VP ENVIRONMENTAL PTY LTD.

ABN 21 639 246 601

Lady Ida Project Clearing Permit Application Environmental Assessment L16/58, L16/62, L16/103, M16/262, M16/263 & M16/264

Prepared for

Geoda Pty Ltd & Lamerton Pty Ltd

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Prepared by:
Lauren Pick
Director
VP Environmental Pty Ltd
lauren@vpenvironmental.com.au

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Acronym	Description
ANCA	Australian Nature Conservation Agency.
BAM Act	*Biosecurity and Agriculture Management Act 2007*, WA Government.
BC Act	*Biodiversity Conservation Act 2016,* WA Government.
BoM	Bureau of Meteorology.
DBCA	Department of Biodiversity, Conservation and Attractions, WA Government.
DCCEEW	Department of Climate Change, Energy the Environment and Water, Australian Government.
DEMIRS	Department of Energy, Mines, Industry Regulation and Safety, WA Government
DPIRD	Department of Primary Industries and Regional Development, WA Government
DWER	Department of Water and Environmental Regulation, WA Government
EP Act	*Environmental Protection Act 1986*, WA Government.
EP Regulations	Environmental Protection (Clearing of Native Vegetation) Regulations 2004, WA Government.
EPA	Environmental Protection Authority (now DWER), WA Government.
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*, Australian Government.
ESA	Environmentally Sensitive Area.
Ha	Hectare (10,000 square metres).
IBRA	Interim Biogeographic Regionalisation for Australia.
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union.
Km	Kilometre (1,000 metres).
MVG	Major Vegetation Groups.
NVIS	National Vegetation Information System.
PEC	Priority Ecological Community.
RAOU	Royal Australia Ornithologist Union.
SRE	Short Range Endemic.
SSC	Species Survival Commission, International.
TEC	Threatened Ecological Community.
WA	Western Australia.
WAHERB	Western Australian Herbarium.
WAM	Western Australian Museum, WA Government.

1 INTRODUCTION

The Lady Ida Gold Project is located approximately 65 km north of the township of Coolgardie and 80 km northwest of Kalgoorlie, in the Shire of Coolgardie, Western Australia (Figure 1-1).

Open pit mining of gold for the Lady Ida Gold Project occurred at three open pit deposits (Iguana, Lizard and Blue Tongue) between 2000 to 2001. The Project has been largely under care and maintenance since August 2008. The tenements on which gold mining formerly occurred (M16/262, M16/263 and M16/264 for the Iguana, Lizard and Blue Tongue mines, respectively) and associated miscellaneous leases are currently held by Geoda Pty Ltd and Lamerton Pty Ltd (Table 1-1).

The Project requires a clearing permit application (referred to in this document as the 'assessment area') which encompasses an area of 1,313 ha (Figure 1-2). A total of 100 ha of clearing is proposed within the assessment area.

Table 1-1: Tenements within the assessment area

Tenement	Holders	Area (ha)	Grant	Expiry
L16/58	Geoda Pty Ltd Lamerton Pty Ltd	114.80	13/12/1999	12/12/2041
L16/62	Geoda Pty Ltd Lamerton Pty Ltd	42.80	13/12/1999	12/12/2041
L16/103	Geoda Pty Ltd Lamerton Pty Ltd	14.98	06/07/2016	05/07/2037
M16/262	Geoda Pty Ltd Lamerton Pty Ltd	989.35	12/03/1999	11/03/2041
M16/263	Geoda Pty Ltd Lamerton Pty Ltd	999.15	12/03/1999	11/03/2041
M16/264	Geoda Pty Ltd Lamerton Pty Ltd	990.95	12/03/1999	11/03/2041

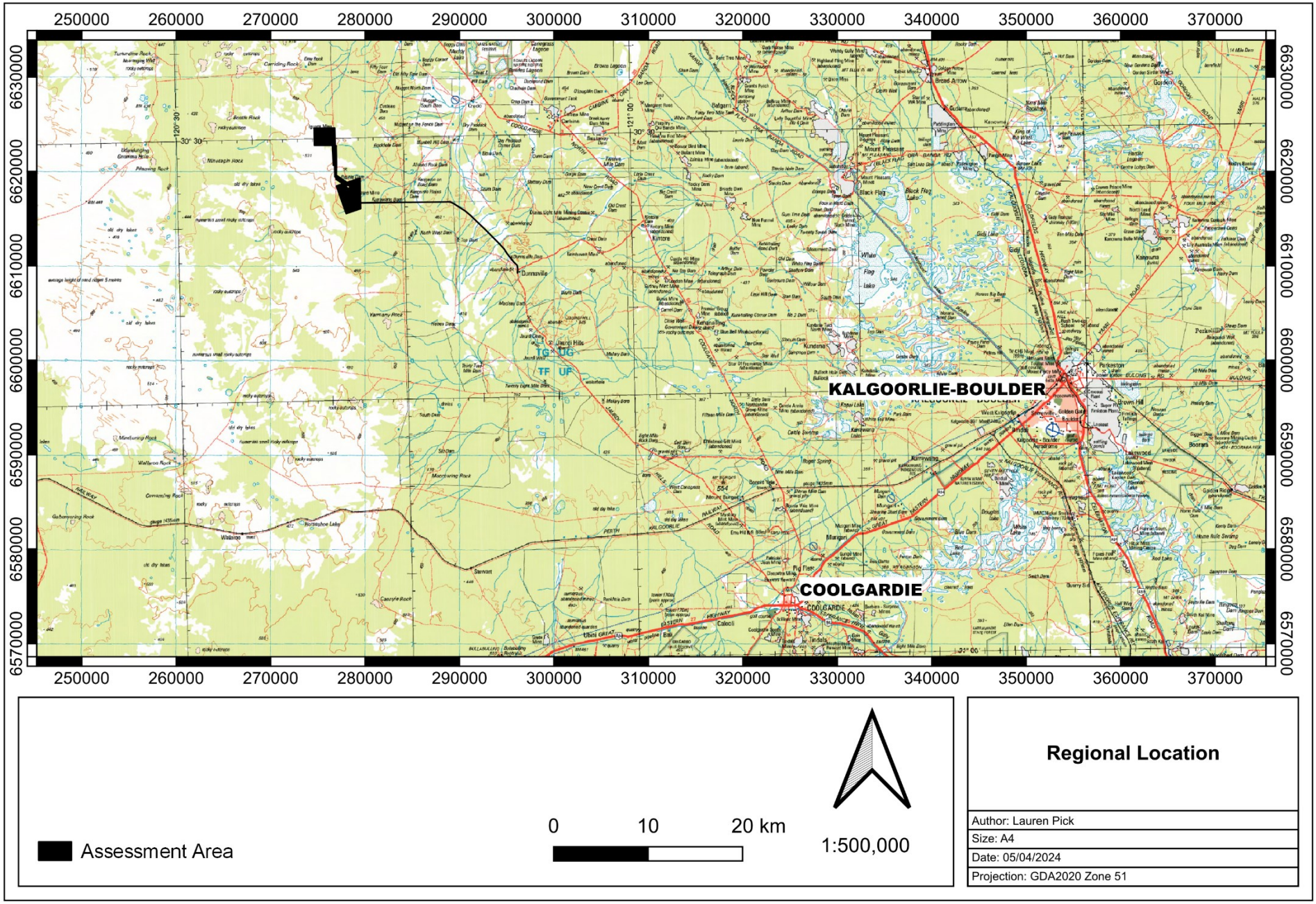


Figure 1-1: Regional location of the assessment area

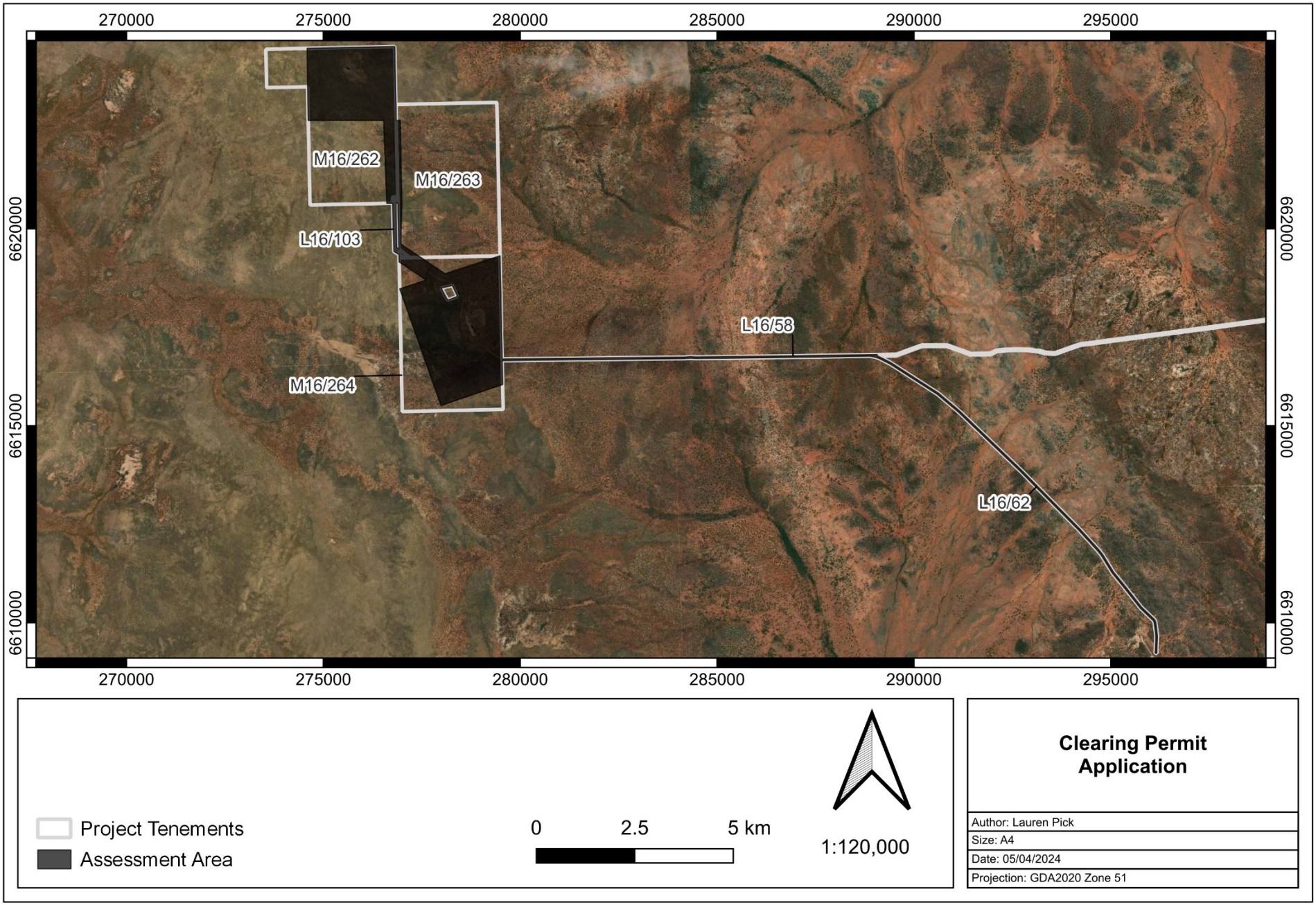


Figure 1-2: Assessment area

2 EXISTING ENVIRONMENT

2.1 REGIONAL SETTING

The assessment area lies within the South-West Interzone of WA in the Coolgardie Botanical District. Based on the Interim Biogeographic Regionalisation of Australia (IBRA, Version 7) (DotEE, 2012) the assessment area is located within the Coolgardie Bioregion of WA. The Coolgardie Bioregion is further divided into three subregions; Mardabilla (COO1), Southern Cross (COO2) and Eastern Goldfields (COO3) with the assessment area located within the Southern Cross (COO2) and Eastern Goldfields subregion (Figure 2-1).

