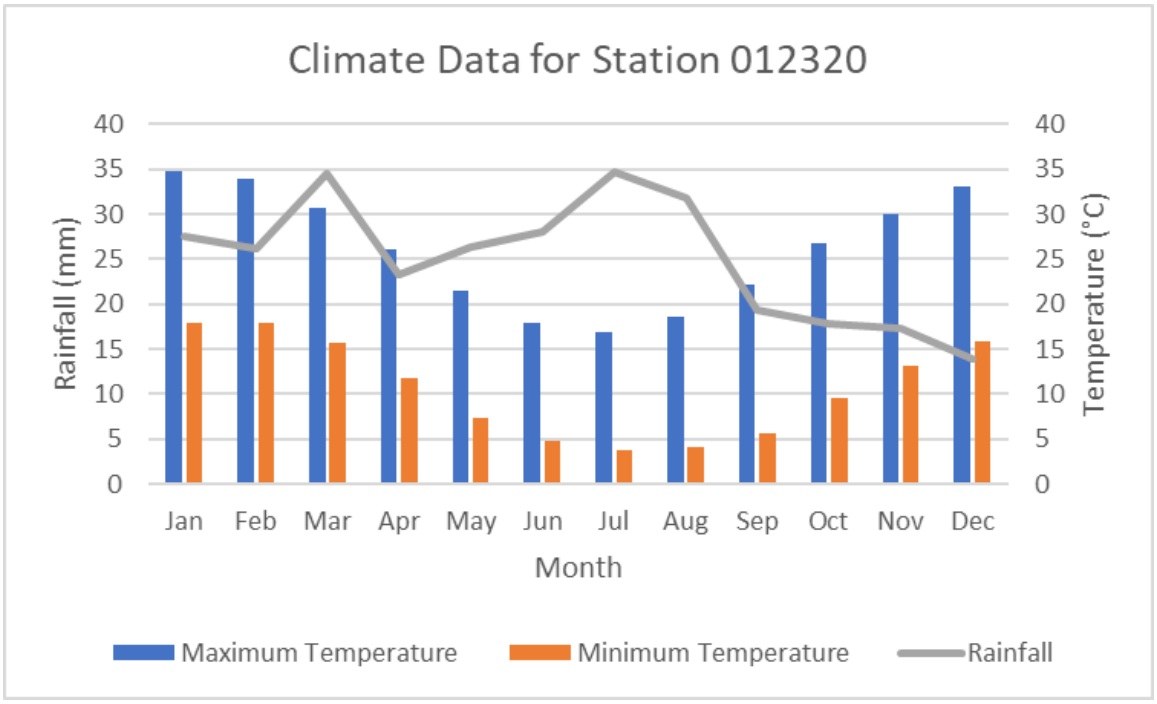

Figure 3-1 Climate Data Range

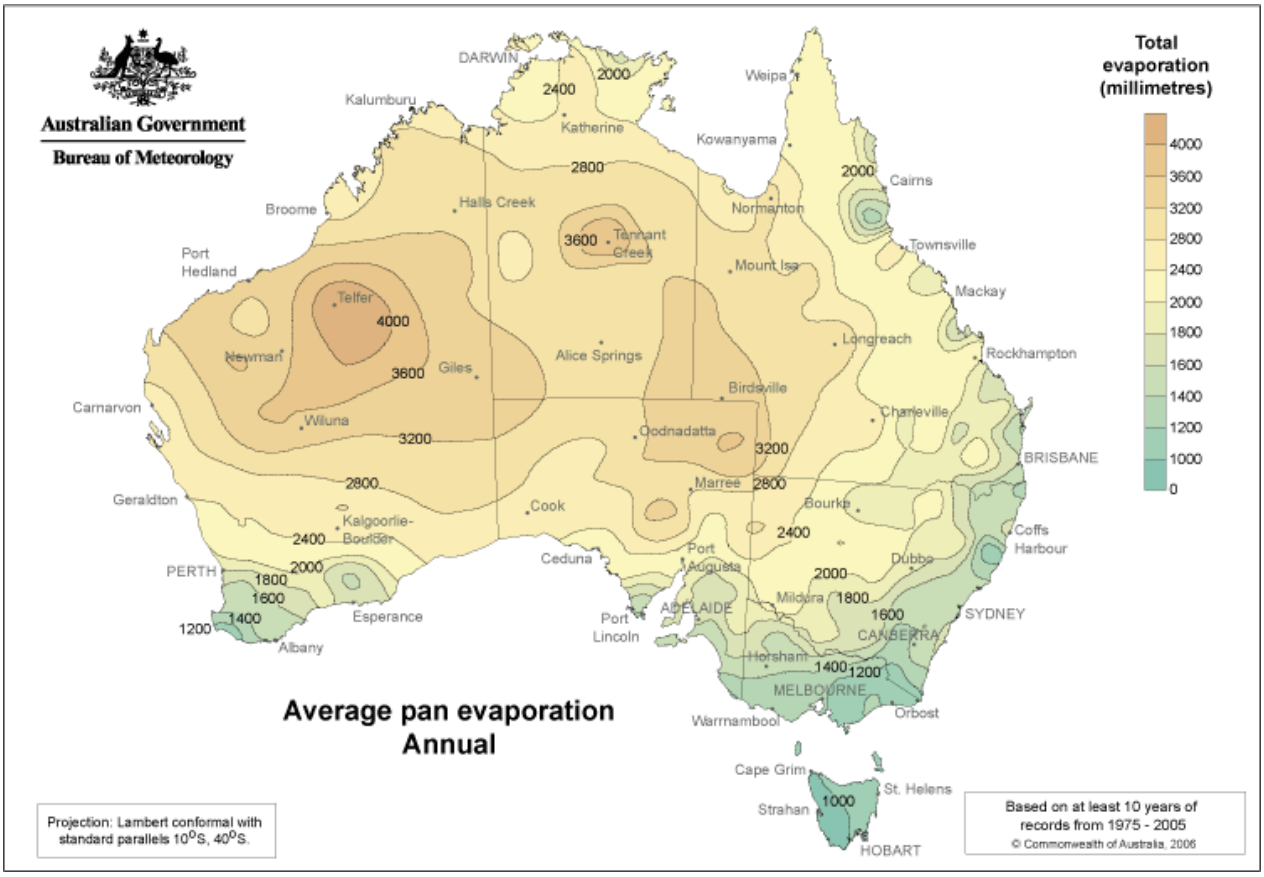

Figure 3-2 Average Pan Evaporation Rate

3.2 Biographic Subregions

The Project lies within the Coolgardie Interim Biogeographical Region of Australia (**IBRA**) and Southern Cross IBRA Subregion. Landforms in this region include granite rocky outcrops, low greenstone hills, laterite uplands broad plains and many salt lakes. The Coolgardie 2 - Southern Cross sub-region as described by Cowan et al. in 2001 has "subdued relief comprised of gently undulating uplands dissected by broad valleys with bands of low greenstone hills." This region lies on the Southern Cross Terrain of the Yilgarn Craton.

3.3 Landscape

The Project is situated in the central section of the Southern Cross greenstone belt of the Yilgarn Craton which is comprised of three soil landscapes (Tille, 2006). The three systems identified include:

- Greenmount System: Gently undulating rises to rolling low hills in the eastern Zone of Ancient Drainage. Loamy earth (mostly red, calcareous and clayey and stoney).
- Baladjie System: Valley floors and lower slopes, in the northern Zone of Ancient Drainage, with calcareous loamy earth and alkaline red loamy duplex (mostly shallow). Woodland.
- Garratt System: Lower slopes and footslopes adjacent to salt lakes in the eaten Zone of Ancient Drainage. Loamy earth (mostly calcareous), hard cracking clay and alkaline shallow duplex.

The topography around the Project is made up of undulating plains with flat valleys including playas and large salt lakes (Figure 3-3). The landscape is consistent with the underlying or adjacent rock types.

3.4 Geology

The Project lies on the Southern Cross greenstone belt between Southern Cross and Bullfinch. The mineralisation is associated with a steeply dipping, northwesterly-trending quartz vein and Banded Iron Formations lying east of the quartz vein. Mineralisation occurs at the contact between foliated amphibolite (west wall) and sericite-chlorite schist with amphibolite evident at the base of the existing Corinthia Open Pit (east wall). The mineralised zone is conformable to the strike of the adjacent units. The quartz sericite schist is bounded further to the east by an intrusive gneissic granite (Figure 3-4).

Felsic schist lies near or at the granitic contact, and there are a number of dolerite dykes, both cross-cutting and sub-parallel to the ore zone (Tetra Tech Coffey, 2025).

The rocks are weathered to at least 100 m depth, and within the mineralised zone are generally strongly jointed (both vertically and horizontally, with some oblique).

3.5 Soils

Based on the test pit and borehole logs, the subsurface profile can be summarised as typically comprising 1.5 to 3 m thickness of "transported" soils (as distinct from residual soils generated from weathering) overlying a weathering profile of granitic rock to the depths of testing (15 m below ground level (mbgl) (Tetra Tech Coffey, 2025).

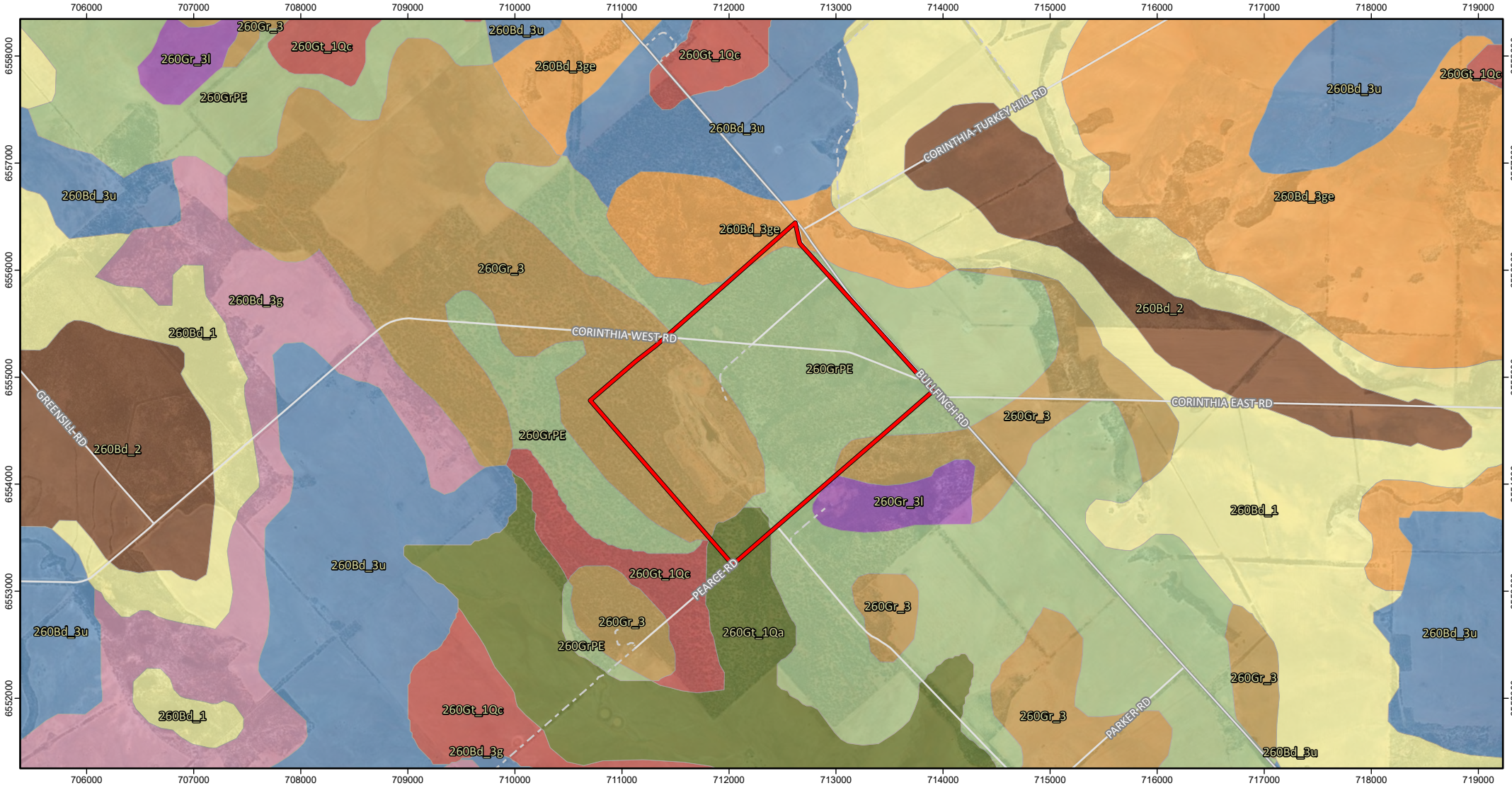

Figure: 3.3 - Landscape

LEGEND

- Development envelope

Soil landscape (DPIRD-027)

- Buladagie 1 Sandplain subsystem
- Buladagie 2 Sandplain subsystem
- Buladagie 3 G -Granite phase
- Buladagie 3 undifferentiated phase
- Buladagie 3 with mafic or schist influence phase
- Garratt 1Qa phase
- Garratt 1Qc phase
- Greenmount 3 subsystem
- Greenmount 3l phase
- Greenmount, Perilya subsystem

Roads (LGATE-195)

- Main roads
- Minor roads
- Tracks

N

0 250 500
Metres

Scale @A4: 1:50,000
Projection: GDA2020 MGA Zone 50

Client: Cygnet Pty Ltd
Project and Phase:
Data: Geoscience Australia

Main roads:
Tracks:
Minor roads:
World Imagery: Maxar
Soil Landscape Mapping - Best Available (DPIRD-027):

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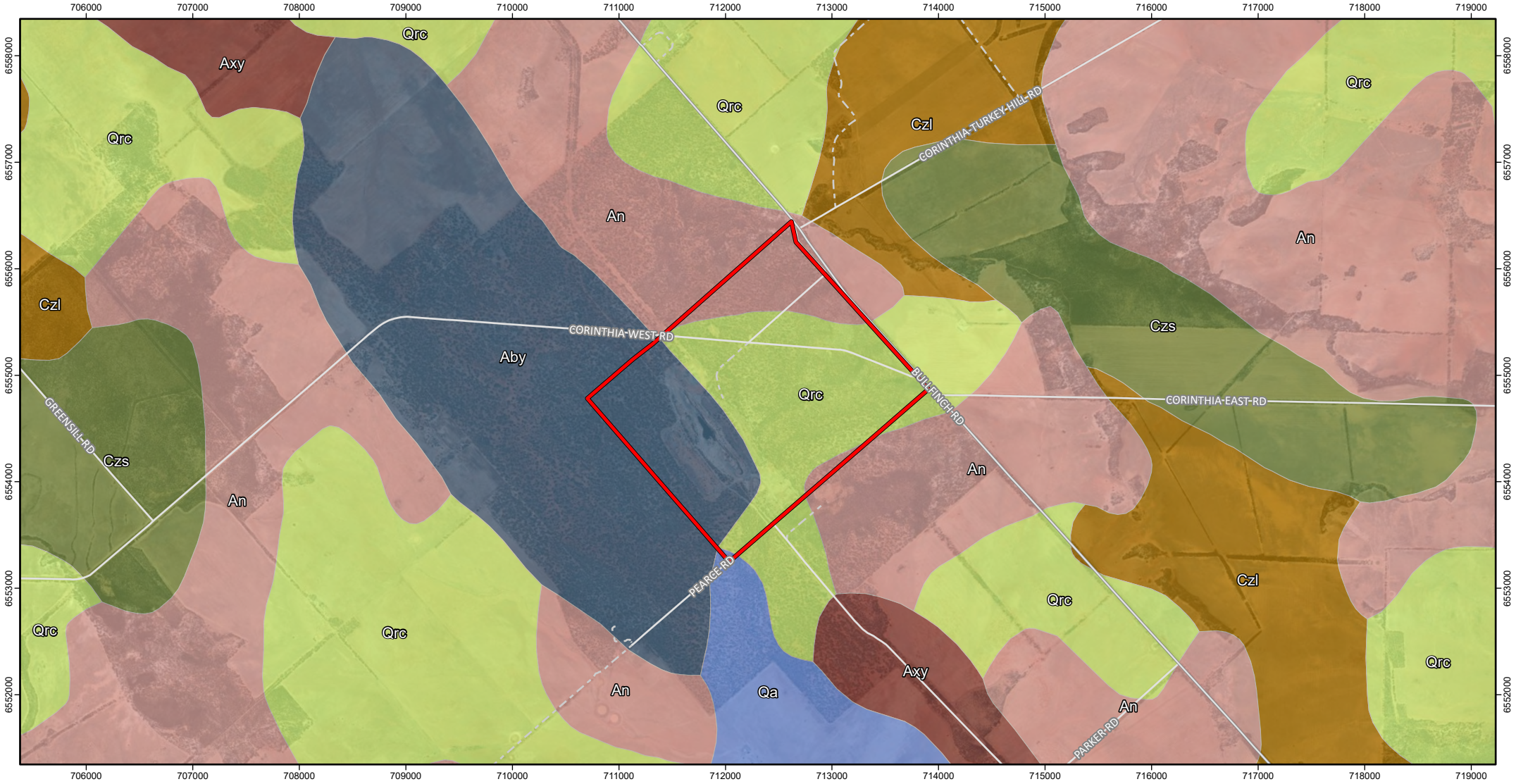

Figure: 3.4 - Geology

LEGEND

- Development envelope

Geological units

- Aby - Mafic extrusive rocks 74255
- An - Geneiss, granulite, migmatite 74310
- Axy - Undivided metamorphosed igneous and sedimentary rocks 74367
- Czl - Ferruginous duricrust 38498
- Czs - Sand plain 38499
- Qa - Alluvium 38485
- Qrc - Colluvium 38491
- Main roads
- Minor roads
- Tracks

N

0 250 500
Metres

Scale @A4: 1:50,000
Projection: GDA2020 MGA Zone 50

Client: Cygnet Pty Ltd
Project and Phase:
Data: Geoscience Australia

Main roads:
Freeways & Highways:
Tracks:
Minor roads:
World Imagery: Maxar

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3.6 Hydrology

3.6.1 Surface Water

The Project is located within the Lake Julia sub-catchment, which is within the Swan – Avon Yilgarn catchment. The general surface hydrology of the region comprises of connected salt lakes that eventually flow to the Avon River and then the Swan River (Tetra Tech Coffey, 2025).

Poorly defined drainage is prominent in the area as the Project is surrounded by cleared land used for agriculture, which has altered drainage in the area. Within the DE, runoff flows towards the southeast which will cross Pearce Road along the southern border of the DE and flows eventually reach Lake Koorkoordine (**Figure 3-5**) (Tetra Tech Coffey, 2025).

3.6.2 Groundwater

The groundwater level at the Project is on average approximately RL 343 m to RL 344 m or approximately 45 mbgl. Groundwater flow is generally along strike. Regional groundwater flow from the Project trends in a north-west direction (Figure 3-6).

Total dissolved salts indicate hypersaline conditions (i.e. of the order of 100,000 mg/L) which is consistent regionally from Bullfinch to Southern Cross and has remained constant from sampling undertaken between 2018 to 2025. The pH in Corinthia Pit water is moderately to strongly acidic (nominally pH 3 to 4) which could be attributed to acid rock drainage capture and concentration via evaporation in the pit water bodies that might be expected to result in higher salinity and lower pH than from the granitic rocks under the proposed TSF footprint area to the east (Tetra Tech Coffey, 2025).

Historical studies of groundwater factors have been compiled and re-assessed by Tetra Tech Coffey in the TSF Pre-feasibility Study (2025).

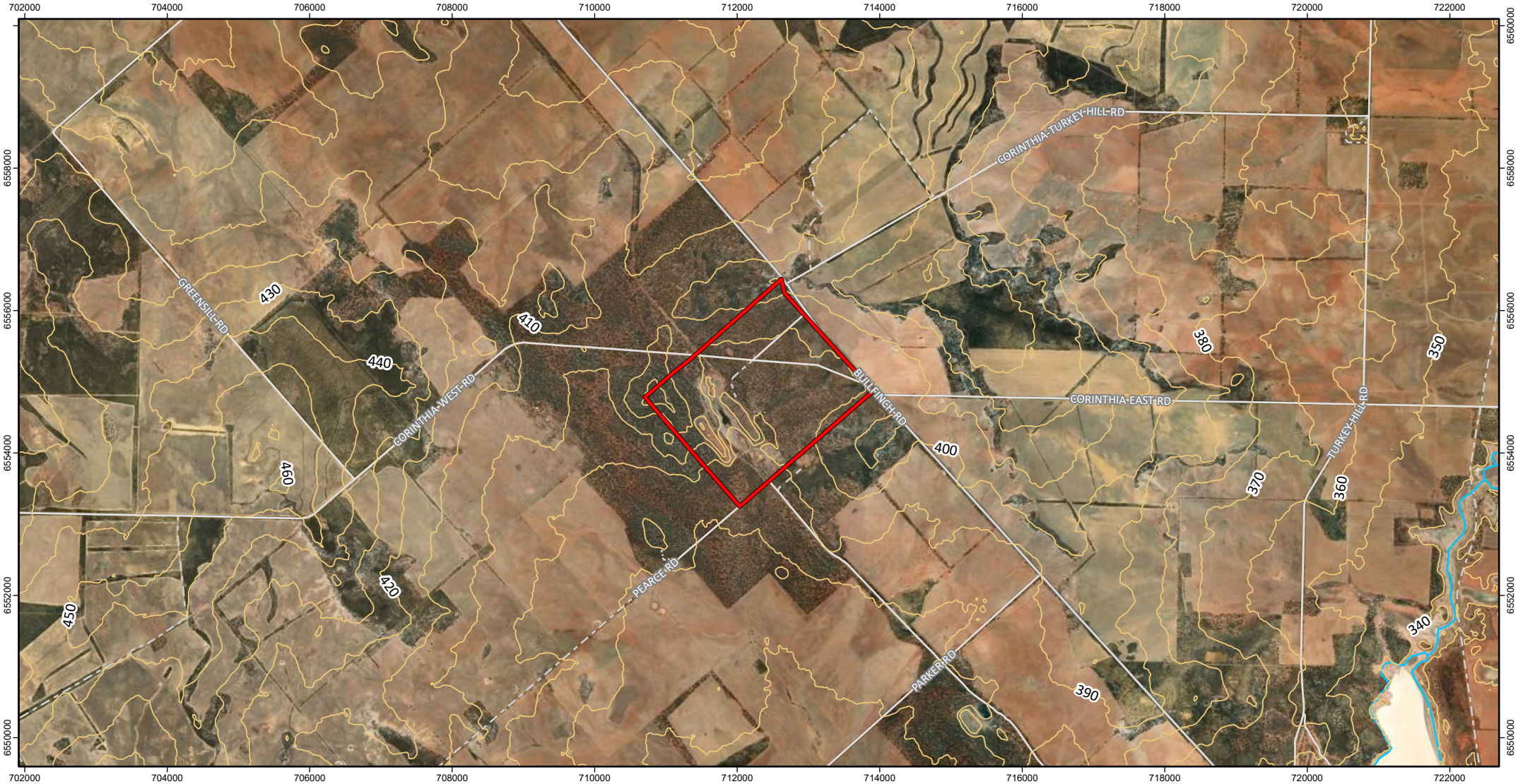

Figure: 3.5 - Surface Water Systems

LEGEND

- Development envelope
- Contours - 10m (DPIRD-073)

Hydrography (DWER-031)

- Minor river

Roads (LGATE-195)

- Main roads
- Minor roads
- Tracks

0 250 500
Metres

Scale @A4: 1:75,000
Projection: GDA2020 MGA Zone 50

Client: Cygnet Pty Ltd
Project and Phase:
Data: Geoscience Australia

Hydrography (DWER-031):
World Imagery: Earthstar Geographics
Main roads:
Tracks:
Minor roads:
10 metre contours (DPIRD-073):

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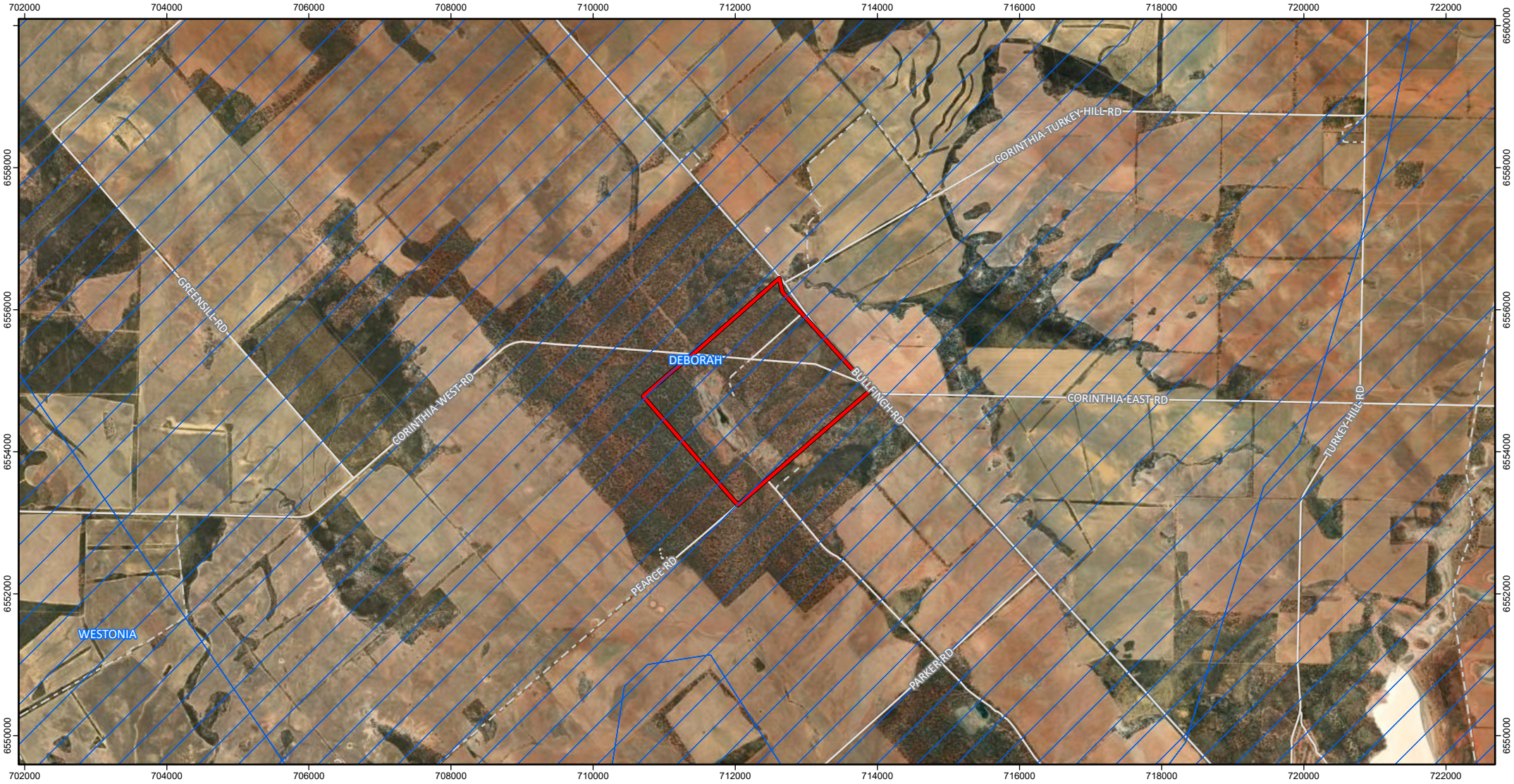

Figure: 3.6 - Groundwater

LEGEND

- Development envelope
- Groundwater resources (DWER-084)

Roads (LGATE-195)

- Main roads
- Minor roads
- Tracks

N

0 250 500
Metres

Scale @A4: 1:75,000
Projection: GDA2020 MGA Zone 50

Client: Cygnet Pty Ltd
Project and Phase:
Data: Geoscience Australia

World Imagery: Earthstar Geographics
Main roads:
WRIMS - Groundwater Resources (DWER-084):
Tracks:
Minor roads:

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3.7 Flora and Vegetation

AECOM conducted a survey in June 2025 on behalf of Cygnet to determine floristic and fauna diversity across the Project area and to identify known occurrences of conservational significant species and/or Threatened Ecological Communities (TECs) and/or Priority Ecological Communities (PECs). This involved a detailed desktop search and field survey with the final report provided as Appendix A.

3.7.1 Vegetation

Beard et al. (2013) mapping is used to determine the current extent of remnant vegetation remaining when compared to pre-European vegetation extent. One Beard et al. (2013) vegetation association was recorded within the survey area. A description of this vegetation association and its extent are provided in Table 3-1.