The Coolgardie Bioregion is located within the Yilgarn Craton. Its granite basement includes Archaean Greenstone intrusions in parallel belts. Drainage is occluded (McKenzie, May & McKenna, 2002). Diverse woodlands, rich in endemic eucalypts, occur on low greenstone hills, on alluvial soils on the valley floors, around the saline playas of the region's occluded drainage system, and on broad plains of calcareous earths (McKenzie, May & McKenna, 2002).

The Southern Cross Subregion has subdued relief, comprising gently undulating uplands dissected by broad valleys with bands of low greenstone hills. It lies on the 'Southern Cross Terrains' of the Yilgarn Craton. The granite strata of Yilgarn Craton are interrupted by parallel intrusions of Archaean Greenstone. Drainage is occluded. Valleys have Quaternary duplex and gradational soils, and include chains of saline playa-lakes (Cowan, *et. al.,* 2001).

The Eastern Goldfields subregion lies on the Yilgarn Craton's 'Eastern Goldfields Terrains'. The relief is subdued and comprised of gently undulating plains interrupted in the west with low hills and ridges of Archaean greenstones and in the east by a horst of Proterozoic basic granulite. The underlying geology is of gneisses and granites eroded into a flat plane covered with tertiary soils and with scattered exposures of bedrock. Calcareous earths are the dominant soil group and cover much of the plains and greenstone areas. A series of large playa lakes in the western half are the remnants of an ancient major drainage line (Cowan, 2001).

Figure 2-1: IBRA Bioregions in relation to the assessment area

2.2 PRE-EUROPEAN VEGETATION

The Department of Primary Industries and Regional Development (DPIRD) GIS file (2022a) indicates that the assessment area is located within three pre-European vegetation associations as listed in Table 2-1. The extent of this vegetation association as specified in the *2018 Statewide Vegetation Statistics* (DBCA, 2019) is provided in Table 2-1.

Areas retaining less than 30% of their pre-European vegetation extent generally experience exponentially accelerated species loss, while areas with less than 10% are considered "endangered" (EPA, 2000). Development within the assessment area will not significantly reduce the extent of pre-European vegetation.

Table 2-1: Extent of Pre-European vegetation associations with the assessment area

Region	Pre-European extent (ha)	Current extent (ha)	% remaining	% current extent protected for conservation[1]	Extent within assessment area (ha)	% of current extent within the assessment area
Vegetation Association Jaurdi 435: Shrublands; Acacia neurophylla, A. beauverdiana & A. resinimarginea thicket						
Western Australia	119,972	119,972	100	7.81	630	0.53
Southern Cross Subregion	118,433	118,433	100	7.81		0.53
Vegetation Association Kununulling 8: Medium woodland; salmon gum & gimlet						
Western Australia	36,369	36,369	100	0	165	0.45
Eastern Goldfields Subregion	36,106	36,106	100	0		0.46
Vegetation Association Kununulling 468: Medium woodland; salmon gum & goldfields blackbutt						
Western Australia	186,203	182,938	98.25	0.04	518	0.28
Eastern Goldfields Subregion	184,813	181,667	98.30	0.04		0.29

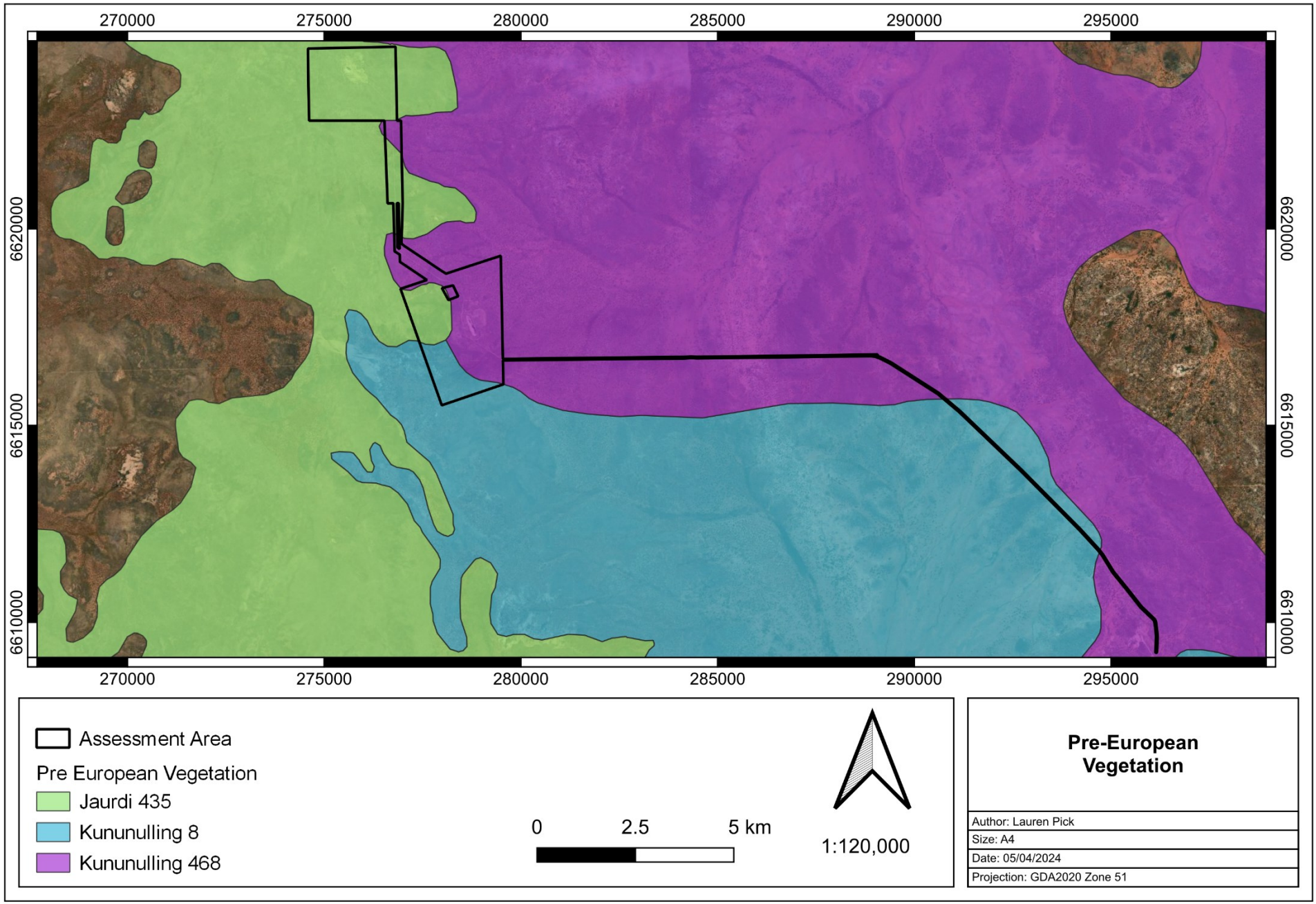


Figure 2-2: Pre-European vegetation associations within the assessment area

2.3 SOILS AND LANDSCAPE SYSTEMS

Based on geographic information provided by the DPIRD (2022b), the assessment area is located within the Kambalda Zone (265) and Norseman Zone (266) of the Kalgoorlie Province (26).

The Kalgoorlie Province is characterised by undulating plains (with some sandplains, hills and salt lakes) on the granitic rocks and greenstone of the Yilgarn Craton. Soils include calcareous loamy earths and red loamy earths with some salt lake soils, red deep sands, yellow sandy earths, shallow loams and loamy duplexes. Vegetation is dominated by Eucalypt woodlands with some Acacia-Casuarina thickets, Mulga shrublands, Halophytic shrublands and Spinifex grasslands. This Province is located in the southern Goldfields between Paynes Find, Menzies, Southern Cross and Balladonia (Tille, 2006).

The Kambalda Zone is characterised by flat to undulating plains (with hills, ranges and some salt lakes and stony plains) on greenstone and granitic rocks of the Yilgarn Craton. Soils include calcareous loamy earths and red loamy earths with salt lakes soils and some red-brown hardpan shallow loams and red sandy duplexes. Vegetation includes red mallee- blackbutt-salmon gum-gimlet woodlands with mulga and halophytic shrublands (and some spinifex grasslands). This zone is located in the south-eastern Goldfields between Menzies, Norseman and the Fraser Range (Tille, 2006).

The Norseman Zone is characterised by undulating plains and uplands (with some sandplains and salt lakes) on granitic rocks of the Yilgarn Craton. Soils comprise of calcareous loamy earths, yellow sandy and loamy earths, red loamy earths, red deep sands and salt lake soils. Vegetation includes Salmon Gum-redwood-merrit-red mallee-gimlet woodland with Acacia/ Casuarina thickets (and some Mulga shrublands and Spinifex grasslands). This zone is located in the southern Goldfields between Koolyanobbing, Menzies, Zanthus (Trans-Australian Railway), Norseman and Lake Hope (Tille, 2006).

The Kambalda Zone and Norseman Zone are further divided into soil landscape systems with the assessment area located within four soil landscape systems as described in Table 2-2.

Table 2-2: Soil landscape systems within the assessment area

Soil Landscape System	Description	Total Extent (ha)	Extent within assessment area (ha)	% of total extent within the assessment area
AC1	Gently sloping to gently undulating plateau areas, or uplands, on granites, gneisses, and allied rocks, with long gentle slopes and, in places, abrupt erosional scarps	1,867,705	492	0.03
BB5	Rocky ranges and hills of greenstones-basic igneous rocks	145,065	22	0.02
Mx41	Flat to undulating pediments marginal to unit AC1; granitic rock outcrop; some low escarpments	148,741	573	0.39
Mx43	Gently undulating valley plains and pediments; some outcrop of basic rock	1,229,919	226	0.02

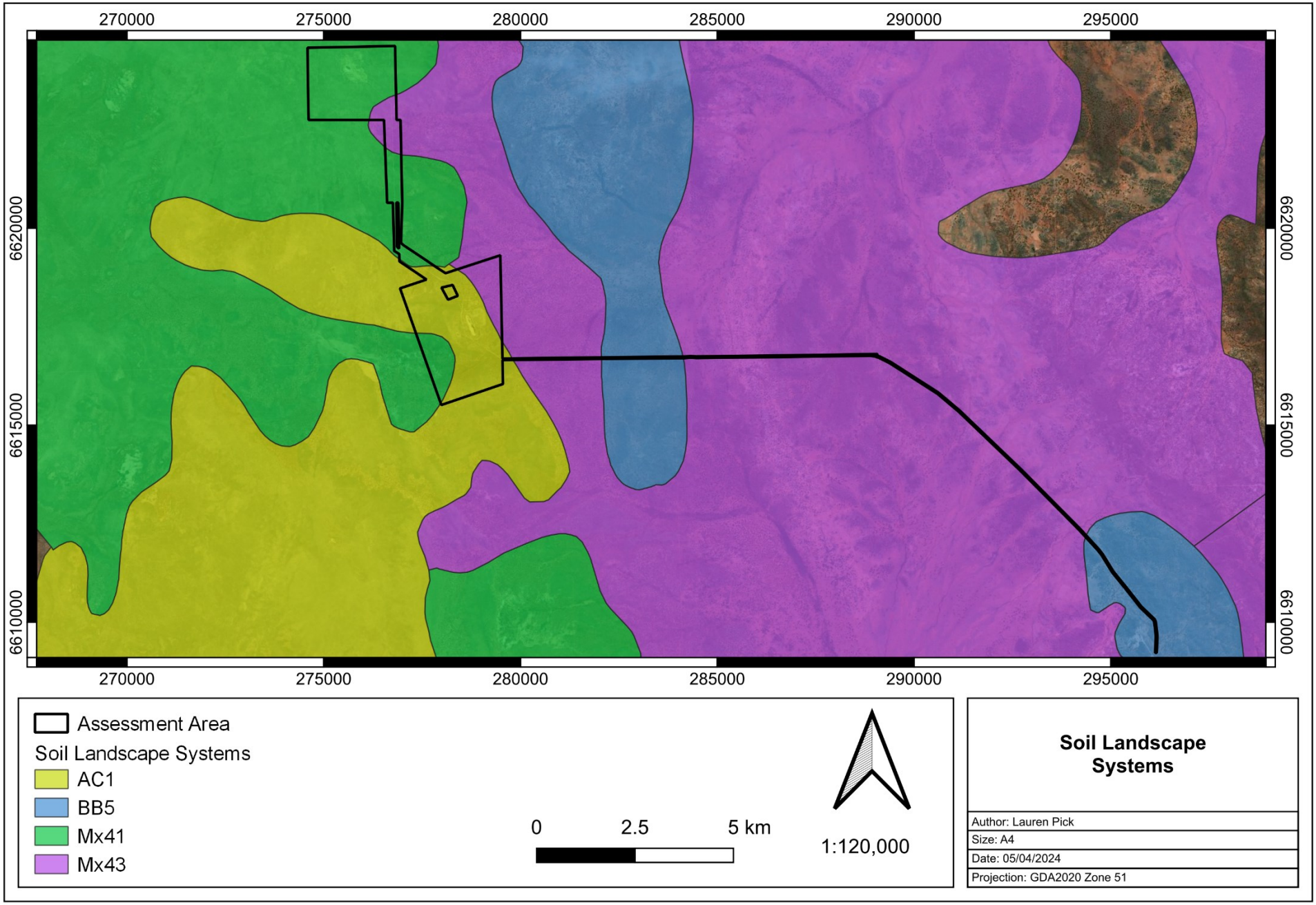


Figure 2-3: Soil landscape systems within the assessment area

2.4 HYDROLOGY

According to the Geoscience Australia Global Map Australia database (2021), there are no permanent or ephemeral inland waters within the assessment area. No permanent drainage lines occur within the assessment area however multiple minor ephemeral drainage line intersects the assessment area (Figure 2-4).

Groundwater Dependent Ecosystems (GDE) includes biological assemblages of species such as wetlands or woodlands that use groundwater either opportunistically or as their primary water source. For the purposes of this report, a GDE is defined as any vegetation community that derives part of its water budget from groundwater and must be assumed to have some degree of groundwater dependency. According to the BoM *Atlas of Groundwater Dependent Ecosystems* database (BoM, 2023), there are no known or potential GDEs within the assessment area (Figure 2-4)

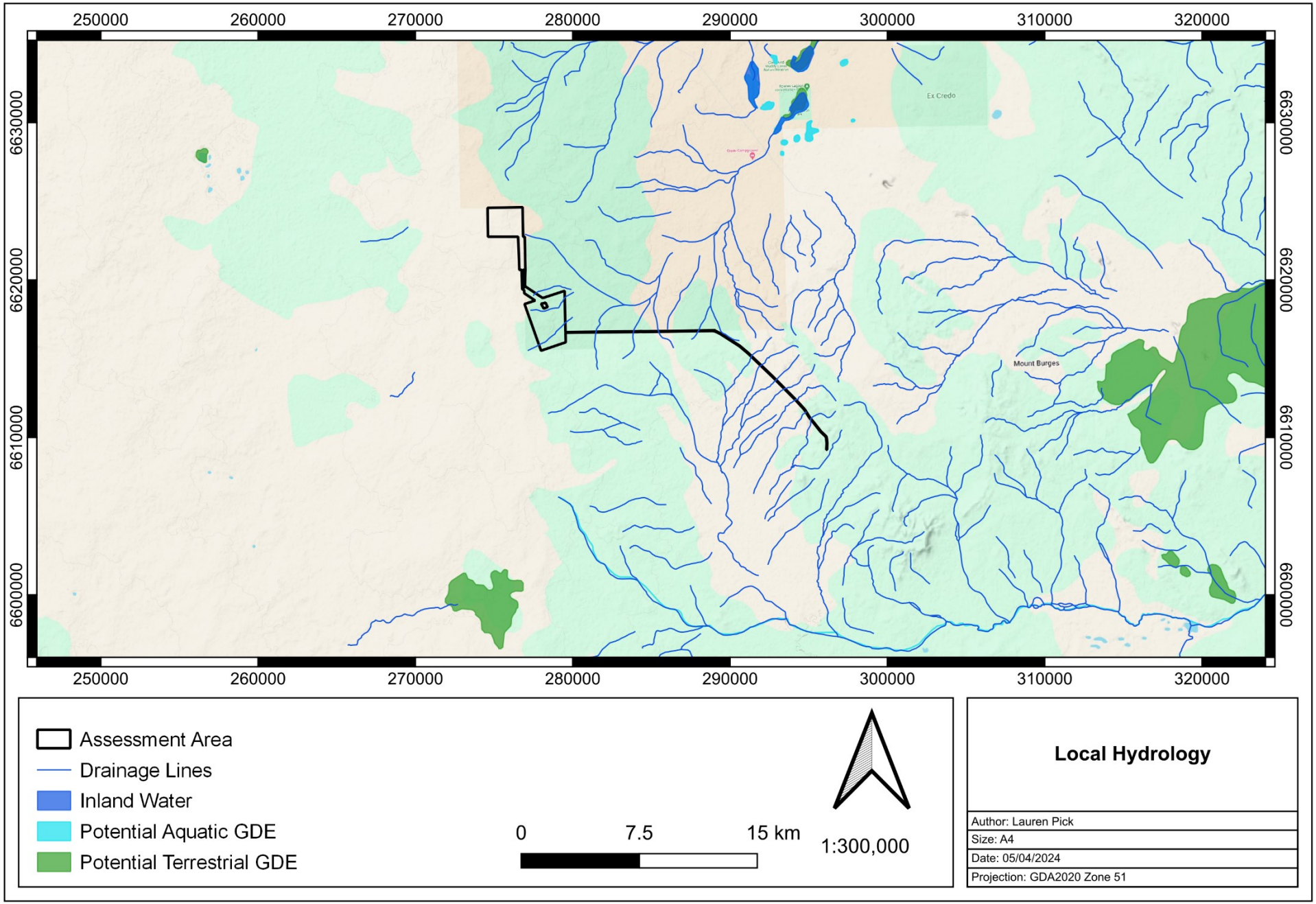


Figure 2-4: Local hydrological features in relation to the assessment area

2.5 CONSERVATION AREAS & GOVERNMENT RESERVES

The assessment area is not located within an Environmentally Sensitive Area (ESA) as listed under the *Environmental Protection Act 1986.* There are no Ramsar Wetlands or Nationally Important Wetlands within the assessment area.

The nearest gazetted conservation reserves are the Clear and Muddy Lakes Nature Reserve and the Rowles Lagoon Conservation Park (approximately 15 km east-northeast of the assessment area). Freshwater wetlands within the reserve are reported to host an abundance of birdlife which have also been reported to frequent freshwater dams in the Lady Ida area.

The assessment area intersects the south-western region of land managed by the Department of Biodiversity Conservation and Attractions (DBCA) known as the Credo Conservation Park (LR3067/590) which was run as a pastoral lease from the early 1900s to 2007, when it was acquired by the (then) Department of Environment and Conservation (now DBCA). Land within the former Credo pastoral station is currently Unallocated Crown Land (UCL) proposed for conservation. The station has been destocked for more than 10 years, although there are reportedly still some cattle present as well as feral herbivores including donkeys, camels and rabbits (Borger, 2021). The Project locality has also been affected by historic timber cutting and land clearing for the purpose of constructing access tracks and water storages.

The assessment area is not located within a Public Drinking Water Source Area (listed under Section 9 of the *Country Areas Water Supply Act 1947*).

A map showing conservation areas and government reserves in relation to the assessment area is provided in Figure 2-5.

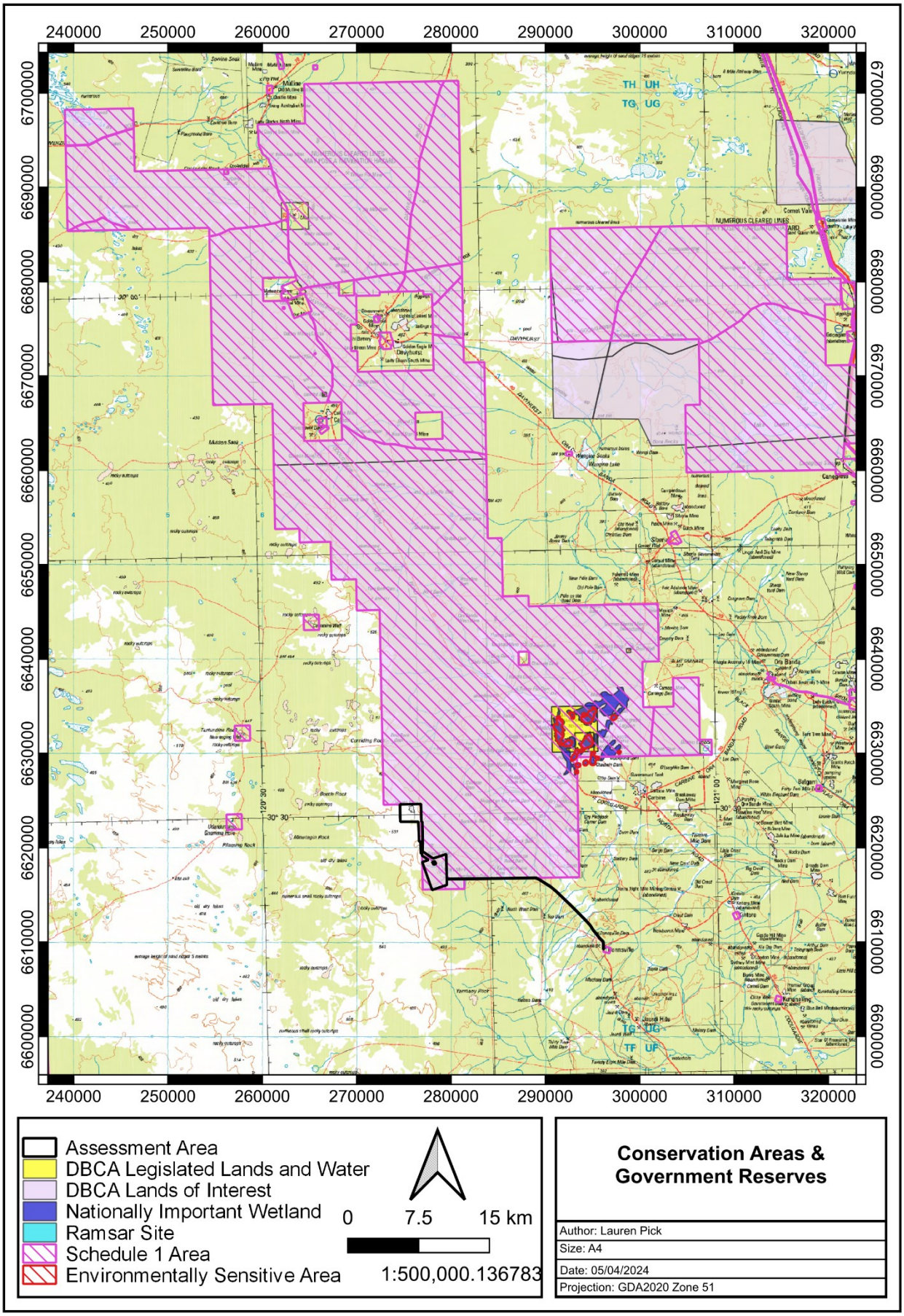


Figure 2-5: Conservation areas and government reserves in relation to the assessment area