Table 3-1 Vegetation Associations and Percentage Remaining

Vegetation Association	Description	Percentage Remaining (%)			
1068	Goldfields; gimlet, redwood etc. *E. salubris, E. oleosa*.	**Western Australia**	**Coolgardie IBRA Region**	**Avon Wheatbelt IBRA region**	**Shire of Yilgarn**
		52.84	54.03	49.75	52.84

Several vegetation communities were identified within the survey area (AECOM 2025), with four communities being present within the DE. The four communities consist of two Eucalypt Woodlands, one Melaleuca Shrubland, and one Mixed Shrubland which are described below in Table 3-2**.**

Table 3-2 Vegetation Communities within Corinthia Development Envelope

Vegetation Community	Description	Area Surveyed (ha)	Area within Disturbance Footprint (ha)
EcMpfApb	*Eucalyptus celastroides* and *Eucalyptus salubris* mid woodland over *Melaleuca pauperiflora* subsp. fastigiata tall open shrubland over *Atriplex paludosa* subsp. *baudinii*, *Olearia muelleri* and *Eremophila interstans* low shrubland.	242.40	105.40
EyTsAe	*Eucalyptus yilgarnensis*, *Eucalyptus celastroides* and *Eucalyptus loxophleba* subsp. lissophloia mid woodland over *Templetonia smithiana, Exocarpos aphyllus* and Scaevola spinescens low sparse shrubland over *Austrostipa elegantissima, Sclerolaena patenticuspis* and *Ptilotus aervoides* low sparse mixed grass and forbland.	152.23	139.28
EllAbCf	*Eucalyptus loxophleba* subsp. *lissophloia, Eucalyptus celastroides* and *Eucalyptus yilgarnensis* mid woodland over *Alyxia buxifolia, Acacia assimilis* and *Olearia* sp. *Eremicola* (Diels & Pritzel s.sn. PERTH 00449628) low shrubland over *Chamaexeros fimbriata, Amphipogon caricinus* var. *caricinus* and *Aristida contorta* low mixed sparse forb and grassland.	164.92	120.12

Vegetation Community	Description	Area Surveyed (ha)	Area within Disturbance Footprint (ha)
MaDr	*Melaleuca acuminata, Melaleuca uncinata* and *Rinzia carnosa* mid shrubland over *Dianella revoluta*, *Amphipogon caricinus* var. *caricinus* and *Erodium* sp. low sparse mixed forb and grassland.	10.06	5.72
ArAcc	*Acacia rigens, Allocasuarina acutivalvis subsp. acutivalvis mid to tall open shrubland over Amphipogon caricinus var. caricinus, Lepidosperma sp. and Dianella revoluta low mixed herb and grassland*	9.82	9.82
AaaAcc	*Allocasuarina acutivalvis subsp. acutivalvis, Allocasuarina campestris and Hakea minyma tall shrubland Amphipogon caricinus var. caricinus, Triodia scariosa and Borya sphaerocephala low sparse grassland.*	62.71	5.16
EcAcXd	*Eucalyptus capillosa and Callitris columellaris mid woodland over Alyxia buxifolia, Dodonaea microzyga and Eremophila clarkei mid sparse shrubland over Xerolirion divaricata, Arthropodium sp. and Amphipogon caricinus var. caricinus low sparse mixed forb*	19.69	2.42
Cleared	Cleared land from historical disturbance	324.46	98.12
	Total	**986.29**	**486.04**

3.7.2 Conservation Significant Communities

There are no TECs or PECs identified within DE. Approximately 2.1 km to the west is the Eucalypt Woodlands Reserve and 2.7 km to the Southeast is the Lake Koorkoordine Nature Reserve. Clearing activities will not impact any conservation significant communities.

3.7.3 Vegetation Condition

According to AECOM (2025), vegetation condition within the survey area is considered good to excellent, within some disturbed areas, regeneration of shrubs and herbs is prevalent (AECOM, 2025).

The majority of vegetation to be disturbed is classified 'excellent' with pockets of 'very good' on the western boundary of the Project area and a small section of the eastern boundary. Two small pockets of 'good' condition vegetation is located immediately south of the pit area and a small section of the north-east corner boundary (Figure 3-8).

3.7.4 Flora

AECOM (2025) undertook a desktop assessment of the survey area. A total of 51 significant flora species were identified in the desktop assessment comprising of 19 species listed as Threatened under the EPBC Act and *Biodiversity Conservation Act 2016* (BC Act), and 32 species listed as Priority by the Department of Biodiversity, Conservation and Attractions (DBCA) (AECOM, 2025).

A likelihood assessment determined that:

- Two species are known to occur within the survey area
- Six species had a high likelihood of occurrence
- 11 species had a moderate likelihood of occurrence.

Table 3-3 provides a list of flora species of conservation significance that are either known, or have a high likelihood of occurrence, in the survey area.

Table 3-3 Conservation significant flora species with high likelihood of occurrence in survey area

Species	Habitat	Conservation Status	Likelihood
Lissanthe scabra	Dry, white to orange-brown clay, sandy gravel loams, granite. Breakaways, uplands.	P2	Known
Rinzia fimbriolata	Recorded from sandy soil in mallee shrubland or woodland, also with one record from 'clay soil with quartz pieces'	P1	Known
Acacia cylindrica	Yellow/brown sand, gravelly soils. Undulating plains, flats.	P3	High
Acacia formidabilis	Yellow or red/brown sand. Undulating plains, hillsides.	P3	High
Stylidium choreanthum	White/yellow or red sand. Plains	P3	High
Leucopogon sp. Yellowdine	Undulating sand plain. Dry yellow loamy sand	P2	High
Eucalyptus calycogona subsp. miraculum	Occurs in mallee and mixed mallee-mallet vegetation on pale orange to red clay-loams to thin stony loams with ironstone gravel	P1	High
Acacia desertorum var. nudipes	Yellow sand, lateritic gravel. Sandplains, flats.	P3	High

Field survey results yielded a total of 106 flora species recorded, representing 101 native species and five weed species. Families that were best represented included Chenopodiaceae (22 species), Fabaceae (15 species) and Asteraceae (13 species).

The Priority 2 species, *Lissanthe scabra,* was recorded at two locations within the survey area but located outside the DE (Figure 3-9). The species was recorded in vegetation EcAcXd on calcrete/granite outcrop and breakaway where more than 192 individuals were recorded within two distinct populations (AECOM, 2025). *Lissantha scabra* is described as a species associated with breakaways, uplands, granite, and sandy gravel loams. This is consistent with the findings of the survey, which observed this species restricted to breakaways and rocky outcrops where it grew prolifically as a large perennial shrub (AECOM, 2025). The species has been recorded in IBRA regions Avon Wheatbelt and Coolgardie, with its known distribution shown in Figure 3-7 (Florabase, 2025).

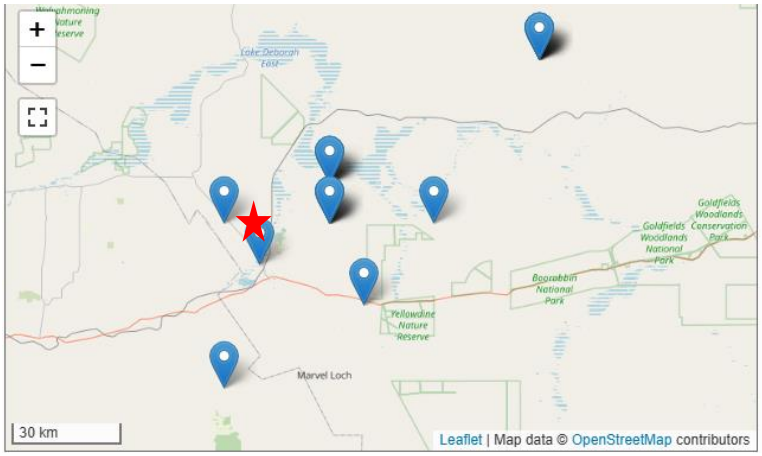

Figure 3-7 Distribution and image of *Lissanthe scabra*

The desktop study identified a DBCA record for the Priority 1 species *Rinzia fimbriolata* from 1978 within the DE. The record was located within Allocasuarina Shrubland of AaaAcc. AECOM (2025) consider that this species is unlikely to be present given the date and manual entry in the DBCA dataset. One *Rinzia* species was recorded in field surveys but identified as *Rinzia carnosa* which is not a Threatened or conservation significant species.

3.7.5 Introduced Flora

AECOM (2025) recorded five weed species during their survey. None of the identified species are listed as Declared Pest species under the *Biosecurity and Agriculture Management Act 2007* or as Weeds of National Significance.

Figure: 3.8 - Vegetation Condition

LEGEND

- Development envelope

Vegetation condition (AECOM)

- Excellent
- Very good
- Good
- Cleared

Roads (LGATE-195)

- Main roads
- Minor roads
- Tracks

N

0 250 500
Metres

Scale @A4: 1:25,000
Projection: GDA2020 MGA Zone 50

Client: Cygnet Pty Ltd
Project and Phase:
Data: Geoscience Australia

Main roads:
Tracks:
Minor roads:
World Imagery: Maxar

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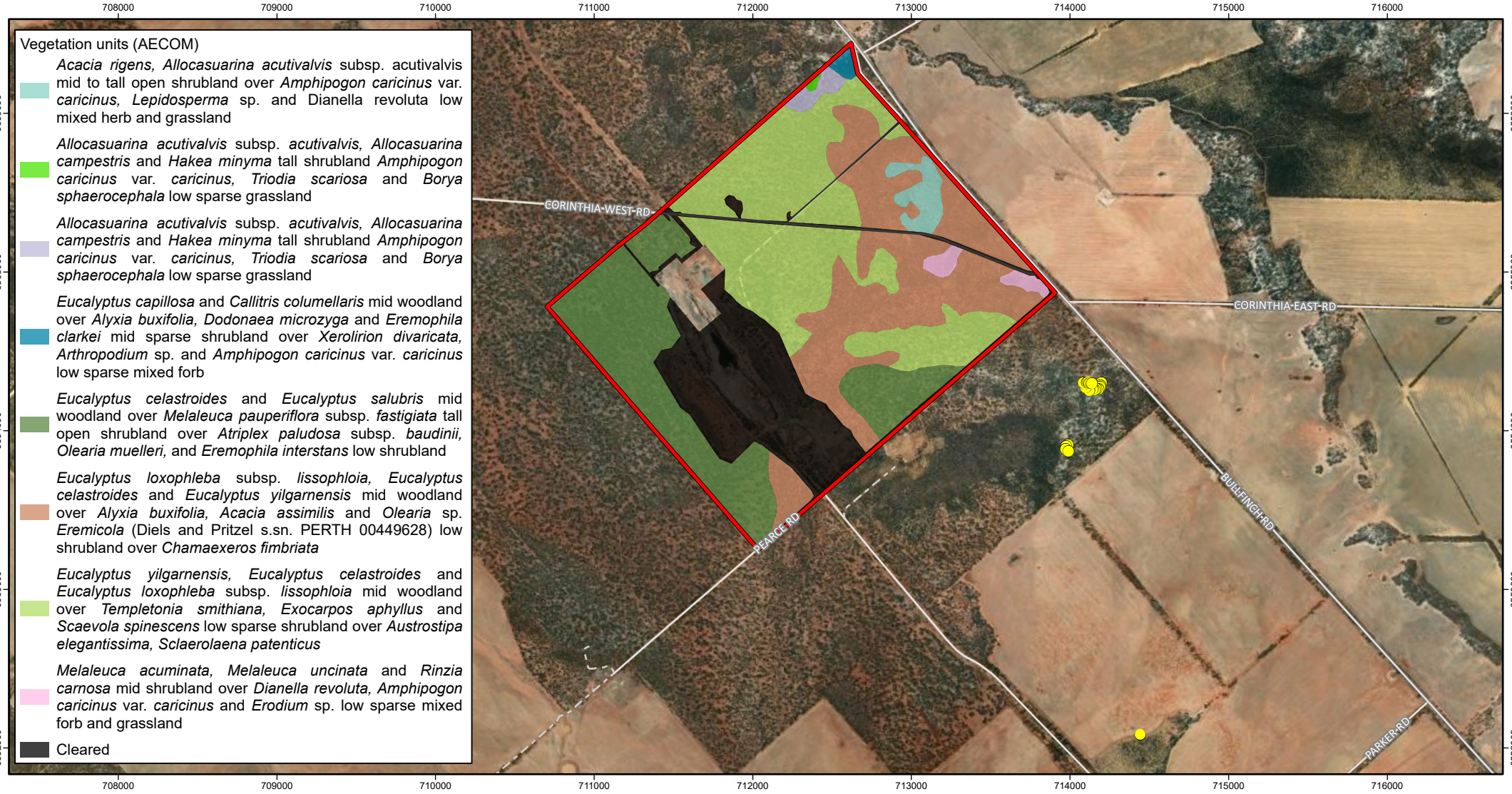

Figure: 3.7 - Vegetation Communities and Significant Flora

LEGEND

Development envelope

Significant flora

Lissanthe scabra (P2)

Roads (LGATE-195)

Main roads

Minor roads

Tracks

N

0 250 500

Metres

Scale @A4: 1:34,000

Projection: GDA2020 MGA Zone 50

Client: Cygnet Pty Ltd

Project and Phase:

Data: Geoscience Australia

World Imagery: Earthstar Geographics

Main roads:

Tracks:

Minor roads:

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3.8 Fauna

Within the vicinity of the survey area, 30 significant species have been identified through desktop reviews and field surveys. Of those species, 16 are birds, nine are mammals, two are reptiles and three are invertebrate species. Only five have a high likelihood of occurring within the Project Area these are depicted in Table 3-4 below.

Table 3-4 Fauna with a High Likelihood of Occurrence within Project Area

Scientific Name	Conservation Status		Ecology
	BC Act / DBCA	EPBC Act	
Mallefowl (*Leipoa ocellata*)	VU	V	Found in the semi-arid to arid zone in shrublands and low woodlands dominated by *Melaleuca uncinata* complex, *Callitris verrucosa* and some shrublands dominated by Acacia and occasionally in woodlands dominated by Eucalypts.
Western Brush Wallaby (*Notamacropus Irma*)	P4	-	Open forest or woodland, particularly favouring open, seasonally wet flats with low grasses and open scrubby thickets.
Western Quoll, Chuditch (*Dasyurus geoffroii*)	VU	V	Currently restricted to south-west Western Australia, in areas dominated by sclerophyll forest or drier woodland, heath and mallee shrubland.
Coolgardie Shiled-backed Trapdoor Spider (*Idiosoma intermedium*)	P3	-	Species occur in the south-west of Western Australia in the eastern Avon Wheatbelt and north-western Coolgardie bioregions,
Tree-stem Trapdoor Spider (*Idiosoma castellum*)	P4	-	Habitat is exclusive to the Avon Wheatbelt and western Goldfields in WA (Main, 1986). The habitat for the species consists of flood-prone depressions and flats with myrtaceous shrubland (especially Broombush *Melaleuca uncinata* and Sheoak) on sandy-loam soil.

3.8.1 Conservation Significant Fauna

3.8.1.1 Malleefowl

Field surveys recorded an old Malleefowl mound and potential tracks indicating the Project area could contain suitable breeding and foraging habitat for the Malleefowl. The Shrubland provides suitable nesting habitat with dense cover and adequate soils for building mounds while the Eucalypt Woodlands provide foraging habitat. There are 249 known records from within 50 km for the Project with DBCA records indicating that they are largely restricted to large remnant native vegetation and along Great Eastern Highway. The survey area is in a highly fragmented landscape with corridors limited to <5 m roadside trees with grasses and agricultural land. Due to the extensive fragmentation of habitat in the region of the survey area, the likelihood of occurrence is considered 'potential' (AECOM, 2025).

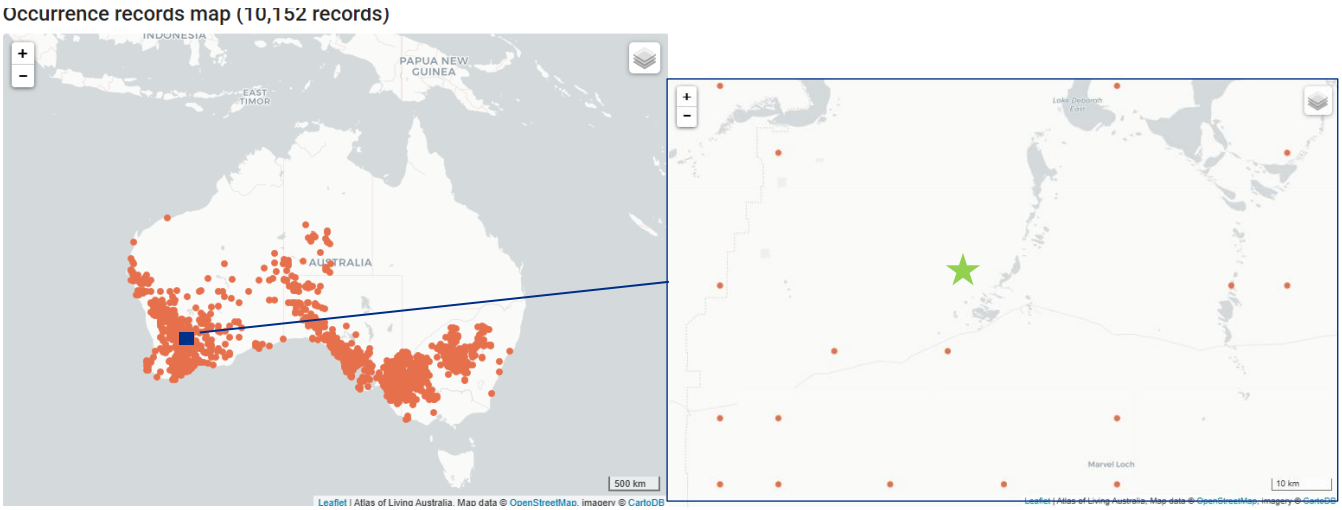

Figure 3-10 Distribution of Malleefowl (ALA, 2025a)

3.8.1.2 Chuditch

Clearing of vegetation for the Project could potentially impact on habitat for the Chuditch as there are 106 DBCA records for this species within 5 km of the survey area (Figure 3-11). Most records are found in the Yellowdine Nature Reserve and native vegetation that surrounds the lake, which represents a large continuous area of native vegetation. Chuditch use a variety of habitats including forests, mallee shrublands, woodland and deserts where adequate den and refuge sites in the form of horizontal hollow logs or earth burrows and sufficient prey biomass are present (DEC, 2012).. The DE is within an isolated block of remnant native vegetation, approximately 2,000 ha in size, with limited connectivity to other larger remnant vegetation such as nature reserves. Therefore, the likelihood of occurrence for this species is considered low.

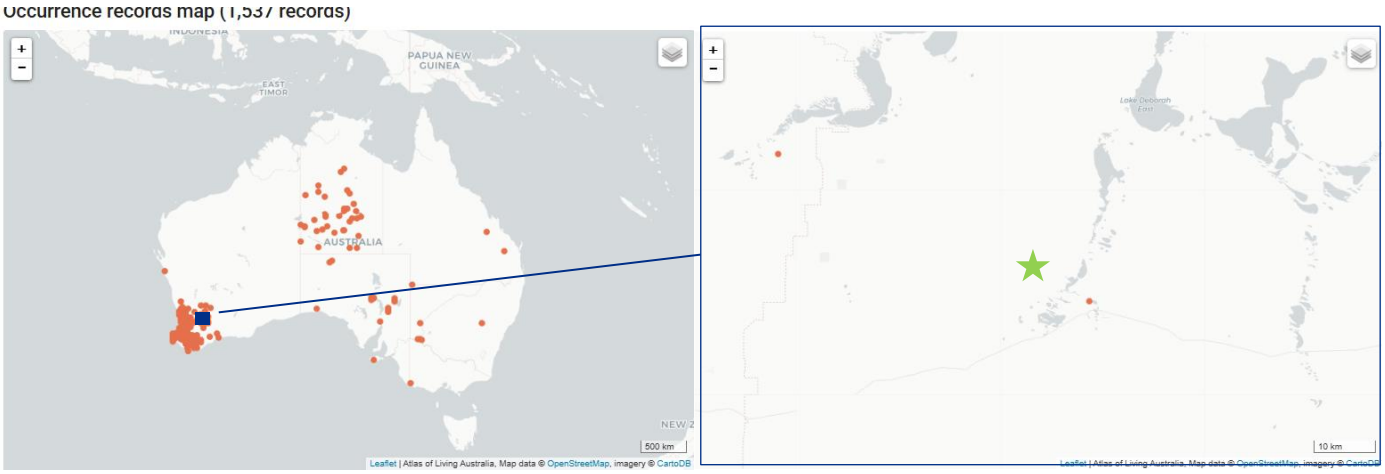

Figure 3-11 Distribution of Chuditch (ALA, 2025b)

3.8.1.3 Western Brush Wallaby

Four DBCA records from 2021–2022 indicate that the Western Brush Wallaby was observed 30–50 km from the survey area near Marvel Lock, adjacent to Jilbadji Nature Reserve. There is a potential that this species may visit the DE, however, the fragmentation and small available areas of vegetation means it would be unlikely to represent significant habitat. While, the Western Brush Wallaby's preferred habitat is restricted to open woodland, other important habitat

features, such as seasonally wet flats with low grasses, were not present. The likelihood of occurrence of this species in the Project area is considered 'moderate' (AECOM, 2025). Its distribution according to ALA is provided in Figure 3-12.

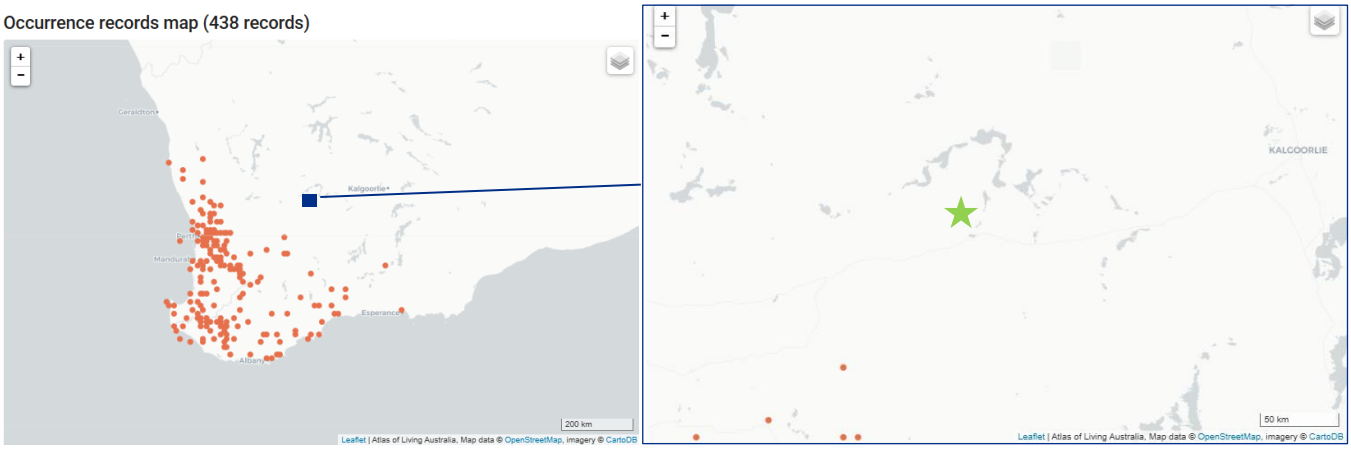

Figure 3-12 Distribution of Western Brush Wallaby (ALA, 2025c)

3.8.1.4 Tree-stem Trapdoor Spider

While no Tree-stem Trapdoor Spider were recorded in the survey area from field investigations, the Shrubland fauna habitat incorporates closed to open *Allocasuarina* spp. shrublands on sandy soils which represents suitable habitat. There are 125 records of the spider within 50 km of the survey area, of which 123 are associated with an existing mine situated 42 km northeast of the survey area where systematic searches were undertaken. There are two DBCA records from 1957 and 2007, which indicate that the species is present in the survey area (AECOM, 2025). Distribution of the species as identified by ALA is provided in Figure 3-13.

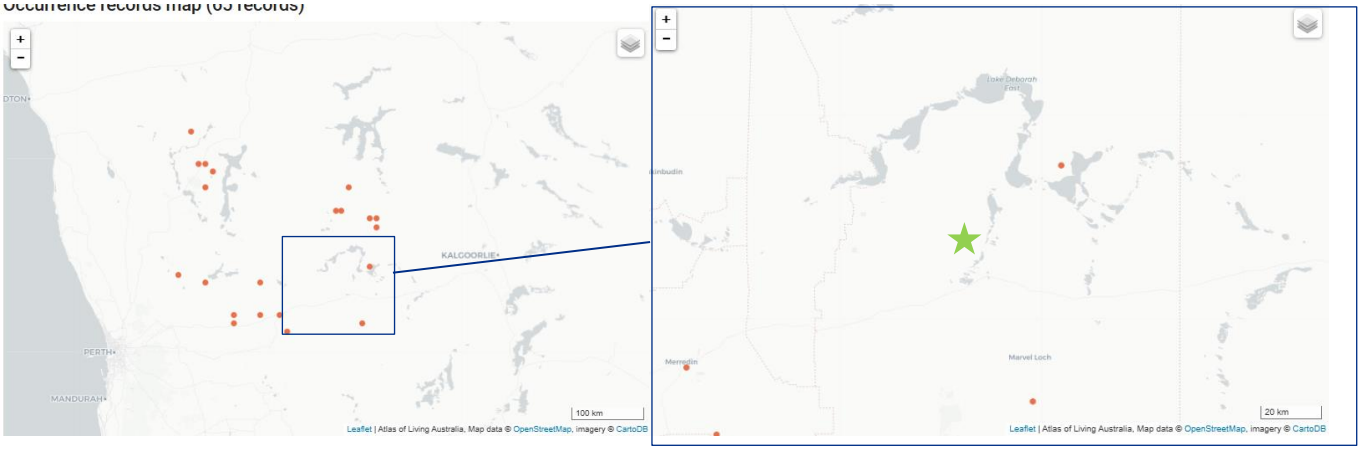

Figure 3-13 Distribution of Tree-stem Trapdoor Spider (ALA, 2025d)

3.8.1.5 Coolgardie Shield-backed Trapdoor Spider

Based on habitat identified in the survey area, the Coolgardie Shield-backed Trapdoor Spider may occur in the survey area, however, limited information is available about the species. There are three known records that are more than 40 km from the survey area (AECOM, 2025) as identified in Figure 3-14.

From known records of the species within 50 km of the survey area, the majority are associated with Jilbadji Nature Reserve, Yellowdine Nature Reserve and extensive remnant native vegetation linking these two areas.

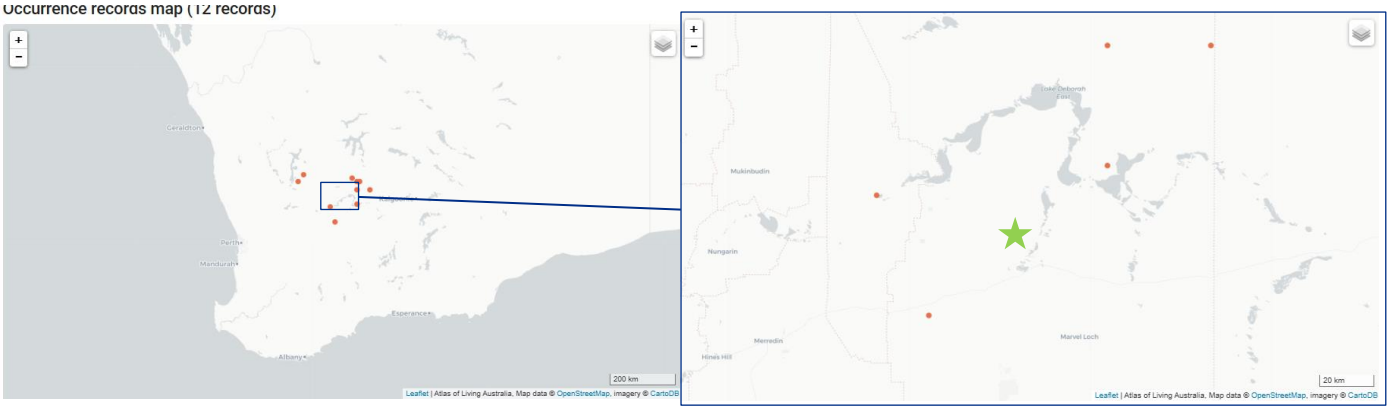

Figure 3-14 Distribution of Coolgardie Shield-backed Trapdoor Spider (ALA, 2025e)

3.8.2 Introduced Fauna

The Southern Cross region, located in the Shire of Yilgarn, is a highly developed farmland which has a long history of being impacted by introduced species. Through desktop searches the following species have been identified to be present with the DE:

- Cat (*felius catus*)
- Rabbit (*Oryctolagus cuniculus*)
- Fox (*vulpes vulpes*)
- Goat (*capra hircus*).