2.6 FLORA AND VEGETATION

Vegetation within the former Credo pastoral station is reported to comprise a mosaic of Acacia and Eucalyptus woodlands and chenopod shrublands, with shrubland and forb-lands on granite outcrop and mallee/ shrublands on sandplains (Gibson & Langley 2012, cited in Borger, 2021).

Flora and vegetation surveys within the assessment area have been completed in 1999, 2021 and 2023 (Shepherdson, 1999; Borger, 2021, Borger 2023) which identified 25 vegetation types (13 of which occur within the assessment area) and included Eucalypt woodlands, mallee woodlands to open woodlands and Allocasuarina/ Acacia shrublands (Table 2-3 and Figure 2-6).

Table 2-3: Vegetation types within the assessment area

Code	Description	Image	Extent within assessment area
13 Undulating plain; low rise; minor areas of granite outcrops in area	*Eucalyptus virella, E. clelandiorum, E. rigidula, E. salubris, E. salmonophloia woodland/ Eremophila spp., Acacia spp., Grevillea acuaria, Scaevola, Santalum shrublands Acacia merrallii, Acacia sericocarpa, Eremophila pustulata* present		2.3 ha (0.2%)
14 Undulating plain; depression	*Eucalyptus clelandiorum, E. salmonophloia, E. virella, E. griffithsii* open woodland over *Eremophila ionantha, E. interstans subsp. interstans,* over *Eremophila ionantha, E. scoparia, Senna artemisioides* subsp. *filifolia, Acacia hemiteles, A. murrayana* open shrubland over *Olearia muelleri, Maireana triptera, Lomandra effusa* low sparse shrubland		41.8 ha (3.2%)
16 Undulating plain Yellow sandplain Old fire regrowth >20 years	*Eucalyptus incrassata, E. rigidula, Banksia elderiana, Acacia lasiocalyx* low open mallee shrubland over *Conospermum stoechadis, Melaleuca cordata, Acacia cylindrica, Leptospermum fastigiatum, Melaleuca calyptroides* open shrubland over *Triodia rigidissima, Calytrix creswellii, Melaleuca cordata, Myrtaceae* sp. low hummock grassland/ shrubland		397.7 ha (30.3%)

Code	Description	Image	Extent within assessment area
16B Undulating plain; yellow sandplain	Mature shrublands to tall shrublands *Allocasuarina corniculata, Banksia elderiana, Eucalyptus incrassata, Leptospermum fastigiatum* tall open shrubland over *Calytrix creswellii, Melaleuca cordata, M. calyptrata, Chrysitrix distigmatosa, Triodia* low shrubland		41.9 ha (3.2%)
17 Low rises on undulating plains; upper catchment	Eucalyptus woodlands *(E. griffithsii, E. clelandiorum, E. oleosa* subsp. *oleosa, E. virella)* over *Acacia burkittii, E. hemiteles, Eremophila oppositifolia, E. pustulata, Dodonaea stenozyga, Philotheca, Halgania* shrublands		214.5 ha (16.3%)
18 Undulating plain Mid to upper slopes	*Eucalyptus incrassata, E. leptopoda* subsp. *subluta, Acacia lasiocalyx* low open mallee woodland over *Allocasuarina corniculata, Calothamnus gilesii, Eucalyptus incrassata, Melaleuca cordata, M. calyptroides, Conospermum stoechadis, Grevillea paradoxa, Banksia elderiana, Acacia lasiocalyx, A. cylindrica, Daviesia aphylla, Alyxia buxifolia* shrubland		66.0 ha (5.0%)
19 Undulating plain; Upper catchment Red sand	*Eucalyptus virella* low open mallee woodland/ *Chrysitrix distigmatosa, Acacia hemiteles, Olearia sp. Eremicola, Scaevola spinescens sparse sedgeland Eucalyptus virella, E. eremophila* mallee stands over *Daviesia aphylla, Alyxia buxifolia, Scaevola spinescens, Acacia hemiteles, Eremophila* sp. Mt Jackson, *Acacia tetragonophylla, Exocarpos aphyllus* shrubland		55.6 ha (4.2%)

Code	Description	Image	Extent within assessment area
20 Hill, ridge, laterite outcrop; minor haematite	*Allocasuarina, Acacia burkittii, Hakea preissii* tall sparse shrubland over *Allocasuarina corniculata, Phebalium filifolium, Hysterobaeckea ochropetala, Allocasuarina acutivalvis subsp. acutivalvis* open shrubland over *Hysterobaeckea ochropetala, Phebalium filifolium, Prostanthera grylloana, Acacia burkittii* low open shrubland		115.0 ha (8.8%)
21 Drainage line; upper catchment	*Eucalyptus loxophleba* subsp. *lissophloia* open mallee woodland over *Acacia burkittii* tall shrubland over sparse shrubland over sparse fernland		30.0 ha (2.3%)
22 Granite outcrops Upper catchment	*Cheilanthes sieberi* subsp. *sieberi, Amphipogon caricinus, Isotoma petraea,* lichens low fernland; isolated patches of shrubs (mostly *Philotheca brucei* subsp. *brucei)*		12.7 ha (1.0%)
23 Granite outcrop surrounds; 30 – 50 +% surface rock Dark brown gritty soils	*Eucalyptus loxophleba* subsp. *lissophloia* mallee woodland over *Acacia burkittii, Alyxia buxifolia, Santalum spicatum* tall sparse shrubland over *Pittosporum angustifolium, Acacia tetragonophylla, Dodonaea lobulata, Pimelea microcephala* shrubland over *Senna artemisioides* subsp. *filifolia, Dodonaea lobulata, Ptilotus obovatus* sparse shrubland		20.5 ha (1.6%)

Code	Description	Image	Extent within assessment area
24 Plain, upper catchment Sandy clay loam	*Eucalyptus loxophleba* subsp. *supralaevis, E. celastroides* open mallee forest over *Eremophila* sp. Mt Jackson, *Scaevola spinescens, Acacia* hemiteles sparse shrubland over *Olearia muelleri, Scaevola spinescens, Eremophila oppositifolia* subsp. *angustifolia, Rhagodia drummondii, Exocarpos aphyllus* low open shrubland		105.6 ha (8.0%)
25 Upper midslope; low hill sand/ brown sandy clay loam	*Eucalyptus rigidula* open mallee woodland over *Allocasuarina acutivalvis, Calothamnus gilesii, Callitris columellaris, Grevillea oligomera* tall open shrubland over *Calothamnus gilesii, Beyeria sulcata, Allocasuarina acutivalvis subsp. acutivalvis, A. corniculata, Phebalium filifolium* open shrubland over *Phebalium filifolium, Beyeria sulcata, Calothamnus gilesii, Allocasuarina corniculata* low open shrubland		68.8 ha (5.2%)
Cleared	Mining disturbance		58.5 ha (4.5%)
Modified	Rehabilitated waste landforms		44.4 ha (3.4%)

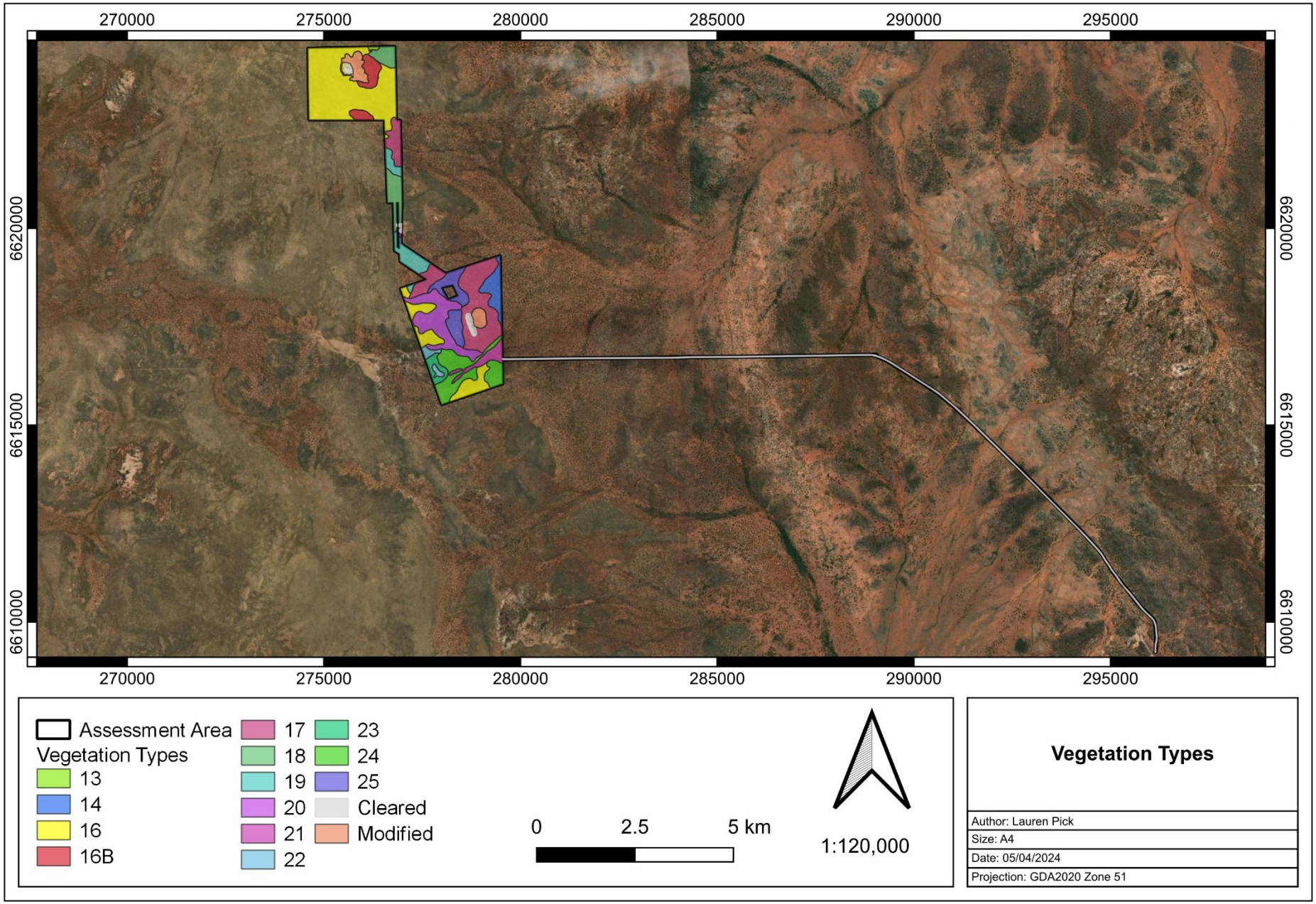


Figure 2-6: Vegetation types within the assessment area

2.6.1 VEGETATION CONDITION

Recent flora surveys have generally reported vegetation condition to be very good to excellent (Table 2-4 and Figure 2-7). The Lady Ida project area is located within the former Credo pastoral station that has been largely destocked for approximately 10 years. Cattle, donkeys and, to a lesser extent, camels, are common in the area. As a result there is a moderate to high degree of grazing impact evident.

Table 2-4: Vegetation condition within the assessment area

Vegetation Condition	Extent within assessment area
Cleared	59.4 ha (4.5%)
Modified	40.2 ha (3.0%)
Very Good	707.1 ha (53.5%)
Excellent	477.5 ha (36.1%)

Table 2-5 lists the weed species that may occur in the general Lady Ida Project locality, as they have been reported to occur within the former Credo pastoral station. None of the weeds listed is classified as a 'declared plant' or a 'Weed of National Significance'. No declared weeds have been recorded within the assessment area. Of the weeds listed, only *Salvia verbenaca* has so far been reported to occur within the assessment area.

Table 2-5: Potential Introduced Flora (Weed) Species

Taxon	
Salvia verbenaca (wild sage)	*Cuscuta epithymum*
Cleretum papulosum subsp papulosum	*Cuscuta planiflora*
Dittrichia graveolens (stinkwort)	*Medicago minima* (woolly burr medic)
Hypochaeris glabra (flatweed, smooth catsear)	*Erodium aureum*
Sonchus oleraceus (common sowthistle)	*Erodium cicutarium* (storksbill)
Carrichtera annua (cress rocket, Ward's weed)	*Marrubium vulgare* (horehound)
Sisymbrium orientale (rocket)	*Parentucellia latifolia* (red bartsia)
Lysimachia arvensis (pimpernel)	*Pentameris airoides*
Rostraria pumila (roughtail)	*Schismus barbatus* (Mediterranean grass)

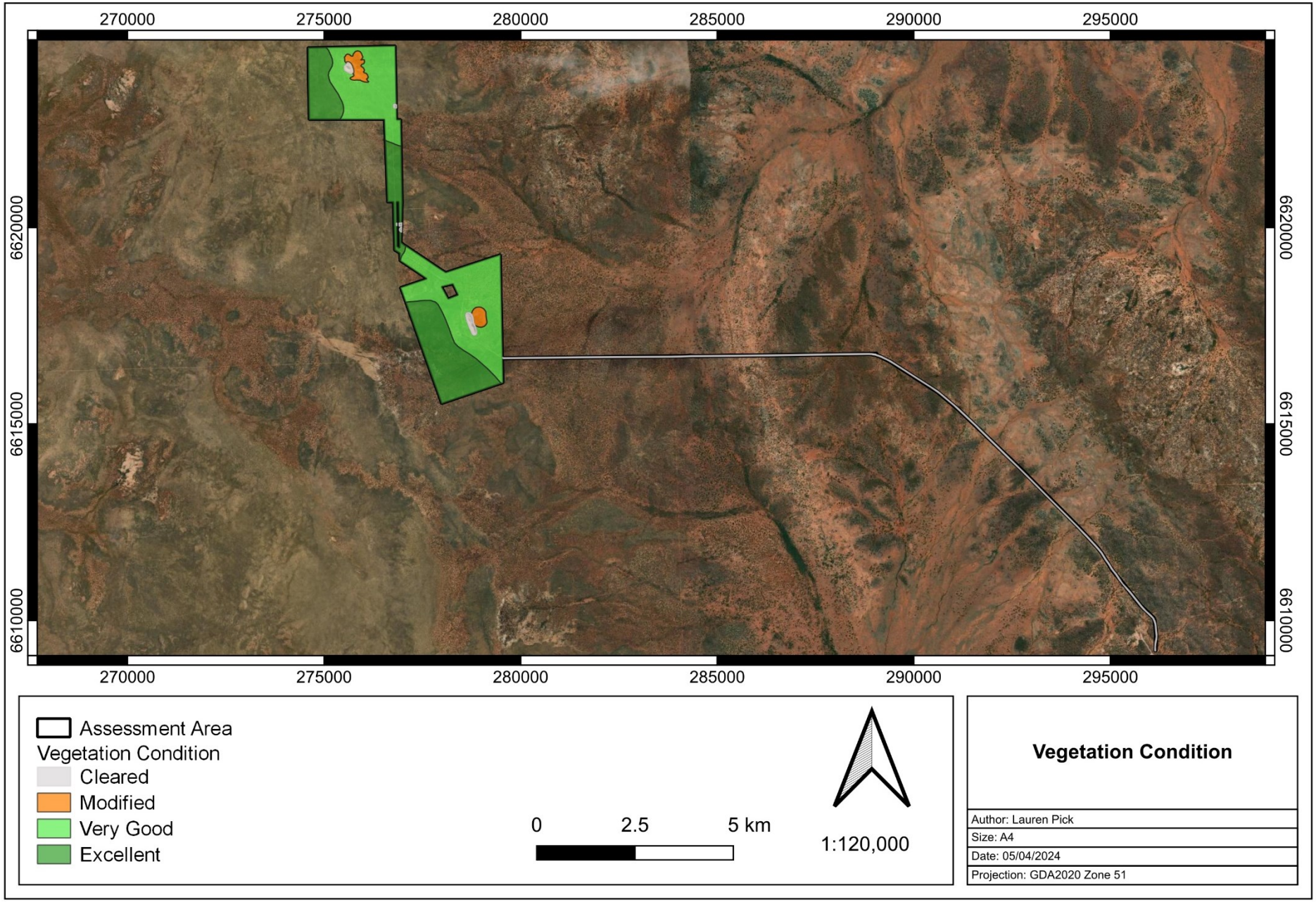


Figure 2-7: Vegetation condition within the assessment area

2.6.2 SIGNIFICANT FLORA

The more recent flora and vegetation studies of the Lady Ida Project area (Borger, 2021 and 2023) have identified three conservation significant flora species within the Project tenements: *Acacia cylindrica*, *Calytrix creswellii* and *Homalocalyx grandifloras* (Table 2-6 and Figure 2-8). All were classified as 'Priority 3' species, meaning the species are known from several locations or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat. These species are not considered to be under imminent threat, but are poorly known and in need of further survey to assess threatening processes that could affect them.

No threatened flora species protected under the EPBC Act or under the BC Act have been recorded within the assessment area.

Table 2-6: Conservation significant flora recorded within the assessment area

Scientific name and description	Image	Associated Habitat and Population Extent[1]
Acacia cylindrica P3 IBRA regions: Avon Wheatbelt, Coolgardie IBRA subregions: Merredin, Southern Cross ~ 400 km east – west range Flowering recorded August to October. Grows on deep yellow or gravelly well drained sand.		Vegetation Type 16 (Undulating plain yellow sandplain) & 18 (Undulating plain mid to upper slopes) 29,038 plants recorded during field surveys. 44 plants within assessment area
Calytrix creswellii P3 IBRA regions: Coolgardie, Murchison IBRA subregions: Eastern Murchison, Southern Cross ~ 400 km NE – SW range (south of Mt Magnet to north of Boorabbin) Flowers recorded from September to December; grows on yellow sand sometimes with lateritic gravel; sandplains.		Vegetation Type 16, 16B (Undulating plain yellow sandplain) & 18 (ndulating plain mid to upper slopes) 137,878 plants recorded during field surveys. 108,659 plants within assessment area
Homalocalyx grandiflorus P3 IBRA regions: Coolgardie, Murchison IBRA subregions: Eastern Murchison, Southern Cross ~ < 200 km range from the Helena Aurora Conservation Park to Goldfields Hwy south of Menzies. Flowers recorded from October to December. Grows on yellow sand, sandplains.		Vegetation Type 16 (Undulating plain yellow sandplain) 1,504 plants recorded during field surveys. 1,016 plants within assessment area

[1] Based on Jenny Borger (2021 & 2023) flora survey counts only. Excludes DBCA record counts.
The total plants relates to total number of plants within the 1,313 ha assessment area, within which a maximum of 100 ha is proposed to be cleared. Clearing within Priority flora populations will be avoided and/ or minimised where possible (including within a 10m radius of Priority flora). Where avoidance is not possible, consultation with DBCA will be conducted.

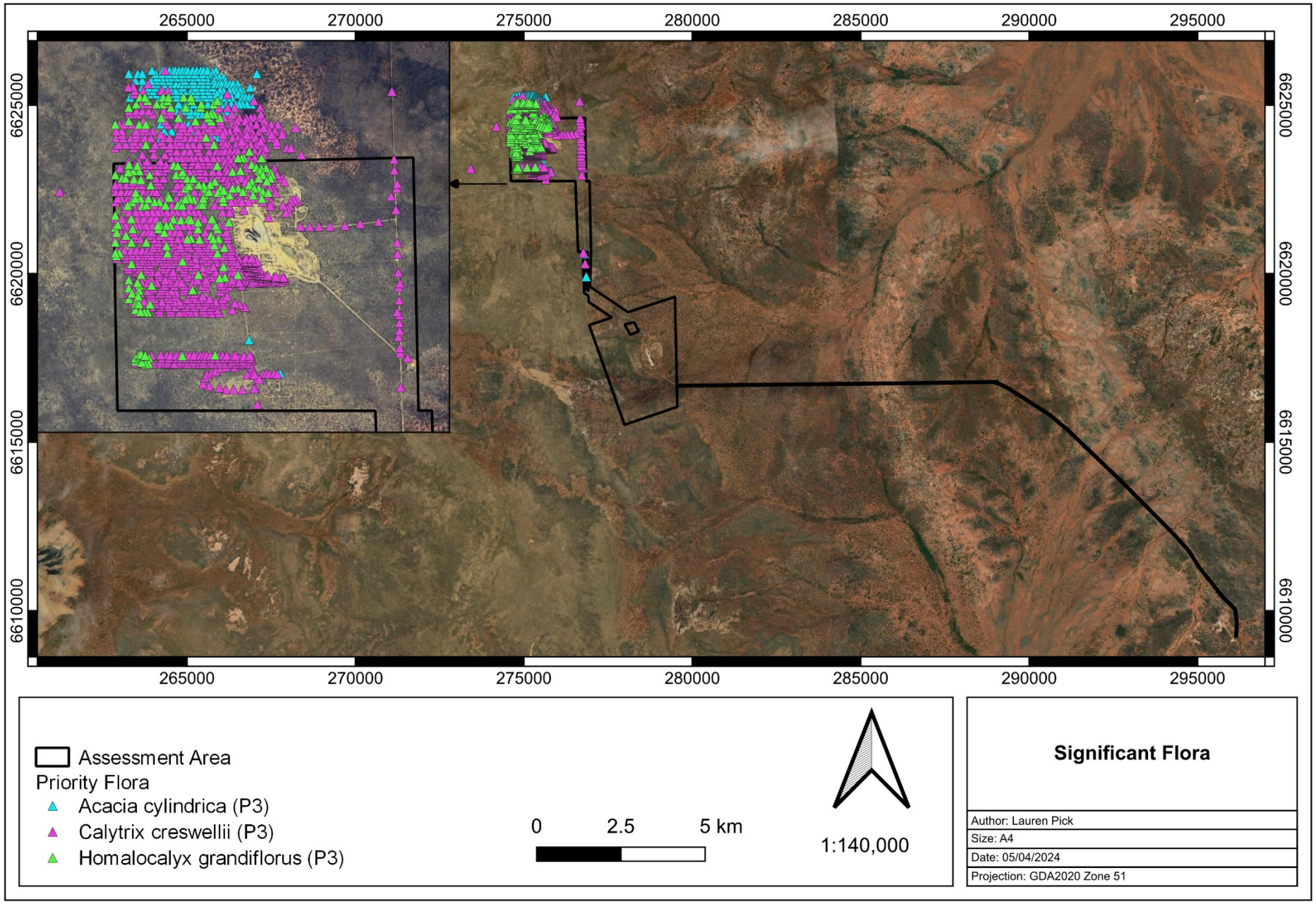


Figure 2-8: Conservation significant flora records in relation to the assessment area