Although none of these species were identified during the AECOM (2025) survey, there is still a high possibility of these species occurring within the Project area.

3.8.3 Fauna Habitat

Three fauna habitats were identified by AECOM during the 2025 desktop survey, with all three fauna habitats being potentially present within the Project area. The habitats identified are:

- Shrublands
- Eucalypt Woodlands
- Eucalypt Woodlands on Breakaway/Rock.

Within the Project Area, all three are present and the total areas are set out in Table 3-5.

Table 3-5 Fauna Habitats

Habitat Type	Description	Fauna Species that May Utilise Habitat	Area Survey Area (ha)	Area Within DF (ha)
Shrublands	Shrublands dominated by *Allocasuarina campestris*, *A. acutivalvis*, Melaleuca pauperiflora and *Acacia rigens* mid to tall shrubs over mid to low sclerophyllous shrubs and sparse grasses. Soils were sandy to sandy loam suitable for burrowing. Leaf litter variable from moderate to light leaf and logs.	▪ Tree-stem Trapdoor Spider ▪ Malleefowl ▪ Coolgardie Shield-backed Trapdoor Spider	82.58	20.70
Euclaypt Woodland	Eucalypt woodland dominated by a variety of Eucalypt species including tree and mallee form over sclerophyllous shrubs and sparse grasses and herbs. Occurs on orange to red loamy clays on undulating terrain with medium litter cover of logs and leaves. Understorey is relatively open.	▪ Chuditch ▪ Malleefowl ▪ Coolgardie Shield-backed Trapdoor Spider ▪ Western Brush Wallaby	559.55	364.81
Eucalypt Woodlands on Breakaway/Rock	*Eucalyptus capillosa* and *Callitris columellaris* trees over sparse sclerophyllous shrubs and sparse herbs and grasses on hard granite breakaways and plateaus. Leaf litter was sparse with large areas of bare open areas devoid of vegetation due to the impenetrable hard rock surface. Breakaways include boulders, crevices and shallow caves.	▪ Chuditch	19.69	2.42
Cleared Land	Cleared land from historical disturbance.		324.46	98.12
Total			**986.28**	**486.05**

3.9 Heritage

A review of the Aboriginal Cultural Heritage Inquiry System (ACHIS) in October 2025 found that there is one registered Aboriginal Site near the proposed clearing footprint in the north east corner of the DE as shown in Figure 3-15. There are no other registered sites within 5 km of the Project.

The site is registered as lodged place 22811: SX -02 Breakaway which is classified as a traditional landscape structure but with no cultural sensitivity or restrictions. The site is outside the DF and will not be impacted by the Project. Cygnet will set up exclusion zones to ensure the site is no accessed by personnel.

Cygnet will undertake heritage surveys with relevant Traditional Owner groups over all areas planned to be cleared to ensure that any potential unregistered heritage sites are identified and protected with appropriate measures.

Cygnet will utilise a disturbance permit form procedure to ensure that no clearing is conducted without first ensuring that the land is Heritage cleared, and that all necessary government approvals have been obtained.

Cygnet understands its obligations under the *Aboriginal Heritage Act 1972* and will ensure that the site will not be impacted by proposed clearing activities.

Figure: 3.15 - Heritage

LEGEND

- Development envelope
- Disturbance
- Aboriginal cultural heritage - Lodged (DPLH-100)

Roads (LGATE-195)

- Main roads
- Minor roads
- Tracks

N

0 250 500
Metres

Scale @A4: 1:27,500
Projection: GDA2020 MGA Zone 50

Client: Cygnet Pty Ltd
Project and Phase:
Data: Geoscience Australia

Aboriginal Cultural Heritage - Lodged (DPLH-100):
Main roads:
Tracks:
Minor roads:
World Imagery: Maxar

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Section 4 Assessment Against the 10 Clearing Principles

The Project will require a total of 486.04 ha of land to be cleared for the development of the ROM, plant area, IWL TSF, pit expansion, roads and supporting infrastructure. Of the total disturbance required, 98.12 ha is previously disturbed land classified as cleared and includes the existing pit. Therefore, excluding the previously cleared area, total native vegetation disturbance will be 387.92 ha.

Table 4-1 Clearing Principles Assessment

Principle	Assessment
Principle (a) – Native vegetation should not be cleared if it comprises a high level of biological diversity	**Assessed Outcome: The Project is unlikely at variance with this Principle.** Seven native vegetation communities were recorded, which reflected the diversity of soils and landforms within the DE but did not display high levels of biodiversity. Widely represented taxa are found within the broader surrounding region. Vegetation condition was largely Very Good and Excellent, excluding the disturbed existing pit and cleared tracks. No TECs or PECs are located within the DF. A Priority 2 flora species, *Lissanthe scabra* was recorded at two locations outside the DF representing more than 192 individuals. This species is not restricted to the DE or surrounds as shown in Figure 3-7. It is represented in populations throughout the Coolgardie IBRA Region. There will be no impacts to local populations from the Project. No Threatened flora has been identified in the DF. Cygnet have designed the DF to avoid conservation significant flora. A survey of the DF by AECOM (2025) determined that clearing will not impact any diverse native vegetation remnants that supports a whole, or a part of, a significant population of priority flora or an occurrence of a priority ecological community. Reference: AECOM (2025)

Principle	Assessment
Principle (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	**Assessed Outcome: The Project is unlikely at variance with this Principle.** Five significant fauna species that were considered likely to occur based on habitat presence and proximity of known records. The DF could contain habitat suitable for: **Malleefowl** - one old mound recorded and potential tracks seen in the survey area. Shrubland in the DF provides suitable nesting habitat with dense cover and adequate soils for building mounds while the Eucalypt Woodlands provide foraging habitat. However, the Project is in a highly fragmented landscape with corridors limited to <5m roadside trees with grasses and agricultural land. This reduces the suitability of the DF for Malleefowl habitat. **Chuditch** – habitat present but not sighted in survey. Majority of records are associated with Yellowdine Nature Reserve and surrounds that contain large continuous areas of native vegetation. The DF is within an isolated block of remnant native vegetation with limited connectivity to other remnant vegetation (see Figure 3-11). **Western Brush Wallaby** – the DE may contain habitat suitable, however, the fragmentation and small available areas of vegetation means it would be unlikely to represent significant habitat. Preferred habitat is restricted to open woodland, other important habitat features, such as seasonally wet flats with low grasses, were not present. The likelihood of occurrence of this species in the DE is considered 'moderate' (AECOM, 2025). **Tree-stem Trapdoor Spider** - the DF contains shrubland fauna habitat with closed to open *Allocasuarina* spp. shrublands on sandy soils which represents suitable habitat for the spider. The spider was recorded within 50km of the DE. Despite historical records of the spider in the survey area none were recorded during surveys. **Coolgardie Shield-backed Spider** – may occur in the DE but little is known about the species. As shown in Figure 3-14, the species has significant suitable habitat in the Jilbadji Nature Reserve, Yellowdine Nature Reserve and extensive remnant native vegetation linking these two areas. Controls will be implemented to minimise potential impacts on fauna habitat as outlined in Section 5 will mitigate potential impacts on species at a local level. No significant habitats for fauna indigenous to Western Australia are identified by AECOM (2025) within the DF. Clearing of native vegetation within the DF will not impact habitat that is considered necessary for the maintenance of priority, migratory, specially protected, threatened fauna or meta-populations of fauna. Reference: AECOM (2025)

Principle	Assessment
Principle (c) – Native vegetation should not be cleared if it includes, or is necessary for the continued existence of rare flora	**Assessed Outcome: The Project is unlikely at variance with this Principle.** Field survey results yielded a total of 106 flora species recorded, representing 101 native species and five weed species. A desktop study identified a historical DBCA record for the Priority 1 species *Rinzia fimbriolata* within the DE. AECOM (2025) consider the species is unlikely to be present given the date and manual entry in the DBCA dataset. One Rinzia species was recorded in field surveys but identified as *Rinzia carnosa* which is not a Threatened or conservation significant species. The Priority 2 species, *Lissanthe scabra*, was recorded at two locations within the survey area but located outside the DF and will not be impacted. No declared rare flora pursuant to the BC Act and EPBC Act were identified within the survey area. Reference: AECOM (2025)
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 (TEC).	**Assessed Outcome: The Project is unlikely at variance with this Principle.** There are no known TECs located within or in the vicinity of the DF. No vegetation representative of TECs were recorded in surveys. The closest TEC, Eucalypt Woodlands is approximately 2 km to the west and will not be impacted by the Project. Reference: AECOM (2025)

Principle	Assessment
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	**Assessed Outcome: The Project is unlikely at variance with this Principle.** The remaining extent of the vegetation association (1068) present in the DF is 54.03% for the Coolgardie IBRA Region and 49.75% for the Avon Wheatbelt IBRA Region. These values demonstrate that the vegetation association is not regionally restricted Vegetation clearing from this Project will not have no material impact on these percentages. The retention percentage of 30 per cent or more of the pre-clearing extent of this vegetation association which is consistent with the EPA's position statement of retaining 30% pre-European vegetation. Surveys of vegetation in the Project area have not identified any significant vegetation associations or communities. Reference: Beard et al. (2013), AECOM (2025)
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	**Assessed Outcome: The Project is unlikely at variance with this Principle.** Targeted desktop and field assessments have been undertaken to identify any watercourses, wetlands, or riparian vegetation within the DE. No permanent or semi-permanent wetlands are mapped or recorded within the DE. Poorly defined drainage is prominent in the DE which does not support riparian vegetation or water-dependent ecosystems. The Project is surrounded by cleared land used for agriculture, which has altered drainage in the area. Reference: AECOM (2025)

Principle	Assessment
Principle (g) – Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation	**Assessed Outcome: The Project is unlikely at variance with this Principle.** DWER has defined land degradation as including the following (Department of Environment Regulation, 2014). ▪ The clearing of vegetation ▪ Decline in vegetation condition ▪ Soil erosion and soil acidity (caused by wind and water erosion due to vegetation clearing) ▪ Salinity; or ▪ Waterlogging/flooding The DE is surrounded by cleared and agricultural land which is classified as disturbed. Native vegetation clearing will not cause appreciable land degradation. Where possible, topsoil will be retained and utilise from cleared areas for rehabilitation. Topsoil and mulch from cleared areas will be retained and utilised for closure and rehabilitation. Reference: AECOM (2025)
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	**Assessed Outcome: The Project is unlikely at variance with this Principle.** No conservation areas are located within the DE. The Eucalypt Woodlands Reserve is located approximately 2.1 km to the west and the Lake Koorkoordine Nature Reserve 2.7 km to the southeast. Given the separation distances between the DE and these conservation areas, as well as the absence of direct ecological connectivity, the proposed clearing is not expected to impact the environmental values of any nearby conservation area. Reference: AECOM (2025)

Principle	Assessment
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	**Assessed Outcome: The Project is unlikely at variance with this Principle.** There are no permanent watercourses or wetlands within the DF. Groundwater in the region is either saline or hyper saline, there are no known sources of freshwater. The depth to groundwater is up to 45 m. Due to the naturally poor quality groundwater in the area, the proposed clearing is unlikely to cause deterioration in the quality groundwater. Therefore, clearing activities from the Project would not pose an impact to groundwater quality. No Ramsar or Geomorphic wetlands were identified within the Project Area. Reference: (Tetra Tech Coffey, 2025)
Principle (j) – Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding	**Assessed Outcome: The Project is unlikely at variance with this Principle.** Annual rainfall is approximately 300 mm with highest level of rainfall occurs in July lowest in December. Large, rainfall events, generally caused by cyclone events in the north or local thunderstorms, can occur during the summer months. Surface water flows in a southerly direction from the Project through native vegetation. The proposed clearing activities will not alter natural drainage pathways with downstream hydrological regimes maintained. Drainage diversion infrastructure will be installed to ensure that flood risks are mitigated during mining operations while preserving natural surface water flow. Reference: AECOM (2025)

Section 5 Environmental Management Measures

The environmental implications of the Project have been considered throughout the various stages of development. Management measures have been developed for the Project to manage and minimise environmental impacts and will be implemented throughout the life of the mine and until final closure and decommissioning is completed. Management strategies for the Project are summarised in Table 5-1.

Table 5-1 Environmental Management Measures

Type	Control
Flora and Vegetation	
Avoid	▪ Avoid disturbance of the Priority 2 flora species *Lissanthe scabra*.
Minimise	▪ Minimise clearing through implementation of internal clearing permit procedures, which include: – Prior and post construction inspections – Use of spatial data of significant flora and vegetation location in planning areas. ▪ Survey and peg areas required to be cleared utilising procedures stipulated in clearing guidelines. ▪ Clearing of approved areas only as required to minimise dust impacts to surrounding vegetation. ▪ Install diversion channels as required to minimise changes to surface water regimes. ▪ Use of additional dust control measures where practical, such as application of saline water on haul roads and cleared areas on an as needs basis. ▪ Monitor current and forecast weather conditions to plan work activities. ▪ Implement good hygiene practices when vehicles and mine equipment enter or depart the site. ▪ Maintain GIS records of introduced species. ▪ Ensure a fire management and emergency response plan is available at key locations. ▪ Ensure firefighting equipment is readily available on all vehicles and all facilities. ▪ Ensure water carts are full and always readily on hand. ▪ Provide all employees with an induction on fire risk and what to do in the event of a fire. ▪ Inspect rehabilitation for emerging weeds, and action as necessary.
Rehabilitate	▪ Stockpile vegetation cleared for use in rehabilitation as a seed bank and to create fauna niches. ▪ Retain and utilise soil from cleared areas for rehabilitation. ▪ Rehabilitate site post-closure.
Fauna	

Type	Control
Avoid	▪ Design surface hydrology to avoid changes in hydrology to habitat areas. ▪ Maximise the use of existing cleared areas for roads and infrastructure corridors. ▪ Suspending hot work if necessary or if classified as a total fire ban day.
Minimise	▪ Clearing along one front to allow fauna to escape. ▪ A fauna spotter/s to transect the area prior to clearing activities begin each day. ▪ Minimise clearing of fauna habitat through implementation of internal clearing permit procedure, which includes: – Prior and post construction inspections – Use of spatial data of significant flora and vegetation location in planning – Surveying and demarcation of clearing areas. ▪ Maintain traffic management rules to minimise the likelihood of fauna injury or mortality. These rules include prohibition of off-road driving unless authorised and reduced speed limits on internal roads. ▪ Minimise dust generation from road use that could cause temporary disturbance to fauna. ▪ Maintain existing procedures for feral animals, including cat trapping when numbers are identified as increasing (usually spring). ▪ Clearing activities will not be undertaken when the Fire Danger Rating is severe or higher.
Rehabilitate	▪ Progressive rehabilitation of bare ground areas to achieve habitat values. ▪ Rehabilitate to agreed post-closure form.
Hydrology	
Avoid	▪ There are no significant surface water or groundwater features in the DE.
Minimise	▪ Development of a diversion channels to redivert surface water drainage to existing flow paths, ensuring that surface water flows are maintained to downstream receptors and preventing erosion within cleared areas. ▪ Erosion and sediment control measures, will be implemented during and post-clearing to prevent sedimentation and contamination of any surface or groundwater resources.
Rehabilitate	▪ Existing surface water flow path will be reestablished at closure to maintain the natural surface water flow of the land.

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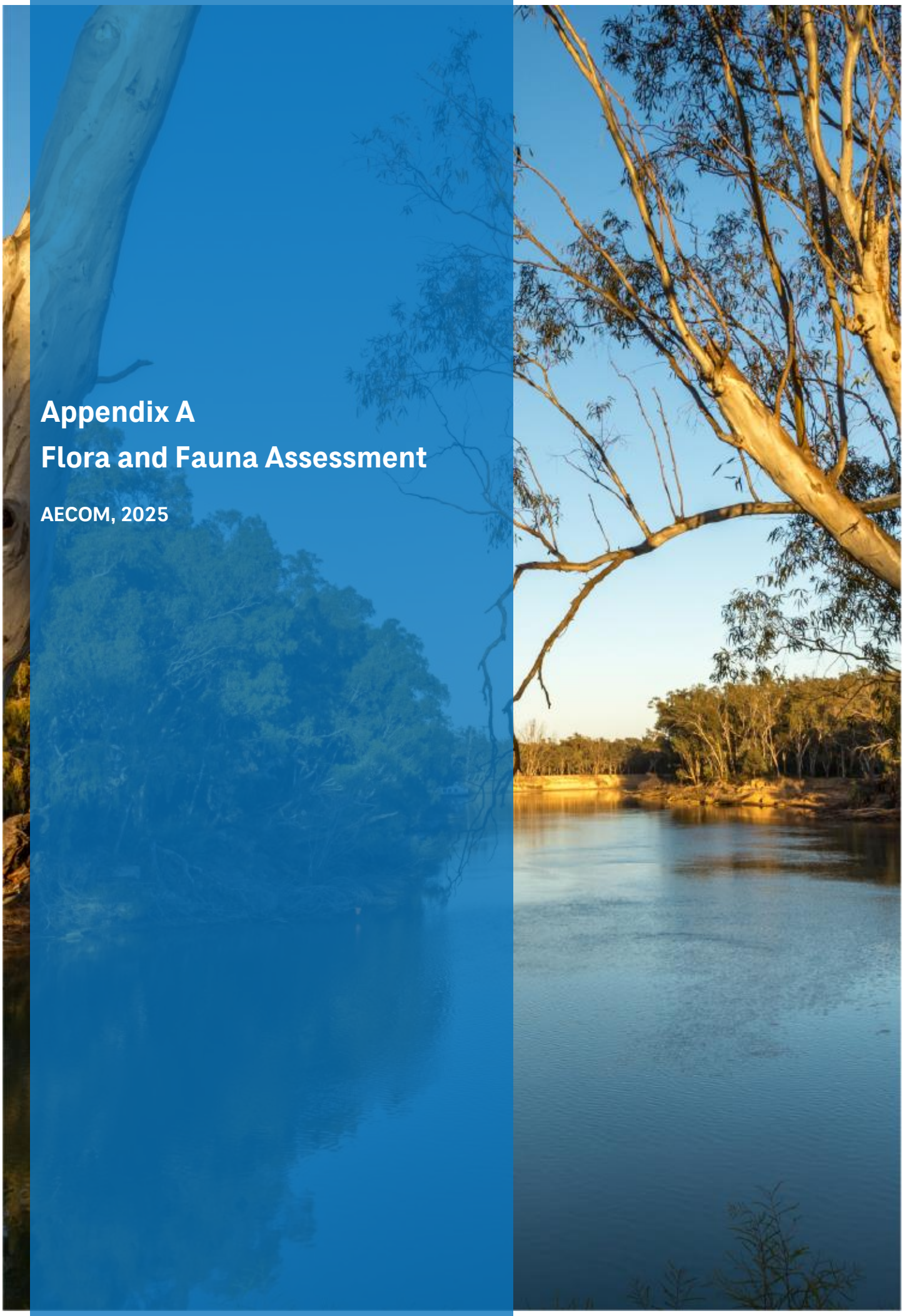
Appendix A
Flora and Fauna Assessment

AECOM, 2025



Prepared for
Cygnet Gold Pty Ltd
ABN: 36 660 841 252

AECOM

Corinthia Flora and Fauna Assessment

24-Nov-2025
Cygnet Flora 2025
Doc No. 60718618

aecom.com

Delivering a better world

Corinthia Flora and Fauna Assessment

Client: Cygnet Gold Pty Ltd

ABN: 36 660 841 252

Prepared by

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Quality Information

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Rev	Revision Date	Details	Approved	
			Name/Position	Signature
A	28-Jul-2025	Draft for review	Floora de Wit Associate Director - Natural Resources	
0	24-Nov-2025	Final Submission	Floora de Wit Associate Director - Natural Resources	

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Executive Summary

Cygnet Gold Pty Ltd (Cygnet Gold) engaged AECOM Australia Pty Ltd (AECOM) to undertake a flora, vegetation and fauna assessment for the Corinthia mining tenement located 11 km northwest from Southern Cross in regional Western Australia.

A winter flora, vegetation and basic fauna assessment was undertaken across a 986.29 ha survey area between 3 to 5 June 2025. A summary of results is presented below:

- Seven native vegetation communities were recorded, including three Eucalypt Woodlands and four Shrublands.
- Vegetation condition was largely Very Good and Excellent, excluding the disturbed existing pit and cleared tracks.
- A Priority 2 flora species, *Lissanthe scabra* was recorded at two locations representing more than 192 individuals. The extensive population will need further systematic searches to provide an accurate population count.
- Three fauna habitats were recorded: Eucalypt Woodland, Eucalypt Woodland – Breakaways and Outcrops, and Shrublands. These habitats are potentially suitable for four significant fauna species, including:
    - Chuditch (Vulnerable under EPBC Act and BC Act) – low likelihood due to the segregation from large remnant native vegetation
    - Malleefowl (Vulnerable under EPBC Act and BC Act) – old mound recorded and prolific DBCA records in the local area
    - Western Brush Wallaby (DBCA Priority 4) – moderate likelihood due to lack of records and segregation from large remnant vegetation
    - Tree-stem Trapdoor Spider (DBCA Priority 4) – Shrubland habitat with suitable soils and associated flora species
    - Coolgardie Shield-backed Trapdoor Spider (DBCA Priority 3) – likely to occur in the absence of confirmation or detailed information on suitable habitat.

Vegetation was considered diverse, representing elements of the Avon Wheatbelt and Coolgardie bioregions. This was represented as Shrublands on sandy soils, Eucalypts on red loam clay soils, and Eucalypts on granite breakaways and rocky plateaus. The field survey was successfully undertaken with no significant limitations identified.

1.0 Introduction

1.1 Background

Cygnet Gold Pty Ltd (Cygnet Gold) is investigating mining opportunities at the Corinthia deposit at Southern Cross. AECOM has been engaged to undertake an ecological survey of the survey area to support the environmental assessment and approval process required prior to the recommencement of dewatering.

1.2 Location

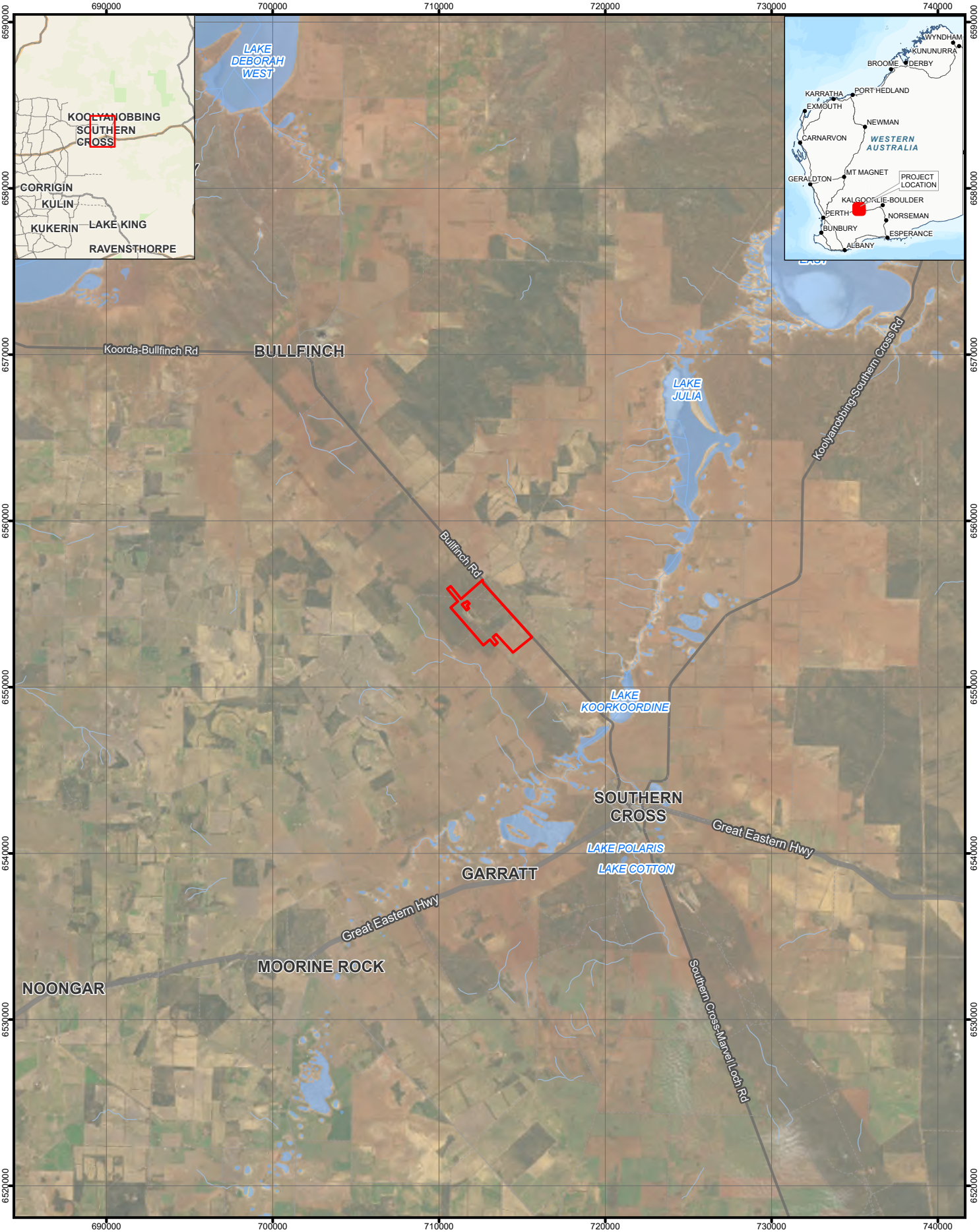
The survey area is located along Bullfinch Road, 15.5 km northwest from Southern Cross in the Coolgardie region of WA.

The survey area incorporates 986.29 ha and is located approximately 330 km east of Perth (Figure 1). It is intersected by Corinthia West Road, Corinthia Road and Pearce Road in the Shire of Southern Cross.

1.3 Objectives

The objective of this scope of work was to gain a broad understanding of the ecological values, specifically flora and fauna, within the larger tenement lease boundaries of Copperhead Mine. This included:

- A detailed desktop survey to characterise floristic and fauna diversity as well as identify and map known occurrences of conservation significant species and/or Threatened Ecological Communities (TECs) and Priority Ecological Communities (PECs)
- Phase 1 of a detailed flora, vegetation and basic fauna assessment to define vegetation communities, condition, fauna habitats, and target significant flora species.



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GDA2020 MGA ZONE 50

LEGEND

Survey Area

Survey Area

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CORINTHIA FLORA AND FAUNA ASSESSMENT

Figure

1

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2.0 Existing Environment

2.1 Climate

The climate is semi-arid characterised by areas that receive precipitation below the potential evapotranspiration rates. The climate is an intermediate between desert and humid climates and is characterised by hot and dry (sometimes exceptionally hot) summers, with cold winters. Cold semi-arid climates can have major temperature swings between day and night of up to 20˚C.

Climate data (Figure 2) was obtained from the Southern Cross Airfield station (#12320) situated approximately 10km southeast of the survey area. The survey was undertaken in early June 2025 with the climate graph showing the 12 months (June 2024 to May 2025) leading up to the survey. Eight of the twelve months had above average rainfall, in particular June and July 2024, November 2024 and April 2025. Adequate rainfall is important for the germination of annual species and flowering/fruiting of some perennial species.

Temperatures were slightly higher than average with a mean maximum of 27.31 degrees compared to the long term mean of 26.03 degrees and 12.01 mean minimum degrees compared to 10.64 degrees. The higher temperatures are unlikely to have affected the survey results in any meaningful way.

Climate is not considered to have affected the results of the survey.