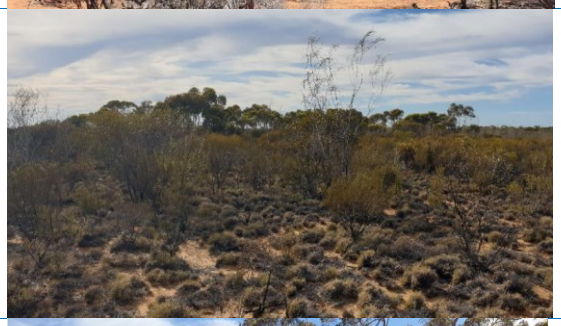
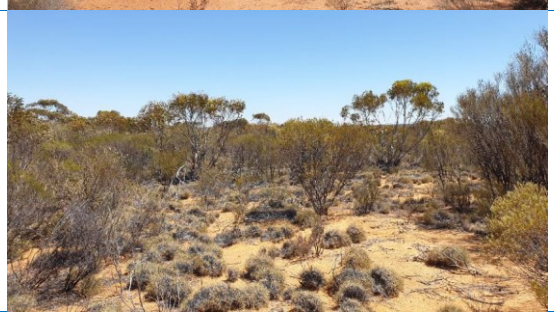
2.6.3 SIGNIFICANT VEGETATION

No threatened ecological communities protected under the federal *Environment Protection and Biodiversity Conservation Act 1999* ('EPBC Act') or under the Western Australian *Biodiversity Conservation Act 2016* occur within the assessment area. There are no Priority Ecological Communities (as listed by DBCA) within the assessment area. No significant vegetation was identified during field surveys.

2.7 FAUNA

The most recent fauna surveys of parts of the Lady Ida Project area were conducted by Ecotec WA in 2021. Nine broad fauna habitats were identified during the field survey, five of which occur within the assessment area (Table 2-7 and Figure 2-9). The main fauna habitats were described as Eucalypt low mallee woodland over Acacia shrubland and low to medium Acacia and Allocasuarina shrubland on yellow sandplain. Fauna habitats were generally described as being in very good to excellent condition (apart from in recently burnt areas), with only limited signs of impact of grazing by introduced herbivores.

Table 2-7: Fauna habitats within the assessment area

Fauna Habitat	Description	Image	Extent within assessment area
Acacia Tall Shrubland	Long unburnt dense Acacia tall shrubland over mixed understorey shrubs		20.5 ha (1.6%)
Acacia/ Allocasuarina Shrubland 1	Low to medium Acacia and Allocasuarina shrubland on yellow sandplain		181 ha (13.8%)
Eucalypt Woodland 2	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils.		44.1 ha (3.4%)
Eucalypt Woodland 3	Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.		914 ha (69.6%)

Fauna Habitat	Description	Image	Extent within assessment area
Granite Outcrop	Broad expanses of outcropping granite and immediate surrounds		12.7 ha (1.0%)
Cleared	Mining disturbance		58.5 ha (4.5%)
Modified	Rehabilitated waste landforms		44.4 ha (3.4%)

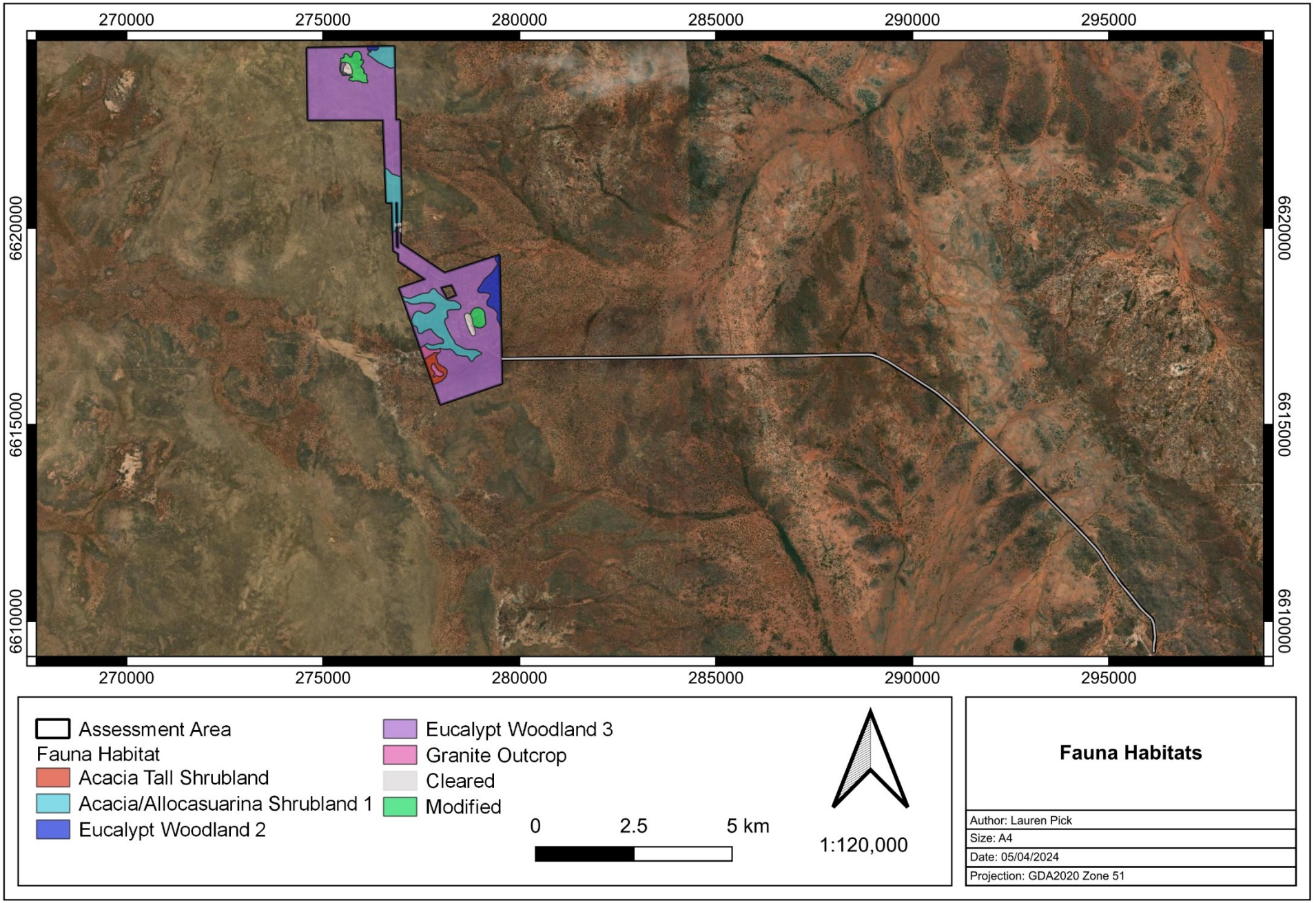


Figure 2-9: Fauna habitats within the assessment area

2.7.1 SIGNIFICANT FAUNA

No threatened fauna species protected under the EPBC Act or under the BC Act have been recorded within the assessment area. The regional locations of threatened or priority fauna species recorded in the generally Project locality, based on search results from the DBCA Threatened and Priority Fauna Database (DBCA, 2024b) are shown in Figure 2-10.

No conservation significant fauna were observed during the fauna field surveys. Ecotec identified two species considered likely to occur within the Lady Ida Project area. These are the Malleefowl and the Peregrine Falcon, both of which are protected species under the Western Australian BC Act. Peregrine Falcons have been recorded in the Project locality. There are no reported nesting sites suitable for Peregrine Falcons in the assessment area, although it is likely that the birds periodically overfly the tenements.

No Malleefowl have been observed during recent ground-based surveys of the Lady Ida Project area, however, reports of Malleefowl observations on parts of the former Credo pastoral station (exact location not specified) were communicated to representatives of a former Project owner in November 2019, according to information presented in a mine closure plan prepared for the Lady Ida Project in December 2022 (Ora Banda, 2022b). Potentially suitable malleefowl nesting habitat was identified in Eucalypt Woodland 2, Eucalypt Woodland 3 and denser areas of Acacia/Allocasuarina Shrubland 1 habitats (Ecotech, 2021).