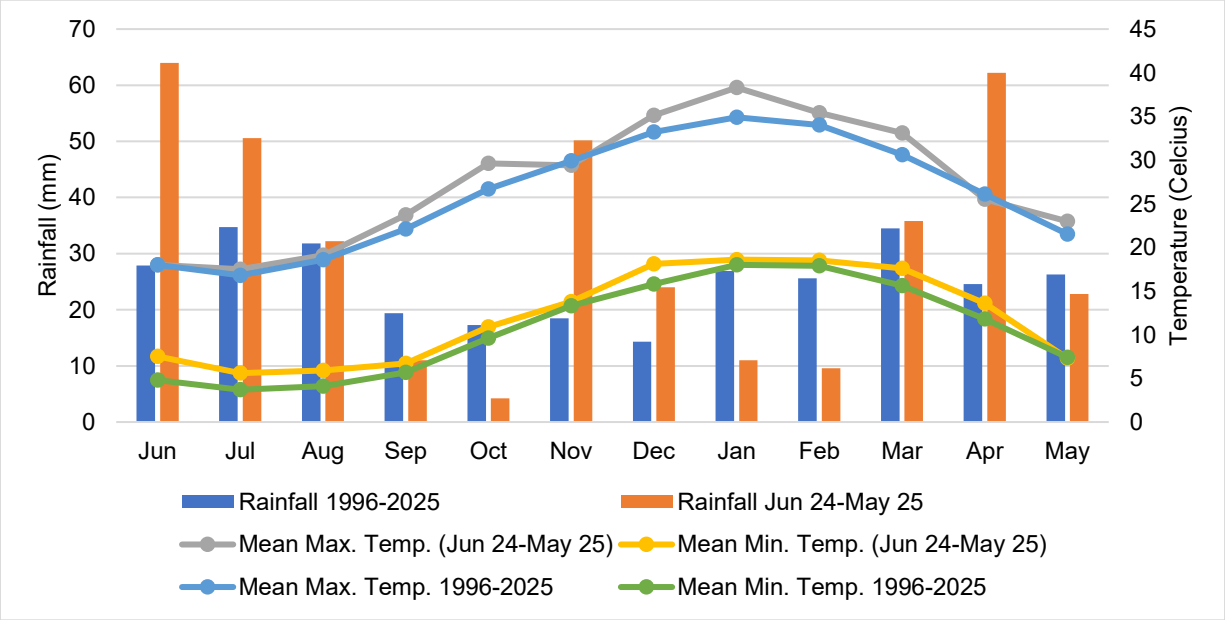


Figure 2 Climate data from Southern Cross Airfield WA (012320) (BOM, 2025)

2.2 Interim Biogeographical Region of Australia Regions

The largest regional vegetation classification scheme recognised by the Environmental Protection Authority (EPA) is the Interim Biogeographical Region of Australia (IBRA). The IBRA Regions provide the planning framework for the systematic development of a comprehensive, adequate and representative (CAR) national reserve system. There are 89 recognised IBRA regions across Australia that have been defined based on climate, geology, landforms and characteristic vegetation and fauna (IBRA7, 2012).

The survey area is situated in the Coolgardie IBRA Region and the Southern Cross IBRA Subregion. The Coolgardie IBRA Region, according to CALM (2002) is within the Yilgarn Craton with a granite basement including Archaean Greenstone intrusions in parallel belts. Low greenstone hills support diverse woodlands rich in endemic Eucalypts on alluvial soils on the valley floors, around saline playas of the occluded drainage system and on broad plains of calcareous earths. Granite basement outcrops support granite grass, wattles and York Gum. Playa lakes support Samphire shrubs.

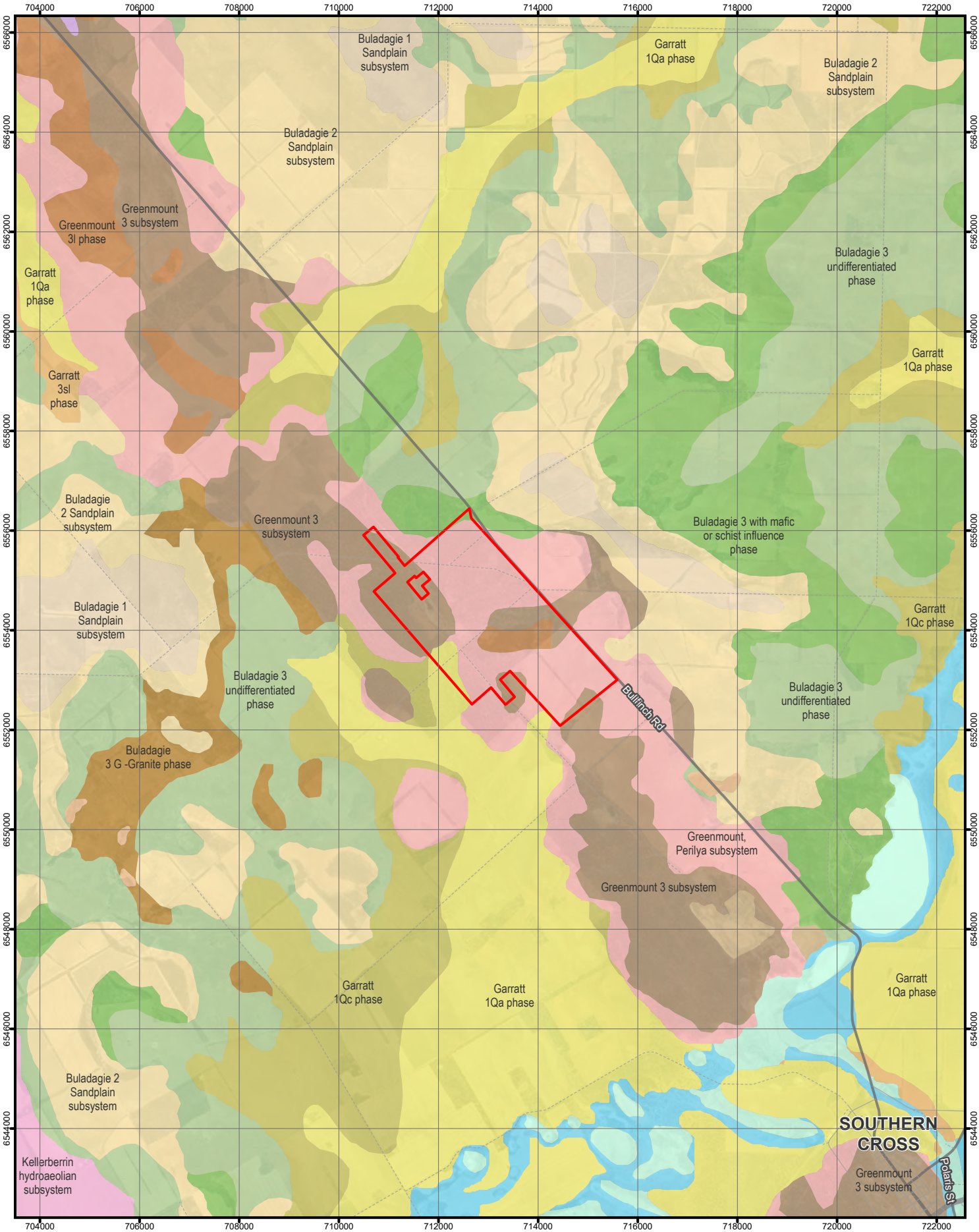
2.3 Geology and Land Systems

Three soil landscapes are mapped across the survey area (Figure 3) (Tille, 2006):

- Greenmount System: Gently undulating rises to rolling low hills in the eastern Zone of Ancient Drainage. Loamy earth (mostly red, calcareous and clayey and stoney).
- Baladjie System: Valley floors and lower slopes, in the northern Zone of Ancient Drainage, with calcareous loamy earth and alkaline red loamy duplex (mostly shallow). Woodland.
- Garratt System: Lower slopes and footslopes adjacent to salt lakes in the eaten Zone of Ancient Drainage. Loamy earth (mostly calcareous), hard cracking clay and alkaline shallow duplex.

The survey area intersects with the following geological units (Figure 4) (Pringle et al., 1994):

- Qrc: Colluvium, sheetwash, talus; gravel piedmonts and aprons over and around bedrock; clay-silt-sand with sheet and nodular kankar; alluvial and aeolian sand-silt-gravel in depressions and broad valleys in Canning Basin; local calcrete, reworked laterite
- Aby: Metabasalt, high-Mg basalt, tholeiitic basalt, carbonated basalt, agglomerate, mafic schist, dolerite, amphibolite; porphyritic basalt and dolerite; komatiitic basalt; mafic pyroclastics; minor mafic schist with granite intercalations
- An: Banded granitic gneiss (monzogranitic to granodioritic), quartzofeldspathic gneiss with mafic bands, migmatite, granofels, mafic and felsic granulites, hypersthene-plagioclase-quartz granulite; schist, pelitic or mafic granofels.
- Axy: Komatiitic basalt, quartz-muscovite-andalusite schist, basalt, dacitic porphyry, granite with greenstone rafts, agglomerate, talc schist, banded gneiss, quartzite, amphibolite, schist, ultramafic rocks, banded iron formation, dolerite, granite
- Qa: Channel and flood plain alluvium; gravel, sand, silt, clay, locally calcreted.
- Czl: Pisolitic, nodular or vuggy ferruginous laterite; some lateritic soils; ferricrete; magnesite; ferruginous and siliceous duricrusts and reworked products, calcrete, kaolinised rock, gossan; residual ferruginous saprolite.



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GDA2020 MGA ZONE 50

LEGEND

- Survey Area
- Soil Landscape Mapping - Best Available (DPIRD-027)
- * intersects Survey Area
- *Buladagie 3 with mafic or schist influence phase
- *Garratt 1Qa phase
- *Greenmount 3l phase
- *Greenmount 3 subsystem
- *Greenmount, Perilya subsystem
- Buladagie 2 Sandplain subsystem
- Buladagie 3 undifferentiated phase
- Buladagie 1 Sandplain subsystem
- Buladagie 3 G -Granite phase
- Buladagie 3 rock outcrop
- Garratt 1Qc phase
- Garratt 3sl phase
- Greenmount 1 subsystem
- Greenmount disturbed land, mine phase
- Kellerberrin hydroaeolian subsystem
- Lake Deborah 1 playa lake phase
- LakeDeborah1 unmapped subsystem

Soil Landscape Mapping

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CORINTHIA FLORA AND FAUNA ASSESSMENT

Figure 3

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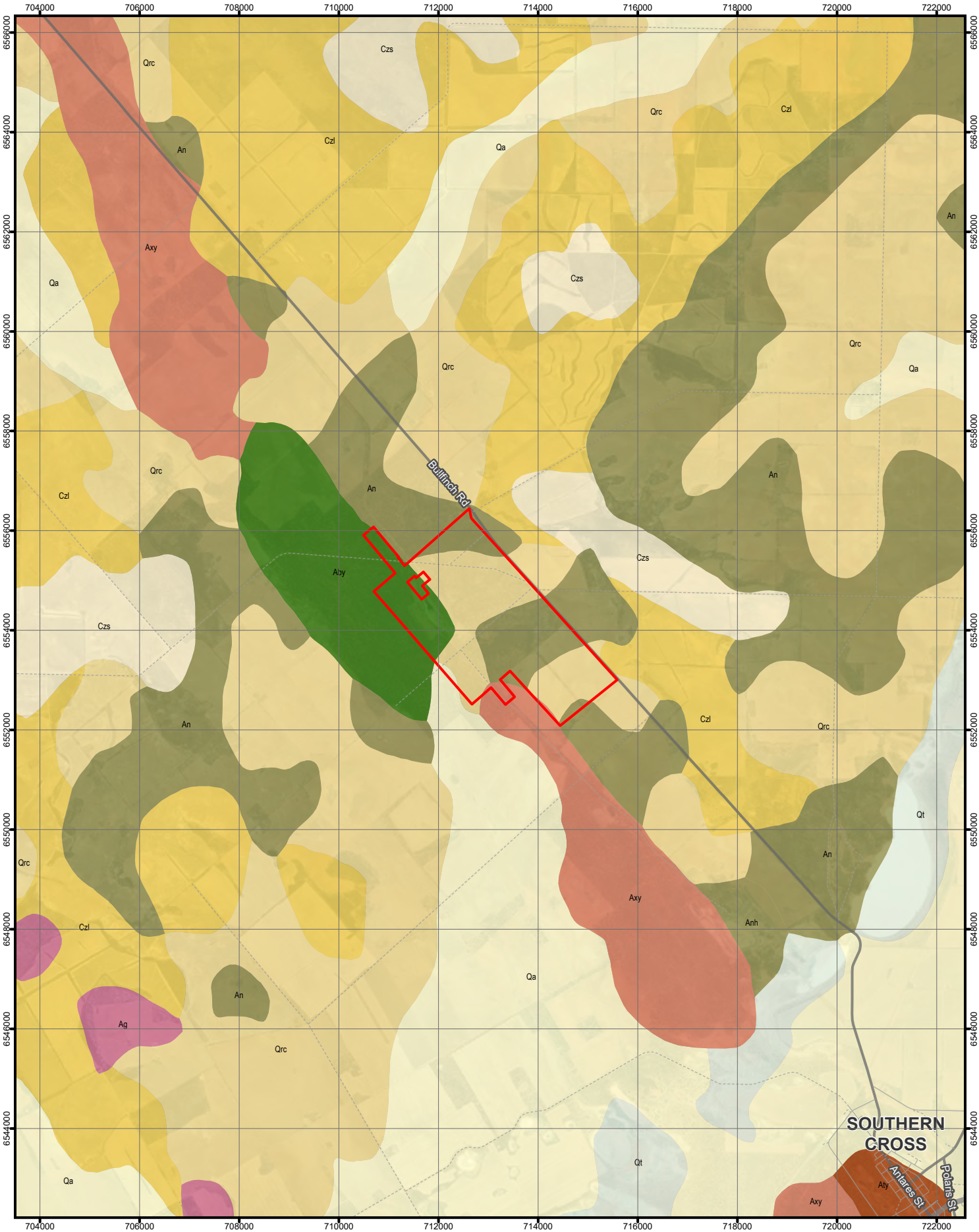

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km

GDA2020 MGA ZONE 50

LEGEND

Survey Area

Geoscience Australia (2012) Surface Geology of Australia, 1:1 000 000 scale, 2012 edition

QUATERNARY
- Qa
- Qrc
- Qt

CENOZOIC
- Czl
- Czs

ARCHEAN
- Ag
- Axy
- Aty
- Aby
- Anh
- An
- Agh

Geology

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CORINTHIA FLORA AND FAUNA ASSESSMENT

Figure 4

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2.4 Vegetation

Beard et al. (2013) mapping is used to determine the current extent of remnant vegetation remaining when compared to pre-European vegetation extent (Figure 5). One Beard et al. (2013) vegetation associations were recorded within the survey area. Descriptions of these vegetation associations and their extent are detailed in Table 1.

Table 1 Beard et al. (2013) vegetation associations and percent remaining (Govt. of WA, 2019)

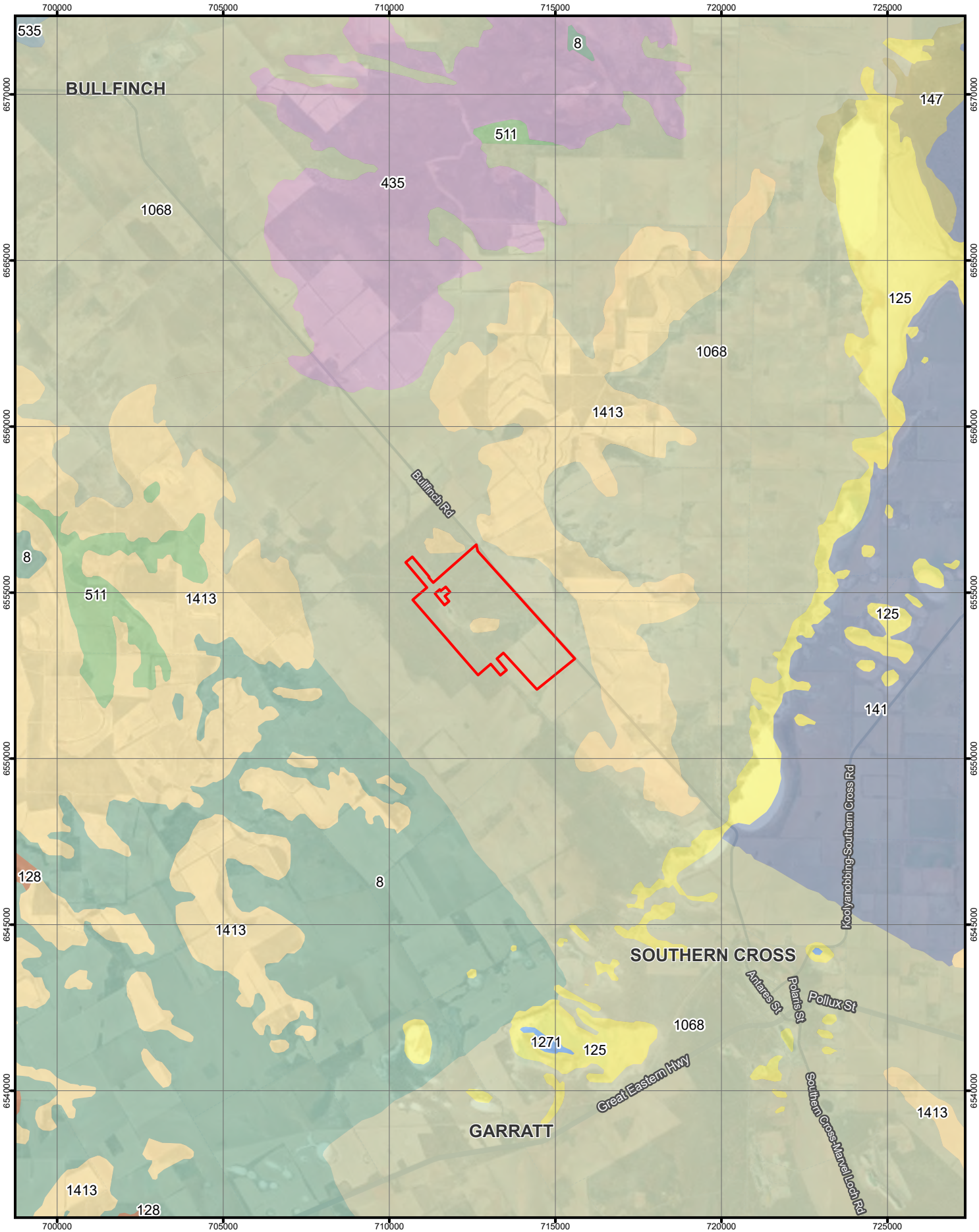
Vegetation Association	Description	Percentage Remaining (%)			
		Western Australia	Coolgardie IBRA Region	Avon Wheatbelt IBRA region	Shire of Yilgarn
1068	Goldfields; gimlet, redwood etc. *E. salubris*, *E. oleosa*.	52.84	54.03	49.75	52.84

2.5 Environmentally Sensitive Areas

The survey area is not located within a conservation reserve or Environmentally Sensitive Area. The nearest conservation reserve is 2.7 km south-east (unnamed). DBCA legislated land within the vicinity of the project site are described in Table 2 and mapped in Figure 7.

Table 2 Nature reserves within the vicinity of the survey area

Name	Type	Purpose	Distance (km)
Un-named	Nature Reserve	Conservation Of Flora and Fauna	2.7
Un-named	Nature Reserve	Conservation Of Flora and Fauna	5.0
Un-named	Nature Reserve	Conservation Of Flora and Fauna	6.2
Un-named	Nature Reserve	Conservation Of Flora and Fauna	12.9
Baladjie Lake Nature Reserve	Nature Reserve	Conservation Of Flora and Fauna	30.5
Frog Rock Nature Reserve	Nature Reserve	Conservation Of Flora and Fauna	32.4



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km

GDA2020 MGA ZONE 50

LEGEND

Survey Area

full Pre-European Vegetation (DPIRD-006) selection

* intersects survey area

* 1413,Thicket, Wattle, casuarina and teatree *acacia-allocasuarina-melaleuca* alliance.

* 1068,Woodland other, Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. *E. salubris, E. oleosa.* Riverine; rivergum *E. camaldulensis.* Tropical; messmate, woolyb

8,Woodland other

125,Salt lake, lagoon, clay pan

128,Rock

141,Woodland other

435,Thicket

147,Saltbush and bluebush with scrub or open scrub

511,Woodland other

535,Woodland other

1271,Salt lake, lagoon, clay pan

Pre-European Vegetation

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CORINTHIA FLORA AND FAUNA ASSESSMENT

Figure

5

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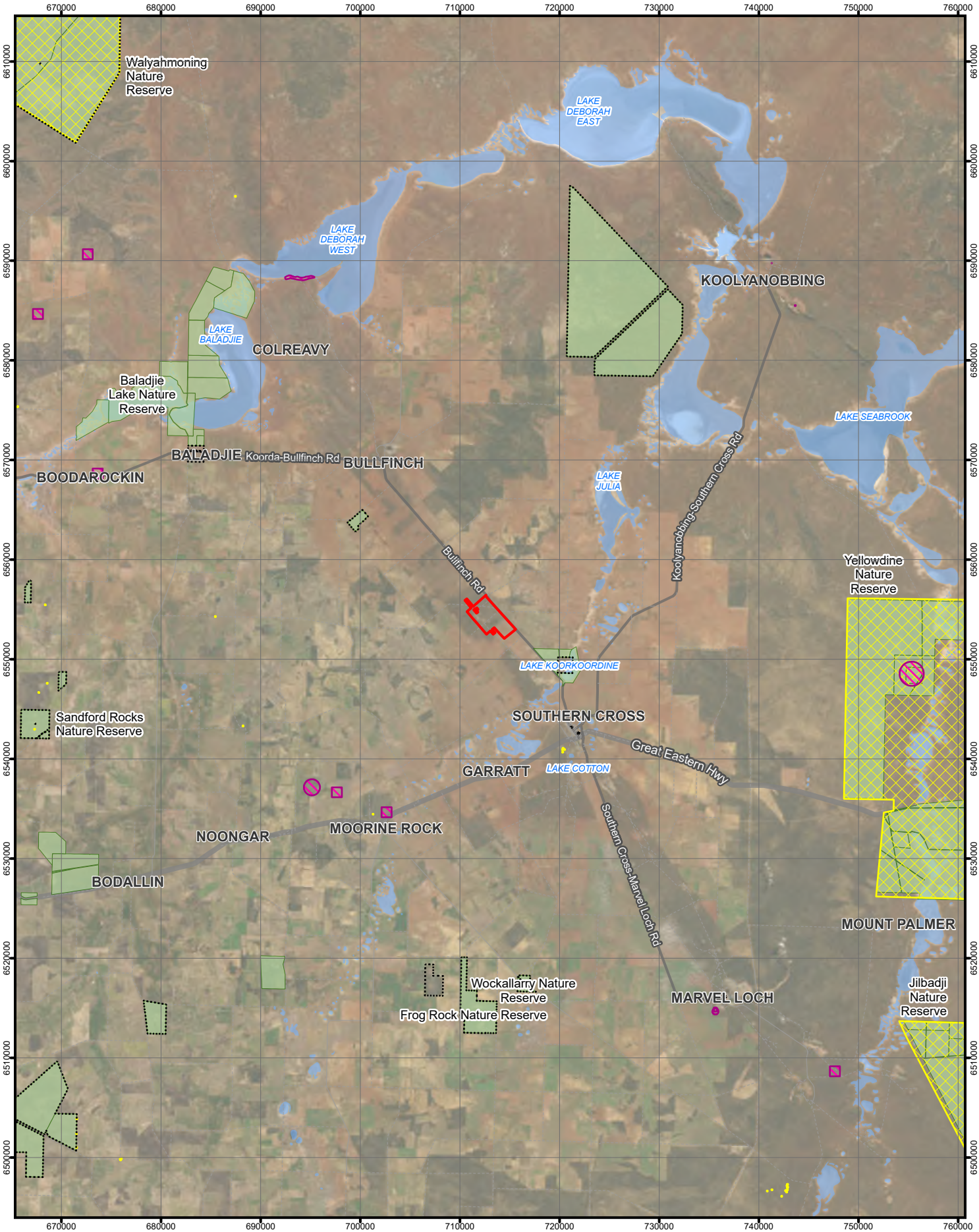

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0 3 6 9 12
km

GDA2020 MGA ZONE 50

LEGEND

- Survey Area
- DBCA - Legislated Lands and Waters (DBCA-011)
- Nature Reserve
- Clearing Regulations - Environmentally Sensitive Areas (DWER-046)
- Aboriginal Cultural Heritage - Register (DPLH-099)
- A-Class Reserves (LGATE-227)

Conservation Reserves and Environmentally Sensitive Areas

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CORINTHIA FLORA AND FAUNA ASSESSMENT

Figure

6

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3.0 Conservation Codes

3.1 Flora and Fauna

Species at risk of extinction are recognised at a Commonwealth level under the EPBC Act and are categorised as outlined in Table 3.

Table 3 Categories of species listed under Schedule 179 of the EPBC Act

Code	Category
Ex	**Extinct Taxa** A species which at a particular time if, at that time, there is no reasonable doubt that the last member of the species has died.
ExW	**Extinct in the Wild Taxa** A species which 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.
CE	**Critically Endangered Taxa** A species which at a particular time if, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
E	**Endangered Taxa** A species which is not critically endangered, and it is facing a very high risk of extinction in the wild in the immediate or near future, as determined in accordance with the prescribed criteria.
V	**Vulnerable Taxa** A species which is 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** A species which at a particular time if, at that time: the species is the focus of a specific conservation program the cessation of which would result in the species becoming vulnerable, endangered or critically endangered the following subparagraphs are satisfied: • the species is a species of fish, • the species is the focus of a plan of management that provides for management 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 the plan of management is in force under a law of the Commonwealth or of a State or Territory cessation of the plan of management would adversely affect the conservation status of the species.
Mi	**Migratory Taxa** The EPBC Act also requires the compilation of a list of migratory species that are recognised under international treaties including the: • Japan Australia Migratory Bird Agreement 1981 (JAMBA) • China Australia Migratory Bird Agreement 1998 (CAMBA) • Republic of Korea-Australia Migratory Bird Agreement 2007 (ROKAMBA) • Bonn Convention 1979 (The Convention on the Conservation of Migratory Species of Wild Animals). All migratory bird species listed in the annexes to these bilateral agreements are protected in Australia as a MNES under the EPBC Act.
Ma	**Marine Taxa** A species established under s248 of the EPBC Act.

Flora and fauna species that are considered Threatened and need to be specially protected because they are under identifiable threat of extinction are listed under the BC Act. These categories are defined in Table 4.

Table 4 Conservation codes for WA flora and fauna listed under the BC Act

Code	Category
CR	**Critically Endangered Taxa** 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 Taxa** 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 20 and the ministerial guidelines.
VU	**Vulnerable Taxa** 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 20 and the ministerial guidelines.
EX	**Extinct Taxa** Species which have been adequately searched for and there is no reasonable doubt that the last individual has died, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).
MI	**Migratory Taxa** 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.
CD	**Species of special conservation interest (conservation dependent 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).
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).

Species that have not yet been adequately surveyed to warrant being listed under the BC Act, or are otherwise data deficient, are added to a Priority List as Priority 1, 2 or 3 by the State Minister for Environment. 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 listed as Priority 4. Categories and definitions of Priority Flora and Fauna species are provided in Table 5.

Table 5 Conservation codes for WA flora and fauna as listed by DBCA and endorsed by the Minister for the Environment

Code	Category
P1	**Priority One – 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 Two – 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 Three – 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 Four – Rare, Near Threatened and other species in need of monitoring** 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. 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. Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

3.2 Vegetation Communities

TECs are naturally occurring biological assemblages that occur in a particular type of habitat and that may be subject to processes that threaten to destroy or significantly modify the assemblage across its range. TECs are listed by both State and Commonwealth legislation.

Communities can be classified as TECs under the EPBC Act. Categories of EPBC Act listed TECs are described in Table 6.

Table 6 Categories of TECs that are listed under the EPBC Act

Code	Category
CE	**Critically Endangered** If, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future.
E	**Endangered** If, at that time, it is not critically endangered and is facing a very high risk of extinction in the wild in the near future.
V	**Vulnerable** If, at that time, it is not critically endangered or endangered, and is facing a high risk of extinction in the wild in the medium-term future.

Vegetation communities in Western Australia are described as TECs if they have been endorsed by the Western Australian Minister for Environment following recommendations made by the Threatened Species Scientific Committee. TECs are listed under the BC Act in one of four categories defined in Table 7.

The DBCA maintains a database of state listed TECs, which is available for online searches via their website. Possible TECs that do not meet survey criteria or are not adequately defined are listed as Priority Ecological Communities (PECs) under Priorities 1, 2 and 3. Ecological communities that are adequately known and are rare but not threatened, or meet criteria for Near Threatened, or that have been recently removed from the threatened list, are placed in Priority 4. Conservation dependent communities are classified as Priority 5. PECs are endorsed by the Minister for Environment and are described in Table 8.

DBCA requires that all Priority and Threatened ecological communities are considered during environmental impact assessments and clearing permit applications.

Table 7 Conservation codes for state listed ecological communities

Code	Category
PD	Presumed Totally Destroyed
CR	Critically Endangered
EN	Endangered
VU	Vulnerable

Table 8 Categories for PECs

Code	Category
P1	Priority One: poorly-known ecological communities
P2	Priority Two: poorly-known ecological communities
P3	Priority Three: poorly known ecological communities
P4	Priority Four: 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.

3.3 Biosecurity and Agriculture Management Act 2007

Biosecurity is the management of the risk of animal and plant pests and diseases entering, emerging, establishing or spreading in WA to protect the economy, environment, and community. Biosecurity is managed under the *Biosecurity and Agriculture Management Act 2007* (BAM Act), which came into effect 01 May 2013. Exotic animals and plants can become an invasive species if they can establish in new areas where local conditions are favourable for their growth. Each organism listed under the BAM Act comes with certain legal / import requirements:

- Declared Pest, Prohibited - s12. Prohibited organisms are declared pests by virtue of section 22(1) and may only be imported and kept subject to permits.
- Permitted - s11. Permitted organisms may be subject to an import permit if they are potential carriers of high-risk organisms.
- Declared Pest - s22(2). Declared pests may be subject to an import permit if they are potential carriers of high-risk organisms and may also be subject to control and keeping requirements once within Western Australia.
- Permitted, Requires Permit - r73. Regulation 73 permitted organisms may only be imported subject to an import permit.

- Declared pests can be assigned to a C1, C2 or C3 control category under the Biosecurity and Agriculture Management Regulations 2013:
  - C1 Exclusion - Organisms which should be excluded from part or all of Western Australia
  - C2 Eradication - Organisms which should be eradicated from part or all of Western Australia
  - C3 Management - Organisms that should have some form of management applied that will alleviate the harmful impact of the organism, reduce the numbers or distribution of the organism, or prevent or contain the spread of the organism.
- Unassigned - Declared pests that are recognised as having a harmful impact under certain circumstances, where their subsequent control requirements are determined by a Plan or other legislative arrangements under the BAM Act.

4.0 Methodology

4.1 Desktop Assessment

A comprehensive desktop assessment was undertaken prior to the field survey to identify significant environmental values likely to be present in the survey area including flora, fauna, and vegetation communities. Desktop database searches were requested from the following government databases (including a variable radius):

- DBCA Threatened Species and Communities database including Threatened and Priority flora, communities and Threatened and Priority fauna (50 km buffer from the survey area).
- Western Australian Herbarium (WAH, 1998-) records.
- EPBC Act Protected Matters Search Tool (PMST) (50 km buffer from survey area).

Significant flora and fauna species' likelihood of occurrence was assessed systematically using a point-based system that takes into account proximity (defined as less than 5 km) and date of known records (defined as less than 20 years old), presence within the Local Government Area (LGA) and habitat suitability Table 9 and Table 10).

The likelihood of significant ecological communities occurring depends on the presence of suitable landforms, land systems, known occurrences and distance of known occurrences.

Table 9 Categories of likelihood of occurrence for flora species

Likelihood of Occurrence	Score	Definition
Known	6	Species is known to occur in the survey area.
High (Likely)	5 or 4	Not known to occur in the survey area however there are records nearby and suitable habitat for the species is known or likely to be present within the survey area. Some discretion is used to determine whether species who are not known from within the vicinity or have recent records may still be considered to have a high likelihood (i.e. a score of 4).
Moderate (Possible)	4 (if suitable habitat is known) 3 (if suitable habitat may be present)	Species is not known to occur within the survey area, however, there are nearby records AND/OR recent records OR records within the LGA AND suitable habitat for the species is known or likely to be present within the survey area. OR Not known to occur within the survey area, but there are records nearby, AND recent records AND records within the LGA, and suitable habitat for the species may be present (marginal habitat).
Low (Unlikely)	2, 3	Species is not known to occur within the survey area, but there are records nearby OR recent records OR within the LGA, AND suitable habitat for the species may be present (marginal habitat).
Negligible (Suitable Habitat not Present)	1, 2, 3	Despite records nearby OR being present within the LGA OR recent records, no suitable habitat is present within the survey area and therefore the likelihood of the species occurring is negligible.

Table 10 Categories of likelihood of occurrence for fauna species

Likelihood of Occurrence	Score	Definition
Known	5	Species is known to occur in the survey area
High (Likely)	3, 4	Not known to occur in the survey area but there are records within close proximity of the survey area and suitable habitat for the species is known to be, or likely to be, present within the survey area OR not known to occur within the survey area but there are recent records in close proximity of the survey area and suitable habitat for the species is known to be, or likely to be present within the survey area OR not known to occur within the survey area but there are recent records and suitable habitat for the species may be present.
Moderate (Possible)	2, 3	Not known to occur within the survey area but there are recent records in close proximity/within the LGA and suitable habitat for the species may be present (marginal habitat) OR suitable habitat present.
Low (Unlikely)	1, 2	Records present within the LGA, and marginal suitable habitat is present within the survey area, therefore the likelihood of the species occurring there is low OR marginal habitat present OR recent record within LGA
Negligible (Suitable Habitat not Present)	0, 1	No nearby records or suitable habitat OR recent record with no suitable habitat within the survey area OR records nearby with no suitable habitat within the survey area

4.2 Flora and Vegetation Assessment

4.2.1 Field Survey

A detailed flora and vegetation survey was undertaken from 3 to 5 June 2025 in accordance with the Technical Guide for Flora and Vegetation Surveys (EPA 2016). Areas of intact native vegetation were assessed using meandering traverses and recording floristic data from 20x20 m quadrats demarcated by a wooden peg in the northwest corner.

The field surveys were undertaken by botanist Floora de Wit (collection permit FB62000497). Floora has more than 17 years' experience in undertaking flora and vegetation surveys across Western Australia. She holds a Bachelor of Science in Environmental Biology (Environmental Restoration) and a Postgraduate Diploma in Environmental Management and Impact Assessment.

Each site was given a unique site number, and the following parameters recorded:

- date
- location using hand-held GPS (accuracy of 5 m)
- sample site type and size
- photograph (north-west corner)
- soil details (type, colour, moisture)
- landform
- vegetation condition
- fire history
- species list including:
  - estimated height
  - estimated percentage cover (for trees both percentage within relevé and within community was recorded to enable better description of vegetation community).

Any specimens unable to be identified in the field were collected for identification in AECOM's in-house herbarium and the specimens and taxonomic references, and keys at the Western Australian Herbarium (WAH). Naming of species followed the convention of the WAH (1998).

4.2.2 Vegetation Mapping

Vegetation communities were described and mapped based on changes in dominant species composition and landform. Vegetation community descriptions were based on the Association Level V in accordance with the National Vegetation Information System (NVIS) Framework (DotE, 2017). Delineation of vegetation communities was supported by analysing floristic data collected within quadrats.

Vegetation condition was determined using the Keighery (1994) vegetation condition scale.

The software package Primer-E was used to undertake statistical analysis. This included the Bray-Curtis and Euclidian distance measures to assess the relationship / similarity of sample sites to one another. The output dendrogram was used to support vegetation community delineation.

4.3 Fauna Survey

The fauna survey was undertaken simultaneously with the flora and vegetation assessment. The survey was undertaken by Deborah Robinson, who has three years' experience undertaking fauna habitat surveys across WA.

Fauna habitat assessments were conducted throughout the survey area and were used to define the structure, complexity, and continuity of the habitat present, and documented the presence and abundance of habitat features that included but were not limited to presence or absence of large mature trees, water bodies, dense vegetation, hollows, and leaf litter. Any Malleefowl mounds or other significant fauna habitat features were recorded to inform this assessment.

The habitat assessment was used to verify the findings in the desktop survey as per the Technical Guidance for Terrestrial Fauna Surveys (EPA 2020). Potential usage within the survey area by conservation significant fauna species was recorded, primarily focusing on suitable and/or core habitat and any ecological values that may support likelihood of occurrence. Any observations were recorded using a hand-held GPS (accuracy of 5 m).

In addition to recording all observed fauna and birds identified from distinctive calls, details of indirect evidence such as scats, tracks and diggings were documented. Attention was given to searching for conservation significant species identified in the desktop assessment as having the potential to occur in the area. All observations were made between daylight hours of 0700 and 1700.

The taxonomy and nomenclature of vertebrate species is consistent with the Western Australian Museum's Checklist of Vertebrates of Western Australia (2023) and the Australian Faunal Directory for bird species.

5.0 Survey Limitations

No significant limitations were identified that may impact on the ability to use the data to inform the environmental impact assessment. Limitations of the biological surveys are discussed in Table 11.

Table 11 Limitations of the flora, fauna, and vegetation survey

Limitation	Flora. Fauna and Vegetation Survey
Availability of contextual information on the region	**Nil** Contextual information was available using purchased data and publicly available information.
Competency/experience of consultant conducting survey	**Nil** The flora and vegetation survey was led by Floora de Wit who has more than 17 years' experience undertaking flora and vegetation assessments. The fauna assessment was undertaken by Deborah Robinson who has 3 years' experience undertaking fauna surveys. She has actively pursued knowledge in local native fauna species, reviewing relevant guidelines and publications to maximise detectability of species and assess habitat suitability.
Proportion of flora / fauna identified, recorded and/or collected (based on sampling, timing and intensity)	**Nil** Floristic data was collected at 19 quadrats and six relevés. Twenty detailed fauna habitat assessments were undertaken to capture the ecological features of the survey area, of which is considered suitable effort for the size and complexity of the vegetation and fauna habitats present.
Completion (is further work needed)	**Nil** The objectives of the flora, fauna and vegetation assessment were met to delineate key values. Survey effort was influenced by the desktop study results and the level of disturbance observed. This survey was not a systematic search effort. More Priority flora *Lissanthe scabra* are present and should be captured through systematic linear searches.
Remoteness and/or access problems	**Nil** The entire survey area was accessible on foot.
Timing, weather, season, cycle	**Moderate** The survey was undertaken in June which is not considered the ideal survey period according to the EPA technical guide. Priority flora were still able to be identified and confirmed however some annual species were absent.
Disturbances (e.g. fire flood, accidental human intervention) which affected results of the survey	**Nil** No disturbances were noted that may influence the outcome of the survey. The survey area encompasses an old mine site which were excluded from the assessment.

6.0 Desktop Assessment

6.1 Threatened and Priority Ecological Communities

One TEC listed under the EPBC Act was known to occur in the vicinity of the survey area. The Eucalypt Woodlands of the Western Australian Wheatbelt (Eucalypt Woodland TEC) is listed as Critically Endangered under the EPBC Act and is described in Table 12. Occurrences require field verification, with the nearest occurrence being 2.1 km west of the survey area.

No TECs overlap with the survey area (Figure 7).

Table 12 Significant ecological communities known to occur in the vicinity of the survey area

Community Name and Description	Cons. Status[1]	Distance from survey area
Eucalypt Woodlands of the Western Australian Wheatbelt The structure of the ecological community is a woodland in which the minimum crown cover of the tree canopy in a mature woodland is 10%. The key dominant or co-dominant species of the tree canopy are species of Eucalyptus trees that typically have a single trunk. Native understorey is present but is of variable composition, being a combination of grasses, other herbs and shrubs (DotE, 2015).	EPBC Act: CE DBCA: P3	2.1km

1. EPBC Act CE Critically Endangered, DBCA P Priority

6.2 Significant Flora

A total of 51 significant flora species were identified in the desktop assessment. This comprised 19 species listed as Threatened under the EPBC Act and BC Act, and 32 species listed as Priority by DBCA.

The likelihood assessment determined that:

- two species are known to occur
- six species had a high likelihood of occurrence
- 11 species had a moderate likelihood of occurrence

The remaining species had a low or negligible likelihood in the absence of suitable habitat. Species known and with a high likelihood of occurrence are presented in Table 13. Significant flora recorded in the vicinity of the survey area are mapped on Figure 7. The comprehensive desktop assessment is presented in Appendix A.

Table 13 Conservation significant flora species that are known or have a high likelihood of occurrence

Species	Habitat[2]	DBCA	Likelihood
Lissanthe scabra	Dry, white to orange-brown clay, sandy gravel loams, granite. Breakaways, uplands.	P2	Known
Rinzia fimbriolata	Recorded from sandy soil in mallee shrubland or woodland, also with one record from ‘clay soil with quartz pieces’ (Rye, 2017).	P1	Known
Acacia cylindrica	Yellow/brown sand, gravelly soils. Undulating plains, flats.	P3	High
Acacia formidabilis	Yellow or red/brown sand. Undulating plains, hillsides.	P3	High
Stylidium choreanthum	White/yellow or red sand. Plains.	P3	High

Species	Habitat[2]	DBCA	Likelihood
Leucopogon sp. Yellowdine (M. Hislop & F. Hort MH 3194)	Undulating sand plain. Dry yellow loamy sand.	P2	High
Eucalyptus calycogona subsp. *miraculum*	Occurs in mallee and mixed mallee-mallet vegetation on pale orange to red clay-loams to thin stony loams with ironstone gravel (Nicolle & French, 2009).	P1	High
Acacia desertorum var. *nudipes*	Yellow sand, lateritic gravel. Sandplains, flats.	P3	High

1. Conservation codes P Priority
2. Habitat derived from WAH (1998-) Florabase

6.3 Significant Fauna

Thirty significant fauna species have been recorded in the vicinity of the survey area. This included 16 bird, nine mammal, two reptile and three invertebrate species. A review of the desktop information determined:

- There is one record of Malleefowl *Leipoa ocellata* along the eastern boundary of the survey area.
- Four fauna species are considered likely to occur, including two mammal and two invertebrate species.
- Four fauna species have a moderate likelihood, including three bird and one reptile species.
- 21 fauna species have a low or negligible likelihood.

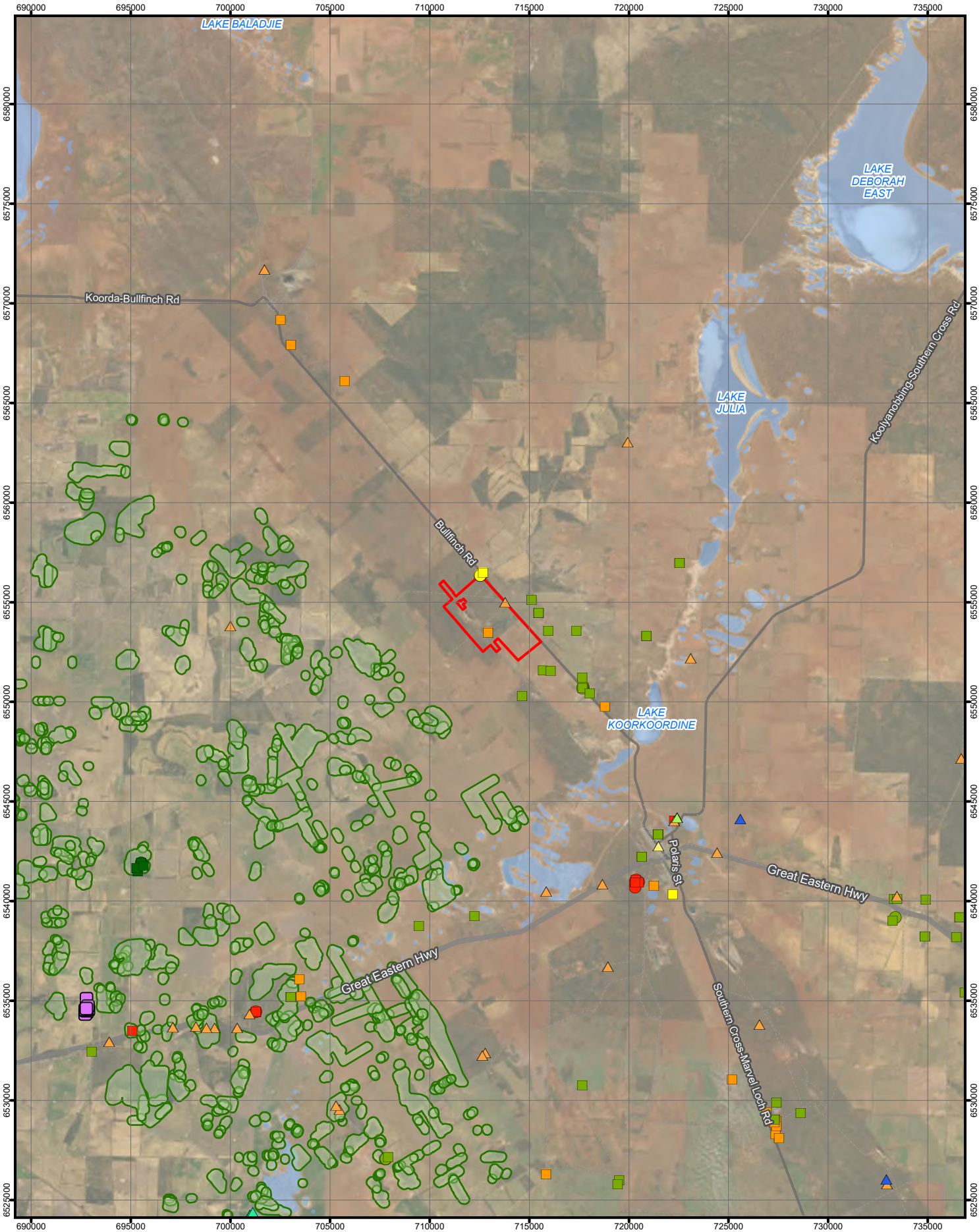
The species known to occur and those with a high likelihood of occurrence are presented below in Table 14. All significant fauna species locations are mapped in Figure 7. Database search results and the analysis of these are provided in Appendix B.

Table 14 Significant fauna species known and/or have a high or moderate likelihood of occurrence

Scientific Name	Conservation Status		Ecology
	BC Act / DBCA[2]	EPBC Act[1]	
Malleefowl, *Leipoa ocellata*	VU	V	Known occurrence in the survey area. Found in the semi-arid to arid zone in shrublands and low woodlands dominated by *Melaleuca uncinata* complex, *Callitris verrucosa* and some shrublands dominated by Acacia and occasionally in woodlands dominated by Eucalypts (DCCEEW, 2025).
Western Brush Wallaby *Notamacropus Irma*	P4		Open forest or woodland, particularly favouring open, seasonally wet flats with low grasses and open scrubby thickets (DCCEEW, 2025).
Western Quoll, Chuditch, *Dasyurus geoffroii*	VU		Currently restricted to south-west Western Australia, in areas dominated by sclerophyll forest or drier woodland, heath and mallee shrubland (Van Dyck and Strahan 2008).
Tree-stem Trapdoor Spider, *Idiosoma castellum*	P4		Habitat is exclusive to the Avon Wheatbelt and western Goldfields in WA (Main, 1986). The habitat for the species consists of flood-prone depressions and flats with myrtaceous shrubland (especially Broombush *Melaleuca uncinata* and Sheoak) on sandy-loam soil (Bennelongia Environmental Consultants 2018).

Scientific Name	Conservation Status		Ecology
	BC Act / DBCA[2]	EPBC Act[1]	
Coolgardie Shield-backed Trapdoor Spider, *Idiosoma intermedium*	P3		Species occur in the south-west of Western Australia in the eastern Avon Wheatbelt and north-western Coolgardie bioregions(Rix et al., 2018).

1. EPBC Conservation status codes:V Vulnerable
2. BC Conservation status codes:VU Vulnerable, P Priority Species.



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km

GDA2020 MGA ZONE 50

LEGEND

- Survey Area
- TEC / PEC
- Priority 3
- Threatened and Priority Flora database (TPFL)
  - Threatened
  - P2
  - P3
  - Priory 4
- WA Herbarium database (WAHERB)
  - Threatened
  - P1
  - P2
  - P3
  - P4
- Threatened Fauna database (DBCA)
  - Vulnerable
  - Migratory Species
  - Specially Protected
- Priority 1
- Priority 4
- WTBC Hollows

Desktop Results for Flora, Fauna and Communities

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CORINTHIA FLORA AND FAUNA ASSESSMENT

Figure

7

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7.0 Field Survey Results

7.1 Vegetation

Seven native vegetation communities were defined and mapped comprising two Mixed Shrubland, one Allocasuarina Shrubland, one Melaleuca Shrubland and three Eucalypt Woodlands. Site data showed clear clustering according to the scaled foliage cover data (Plate 1). This was supported by sufficient survey effort across the area.

Vegetation communities are mapped in Figure 8 described in Table 16 with flora species by community presented in Appendix C and site data presented in Appendix D.

Vegetation condition varied between Excellent and Good (excluding the cleared existing mine areas). Low intensity weeds, tracks, and historical drilling contributed to degradation. No recent evidence of human disturbance was observed and regeneration of shrubs and herbs was prevalent in disturbed areas. Vegetation condition extent is presented in Figure 9 and described in Table 15.

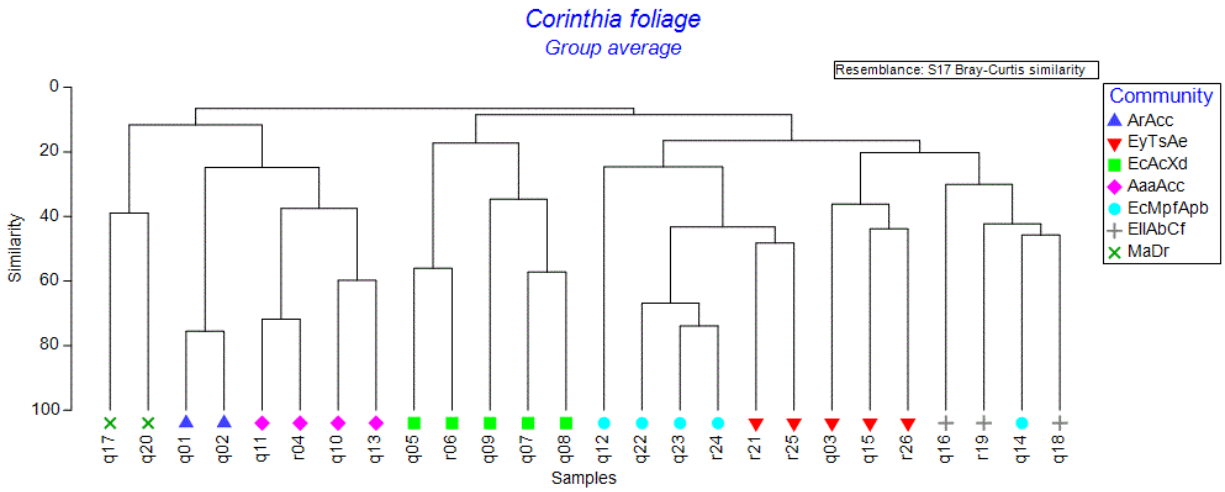


Plate 1 Similarity of sample sites using scaled foliage cover symbolised by vegetation community

Table 15 Vegetation condition extent

Condition	Extent (ha)	Proportion (%)
Excellent	464.11	47
Very Good	172.65	18
Good	25.06	3
Cleared	324.47	33
Total	**986.29**	**100**

Table 16 Vegetation community descriptions and photographs

Vegetation Description	Details	Photographs
ArAcc **Mixed Shrubland** *Acacia rigens, Allocasuarina acutivalvis* subsp. *acutivalvis* mid to tall open shrubland over *Amphipogon caricinus* var. *caricinus, Lepidosperma* sp. and *Dianella revoluta* low mixed herb and grassland. Recorded on orange to grey sand on flat terrain. Isolated to one occurrence in the survey area.	Survey effort: Q01, Q02 Species richness: 13 native species Extent: 9.81 ha	
EcMpfApb **Eucalypt Woodland** *Eucalyptus celastroides* and *Eucalyptus salubris* mid woodland over *Melaleuca pauperiflora* subsp. *fastigiata* tall open shrubland over *Atriplex paludosa* subsp. *baudinii, Olearia muelleri* and *Eremophila interstans* low shrubland. Recorded on undulating terrain with red loam clay soils.	Survey effort: Q14, Q22, Q23, R24 Species richness: 29 native and one weed species Extent: 242.40 ha	

Vegetation Description	Details	Photographs
AaaAcc **Allocasuarina Shrubland** *Allocasuarina acutivalvis* subsp. *acutivalvis, Allocasuarina campestris* and *Hakea minyma* tall shrubland *Amphipogon caricinus* var. *caricinus, Triodia scariosa* and *Borya sphaerocephala* low sparse grassland. Recorded on a low profile plateau and flats with red to orange sandy soils. Density and height of shrubs varies from tall (>2m) closed shrublands to mid (1-2m) open shrubland.	Survey effort: Q05, Q10, Q11, Q13, R04 Species richness: 24 native species Extent: 62.71 ha	
EyTsAe **Eucalypt Woodland** *Eucalyptus yilgarnensis, Eucalyptus celastroides* and *Eucalyptus loxophleba* subsp. *lissophloia* mid woodland over *Templetonia smithiana, Exocarpos aphyllus* and *Scaevola spinescens* low sparse shrubland over *Austrostipa elegantissima, Sclerolaena patenticuspis* and *Ptilotus aervoides* low sparse mixed grass and forbland. Recorded on flats and gently undulating terrain with red clay soils. High cryptogram and litter cover. Some variation reflective of the bands of shrubs that occur, particularly *Melaleuca pauperiflora* subsp. *fastigiata* which occurs sporadically in clusters.	Survey effort: Q03, Q12, Q15, R21, R25, R26 Species richness: 38 native species Extent: 152.23 ha	

Vegetation Description	Details	Photographs
EcAcXd **Eucalypt Woodland** *Eucalyptus capillosa* and *Callitris columellaris* mid woodland over *Alyxia buxifolia, Dodonaea microzyga* and *Eremophila clarkei* mid sparse shrubland over *Xerolirion divaricata, Arthropodium* sp. and *Amphipogon caricinus* var. *caricinus* low sparse mixed forb and grassland. Includes granite breakaways and the adjacent rocky floodplain. Includes white sandy soils with calcrete rocks. Includes population of Priority 2 *Lissanthe scabra*.	Survey effort: Q05, Q07, Q08, Q09, R06 Species richness: 35 native and two weed species Extent: 19.69 ha	 

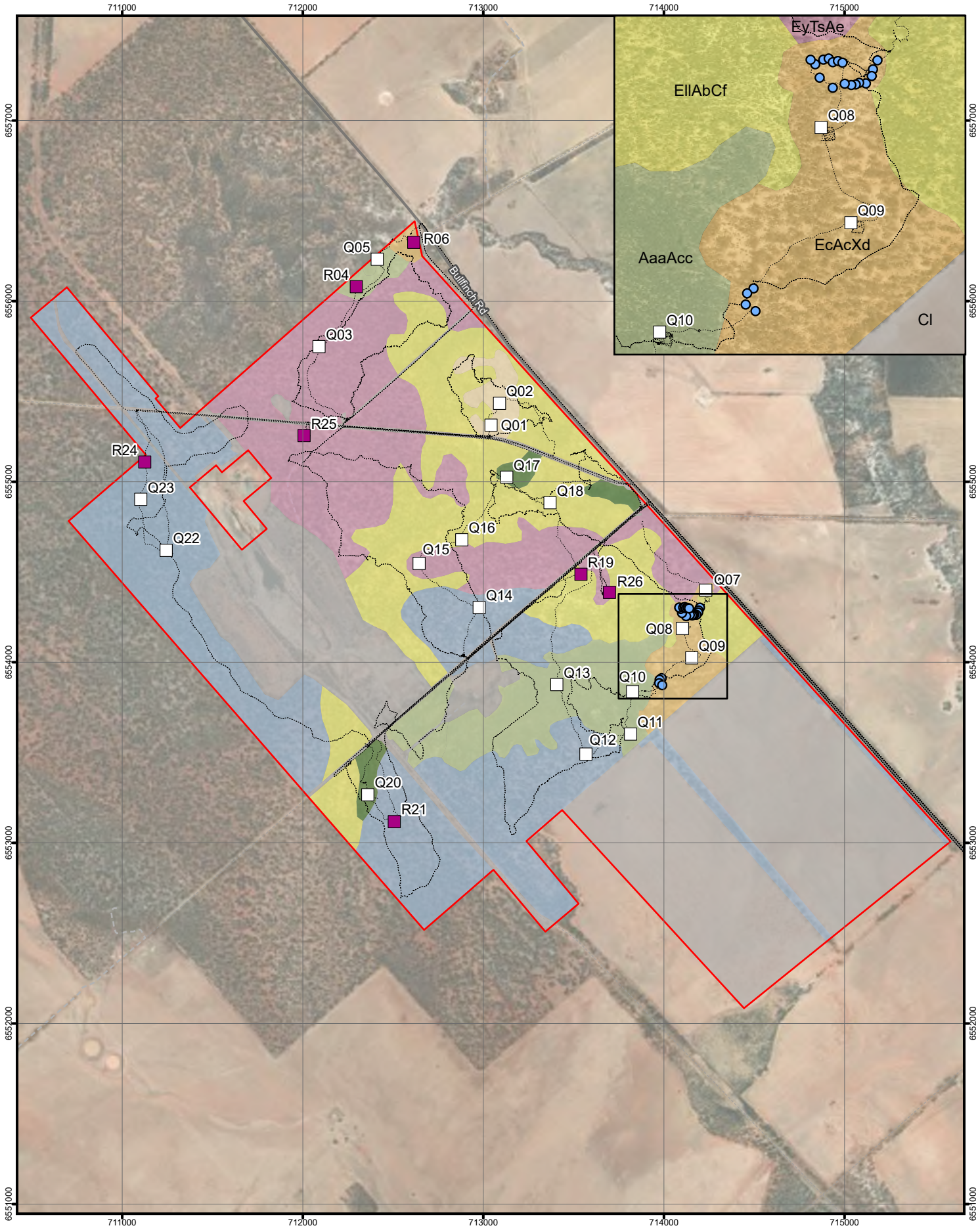
Vegetation Description	Details	Photographs
EllAbCf **Mixed Shrubland** *Eucalyptus loxophleba* subsp. *lissophloia, Eucalyptus celastroides* and *Eucalyptus yilgarnensis* mid woodland over *Alyxia buxifolia, Acacia assimilis* and *Olearia* sp. Eremicola (Diels & Pritzel s.sn. PERTH 00449628) low shrubland over *Chamaexeros fimbriata, Amphipogon caricinus* var. *caricinus* and *Aristida contorta* low mixed sparse forb and grassland. Highly variable woodland where density of understorey is influenced by slopes and depressions (water availability) in the landscape. Recorded on sandy clay. Represents a mixed shrubland with sporadic patches of Eucalypt trees.	Survey effort: Q16, Q18, R19 Species richness: 41 native and four weed species Extent: 164.92 ha	
MaDr **Melaleuca Shrubland** *Melaleuca acuminata*, *Melaleuca uncinata* and *Rinzia carnosa* mid shrubland over *Dianella revoluta, Amphipogon caricinus* var. *caricinus* and *Erodium* sp. low sparse mixed forb and grassland.	Survey effort: Q07, Q20 Species richness: 24 native and two weed species Extent: 10.06 ha	

7.2 Flora

A total of 106 flora species were recorded representing 101 native and three weed species. Families that were best represented included Chenopodiaceae (22 species), Fabaceae (15 species) and Asteraceae (13 species). Five weed species were recorded. None of these are listed as Declared Pest species under the BAM Act or as a Weed of National Environmental Significance.