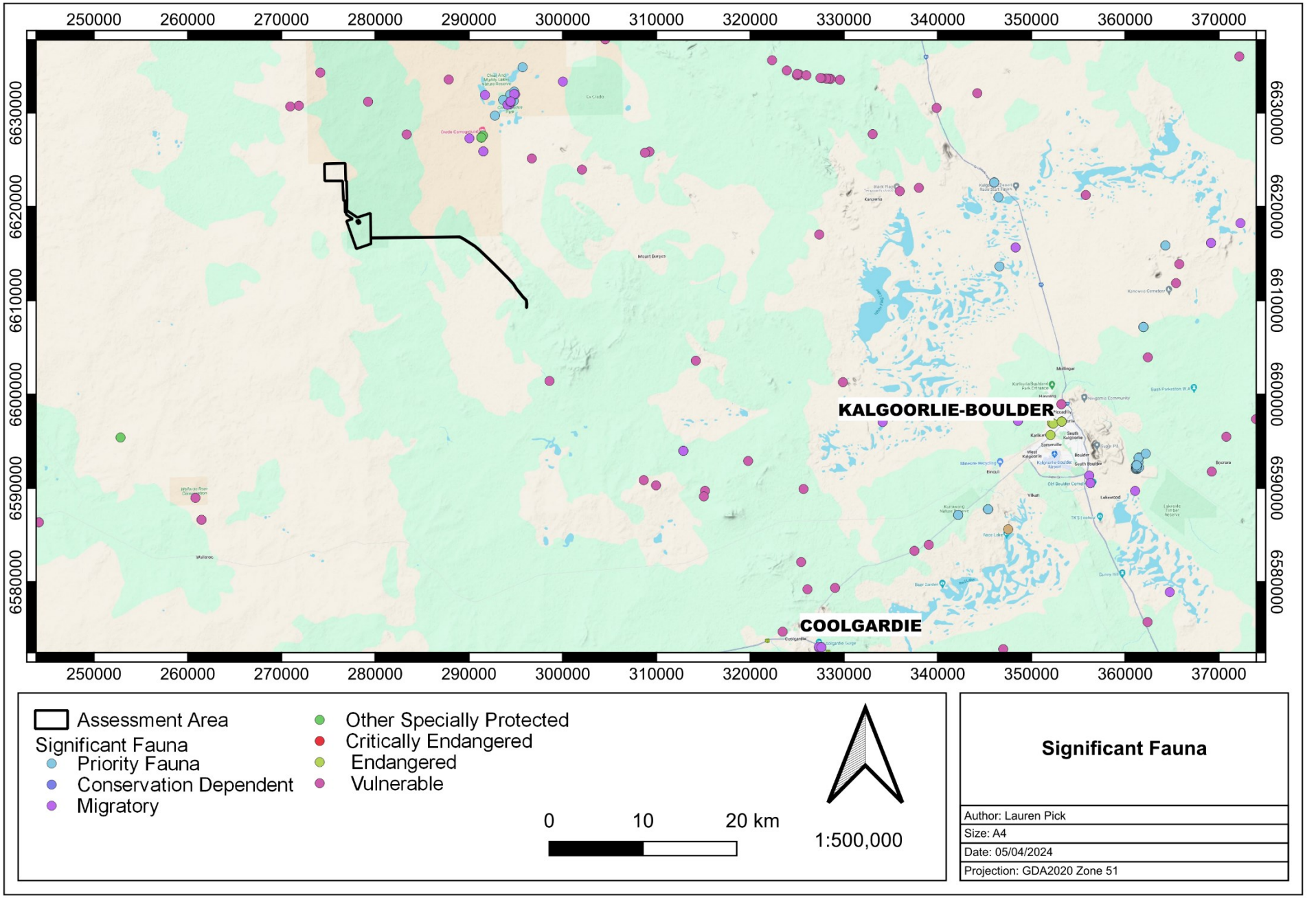


Figure 2-10: Significant fauna records in relation to the assessment area

3 ENVIRONMENTAL LEGISLATION

An assessment of the assessment area against relevant Commonwealth and State environmental legislation is provided in the following sections.

3.1 COMMONWEALTH LEGISLATION

3.1.1 *ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999*

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

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

No matters of national environmental significance as defined by the Commonwealth EPBC Act were identified within the assessment area.

3.2 STATE LEGISLATION

3.2.1 ENVIRONMENTAL PROTECTION ACT WA 1986

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

Under Section 51C of the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations (Regulations) WA 2004* any clearing of native vegetation in Western Australia that is not eligible for exemption under Schedule 6 of the *EP Act 1986* or under the Regulations 2004 requires a clearing permit from the DWER or DMIRS. Under Section 51A of the *EP Act 1986* native vegetation includes aquatic and terrestrial vegetation indigenous to Western Australia, and intentionally planted vegetation declared by regulation to be native vegetation, but not vegetation planted in a plantation or planted with commercial intent. Section 51A of the *EP Act 1986* defines clearing as "the killing or destruction of; the removal of; the severing or ringbarking of trunks or stems of; or the doing of substantial damage to some or all of the native vegetation in an area, including the flooding of land, the burning of vegetation, the grazing of stock or an act or activity that results in the above". Exemptions under Schedule 6 of the EP Act and the EP Regulations do not apply in Environmentally Sensitive Areas (ESA) as declared under Section 51B of the EP Act or TEC listed under State and Commonwealth legislation.

No evidence of the assessment area containing any TEC or Threatened Flora or Fauna was identified during the survey. The assessment area is not located within an ESA.

3.2.2 BIODIVERSITY CONSERVATION ACT 2016

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

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

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

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

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

3.3 NATIVE VEGETATION CLEARING PRINCIPLES

Based on the outcomes from the survey, an assessment of the proposed clearing against the native vegetation clearing principles listed under Schedule 5 of the EP Act was conducted as summarised in Table 3-1. The assessment identified that clearing may be at variance with clearing principle f and h. The proposed clearing is not at variance or unlikely to be at variance with all remaining clearing principles.

Table 3-1: Native vegetation clearing principles assessment

Letter	Principle Native vegetation should not be cleared if it:	Assessment	Outcome
(a)	comprises a high level of biological diversity.	Vegetation identified within the assessment area is not considered to be of high biological diversity and is well represented in the local area.	Clearing is unlikely to be at variance to this principle
(b)	comprises the whole or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to WA.	No significant fauna were observed within the assessment area. The assessment area comprises of broad fauna habitats that are typical of those in the wider region.	Clearing is unlikely to be at variance to this principle
(c)	includes, or is necessary for the continued existence of rare flora.	No Threatened Flora taxa, pursuant to the BC Act and the EPBC Act were identified within the assessment area.	Clearing is not at variance to this principle
(d)	comprises the whole or part of or is necessary for the maintenance of a threatened ecological community (TEC).	No TEC listed under the EPBC Act or by the BC Act occur within the assessment area.	Clearing is not at variance to this principle
(e)	is significant as a remnant of native vegetation in an area that has been extensively cleared	The assessment area occurs within pre-European Beard vegetation associations Jaurdi and Kununulling of the Coolgardie Boioregion all of which retain >98% of the original pre-European vegetation extent.	Clearing is unlikely to be at variance to this principle
(f)	is growing, in, or in association with, an environment associated with a watercourse or wetland	There are no inland waters (lakes/ playas) or perennial drainage lines within the assessment area. Multiple minor ephemeral drainage lines intersect the assessment area. Vegetation associated with these minor ephemeral drainage lines (veg type 21) accounts for 30.0 ha (2.3%) of the assessment area.	Clearing may be at variance to this principle
(g)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	The assessment area occurs within pre-European Beard vegetation associations Jaurdi and Kununulling of the Coolgardie Bioregion all of which retain >98% of the original pre-European vegetation extent. Clearing within these vegetation associations is not likely to lead to land degradation issues such as salinity, water logging or acidic soils.	Clearing is unlikely to be at variance to this principle

Letter	Principle Native vegetation should not be cleared if it:	Assessment	Outcome
(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.	The assessment area is not located within a gazetted conservation reserve. The closest conservation reserves are the Clear and Muddy Lakes Nature Reserve and the Rowles Lagoon Conservation Park, which are located approximately 15 km north-east of the assessment area. The assessment area however intersects the south-western region of land managed by the DBCA known as the Credo Conservation Park (LR3067/590).	Clearing may be at variance to this principle
(i)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.	There are no inland waters (lakes/ playas) or perennial drainage lines within the assessment area. Multiple minor ephemeral drainage lines intersect the assessment area. Vegetation associated with these minor ephemeral drainage lines (veg type 21) accounts for 30.0 ha (2.3%) of the assessment area. Most rainfall is lost by evaporation or surface runoff. Only a small portion infiltrates the soil and recharges the groundwater.	Clearing is unlikely to be at variance to this principle
(j)	Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding	Rainfall is unreliable and highly variable with an average rainfall for Kalgoorlie-Boulder of approximately 266mm and an evaporation rate of 2400mm. The region is not prone to flooding and does not contain perennial water sources.	Clearing is unlikely to be at variance to this principle

4 CONLUSIONS AND SUMMARY

Nine vegetation types were identified within the assessment area which were common and widespread with no significant vegetation identified including no vegetation representative of Threatened Ecological Communities listed under State or Commonwealth legislation or Priority Ecological Communities listed by DBCA. No Threatened flora listed under State or Commonwealth legislation occur within the assessment area. Three Priority 3 flora species were identified within the assessment area, all of which were located on sandplain habitat adjacent to the existing Iguana mine. Clearing within Priority flora populations will be avoided and/ or minimised where possible (including within a 10m radius of Priority flora). Where avoidance is not possible, consultation with DBCA will be conducted.

The assessment area comprises of five broad fauna habitats that are typical of habitat in the wider region. No significant fauna were observed within the assessment area, including no Threatened fauna or Migratory fauna listed under State or Commonwealth legislation or Priority fauna listed by DBCA. Given the locality of the assessment area adjacent to existing mining and habitats are represented outside of the assessment area, vegetation clearing in the assessment area is unlikely to have a significant impact on any conservation significant fauna. Clearing within granite outcrop habitat will be avoided.

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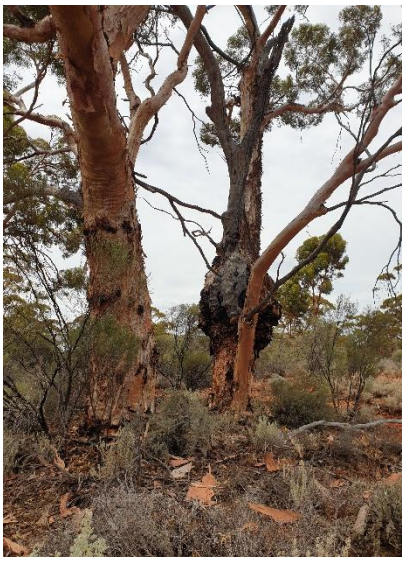
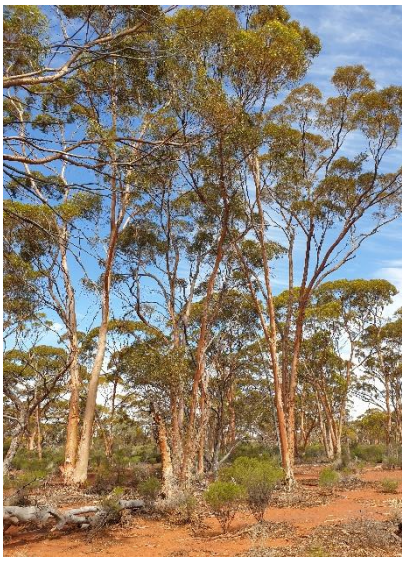
Appendix 1: Flora and Vegetation Survey Reports

Reconnaissance vegetation and flora survey of a proposed haul road from Walhalla to Lizard mining areas for Ora Banda Mining Pty Ltd

May 2021


Jenny Borger Botanical Consulting

29 Andrew Street, Kalamunda WA 6076

E: jjborger1@westnet.com.au

Mobile: 0427 998 403

ABN 29 082 526 297

Executive Summary

Ora Banda Mining Pty Ltd (OBM) are a gold exploration and development company located in the Davyhurst area, 110 km north west of Kalgoorlie, Western Australia (Figure 1). OBM plan to recommence mining activities in the Lady Ida Project (the Project) area located approximately 65 km northeast of Coolgardie and 55 km south of the Davyhurst Processing Plant. The Project tenure consists of a series of shallow pits (Lizard, Iguana and Blue Tongue) that were mined from 1999 to 2001. Ore was transported on dedicated southern haul roads and Shire roads for treatment in the Greenfield Plant in Coolgardie. OBM plan to construct a new haul road from Davyhurst to Lizard. To assist in identifying environmental constraints within the Lady Ida Project OBM commissioned Jenny Borger Botanical Consulting (JBBC) to undertake a reconnaissance vegetation and flora survey (survey area), in conjunction with a fauna and habitat survey (Ecotec WA), and a desktop review of existing ecological reports pertaining to the project.