A Priority 2 species, *Lissanthe scabra* was recorded at two locations. This species was collected (FdW250604-28) and identified by Mike Hislop (Accession 11682) at the WA Herbarium. This species was readily distinguished in the field by leaf morphology (Plate 2). The species was recorded in vegetation EcAcXd on calcrete/granite outcrop and breakaway where more than 192 individuals were recorded. The population distribution is mapped in Figure 8.

Plate 2 ***Lissanthe scabra*** **(P2) rocky plateau habitat with species in forefront of photograph (left) and rocky breakaway habitat (right) and leaf morphology (bottom left and right)**



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GDA2020 MGA ZONE 50

LEGEND

- Survey Area
- Tracklogs

Significant Flora

- *Lissanthe scabra* (P2)

Sample Sites

- Quadrat
- Relevé

Vegetation Communities

- AaaAcc
- ArAcc
- EcAcXd
- EcMpfApb
- EllAbCf
- EyTsAe
- MaDr
- Cl

Vegetation Communities, Significant Flora and Flora Survey Effort

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CORINTHIA FLORA AND FAUNA ASSESSMENT

Figure 9

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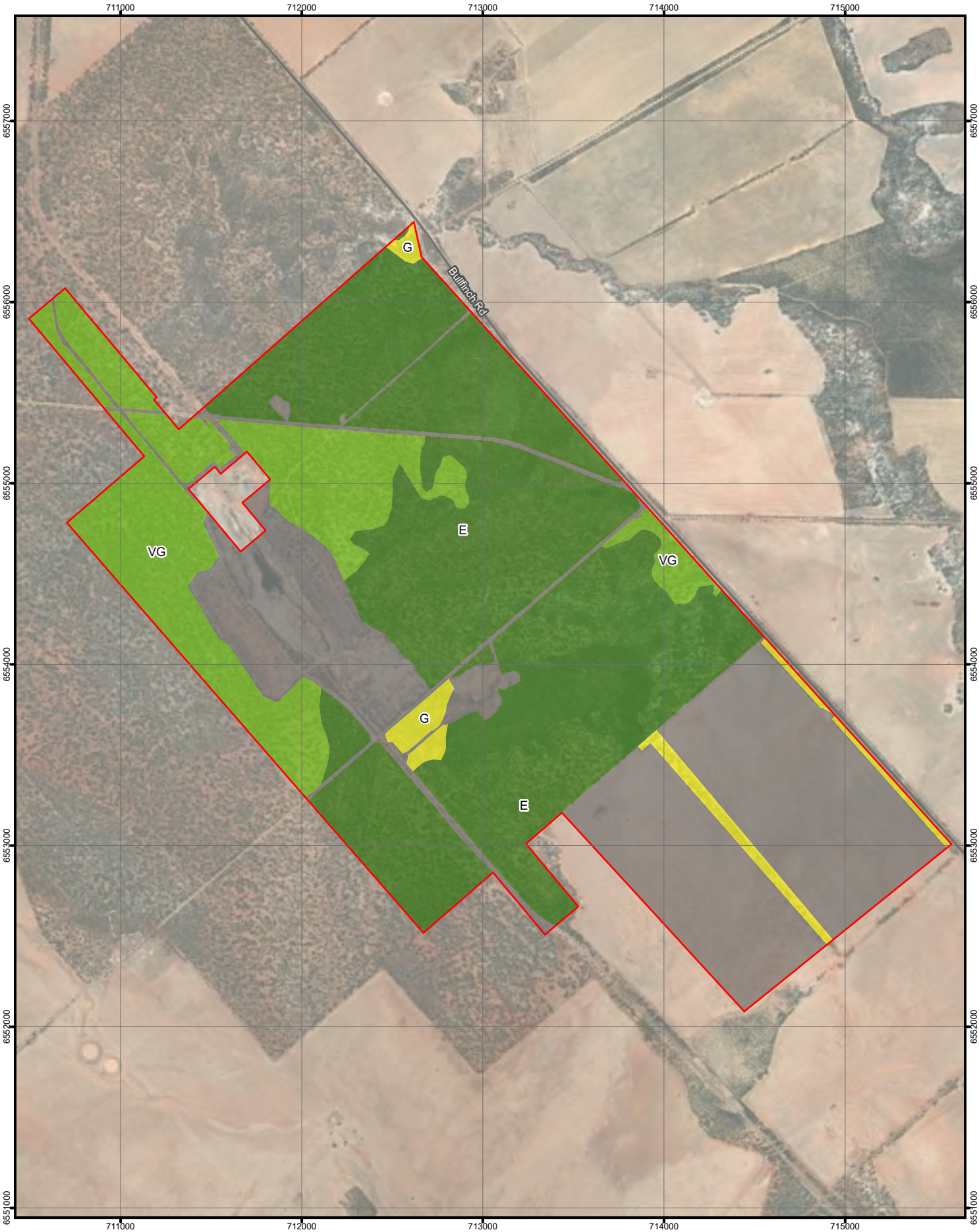

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m

GDA2020 MGA ZONE 50

LEGEND

- Survey Area

Vegetation Condition

- Excellent
- Very Good
- Good
- Cleared

Vegetation Condition

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CORINTHIA FLORA AND FAUNA ASSESSMENT

Figure

9

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7.3 Fauna

One old Malleefowl mound was recorded in the Shrubland habitat (Plate 3). There was no current evidence of use. No other significant fauna species or indirect evidence of significant species was recorded.

Evidence of non-conservation significant mammal and bird species was recorded, including Western Grey Kangaroos, Emus, wild dogs, and least concern bird species such as Grey Shrike-thrush, Black-faced Woodswallow, and Western Yellow Robin.

Plate 3 Old Malleefowl mound within the survey area

Three fauna habitats have been defined and mapped in Figure 10 and Table 17, and are described as:

- Shrublands – dominated largely by *Allocasuarina campestris*, *A. acutivalvis, Melaleuca pauperiflora* and *Acacia rigens* on sandy soils.
- Eucalypt Woodlands – dominated by various eucalypt trees, gimlets and mallees over sclerophyllous shrubs on orange to red clay loam soils.
- Eucalypt Woodlands on Breakaway/Rock - *Eucalyptus capillosa* and *Callitris columellaris* over sparse shrubs, herbs and grasses on very hard rock surface.

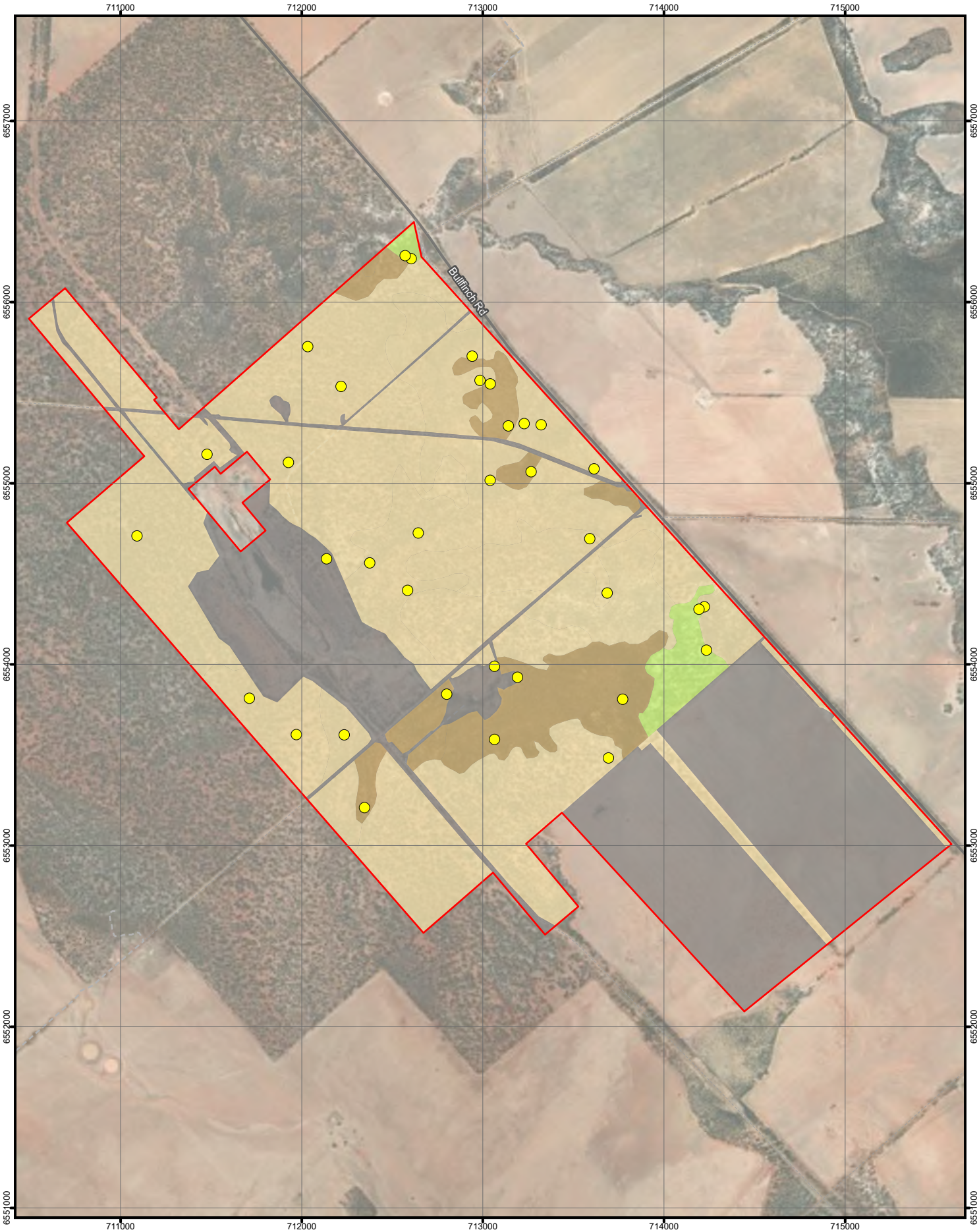
Five significant fauna species may utilise the habitats:

- Chuditch (*Dasyurus geoffroii*) listed as EPBC and BC Act Vulnerable
- Malleefowl (*Leipoa ocellata*) listed as EPBC and BC Act Vulnerable
- Coolgardie Shield-backed Trapdoor Spider (*Idiosoma intermedium*) listed as Priority 3
- Western Brush Wallaby (*Notamacropus irma*) listed as Priority 4
- Tree-stem Trapdoor Spider (*Idiosoma castellum)* listed as Priority 4.

Table 17 Fauna habitats of the survey area

Fauna Habitat	Description	Cons. Sig. Fauna Species that May Utilise Habitat	Photo
Eucalypt Woodland	Eucalypt woodland dominated by a variety of Eucalypt species including tree and mallee form over sclerophyllous shrubs and sparse grasses and herbs. Occurs on orange to red loamy clays on undulating terrain with medium litter cover of logs and leaves. Understorey is relatively open.	Potential suitable habitat for: • Chuditch • Malleefowl • Coolgardie Shield-backed Trapdoor Spider • Western Brush Wallaby	
Eucalypt Woodland on Breakaway/Rock	*Eucalyptus capillosa* and *Callitris columellaris* trees over sparse sclerophyllous shrubs and sparse herbs and grasses on hard granite breakaways and plateaus. Leaf litter was sparse with large areas of bare open areas devoid of vegetation due to the impenetrable hard rock surface. Breakaways include boulders, crevices and shallow caves.	Potential suitable habitat for: • Chuditch	

Fauna Habitat	Description	Cons. Sig. Fauna Species that May Utilise Habitat	Photo
Shrubland	Shrublands dominated by *Allocasuarina campestris*, *A. acutivalvis, Melaleuca pauperiflora* and *Acacia rigens* mid to tall shrubs over mid to low sclerophyllous shrubs and sparse grasses. Soils were sandy to sandy loam suitable for burrowing. Leaf litter variable from moderate to light leaf and logs.	Potential suitable habitat for: • Tree-stem Trapdoor Spider • Malleefowl • Coolgardie Shield-backed Trapdoor Spider	



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LEGEND

- Survey Area
- Fauna Habitat Assessment Sites

Fauna Habitat

- Eucalypt Woodland
- Eucalypt Woodland / Breakaway
- Shrubland
- Cleared

Fauna Habitats and Fauna Survey Effort

CYGNET GOLD PTY LTD

CORINTHIA FLORA AND FAUNA ASSESSMENT

Figure 10

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8.0 Discussion

8.1 Flora and Vegetation

Seven native vegetation communities were recorded, which reflected the diversity of soils and landforms. Yellow to white sands on flats supported shrubland communities, calcrete breakaways and outwash plains supported Eucalypt Woodlands, and the red loam clay soils typical of the region supported the common Eucalypt Woodlands.

The four Shrublands and the sandy soils were not typical of the local area and do not match the pre-European vegetation description "*E. salubris, E. oleosa* Woodland" (Beard, et al. 2013). The survey area is within the Coolgardie IBRA region, only 3.6 km east of the Avon Wheatbelt. This is expressed in the high diversity of vegetation where the Shrublands on sandier soils are representative of the Wheatbelt compared to the undulating flats with loam clays of the Coolgardie region.

A low profile plateau supported a dense Mixed Shrubland with some calcrete breakaways directly adjacent where the Priority 2 *Lissanthe scabra* was prolific. This breakaway extended as a meandering seam towards the eastern edge of the survey area where outwash plains of calcrete and white to orange sandy soils supported Eucalypt Woodland over isolated to no shrubs.

No Threatened or Priority Ecological Communities were recorded. In this region the PECs are associated with Banded Ironstone Formations (BIF) not known or anticipated to occur in the survey area.

Two populations of the Priority 2 flora species *Lissanthe scabra* was recorded across two populations representing 192 individuals near the southeast corner. It is associated with breakaways, uplands, granite, and sandy gravel loams (WAH, 1998). This is consistent with the survey area records, which were all restricted to breakaways and rocky outcrops where it grew prolifically as a large perennial shrub.

There is a known Florabase and TPFL record from 2010 in the northeast corner of the survey area that represents population #1A and 1B. No individuals were observed at this location. Another known population occurs 26 km east of the survey area representing population #7A and 7B. The population recorded by AECOM likely represents a new population.

There is a DBCA record of the Priority 1 *Rinzia fimbriolata* from 1978 within the Allocasuarina Shrubland of AaaAcc. One Rinzia was recorded and identified as *Rinzia carnosa*. This species is considered unlikely to be present given the date and manual entry in the DBCA dataset.

8.2 Fauna

There are five significant fauna species that were considered likely to occur based on habitat presence and proximity of known records. These are discussed in detail below.

Malleefowl *Leipoa ocellata* is prolific in the local area with 249 known records from within 50 km. DBCA records in the vicinity are largely restricted to large remnant native vegetation and along Great Eastern Highway. An old Malleefowl mound was recorded, and potential tracks were seen in the survey area. The Shrubland provides suitable nesting habitat with dense cover and adequate soils for building mounds while the Eucalypt Woodlands provide foraging habitat.

Habitat fragmentation and predation are key risks to the Malleefowl. The survey area is in a highly fragmented landscape with corridors limited to <5m roadside trees with grasses and agricultural land. Human settlement occurred a long time ago in Southern Cross, which is likely to contribute to predation in the local area. The species has a high likelihood of occurring, however habitat suitability has been reduced to potential.

Habitat for the Threatened Chuditch *Dasyurus geoffroii* is present. There are 106 DBCA records in the area. The majority of these are associated with the Yellowdine Nature Reserve and surrounds which represents a large continuous area of native vegetation. Chuditch use a variety of habitats including forests, mallee shrublands, woodland and deserts where adequate den and refuge sites in the form of horizontal hollow logs or earth burrows and sufficient prey biomass are present (DEC 2012). Despite being known to travel long distances they require habitats of suitable size that are not heavily fragmented (DEC, 2012). The survey area represents an isolated block of remnant native vegetation with limited connectivity to other remnant vegetation. The likelihood of occurrence for this species has been reduced to Low.

The Western Brush Wallaby *Notamacropus irma* is known from four DBCA records dating 2021 to 2022 located between 30 to 50 km from the survey area. Known occurrences are from Marvel Lock adjacent to Jilbadji Nature Reserve which represents unfragmented remnant native vegetation. This species may visit the area however the fragmentation of the vegetation and the small size of the area means it would be unlikely to represent significant habitat. The preferred habitat is restricted to open woodland however other features including the seasonally wet flats with low grasses was not present. The occurrence of this species was reduced to Moderate.

Tree-stem Trapdoor Spider *Idiosoma castellum* is associated with sandy loam soils supporting Sheoak (*Allocasuarina* spp.) and *Melaleuca uncinata*. The Shrubland fauna habitat incorporates closed to open *Allocasuarina* spp. shrublands on sandy soils which represents suitable habitat. No occurrences were recorded. There are 125 records of this spider in the vicinity. Of these, 123 are associated with an existing mine Project situated 42 km northeast of the survey area where systematic searches were undertaken. The two DBCA records closer to the survey area are from 1957 and 2007.

Coolgardie Shield-backed Trapdoor Spider *Idiosoma intermedium* may occur in the survey area. Little is known about this species. In the absence of certainty the precautionary principle has been applied. There are three known records all more than 40 km from the survey area. This is attributed to survey effort rather than an accurate representation of known occurrence.

9.0 Conclusion

A winter flora, vegetation and basic fauna assessment was undertaken across a 986.29 ha survey area between 3 to 5 June 2025. Vegetation was considered diverse, representing elements of the Avon Wheatbelt and Coolgardie bioregions. This was represented as Shrublands on sandy soils, Eucalypts on red loam clay soils, and Eucalypts on granite breakaways and rocky plateaus. The field survey was successfully undertaken with no significant limitations identified.

Seven native vegetation communities were defined and mapped. The majority of these were in Excellent condition (47%) and Very Good (18%). Large parts of the area are cleared (33%) due to historical mining and several roads and tracks intersecting the area.

The Priority 2 *Lissanthe scabra* species was recorded extensively across the breakaways and plateaus of vegetation community EcAcXd with 192 individuals recorded. This survey was not a systematic search effort, and more individuals are likely to be recorded within this community if appropriate effort is applied.

One old Malleefowl mound was recorded. The fragmentation of habitat around the survey area and the anticipated high number of predators from long-term human settlement have reduced the habitat suitability for significant fauna species. Habitat is suitable for Malleefowl, and two short-range endemics (trapdoor spiders) and it may be potentially suitable for the Western Brush Wallaby.

Despite high number of known records of significant fauna species, the majority are associated with Jilbadji Nature Reserve, Yellowdine Nature Reserve and extensive remnant native vegetation linking these two areas.

10.0 References

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Appendix A

Flora Desktop Results

Appendix A Flora Desktop Results

Taxon	Habitat[1]	Cons. Code		Distance (km)		Date		Max Date	PMST	Likelihood Assessment					Total Score	Pre-survey Likelihood	Post-survey Likelihood
		EPBC	BC Act / DBCA	WA HERB	TPFL	WA HERB	TPFL			Recorded in Survey Area	Known Occurrence <5km	Recent Record <20 years	Known within LGA	Habitat Suitability (0,1,2)			
Acacia ancistrophylla var. *perarcuata*	Red sand, clay loam, loam. Undulating plains.		P3	31.15		1968		1968		0	0	1	1	1	3	Moderate	Low
Acacia crenulata	Clay, sandy clay, yellow sand. Rocky rises, granite outcrops, breakaways.		P3	28.07		1981		1981		0	0	1	1	1	3	Moderate	Moderate
Acacia cylindrica	Yellow/brown sand, gravelly soils. Undulating plains, flats.		P3	0.90	3.12	2008	2008	2008		0	1	1	1	2	5	High	Moderate
Acacia desertorum var. *nudipes*	Yellow sand, lateritic gravel. Sandplains, flats.		P3	11.21	22.54	2018	2006	2018		0	0	1	1	2	4	High	Low
Acacia filifolia	Yellow sand, gravelly lateritic sand on sandplains.		P3	13.02	29.57	2002	2002	2002		0	0	1	1	1	3	Moderate	Low
Acacia formidabilis	Yellow or red/brown sand. Undulating plains, hillsides.		P3	0.65		1985		1985		0	1	1	1	2	5	High	Low
Acacia haematites	Grows on a haematite-rich BIF range where it occurs in red loam or pale coloured sandy clay on the eroded slopes below massive ironstone or lateritized duricrust outcrops. Known from a single BIF range near Koolyanobbing (50 km north-east of Southern Cross) (Maslin, 2014).		P1	11.18		2015		2015		0	0	1	1	0	2	Negligible	Negligible
Acacia sp. Moorine Rock (B.R. Maslin 4474)	Dark brown hard clay-loam, granite. Clay flats at base of rock outcrops.		P1	18.83		1990		1990		0	0	1	1	0	2	Negligible	Negligible
Balaustion grandibracteatum subsp. *grandibracteatum*	Grows in yellow-brown sand, laterite, gravel on moderately exposed flat sand plains (PGV Environmental, 2024).		P3	11.21		2008		2008		0	0	1	1	2	4	Moderate	Negligible
Banksia dolichostyla	Grows on iron-capped hills and rises on ironstone (lateritic) soil profiles. Associated vegetation includes low woodland and low shrubland. Associated vegetation species include *Banksia* spp. and *Allocasuarina* spp (DEWHA, 2008a).	V	VU					1900	May	0	0	0	0	1	1	Negligible	Negligible
Boronia adamsiana	Grows in heath or scrub heath on yellow sand, near granite outcrops (DoE, 2023).	V	VU					1900	May	0	0	0	0	0	0	Negligible	Negligible
Bossiaea sp. Jackson Range (G. Cockerton & S. McNee LCS 13614)	Breakaway, laterised ironstone, red-brown clay loam soils. Flats and lower slopes at base of weathered granite breakaways. Dry white-grey sandy loam. Mid slope of low BIF hills, growing on duricrust (Woodman Environmental, 2021).		P3	24.84	24.84	2011	2011	2011		0	0	1	1	0	2	Negligible	Negligible
Dasymalla axillaris	Known from sandy soils in the Yalgoo area of the northern area of the Avon Wheatbelt (DEC, 2009).	CE	CR					1900	May	0	0	0	0	1	1	Negligible	Negligible
Daviesia microcarpa	Grows in alkaline red-brown clay loam with calcrete nodules on lower slopes, bases of hills with outcropping rock, on road verges, gravel pits and mine waste dumps (DAWE, 2021a).	E	CR	12.50	12.50	2006	2009	2009	Known	0	0	1	1	1	3	Moderate	Negligible
Eremophila resinosa	Occurs on soil types from sandy loams to loams and clays in open mallee woodland with a mixed *Acacia* scrub understorey (DEC, 2009).	E	EN					1900	Likely	0	0	0	0	2	2	Low	Low
Eremophila virens	Light brown or red sandy-loam over granite and quartzite in rocky situations, growing in thicket or shrub with Acacias, Mallees and Sheoaks (DEC, 2008a).	E	EN					1900	Likely	0	0	0	0	0	0	Negligible	Negligible
Eremophila viscida	Preferred habitat appears to be areas of brown, sandy loam or red brown clay loam soils, in open woodland in association with *Eucalyptus loxophleba* and scrub vegetation, often near areas of exposed granite or alongside saline lake systems. The species is also associated with granite and salt lake systems and plants are more frequently found in runoff areas, including drainage lines or ephemeral creeks connected to granite outcrops (TSSC 2017; Phillimore et al., 2003).	E	EN					1900	Known	0	0	0	0	0	0	Negligible	Negligible
Eucalyptus brevipes	Found on soils ranging from pale red-brown loams to white sand and quartzite outcrop (DEWHA, 2008b).	E	EN					1900	May	0	0	0	0	0	0	Negligible	Negligible
Eucalyptus calycogona subsp. *miraculum*	Occurs in mallee and mixed mallee-mallet vegetation on pale orange to red clay-loams to thin stony loams with ironstone gravel (Nicolle & French, 2009).		P1	25.82		2012		2012		0	0	1	1	2	4	High	Low
Eucalyptus crucis subsp. *crucis*	Grows on shallow, granitic, sandy loam soil on granite rocks associated with sheoak (*Allocasuarina*), wattle (*Acacia*) and One-sided Bottlebrush (*Calothamnus*) (DAWE, 2008).	V	EN	11.18	21.36	2006	2008	2008	Known	0	0	1	1	0	2	Negligible	Negligible
Eucalyptus polita	Loam, sand. Around salt lakes, flats.			21.56		2010		2010		0	0	1	1	0	2	Negligible	Negligible
Frankenia parvula	Preferred habitat is white to brown sand over sandy clay around the high water mark of major drainage channels where it grows both independent of and within fringing vegetation (CALM, 2004).	E	EN					1900	Known	0	0	0	0	0	0	Negligible	Negligible
Gastrolobium diabolophyllum	Grows in yellow-brown sand over laterite on broadly undulating dunes in open mallee shrublands amongst *Eucalyptus salmonophloia* (Salmon Gum), *Acacia*, *Allocasuarina*, *Gastrolobium*, and *Banksia* species (DEWHA, 2009a).	CE	CR					1900	Known	0	0	0	0	2	2	Low	Negligible
Gastrolobium graniticum	Associated with the margins of granite outcrops, especially along drainage lines, on sandy soils in open woodland in association with *Allocasuarina huegeliana*, *Acacia lariocalyx*, and *Eucalyptus eremophila* (DEWHA, 2008c).	E	EN					1900	May	0	0	0	0	0	0	Negligible	Negligible
Glossostigma trichodes	Pools in granite. Fine clayey substrate.			20.23		2009		2009		0	0	1	1	0	2	Negligible	Negligible
Goodenia heatheriana	Red crumbly clay, greenstone gravel and cobbles. Lower slopes, moderately exposed gently undulating plain, roadsides.		P1	25.89		2015		2015		0	0	1	1	1	3	Moderate	Negligible
Grammosolen odgersii subsp. *occidentalis*	Grows in orange sandy soils and red-brown sandy and clayey loams in open mallee-heath (DEC, 2008b).	E	CR					1900	Likely	0	0	0	0	2	2	Low	Negligible
Hakea pendens	Stony loam. Ironstone ridges.		P3	11.65		1969		1969		0	0	1	1	0	2	Negligible	Negligible
Hemigenia sp. Newdegate (E. Bishop 75)	Clay loam. Disturbed sites.		P1	26.39		2018		2018		0	0	1	1	2	4	Moderate	Negligible
Hydrocotyle corynophora	Grows in damp depressions which seasonally dry into areas of red or red-brown cracking clays or clay loam, surrounded by low open woodland often dominated by *Eucalyptus salubris* (Perkins, 2017). Known only from two areas (approximately 30 km apart) near Marvel Loch, south-east of Southern Cross, Western Australia.		P1	26.40		2015		2015		0	0	1	1	0	2	Negligible	Negligible
Isopogon robustus	Occurs on a decomposing laterite shelf and grows in grey skeletal sandy loam over laterite (DEWHA, 2009b).	CE	CR					1900	Likely	0	0	0	0	0	0	Negligible	Negligible

Appendix A Flora Desktop Results

Taxon	Habitat[1]	Cons. Code		Distance (km)		Date		Max Date	PMST	Likelihood Assessment					Total Score	Pre-survey Likelihood	Post-survey Likelihood
		EPBC	BC Act / DBCA	WA HERB	TPFL	WA HERB	TPFL			Recorded in Survey Area	Known Occurrence <5km	Recent Record <20 years	Known within LGA	Habitat Suitability (0,1,2)			
Leucopogon sp. Yellowdine (M. Hislop & F. Hort MH 3194)	Undulating sand plain. Dry yellow loamy sand.		P2	28.04		2011		2011		0	0	1	1	2	4	High	Low
Lissanthe scabra	Dry, white to orange-brown clay, sandy gravel loams, granite. Breakaways, uplands.		P2	0.08	0.00	2010	2010	2010		1	1	1	1	2	6	Known	Known
Melaleuca sciotostyla	Grows in orange clayey sand with lateritic pebbles and scree slopes in dense shrubland (DoE, 2014).	E	EN					1900	Known	0	0	0	0	1	1	Negligible	Negligible
Millotia newbeyi	Red/brown loam, red clay. Undulating plains.		P1	23.63		1993		1993		0	0	1	1	2	4	Moderate	Negligible
Myriophyllum petraeum	Strictly confined to ephemeral rock pools on granite outcrops.		P4	19.90	19.90	2009	1989	2009		0	0	1	1	0	2	Negligible	Negligible
Notisia intonsa	Plain with brown loam, iron stone gravel and quartz.		P3	26.41		2015		2015		0	0	1	1	1	3	Moderate	Negligible
Phlegmatospermum eremaeum	Stony, orange-brown loam.		P3	25.70		2015		2015		0	0	1	1	1	3	Moderate	Low
Prostanthera nanophylla	Yellow sand over laterite, rocky loam. Sandplains.		P3	24.41		1967		1967		0	0	1	1	2	4	Moderate	Low
Ricinocarpos brevis	Confined to shallow sandy soils on rocky banded ironstone outcrops (DEWHA, 2007).	E	EN					1900	Known	0	0	0	0	0	0	Negligible	Negligible
Rinzia fimbriolata	Recorded from sandy soil in mallee shrubland or woodland, also with one record from 'clay soil with quartz pieces' (Rye, 2017).		P1	0.00	s	2005		2005		1	1	1	1	2	6	Known	Low
Rinzia triplex	Recorded on sandy plains in yellow to red, often gravelly or lateritic soils, with one record mentioning fragments of banded ironstone, dominated by *Acacia, Eucalyptus* or *Allocasuarina* , often with *Baeckea elderiana* present (Rye, 2017).		P3	25.77	25.88	2003	2003	2003		0	0	1	1	2	4	Negligible	Negligible
Roycea pycnophylloides	Grows along shorelines or on slight rises above open saline flats and major drainage channels (DAWE, 2021b).	E	VU					1900	Likely	0	0	0	0	0	0	Negligible	Negligible
Stylidium choreanthum	White/yellow or red sand. Plains.		P3	1.43	3.11	2011	1996	2011		0	1	1	1	2	5	High	Low
Tecticornia flabelliformis	Grows on the margins of salt lakes and coastal salt marshes over gypsum deposits, and is often associated with other Tecticornia species (Carter, 2010).		P2					1900	Known	0	0	0	0	0	0	Negligible	Negligible
Tetratheca paynterae	Grows in rock crevices, in shallow pockets of soil of rich red loam (DEWHA, 2008d).	E						1900	May	0	0	0	0	2	2	Low	Low
Teucrium diabolicum	Grows in red cracking clay or clay loam, usually in shallow depressions or on low undulating plains that support low scrub or heath, or in association with low open woodland (e.g. with *Eucalyptus tenuis*) (Wege & Davis, 2020).		P3	26.78		2015		2015		0	0	1	1	1	3	Negligible	Negligible
Verticordia elizabethiae	Grows on flats surrounding salt lakes, with halophytic heath (e.g. *Maireana, Gunniopsis* and *Frankenia*) and fringing *Callitris* (Rye & Barrett, 2020).		P1	13.21		1926		1926		0	0	1	1	0	2	Negligible	Negligible
Verticordia mitodes	Yellow sand. Undulating plains.		P3	19.83		1993		1993		0	0	1	1	0	2	Negligible	Negligible
Verticordia pulchella	Sandy soils over granite. Massive granite areas.		P2	32.69	33.75	1988	1988	1988		0	0	1	1	0	2	Negligible	Negligible
Verticordia stenopetala	Yellow sand, sometimes with gravel. Undulating plains.		P3	26.76	31.91	2009	1984	2009		0	0	1	1	0	2	Negligible	Negligible

[1] All habitat finformation derived from WAH (1998-) unless otherwise stated

Appendix B

Fauna Desktop Results

Appendix B Fauna Desktop Results

Type	Taxon	Common Name	Habitat	Cons. Code		Date	No. of Records	Distance (km)	PMST	Likelihood Assessment				Total Score	Pre-Survey Likelihood	Post-survey Likelihood
				BC Act / DBCA	EPBC Act					Recorded in Survey Area	Known Occurrence <20km	Recent Record <20 years	Habitat Suitability (0,1,2)			
Bird	*Actitis hypoleucos*	Common Sandpiper	Wide range of coastal wetlands, around muddy margins or rocky shores, some inland wetlands and rarely on mudflats (DCCEEW, 2023).	IA	MI & MA				Likely	0	0	0	0	0	Negligible	Negligible
Bird	*Aphelocephala leucopsis*	Southern Whiteface	Dry open forests and woodland and inland scrubs of mallee, mulga and saltbush are the preferred habitat of Southern Whiteface, especially areas with fallen timber or dead trees and stumps (Higgins & Davies, 1996).		V				Known	0	0	0	1	1	Low	Low
Bird	*Apus pacificus*	Fork-tailed Swift	Over inland plains, sometimes above foothills or in coastal areas (DCCEEW, 2024).	IA	MI & MA				Likely	0	0	0	0	0	Negligible	Negligible
Mammal	*Bettongia penicillata ogilbyi*	Woylie	Inhabit woodlands and adjacent heaths with a dense understorey of shrubs, particularly *Gastrolobium* spp. (poison pea) (TSSC, 2018).	CR	E	1982	1	67.09		0	0	0	1	1	Low	Low
Bird	*Calidris acuminata*	Sharp-tailed Sandpiper	Occurs along muddy edges of shallow fresh or brackish wetlands with inundated or emergent sedges, grass, saltmarsh or other low vegetation (DCCEEW, 2024).	IA	V & MI & MA				May	0	0	0	0	0	Negligible	Negligible
Bird	*Calidris ferruginea*	Curlew Sandpiper	Intertidal mudflats in sheltered coastal areas and inland around ephemeral and permanent lakes, dams, waterholes and bore drains with bare edges of mud and sand (DCCEEW, 2024).	CR & IA	CE & MI & MA	2003	1	33.06	Known	0	0	0	0	0	Negligible	Negligible
Bird	*Calidris melanotos*	Pectoral Sandpiper	Occupies shallow, fresh waters often containing low grass or other small herbs, swamp margins, flooded pastures and saltmarshes (DCCEEW, 2024).	IA	MI & MA				May	0	0	0	0	0	Negligible	Negligible
Bird	*Calidris ruficollis*	Red-necked Stint	Coastal sheltered areas and exposed or ocean beaches, sometimes on stony or rocky shores, reefs or shoals (DCCEEW, 2024).	IA	MI & MA	2003	1	33.06		0	0	0	0	0	Negligible	Negligible
Mammal	*Dasyurus geoffroii*	Western Quoll, Chuditch	Currently restricted to south-west Western Australia, in areas dominated by sclerophyll forest or drier woodland, heath and mallee shrubland (Van Dyck & Strahan, 2008).	VU	V	2022	106	11.16	May	0	1	1	2	4	High	Low
Reptile	*Egernia stokesii badia*	Western Spiny-tailed Skink	Semi-arid condition in south-west interior of Western Australia in woodlands of York Gum (*Eucalyptus loxophleba*), Gimlet (*E. salubris*) and Salmon Gum (*E. salmonophloia*) (Pearson, 2012).	VU	E				May	0	0	0	2	2	Moderate	Low
Bird	*Falco hypoleucos*	Grey Falcon	Timbered lowland plains, including *acacia* shrublands, particularly with tree-lined watercourses, tussock grassland and open woodland (TSSC, 2020).	VU	V				May	0	0	0	2	2	Moderate	Low
Bird	*Falco peregrinus*	Peregrine Falcon	Rainforests, arid zones and coastal to alpine areas (BirdLife, 2024).	S		2015	14	11.16		0	1	1	0	2	Low	Low
Invertebrate	*Idiosoma castellum*	Tree-stem Trapdoor Spider	Habitat is exclusive to the Avon Wheatbelt and western Goldfields in WA (Main, 1986). The habitat for the species consists of flood-prone depressions and flats with myrtaceous shrubland (especially Broombush *Melaleuca uncinata* and Sheoak) on sandy-loam soil (Bennelongia Environmental Consultants, 2018).	P4		2009	125	13.39		0	1	1	2	4	High	High
Invertebrate	*Idiosoma intermedium*	Coolgardie Shield-backed Trapdoor Spider	Species occur in the south-west of Western Australia in the eastern Avon Wheatbelt and north-western Coolgardie bioregions. The type locality is Bodallin (Rix et al., 2018).	P3		2009	3	42.53		0	0	1	2	3	High	High
Invertebrate	*Idiosoma nigrum*	Shield-backed Trapdoor Spider	Clay soils are inhabited in the Wheatbelt, and rocky habitats in the Midwest, primarily in positions with increased moisture retention properties like gullies and drainage lines on southern facing slopes (Ecologia Environment, 2010).	EN	V	2010	10	43.92	Known	0	0	1	1	2	Low	Low
Bird	*Leipoa ocellata*	Malleefowl	Known occurrence in the survey area. Found in the semi-arid to arid zone in shrublands and low woodlands dominated by *Melaleuca uncinata* complex, *Callitris verrucosa* and some shrublands dominated by Acacia and occasionally in woodlands dominated by eucalypts (DCCEEW, 2025).	VU	V	2022	249	0.00	Known	1	1	1	2	5	Known	High
Mammal	*Leporillus conditor*	Greater Stick-nest Rat	Southern arid and semi-arid regions of southern Australia including the local mountain ranges with perennial, semi-succulent shrubs. Greater stick-nest rats prefer dune and dune base habitats (DCCEEW, 2024).	VU	V		1	44.85		0	0	0	0	0	Negligible	Negligible
Mammal	*Macrotis lagotis*	Bilby	Arid to semi-arid woodlands and hummock grasslands in the north of Australia, restricted to the Gibson, Little Sandy and Great Sandy Deserts, and parts of the Pilbara, Dampierland, Central Kimberley and Ord-Victoria Plains bioregions in Western Australia (Bradley et al. 2015).	VU	V	Not available	1	42.00		0	0	0	1	1	Low	Low
Bird	*Motacilla cinerea*	Grey Wagtail	Found across a wide variety of wetlands, watercourses and on the banks of lakes and marshes (DCCEEW, 2024).	IA	MI & MA				May	0	0	0	0	0	Negligible	Negligible
Mammal	*Myrmecobius fasciatus*	Numbat	Mulga woodland, spinifex sandplains and eucalypt forests and woodlands. In WA, their habitat is generally woodland dominated by Eucalyptus species, with abundant hollow logs and branches (DBCA, 2021).	EN	E		1	41.23		0	0	0	1	1	Low	Low
Mammal	*Notamacropus irma*	Western Brush Wallaby	Open forest or woodland, particularly favouring open, seasonally wet flats with low grasses and open scrubby thickets (DCCEEW, 2025).	P4		2022	4	31.94		0	0	1	2	3	High	Moderate
Mammal	*Nyctophilus major tor*	Central Long-eared Bat	The trees of the upperstory of its habitat are the large to very tall eucalypt species, karri *Eucalyptus diversicolor* , jarrah *E. marginata* , tuart *E. gomphocephala* , and marri *Corymbia calophylla* . Other woodland types inhabited by the bat include stands of melaleuca, banksia and sheoak tees of genus Allocasuarina, and include a dense understory (Andrew, 2015).	P3		1981	1	73.72		0	0	0	0	0	Negligible	Negligible
Reptile	*Paroplocephalus atriceps*	Lake Cronin Snake	Open eucalypt woodland on sandy loam at Lake Cronin, Western Australia (Storr, 1980).	P3		2007	1	84.06		0	0	1	0	1	Negligible	Negligible
Mammal	*Petrogale lateralis lateralis*	Black-footed Rock-wallaby	Wide variety of rock types, requiring sufficient cave and crevice development (DPaW 2015).	EN	E	2007	1	66.00		0	0	1	0	1	Negligible	Negligible

Appendix B Fauna Desktop Results

Type	Taxon	Common Name	Habitat	Cons. Code		Date	No. of Records	Distance (km)	PMST	Likelihood Assessment				Total Score	Pre-Survey Likelihood	Post-survey Likelihood
				BC Act / DBCA	EPBC Act					Recorded in Survey Area	Known Occurrence <20km	Recent Record <20 years	Habitat Suitability (0,1,2)			
Bird	*Pezoporus occidentalis*	Night Parrot	Wiluna district of central Western Australia, and the Lake Gregory area of northern Western Australia (Olsen, 2018), in spinifex grasslands and/or chenopod shrublands (Garnett et al., 2011).	CR	E				May	0	0	0	0	0	Negligible	Negligible
Mammal	*Phascogale calura*	Red-tailed Phascogale	Restricted to remnant native vegetation throughout the wheat belt of south-western Western Australia (Kitchener, 1981) in allocasuarina woodlands with hollow-containing eucalypts (e.g. *Eucalyptus wandoo*) and *Gastrolobium* spp. (Kitchener,1981). It prefers older, vegetation that is unburnt with ample canopy cover.	CD	V	1998	1	50.95		0	0	0	0	0	Negligible	Negligible
Bird	*Platycercus icterotis xanthogenys*	Western Rosella	The inland subspecies is found in eucalypt and sheoak woodlands and scrubs, especially those containing wandoo (*E. wandoo*), flooded gum, salmon gum (*E. salmonophloia*), tall mallee and rock sheoak (*Allocasuarina huegelian* a) (DEC, 2009).	P4		2022	2	54.57		0	0	1	1	3	Moderate	Moderate
Bird	*Thinornis cucullatus*	Hooded Plover	The Hooded Plover occurs on sandy beaches between Jervis Bay, New South Wales and the Eyre Peninsula, South Australia, Tasmania, Esperance, and is found as far north as Jurien Bay which is about 200km north of Perth (DCCEEW, 2024).	P4	MA	2003	10	32.70		0	0	0	0	0	Negligible	Negligible
Bird	*Tringa nebularia*	Common Greenshank	Inland wetlands and sheltered coastal habitats in shallows around the edges of water often among pneumatophores of mangroves or other sparse, emergent or fringing vegetation, such as sedges or saltmarsh (DCCEEW, 2024).	IA	E & MI & MA	2007	3	11.68		0	1	1	1	3	Moderate	Negligible
Bird	*Zanda latirostris*	Carnaby's Cockatoo	Uncleared or remnant native eucalypt woodlands containing Salmon Gum and wandoo, and in shrubland or kwongan heathland dominated by hakea, dryandra, banksia and grevillea species. It also occurs in remnant patches of native vegetation on land otherwise cleared for agriculture. Forages seasonally in pine plantations (DPaW, 2013).	EN	E				Likely	0	0	0	0	0	Negligible	Negligible

Appendix C

Flora Species List

Appendix C Flora Species by Family by Community

Family Taxon	AaaAcc	ArAcc	EcMpfApb	EyTsAe	EcAcXd	EllAbCf	MaDr
Amaranthaceae							
Ptilotus aervoides				x			
Ptilotus obovatus							x
Apiaceae							
Daucus glochidiatus					x		
Apocynaceae							
Alyxia buxifolia	x		x	x	x	x	x
Araliaceae							
Trachymene pilosa			x				
Asparagaceae							
Arthropodium sp.					x	x	
Chamaexeros fimbriata						x	
Thysanotus manglesianus/ patersonii complex	x	x					x
Xerolirion divaricata					x	x	
Asteraceae							
* *Arctotheca calendula*						x	
* *Hypochaeris glabra*						x	
Olearia muelleri			x	x		x	
Olearia pimeleoides					x	x	
Olearia sp. Eremicola (Diels & Pritzel s.sn. PERTH 00449628)			x			x	
Siemssenia capillaris			x	x		x	
* *Sonchus oleraceus*						x	
Boraginaceae							
Halgania integerrima		x					
Boryaceae							
Borya sphaerocephala	x	x			x		
Casuarinaceae							
Allocasuarina acutivalvis subsp. *acutivalvis*	x	x	x		x	x	
Allocasuarina campestris	x				x		
Chenopodiaceae							
?Threlkeldia sp.						x	
Atriplex nummularia				x		x	
Atriplex paludosa subsp. *baudinii*			x	x		x	
Enchylaena tomentosa				x			
Enchylaena tomentosa var tomentosa			x	x	x		
Maireana appressa			x	x			
Maireana brevifolia							x
Rhagodia drummondii				x		x	x
Sclerolaena obliquicuspis							x
Sclerolaena patenticuspis			x	x			
Chenopodiaceae							
Sclerolaena gardneri				x			
Colchicaceae							
Wurmbea tenella	x	x					
Convolvulaceae							
Wilsonia humilis				x			
Cupressaceae							
Callitris columellaris					x	x	
Cyperaceae							
Cyperaceae sp.		x					
Lepidosperma sp.		x					

Appendix C Flora Species by Family by Community

Family Taxon	AaaAcc	ArAcc	EcMpfApb	EyTsAe	EcAcXd	EllAbCf	MaDr
Dilleniaceae							
Hibbertia glomerosa	x	x					
Droseraceae	x				x		
Drosera macrantha	x				x		
Ericaceae							
Lissanthe scabra					x		
Euphorbiaceae							
Beyeria sulcata	x						
Fabaceae							
Acacia acanthoclada subsp. *acanthoclada*			x	x	x		
Acacia assimilis				x	x	x	x
Acacia camptoclada						x	
Acacia collectoides	x			x	x	x	
Acacia gibbosa					x		
Acacia merrallii				x			
Acacia prainii				x			
Acacia rigens		x		x		x	x
Acacia sp.			x				
Bossiaea barbarae				x	x		
Mirbelia microphylla							x
Senna artemisioides subsp. *filifolia*				x	x	x	
Templetonia smithiana				x			x
Geraniaceae							
Erodium sp.			x			x	x
Goodeniaceae							
Goodeniaceae sp.						x	
Scaevola spinescens				x	x	x	
Hemerocallidaceae							
Dianella revoluta	x	x	x			x	x
Iridaceae							
* *Romulea* sp.					x		x
Lamiaceae							
Prostanthera laricoides							x
Westringia cephalantha						x	
Hemigenia ciliata	x						
Loranthaceae							
Lysiana casuarinae						x	
Myrtaceae							
Eucalyptus ?capillosa	x						
Eucalyptus capillosa				x	x		
Eucalyptus celastroides			x	x		x	
Eucalyptus longicornis						x	
Eucalyptus loxophleba subsp. *lissophloia*			x	x	x	x	x
Eucalyptus salubris			x				
Eucalyptus sp.				x			
Eucalyptus yilgarnensis			x	x		x	x
Melaleuca acuminata							x
Melaleuca eleuterostachya		x					
Melaleuca hamata			x				
Melaleuca pauperiflora subsp. *fastigiata*	x		x	x			
Melaleuca uncinata						x	x
Melaleuca zeteticorum						x	
Myrtaceae sp.	x						

Appendix C Flora Species by Family by Community

Family	Taxon	AaaAcc	ArAcc	EcMpfApb	EyTsAe	EcAcXd	EllAbCf	MaDr
	Rinzia carnosa					x		x
	Thryptomene australis subsp. *australis*					x		
Poaceae								
*	*Aira caryophyllea*			x		x	x	x
	Amphipogon caricinus var caricinus	x	x	x		x	x	x
	Aristida contorta			x		x	x	
	Austrostipa elegantissima	x		x	x	x	x	x
	Triodia scariosa	x						
Polygalaceae								
	Comesperma integerrimum					x		
Proteaceae								
	Grevillea ?heugellii	x		x				
	Grevillea acuaria				x		x	
	Grevillea paradoxa	x						
	Hakea minyma	x						
	Isopogon gardneri					x		
Pteridaceae								
	Cheilanthes sieberi	x				x		x
Rutaceae								
	Phebalium tuberculosum	x				x	x	
	Philotheca brucei			x		x	x	
Rutaceae								
	Philotheca deserti subsp. *deserti*	x						
Santalaceae								
	Exocarpos aphyllus			x	x	x	x	x
	Santalum acuminatum				x	x		
	Santalum spicatum				x		x	
Sapindaceae								
	Dodonaea microzyga			x		x		
Scrophulariaceae								
	Eremophila clarkei					x	x	
	Eremophila interstans			x	x			x
	Eremophila ionantha				x			
	Eremophila oppositifolia			x	x	x	x	
Stylidiaceae								
	Stylidium ?dielsianum		x					
Zygophyllaceae								
	Roepera glauca				1			

Appendix D

Flora Sample Site Data

Site No: Q13 **Date:** 4 Jun 2025 **Longitude:** 119.238187 **Latitude:** -31.129625

Type: Quadrat
Size: 20x20 (m)
Soil Type: Sand
Soil Colour: Brown
Soil Condition: Damp
Vegetation Type:

Rock Type: Laterite
Topography: Undulating flats
Vegetation Condition: excellent
Condition Notes:
Fire: years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Allocasuarina acutivalvis subsp. acutivalvis	2	2	<Null>	<Null>
	Allocasuarina campestris	2	60	<Null>	<Null>
	Amphipogon caricinus var caricinus	0.2	4	<Null>	<Null>
	Borya sphaerocephala	0.05	0.1	<Null>	<Null>
	Dianella revoluta	0.5	0.1	<Null>	<Null>
	Drosera macrantha	0.2	0.1	<Null>	<Null>
	Grevillea ?heugellii	0.6	0.1	<Null>	<Null>
	Grevillea paradoxa	0.5	0.1	<Null>	<Null>
	Hakea minyma	1.6	0.5	<Null>	<Null>
	Hemigenia ciliata	0.2	0.25	<Null>	FdW250604-35
	Myrtaceae sp.	0.2	0.1	<Null>	FdW250604-36
	Thysanotus manglesianus/patersonii complex	0	0.1	<Null>	<Null>
	Triodia scariosa	0.2	5	<Null>	<Null>

Site No: Q11 **Date:** 4 Jun 2025 **Longitude:** 119.242525 **Latitude:** -31.132022

Type: Quadrat
Size: 20x20 (m)
Soil Type: Sand
Soil Colour: Orange
Soil Condition: Damp
Vegetation Type:

Rock Type: None
Topography: Undulating flats
Vegetation Condition: excellent
Condition Notes:
Fire: years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia collectoides	2.2	0.1	<Null>	<Null>
	Allocasuarina acutivalvis subsp. acutivalvis	4	75	<Null>	<Null>
	Amphipogon caricinus var caricinus	0.2	6	<Null>	<Null>
	Beyeria sulcata	1.3	1	<Null>	<Null>
	Eucalyptus ?capillosa	4	5	<Null>	FdW250604-33
	Grevillea paradoxa	1.3	0.5	<Null>	<Null>
	Hakea minyma	2	1	<Null>	<Null>
	Phebalium tuberculosum	1.3	0.1	<Null>	<Null>
	Philotheca deserti subsp deserti	1.3	1	<Null>	<Null>
	Wurmbea tenella	0.05	0.1	<Null>	<Null>

Site No: Q09 **Date:** 4 Jun 2025 **Longitude:** 119.245985 **Latitude:** -31.128155

Type: Quadrat
Size: 20x20 (m)
Soil Type: Sandy Clay
Soil Colour: Grey
Soil Condition: Damp
Vegetation Type:

Rock Type: Calcrete
Topography: Other (add comments)
Vegetation Condition: excellent
Condition Notes:
Fire: 10+ years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia assimilis	0.5	0.1	<Null>	<Null>
	Acacia gibbosa	0.4	0.1	<Null>	<Null>
	Alyxia buxifolia	0.3	0.1	<Null>	<Null>
	Amphipogon caricinus var caricinus	0.1	0.1	<Null>	<Null>
	Eucalyptus capillosa	12	25	<Null>	<Null>
	Eucalyptus loxophleba subsp. lissophloia	0	0	<Null>	<Null>
	Scaevola spinescens	0.2	0.1	<Null>	<Null>
	Xerolirion divaricata	0.2	0.1	<Null>	<Null>

Site No: Q02 **Date:** 3 Jun 2025 **Longitude:** 119.234533 **Latitude:** -31.11564

Type: Quadrat
Size: 20x20 (m)
Soil Type: Sandy Clay
Soil Colour: Light brown
Soil Condition: Damp
Vegetation Type:

Rock Type: None
Topography: Undulating flats
Vegetation Condition: excellent
Condition Notes: none
Fire: 10+ years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia rigens	2.5	18	<Null>	<Null>
	Allocasuarina acutivalvis subsp. acutivalvis	2	1	<Null>	<Null>
	Amphipogon caricinus var caricinus	0.2	15	<Null>	<Null>
	Borya sphaerocephala	0.1	2	<Null>	<Null>
	Cyperaceae sp.	0.3	0.5	<Null>	<Null>
	Dianella revoluta	0.3	0.1	<Null>	<Null>
	Lepidosperma sp.	0.6	2	<Null>	<Null>
	Melaleuca eleuterostachya	4	2	<Null>	<Null>
	Stylidium ?dielsianum	0.02	0.1	<Null>	<Null>
	Wurmbea tenella	0.1	0.1	<Null>	<Null>

Site No: Q03 **Date:** 3 Jun 2025 **Longitude:** 119.223992 **Latitude:** -31.112988

Type: Quadrat
Size: 20x20 (m)
Soil Type: Clay
Soil Colour: Red
Soil Condition: Damp
Vegetation Type:

Rock Type: Quartz
Topography: Undulating flats
Vegetation Condition: very good
Condition Notes: tracks
Fire: 10+ years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia acanthoclada subsp. acanthoclada	0.3	0.25	<Null>	<Null>
	Acacia merrallii	0.3	0.1	<Null>	<Null>
	Alyxia buxifolia	0.8	0.1	<Null>	<Null>
	Atriplex paludosa subsp. baudinii	0.3	0.1	<Null>	FdW250603-11
	Austrostipa elegantissima	0.2	0.1	<Null>	<Null>
	Eremophila ionantha	1.5	5	<Null>	<Null>
	Eremophila oppositifolia	2.5	1.5	<Null>	<Null>
	Eucalyptus celastroides	15	14	<Null>	FdW250603-13
	Eucalyptus yilgarnensis	18	6	<Null>	FdW250603-09
	Exocarpos aphyllus	0.8	3	<Null>	<Null>
	Grevillea acuaria	0.3	0.1	<Null>	<Null>
	Olearia muelleri	0.3	0.1	<Null>	<Null>
	Ptilotus aervoides	0.01	0.1	<Null>	<Null>

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Rhagodia drummondii	0.3	0.1	<Null>	<Null>
	Santalum acuminatum	2	4	<Null>	<Null>
	Scaevola spinescens	0.6	0.5	<Null>	<Null>
	Sclerolaena gardneri	0.05	0.1	<Null>	FdW250603-12

Site No: Q23 **Date:** 5 Jun 2025 **Longitude:** 119.213825 **Latitude:** -31.120793

Type: Quadrat
Size: 20x20 (m)
Soil Type: Loamy Clay
Soil Colour: Brown
Soil Condition: Dry
Vegetation Type:

Rock Type: Granite
Topography: Slope
Vegetation Condition: very good
Condition Notes: tracks
Fire: years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Atriplex paludosa subsp. baudinii	0.8	5	<Null>	<Null>
	Dodonaea microzyga	0.5	0.25	<Null>	<Null>
	Eremophila interstans	0.3	0.1	<Null>	<Null>
	Eucalyptus celastroides	13	30	<Null>	<Null>
	Eucalyptus salubris	10	2	<Null>	<Null>
	Exocarpos aphyllus	0.6	0.1	<Null>	<Null>
	Melaleuca pauperiflora subsp. fastigiata	4	8	<Null>	<Null>
	Olearia muelleri	0.3	1	<Null>	<Null>
	Sclerolaena patenticuspis	0.05	0.1	<Null>	<Null>

Site No: Q22 **Date:** 5 Jun 2025 **Longitude:** 119.215362 **Latitude:** -31.123317

Type: Quadrat
Size: 20x20 (m)
Soil Type: Loamy Clay
Soil Colour: Brown
Soil Condition: Dry
Vegetation Type:

Rock Type: Granite
Topography: Slope
Vegetation Condition: good
Condition Notes: bike tracks, rubbish, mining
Fire: 10+ years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Atriplex paludosa subsp. baudinii	0.5	10	<Null>	FdW250605-51
	Atriplex paludosa subsp. baudinii	0.5	4	<Null>	FdW250605-52
	Eremophila interstans	0.8	1	<Null>	<Null>
	Eucalyptus celastroides	16	18	<Null>	<Null>
	Eucalyptus salubris	12	18	<Null>	FdW250605-53
	Exocarpos aphyllus	1.8	0	<Null>	<Null>
	Maireana appressa	0.05	0.1	<Null>	<Null>
	Melaleuca pauperiflora subsp. fastigiata	3	2	<Null>	<Null>
	Olearia muelleri	0.3	0.5	<Null>	<Null>

Site No: Q20 **Date:** 5 Jun 2025 **Longitude:** 119.227343 **Latitude:** -31.135318

Type: Quadrat
Size: 20x20 (m)
Soil Type: Clay
Soil Colour: Red
Soil Condition: Damp
Vegetation Type:

Rock Type:
Topography: Undulating flats
Vegetation Condition: very 2
Condition Notes: weeds, rubbish, tracks
Fire: years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia assimilis	3	5	<Null>	<Null>
*	*Aira caryophyllea*	0.05	0.1	<Null>	<Null>
	Alyxia buxifolia	1.5	0.1	<Null>	<Null>
	Amphipogon caricinus var caricinus	0.2	0.1	<Null>	<Null>
	Austrostipa elegantissima	0.3	0.1	<Null>	<Null>
	Dianella revoluta	0.5	0.1	<Null>	<Null>
	Eremophila interstans	0	0	<Null>	<Null>
	Erodium sp.	0.01	0.5	<Null>	<Null>
	Eucalyptus loxophleba subsp. lissophloia	4	8	<Null>	FdW250605-48
	Eucalyptus yilgarnensis	0	0	<Null>	<Null>
	Exocarpos aphyllus	2.5	0.1	<Null>	<Null>
	Indet.	0.01	2	<Null>	<Null>
	Maireana brevifolia	0.2	0.1	<Null>	FdW250605-50

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Melaleuca acuminata	3	25	<Null>	<Null>
	Melaleuca uncinata	3	3	<Null>	<Null>
	Mirbelia microphylla	0.2	0.1	<Null>	FdW250605-47
	Prostanthera laricoides	0.4	0.25	<Null>	FdW250605-49
	Ptilotus obovatus	0.3	0.1	<Null>	<Null>
	Rhagodia drummondii	0.4	0.1	<Null>	<Null>
	Rinzia carnosa	0.3	1.5	<Null>	<Null>
	Romulea sp.	0.05	0.1	<Null>	<Null>
	Sclerolaena obliquicuspis	0.15	0	<Null>	<Null>
	Templetonia smithiana	0	0	<Null>	<Null>
	Thysanotus manglesianus/patersonii complex	0	0.1	<Null>	<Null>

Site No: Q01 **Date:** 3 Jun 2025 **Longitude:** 119.234066 **Latitude:** -31.11674

Type: Quadrat
Size: 20x20 (m)
Soil Type: Sand
Soil Colour: Light brown
Soil Condition: Damp
Vegetation Type:

Rock Type: None
Topography: Undulating flats
Vegetation Condition: excellent
Condition Notes:
Fire: 10+ years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia rigens	3	20	<Null>	FdW250603-02
	Amphipogon caricinus var caricinus	0.2	25	<Null>	fdw250603-01
	Borya sphaerocephala	0.05	0.25	<Null>	<Null>
	Cyperaceae sp.	0.4	0.1	<Null>	FdW250603-07
	Dianella revoluta	0.3	0.5	<Null>	<Null>
	Halgania integerrima	0.3	0.25	<Null>	FdW250603-06
	Hibbertia glomerosa	0.1	0.1	<Null>	FdW250603-05
	Lepidosperma sp.	0.6	3	<Null>	FdW250603-03
	Stylidium ?dielsianum	0.02	0.1	<Null>	FdW250603-04
	Thysanotus manglesianus/patersonii complex	0	0.1	<Null>	<Null>
	Wurmbea tenella	0.1	0.1	<Null>	FdW250603-08

Site No: Q10 **Date:** 4 Jun 2025 **Longitude:** 119.242593 **Latitude:** -31.129903

Type: Quadrat
Size: 20x20 (m)
Soil Type: Sand
Soil Colour: Orange
Soil Condition: Damp
Vegetation Type:

Rock Type: None
Topography: Undulating flats
Vegetation Condition: excellent
Condition Notes:
Fire: years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Allocasuarina acutivalvis subsp. acutivalvis	3.5	6	<Null>	<Null>
	Allocasuarina campestris	2	25	<Null>	FdW250604-32
	Amphipogon caricinus var caricinus	0.2	4	<Null>	<Null>
	Austrostipa elegantissima	0.3	0.1	<Null>	<Null>
	Borya sphaerocephala	0.05	0.1	<Null>	<Null>
	Drosera macrantha	0.2	0.1	<Null>	<Null>
	Grevillea paradoxa	1	1	<Null>	FdW250604-30
	Hakea minyma	6	8	<Null>	<Null>
	Hibbertia glomerosa	0.3	0.1	<Null>	<Null>
	Philotheca deserti subsp deserti	0.8	1	<Null>	FdW250604-31
	Thysanotus manglesianus/patersonii complex	0	0.1	<Null>	<Null>

Site No: Q08 **Date:** 4 Jun 2025 **Longitude:** 119.245415 **Latitude:** -31.126697

Type: Quadrat
Size: 20x20 (m)
Soil Type: Sandy Clay
Soil Colour: Grey
Soil Condition: Damp
Vegetation Type:

Rock Type: Calcrete
Topography: Other (add comments)
Vegetation Condition: very good to ex
Condition Notes:
Fire: years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia acanthoclada subsp. acanthoclada	0.3	0.5	<Null>	<Null>
	Acacia assimilis	3	0.5	<Null>	<Null>
	Acacia collectoides	0.6	0.1	<Null>	<Null>
	Acacia gibbosa	1	0.2	<Null>	FdW250604-29
	Alyxia buxifolia	2	10	<Null>	<Null>
	Amphipogon caricinus var caricinus	0.2	0.5	<Null>	<Null>
	Arthropodium sp.	0.02	0.1	<Null>	<Null>
	Austrostipa elegantissima	0.2	0.1	<Null>	<Null>
	Callitris glaucophylla	4	8	<Null>	<Null>
	Dodonaea microzyga	1.6	2	<Null>	<Null>
	Enchylaena tomentosa var tomentosa	0.2	0.1	<Null>	<Null>
	Eucalyptus capillosa	10	6	<Null>	<Null>
	Exocarpos aphyllus	2	5	<Null>	<Null>

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Olearia pimeleoides	0.3	0.1	<Null>	<Null>
	Scaevola spinescens	0.5	0.5	<Null>	<Null>
	Xerolirion divaricata	0.2	8	<Null>	<Null>

Site No: Q15 **Date:** 4 Jun 2025 **Longitude:** 119.230053 **Latitude:** -31.123715

Type: Quadrat
Size: 20x20 (m)
Soil Type: Loamy Clay
Soil Colour: Red
Soil Condition: Damp
Vegetation Type:

Rock Type: None
Topography: Undulating flats
Vegetation Condition: excellent
Condition Notes:
Fire: years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia collectoides	1	0.1	<Null>	<Null>
	Acacia prainii	0.5	0.25	<Null>	<Null>
	Acacia rigens	2.5	3	<Null>	FdW250604-39
	Austrostipa elegantissima	0.3	0.1	<Null>	<Null>
	Bossiaea barbarae	0.3	1	<Null>	<Null>
	Enchylaena tomentosa var tomentosa	0.1	0.1	<Null>	<Null>
	Eremophila ionantha	1	2	<Null>	<Null>
	Eucalyptus sp.	10	8	<Null>	FdW250604-40
	Eucalyptus yilgarnensis	10	4	<Null>	<Null>
	Exocarpos aphyllus	0.8	1	<Null>	<Null>
	Grevillea acuaria	0.5	4	<Null>	<Null>
	Olearia muelleri	0.3	1	<Null>	<Null>
	Ptilotus aervoides	0.01	0.1	<Null>	<Null>

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Rhagodia drummondii	0.3	0.25	<Null>	<Null>
	Scaevola spinescens	0.6	2	<Null>	<Null>
	Sclerolaena patenticuspis	0.05	0.1	<Null>	<Null>
	Senna artemisioides subsp. filifolia	0.8	0.1	<Null>	<Null>
	Templetonia smithiana	0.8	2	<Null>	<Null>

Site No: Q16 **Date:** 4 Jun 2025 **Longitude:** 119.2325 **Latitude:** -31.122492

Type: Quadrat
Size: 20x20 (m)
Soil Type: Sandy Clay
Soil Colour: Red
Soil Condition: Damp
Vegetation Type:

Rock Type: None
Topography: Undulating flats
Vegetation Condition: very good
Condition Notes: tracks and drill pads, flagging tape
Fire: 10+ years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia assimilis	2.2	6	<Null>	<Null>
	Acacia collectoides	1.3	15	<Null>	<Null>
	Acacia rigens	3	4	<Null>	<Null>
*	*Aira caryophyllea*	0.15	0.1	<Null>	<Null>
	Allocasuarina acutivalvis subsp. acutivalvis	2.5	0.25	<Null>	<Null>
	Alyxia buxifolia	2	10	<Null>	<Null>
	Amphipogon caricinus var caricinus	0.2	3	<Null>	<Null>
	Aristida contorta	0.1	0.1	<Null>	<Null>
	Arthropodium sp.	0.2	0.1	<Null>	<Null>
	Chamaexeros fimbriata	0.2	1	<Null>	FdW250604-42
	Dianella revoluta	0.5	0.1	<Null>	<Null>
	Erodium sp.	0.01	0.1	<Null>	<Null>
	Eucalyptus loxophleba subsp. lissophloia	8	0.1	<Null>	<Null>

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Goodeniaceae sp.	0.01	0.1	<Null>	<Null>
	Grevillea acuaria	0.3	2	<Null>	<Null>
	Melaleuca zeteticorum	2.2	8	<Null>	FdW250604-40
	Olearia pimeliodes	0.8	0.1	<Null>	FdW250604-41
	Olearia sp. Eremicola (Diels & Pritzel s.sn. PERTH	0.5	0.1	<Null>	<Null>
	Scaevola spinescens	0.8	0.5	<Null>	<Null>
	Westringia cephalantha	0.4	0.1	<Null>	<Null>

Site No: R04 **Date:** 3 Jun 2025 **Longitude:** 119.226086 **Latitude:** -31.10996

Type: Relevé
Size: meandering (m)
Soil Type: Sandy Clay
Soil Colour: Red
Soil Condition: Damp
Vegetation Type:

Rock Type: None
Topography: Undulating flats
Vegetation Condition: excellent
Condition Notes:
Fire: 10+ years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Allocasuarina acutivalvis subsp. acutivalvis	6	50	<Null>	FdW250603-14
	Alyxia buxifolia	0.2	0.1	<Null>	<Null>
	Amphipogon caricinus var caricinus	0.2	5	<Null>	<Null>
	Cheilanthes sieberi	0.08	0.1	<Null>	<Null>
	Hakea minyma	2.8	4	<Null>	FdW250603-15
	Melaleuca pauperiflora subsp. fastigiata	0	0	<Null>	FdW250603-10

Site No: Q05 **Date:** 3 Jun 2025 **Longitude:** 119.227268 **Latitude:** -31.10857

Type: Quadrat
Size: 20x20 (m)
Soil Type: Sandy Clay
Soil Colour: Light brown
Soil Condition: Damp
Vegetation Type:

Rock Type: None
Topography: Undulating flats
Vegetation Condition: very good
Condition Notes: track and drill site
Fire: 10+ years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia collectoides	2	1	<Null>	<Null>
	Allocasuarina campestris	3.5	12	<Null>	<Null>
	Alyxia buxifolia	0.5	1	<Null>	<Null>
	Amphipogon caricinus var caricinus	0.2	2	<Null>	<Null>
	Aristida contorta	0.2	0.1	<Null>	<Null>
	Callitris glaucophylla	4	25	<Null>	<Null>
	Comesperma integerrimum	0	0.1	<Null>	<Null>
	Drosera macrantha	0.1	0.1	<Null>	<Null>
	Eremophila clarkei	1	1	<Null>	FdW250603-17
	Eucalyptus loxophleba subsp. lissophloia	5	2	<Null>	FdW250603-18
	Isopogon gardneri	1.3	8	<Null>	FdW250603-16
	Phebalium tuberculosum	1.5	3	<Null>	<Null>
	Rinzia carnosa	0.5	0.5	<Null>	<Null>

Site No: R06 **Date:** 3 Jun 2025 **Longitude:** 119.229367 **Latitude:** -31.107689

Type: Relevé
Size: meandering (m)
Soil Type: Clay
Soil Colour: Red
Soil Condition: Damp
Vegetation Type:

Rock Type: None
Topography: Undulating flats
Vegetation Condition: very good
Condition Notes: tracks, rubbish
Fire: 10+ years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia assimilis	1.5	0.5	<Null>	<Null>
	Allocasuarina campestris	3.5	2	<Null>	<Null>
	Alyxia buxifolia	1.5	1	<Null>	<Null>
	Amphipogon caricinus var caricinus	0.2	0.1	<Null>	<Null>
	Callitris glaucophylla	4	25	<Null>	<Null>
	Eremophila clarkei	1	0.5	<Null>	<Null>
	Rinzia carnosa	0.3	0.1	<Null>	FdW250603-20
	Xerolirion divaricata	0.3	0.25	<Null>	FdW250603-19

Site No: Q07 **Date:** 4 Jun 2025 **Longitude:** 119.246722 **Latitude:** -31.124762

Type: Quadrat
Size: 20x20 (m)
Soil Type: Sandy Clay
Soil Colour: Grey
Soil Condition:
Vegetation Type:

Rock Type: Calcrete
Topography: Outcrop
Vegetation Condition: excellent
Condition Notes: tracks nearby
Fire: 10+ years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia assimilis	1.3	0.25	<Null>	FdW250604-26
	Acacia collectoides	1.6	0.5	<Null>	FdW250604-25
*	*Aira caryophyllea*	0.05	0.1	<Null>	<Null>
	Allocasuarina acutivalvis subsp. acutivalvis	2.5	4	<Null>	<Null>
	Alyxia buxifolia	1.6	6	<Null>	<Null>
	Amphipogon caricinus var caricinus	0.2	0.25	<Null>	<Null>
	Arthropodium sp.	0.02	0.1	<Null>	FdW250604-23
	Austrostipa elegantissima	0.3	1	<Null>	<Null>
	Borya sphaerocephala	0.05	0.1	<Null>	<Null>
	Bossiaea barbarae	0.5	5	<Null>	FdW250604-24
	Cheilanthes sieberi	0.05	0.1	<Null>	<Null>
	Daucus glochidiatus	0.03	0.1	<Null>	<Null>
	Dodonaea microzyga	1.8	3	<Null>	<Null>

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Enchylaena tomentosa var tomentosa	0.15	0.25	<Null>	FdW250604-22
	Eremophila clarkei	1.3	1	<Null>	<Null>
	Eremophila oppositifolia	0.6	0.1	<Null>	<Null>
	Eucalyptus capillosa	10	30	<Null>	FdW250604-27
	Exocarpos aphyllus	0.5	0.1	<Null>	<Null>
	Olearia pimeleoides	0.5	0.5	<Null>	<Null>
	Philotheca brucei	0.4	1	<Null>	<Null>
	Romulea sp.	0.05	0.1	<Null>	<Null>
	Santalum acuminatum	0.5	0.1	<Null>	<Null>
	Scaevola spinescens	0.2	0.1	<Null>	<Null>
	Senna artemisioides subsp. filifolia	0.2	0.1	<Null>	<Null>
	Xerolirion divaricata	0.2	5	<Null>	<Null>

Site No: Q12 **Date:** 4 Jun 2025 **Longitude:** 119.239957 **Latitude:** -31.133067

Type: Quadrat
Size: 20x20 (m)
Soil Type: Sandy Clay
Soil Colour: Red
Soil Condition: Damp
Vegetation Type:

Rock Type: None
Topography: Undulating flats
Vegetation Condition: excellent
Condition Notes:
Fire: years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia acanthoclada subsp. acanthoclada	0.2	0.1	<Null>	<Null>
	Enchylaena tomentosa var tomentosa	0.2	0.1	<Null>	<Null>
	Eremophila oppositifolia	0.6	0.1	<Null>	<Null>
	Eucalyptus yilgarnensis	12	40	<Null>	<Null>
	Exocarpos aphyllus	0.8	0.25	<Null>	<Null>
	Grevillea ?heugellii	1.3	2	<Null>	FdW250604-34
	Melaleuca pauperiflora subsp. fastigiata	3	20	<Null>	<Null>
	Sclerolaena patenticuspis	0.02	0.1	<Null>	<Null>

Site No: R19 **Date:** 4 Jun 2025 **Longitude:** 119.239458 **Latitude:** -31.124095

Type: Relevé
Size: 20x20 (m)
Soil Type: Clay
Soil Colour: Orange
Soil Condition: Damp
Vegetation Type:

Rock Type: Calcrete
Topography: Undulating flats
Vegetation Condition: very good
Condition Notes:
Fire: years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia assimilis	2.2	8	<Null>	<Null>
	Allocasuarina acutivalvis subsp. acutivalvis	3	0.25	<Null>	<Null>
	Alyxia buxifolia	1.8	8	<Null>	<Null>
	Amphipogon caricinus var caricinus	0.2	3	<Null>	<Null>
	Arthropodium sp.	0.1	0.1	<Null>	<Null>
	Atriplex paludosa subsp. baudinii	0.3	0.1	<Null>	<Null>
	Callitris glaucophylla	4	2	<Null>	<Null>
	Eremophila clarkei	1.5	12	<Null>	<Null>
	Eremophila oppositifolia	2.2	14	<Null>	<Null>
	Eucalyptus loxophleba subsp. lissophloia	8	15	<Null>	<Null>
	Eucalyptus yilgarnensis	14	10	<Null>	<Null>
	Exocarpos aphyllus	3	0.5	<Null>	<Null>
	Olearia muelleri	0.4	2	<Null>	<Null>

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Phebalium tuberculosum	0.6	0.5	<Null>	<Null>
	Philotheca brucei	1	1	<Null>	<Null>
	Santalum spicatum	1.5	1	<Null>	<Null>
	Scaevola spinescens	0.8	0.5	<Null>	<Null>
	Xerolirion divaricata	0.2	0.1	<Null>	<Null>

Site No: Q17 **Date:** 4 Jun 2025 **Longitude:** 119.235038 **Latitude:** -31.119323

Type: Quadrat
Size: 20x20 (m)
Soil Type: Clay
Soil Colour: Red
Soil Condition: Damp
Vegetation Type:

Rock Type: None
Topography: Undulating flats
Vegetation Condition: excellent
Condition Notes:
Fire: 10+ years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia rigens	1.5	3	<Null>	<Null>
	Amphipogon caricinus var caricinus	0.2	12	<Null>	<Null>
	Cheilanthes sieberi	0.15	0.1	<Null>	<Null>
	Dianella revoluta	0.5	0.25	<Null>	<Null>
	Melaleuca acuminata	4	15	<Null>	FdW250604-43
	Melaleuca uncinata	2	25	<Null>	<Null>
	Rinzia carnosa	0.3	20	<Null>	<Null>
	Templetonia smithiana	1	0.1	<Null>	<Null>

Site No: Q14 **Date:** 4 Jun 2025 **Longitude:** 119.233592 **Latitude:** -31.125858

Type: Quadrat
Size: 20x20 (m)
Soil Type: Sandy Clay
Soil Colour: Red
Soil Condition: Damp
Vegetation Type:

Rock Type: None
Topography: Undulating flats
Vegetation Condition: very good
Condition Notes: tracks, drill pads
Fire: years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia sp.	0.2	0.1	<Null>	<Null>
*	*Aira caryophyllea*	0.1	0.1	<Null>	<Null>
	Allocasuarina acutivalvis subsp. acutivalvis	2	1	<Null>	<Null>
	Alyxia buxifolia	2.5	2	<Null>	<Null>
	Amphipogon caricinus var caricinus	0.2	1	<Null>	<Null>
	Aristida contorta	0.1	0.1	<Null>	<Null>
	Austrostipa elegantissima	0.3	0.1	<Null>	<Null>
	Dianella revoluta	0.5	0.1	<Null>	<Null>
	Enchylaena tomentosa var tomentosa	0.2	0.1	<Null>	<Null>
	Erodium sp.	0.02	0.1	<Null>	<Null>
	Eucalyptus celastroides	13	1	<Null>	<Null>
	Eucalyptus loxophleba subsp. lissophloia	5	8	<Null>	<Null>
	Eucalyptus yilgarnensis	9	5	<Null>	<Null>

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Melaleuca hamata	1.3	6	<Null>	<Null>
	Melaleuca pauperiflora subsp. fastigiata	3	3	<Null>	<Null>
	Olearia muelleri	0.2	0.1	<Null>	<Null>
	Olearia sp. Eremicola (Diels & Pritzel s.sn. PERTH	0.6	8	<Null>	FdW250604-37
	Philotheca brucei	0.5	2	<Null>	<Null>
	Siemssenia capillaris	0.2	0.25	<Null>	FdW250604-38
	Trachymene pilosa	0.02	0.1	<Null>	<Null>

Site No: Q18 **Date:** 4 Jun 2025 **Longitude:** 119.23758 **Latitude:** -31.120552

Type: Quadrat
Size: 20x20 (m)
Soil Type: Sandy Clay
Soil Colour: Red
Soil Condition: Damp
Vegetation Type:

Rock Type:
Topography: Undulating flats
Vegetation Condition: excellent
Condition Notes:
Fire: 10+ years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	?Threlkeldia sp.	0.3	0.1	<Null>	<Null>
	Acacia assimilis	1	0.1	<Null>	<Null>
R.E	*Acacia camptoclada*	0.3	0.1	<Null>	FdW250604-46
	Acacia rigens	2	3	<Null>	<Null>
	Alyxia buxifolia	2.5	8	<Null>	<Null>
	Amphipogon caricinus var caricinus	0.2	5	<Null>	<Null>
	Aristida contorta	0.15	0.1	<Null>	<Null>
	Austrostipa elegantissima	0.2	0.1	<Null>	<Null>
	Dianella revoluta	0.8	0.1	<Null>	<Null>
	Erodium sp.	0.01	0.1	<Null>	<Null>
	Eucalyptus celastroides	5	10	<Null>	FdW250604-44
	Eucalyptus loxophleba subsp. lissophloia	8	15	<Null>	<Null>
	Exocarpos aphyllus	1.5	2	<Null>	<Null>

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Lysiana casuarinae	0	0.1	<Null>	FdW250604-45
	Melaleuca uncinata	2	0.1	<Null>	<Null>
	Olearia pimeliodes	0.5	0.1	<Null>	<Null>
	Olearia sp. Eremicola (Diels & Pritzel s.sn. PERTH	0.5	2	<Null>	<Null>
	Rhagodia drummondii	0.2	0.1	<Null>	<Null>
	Santalum spicatum	2	1	<Null>	<Null>
	Scaevola spinescens	0.4	0.1	<Null>	<Null>
	Senna artemisioides subsp. filifolia	0.8	0.1	<Null>	<Null>
	Siemssenia capillaris	0.15	0.1	<Null>	<Null>

Site No: R21 **Date:** 5 Jun 2025 **Longitude:** 119.228913 **Latitude:** -31.136633

Type: Relevé
Size: (m)
Soil Type: Clay
Soil Colour: Red
Soil Condition: Damp
Vegetation Type:

Rock Type: None
Topography: Undulating flats
Vegetation Condition: very good
Condition Notes: old tracks
Fire: 10+ years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia merrallii	0.3	0.1	<Null>	<Null>
	Eremophila interstans	0.5	1	<Null>	<Null>
	Eremophila ionantha	1	0.5	<Null>	<Null>
	Eucalyptus celastroides	12	20	<Null>	<Null>
	Eucalyptus loxophleba subsp. lissophloia	8	15	<Null>	<Null>
	Exocarpos aphyllus	2	1	<Null>	<Null>
	Melaleuca pauperiflora subsp. fastigiata	4	1	<Null>	<Null>
	Olearia muelleri	0.3	5	<Null>	<Null>
	Roepera glauca	0.03	0.1	<Null>	<Null>
	Santalum spicatum	1.8	0.1	<Null>	<Null>
	Sclerolaena patenticuspis	0.1	0.1	<Null>	<Null>
	Senna artemisioides subsp. filifolia	0.5	0.5	<Null>	<Null>
	Templetonia smithiana	0.5	2	<Null>	<Null>

Site No: R24 **Date:** 5 Jun 2025 **Longitude:** 119.214013 **Latitude:** -31.118927

Type: Relevé
Size: (m)
Soil Type: Loamy Clay
Soil Colour: Brown
Soil Condition: Dry
Vegetation Type:

Rock Type: Granite
Topography: Slope
Vegetation Condition: very good
Condition Notes: mining, rubbish
Fire: 10+ years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Atriplex paludosa subsp. baudinii	0.5	30	<Null>	<Null>
	Eucalyptus celastroides	16	20	<Null>	<Null>
	Melaleuca pauperiflora subsp. fastigiata	3.5	9	<Null>	<Null>
	Olearia muelleri	0.5	0.5	<Null>	<Null>

Site No: R25 **Date:** 5 Jun 2025 **Longitude:** 119.223228 **Latitude:** -31.117448

Type: Relevé
Size: (m)
Soil Type: Clay
Soil Colour: Red
Soil Condition: Damp
Vegetation Type:

Rock Type: Quartz
Topography: Undulating flats
Vegetation Condition: very good
Condition Notes:
Fire: 10+ years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia acanthoclada subsp. acanthoclada	0.3	0.5	<Null>	<Null>
	Acacia collectoides	2	0.5	<Null>	<Null>
	Acacia merrallii	0.3	5	<Null>	<Null>
	Atriplex nummularia	1.5	0.1	<Null>	<Null>
	Atriplex paludosa subsp. baudinii	0.5	0.5	<Null>	<Null>
	Austrostipa elegantissima	0.5	0.1	<Null>	<Null>
	Eremophila ionantha	0.3	0.1	<Null>	<Null>
	Eucalyptus celastroides	15	10	<Null>	<Null>
	Eucalyptus loxophleba subsp. lissophloia	14	1	<Null>	<Null>
	Eucalyptus yilgarnensis	15	8	<Null>	<Null>
	Melaleuca pauperiflora subsp. fastigiata	4	7	<Null>	<Null>
	Olearia muelleri	0.3	0.1	<Null>	<Null>
	Rhagodia drummondii	0.2	0.1	<Null>	<Null>

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Santalum spicatum	2.5	0.5	<Null>	<Null>
	Scaevola spinescens	0.6	0.1	<Null>	<Null>
	Sclerolaena patenticuspis	0.05	0.1	<Null>	<Null>
	Templetonia smithiana	0.8	4	<Null>	<Null>
	Wilsonia humilis	0.2	0.1	<Null>	FdW250605-54

Site No: R26 **Date:** 5 Jun 2025 **Longitude:** 119.241135 **Latitude:** -31.124968

Type: Relevé
Size: (m)
Soil Type: Clay
Soil Colour: Light brown
Soil Condition: Damp
Vegetation Type:

Rock Type: Quartz
Topography: Undulating flats
Vegetation Condition: excellent
Condition Notes:
Fire: 10+ years

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Acacia acanthoclada subsp. acanthoclada	0.3	0.1	<Null>	<Null>
	Acacia assimilis	2	1	<Null>	<Null>
	Acacia collectoides	1.5	0.25	<Null>	<Null>
	Acacia prainii	0.5	0.1	<Null>	<Null>
	Alyxia buxifolia	2	1	<Null>	<Null>
	Austrostipa elegantissima	0.3	0.1	<Null>	<Null>
	Enchylaena tomentosa	0.3	0.1	<Null>	<Null>
	Eremophila ionantha	0.8	0.5	<Null>	<Null>
	Eremophila oppositifolia	2	3	<Null>	<Null>
	Eucalyptus capillosa	6	8	<Null>	<Null>
	Eucalyptus yilgarnensis	15	25	<Null>	<Null>
	Exocarpos aphyllus	2.2	4	<Null>	<Null>
	Grevillea acuaria	0.3	1	<Null>	<Null>

Cons. Status/ Weed	Taxon	Height (cm)	Foliage (%)	Comments	
	Maireana appressa	0.3	0.1	<Null>	<Null>
	Olearia muelleri	0.5	0.1	<Null>	<Null>
	Ptilotus aervoides	0.01	0.1	<Null>	<Null>
	Santalum spicatum	1.8	0.1	<Null>	<Null>
	Scaevola spinescens	0.6	6	<Null>	<Null>
	Senna artemisioides subsp. filifolia	0.6	0.1	<Null>	<Null>
	Siemssenia capillaris	0.15	0.1	<Null>	<Null>
	Templetonia smithiana	0.6	4	<Null>	<Null>

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