The scope of works included:

- Review existing environmental survey information for the area including physical environment and climate
- Review aerial imagery of the survey area to assist in the delineation of vegetation types prior to the survey
- Undertake searches of databases for conservation significant flora, vegetation communities and environmentally sensitive areas and which may occur in the survey area
- Undertake a reconnaissance survey to provide context and gather broad information about the survey area, describe the general vegetation and condition at a broad scale, and to determine if the area may support significant flora or vegetation.
- Recording the presence of malleefowl mounds and identifying smooth-barked eucalypt/ mallee (SBEM) communities that may be host to the Arid Bronze Azure Butterfly (*Ogyris subterrestris petrina),* host sugar ant *(Camponotus sp. nr. terebrans).*
- Prepare a report compiling information from the desktop and field surveys
- Prepare broadscale vegetation mapping of the survey area including locations of conservation significant flora

A total of 179 native taxa and 1 weed (*Salvia verbenaca**) were recorded from the survey area. Native taxa were recorded from 36 families and 81 genera, with the best represented families being:

- Myrtaceae (34 species from 10 genera)
- Fabaceae (24 species from 7 genera)
- Proteaceae (16 species from 5 genera)
- Chenopodiaceae (14 species from 4 genera)
- Scrophulariaceae (10 taxa from 1 genera)

A desktop survey of databases of threatened and priority taxa was undertaken (FloraBase, NatureMap, Meissner & Coppen (2013) and DBCA database search (04-0121) and other survey reports (Section 1.4.3) to determine the likelihood of conservation significant flora (CSF) occurring within the proposal area. Two priority species were recorded – *Calytrix creswellii* P3 and *Acacia*

cylindrica P3 – and one registered species – *Santalum spicatum* (sandalwood). *Thysanotus sp. Yellowdine* P2 has been previously recorded at Iguana; however, possibly due to seasonal timing it was not observed during the current survey. Further targeted surveys for priority taxa are recommended for the Iguana area.

Twenty-five vegetation types/ communities were described from the survey from 89 sites over five days (15th – 19th January 2021 and included Eucalypt woodlands, mallee woodlands to open woodlands and *Allocasuarina/ Acacia* shrublands. Vegetation community mapping broadly follows the mapped land systems and pre-European vegetation (PEV) mapping. Potential smooth-barked Eucalypt/ mallee (SBEM) vegetation habitat as described by DBCA (2020) which may support the Arid Bronze Azure Butterfly were identified for future surveys. No mallee fowl or mounds were observed within the surveyed area.

Vegetation condition was mostly very good to excellent with higher levels of disturbance present near historic mining areas (Two Gums, Iguana and Lizard) and ex-pastoral areas between Walhalla and Two Gums adjacent to dams and access roads/ tracks. A significant area (463 ha) vegetation was burnt by a fire ignited by a lightning strike 12 months prior to the survey. This area supports low regrowth dominated by disturbance species. No weeds were observed in these areas. One weed species was present within the more disturbed areas south of Walhalla.

No Threatened Ecological Communities (TEC) are located in the area. The Helena and Aurora Range vegetation complexes (banded ironstone formation (BIF) Priority Ecological Community (PEC) is located approximately 50 km west of the survey area. Vegetation complexes recorded in the Helena and Aurora Ranges are unlikely to occur within the Lady Ida Project area as there is no outcropping BIF within the site.

Two conservation reserves are located within the boundary of Credo Station – Rowles Lagoon Conservation Park and Clear and Muddy Lakes Nature Reserve which are both freshwater wetland areas. These are approximately 20 km east of the Iguana and Lizard mining areas and are unlikely to be impacted from the proposed mine development and haul road.

Contents

1. Introduction

1.1 Background

Ora Banda Mining Pty Ltd (OBM) are a gold exploration and development company located in the Davyhurst area, 110 km north west of Kalgoorlie, Western Australia (Figure 1). OBM plan to recommence mining activities in the Lady Ida Project (the Project) area located approximately 65 km northeast of Coolgardie and 55 km south of the Davyhurst Processing Plant. The Project tenure consists of a series of shallow pits (Lizard, Iguana and Blue Tongue) that were mined from 1999 to 2001. Ore was transported on dedicated southern haul roads and Shire roads for treatment in the Greenfield Plant in Coolgardie.

OBM has undertaken resource drilling at the Lizard and Iguana mine sites and mine planning is currently investigating the feasibility of cutbacks of the existing pits with ore being hauled for treatment at the Davyhurst plant. A haul road between the Iguana and Lizard prospects remains in relatively good condition; however, there is currently no dedicated northern haul road linking these mining areas with Davyhurst. OBM plan to construct a new haul road from Davyhurst to Lizard. The plan is to upgrade existing road infrastructure by (a) upgrading the existing northern access road from Iguana to the Two Gums Minesite, and (b) construct a new 15km road bridging section from the Two Gums mine to the Macedon/ Walhalla mining areas, 14 km south of Davyhurst. The Macedon/Walhalla mining areas are linked by an existing haul road to the Davyhurst ROM. (Figure 2). An environmental risk assessment of the project sites has been undertaken and updates of baseline studies to support permitting are in progress.

To assist in identifying environmental constraints within the Lady Ida Project OBM commissioned Jenny Borger Botanical Consulting (JBBC) to undertake a reconnaissance vegetation and flora survey (survey area), in conjunction with a fauna and habitat survey (Ecotec WA), and a desktop review of existing ecological reports pertaining to the project. Most of the survey area is located within Credo Station, an ex-pastoral lease now being managed by the Department of Biodiversity, Conservation and Attractions (DBCA) for conservation (Appendix 1). Part of the Iguana mining area is located just outside the western boundary of Credo Station within Mt Burgess Station. The results of the fauna survey will be presented in a separate report. The field survey was undertaken from the 15th – 19th January 2021 with a targeted survey scheduled for later in August following winter rains.

1.2 Survey area

The northern end of the survey area starts at Walhalla, 14 km south of Davyhurst, east of Coolgardie North Road, and covers a distance of 50 km terminating at the Lizard mining area, 55 km south of Davyhurst, west of Coolgardie North Road. The very northern section of the survey area is located within the Shire of Menzies and the remainder is located within the Shire of Coolgardie. The survey area is located within 21 tenements which are presented in Table 1 and Appendix 1.

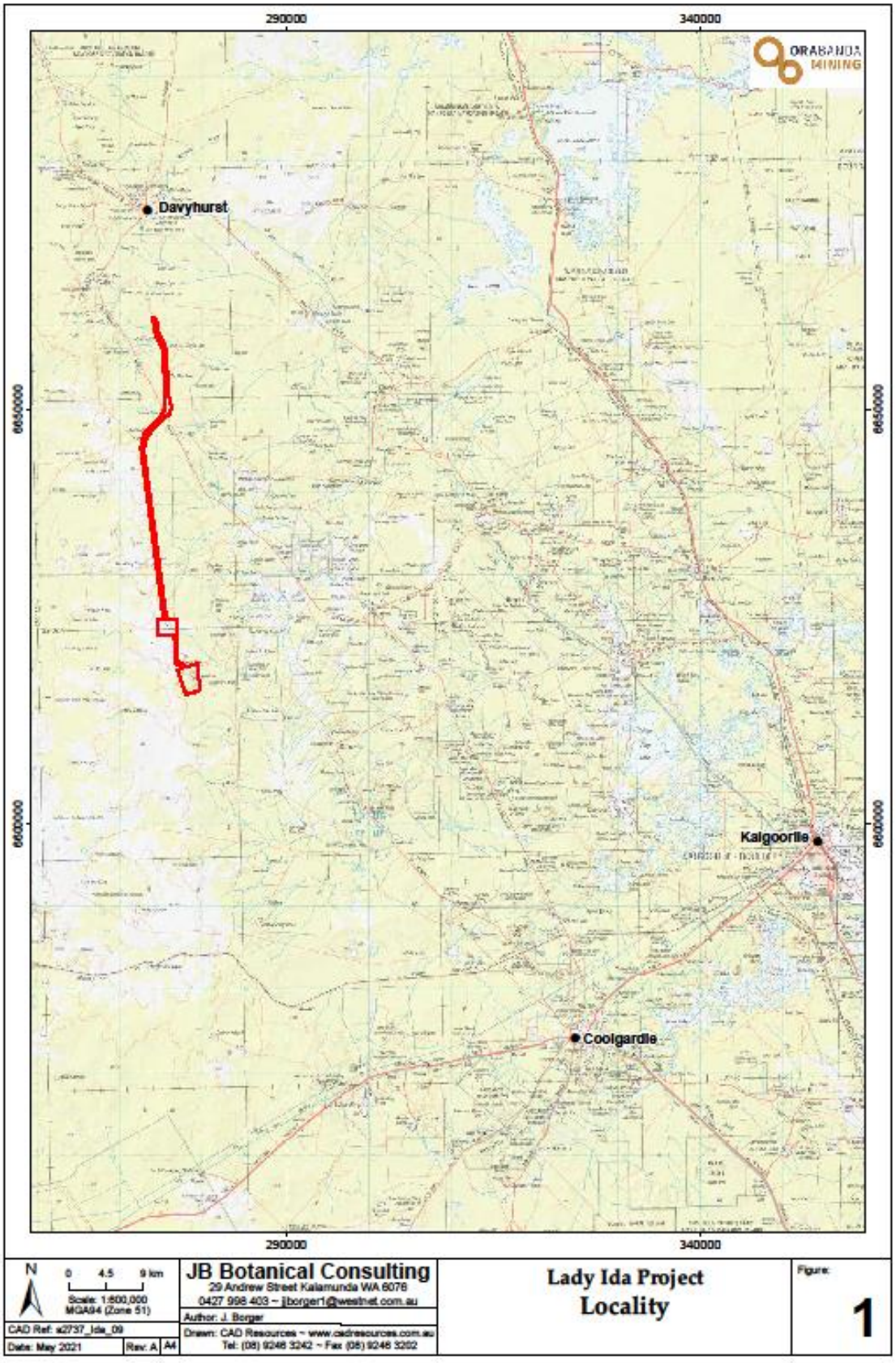


Figure 1: Regional location of the Lady Ida Project survey area

Figure 2: Lady Ida survey area with locations and roads. The survey area starts at Walhalla in the north and ends at Lizard in the south.

Table 1: Tenements within the survey area

E 16/344	E 16/482	E 16/487	L 16/137	L 16/72	M 16/268
E 16/456	E 16/483	L 15/224	L 16/138	M 16/262	
E 16/474	E 16/484	L 16/103	L 16/58	M 16/263	
E 16/475	E 16/486	L 16/134	L 16/62	M 16/264	

1.3 Scope of Works – vegetation and flora component

The scope of works included:

- Review existing environmental survey information for the area including physical environment and climate
- Review aerial imagery of the survey area to assist in the delineation of vegetation types prior to the survey
- Undertake searches of databases for conservation significant flora, vegetation communities and environmentally sensitive areas and which may occur in the survey area
- Undertake a reconnaissance survey to provide context and gather broad information about the survey area, describe the general vegetation and condition at a broad scale, and to determine if the area may support significant flora or vegetation.
- Recording the presence of malleefowl mounds and identifying smooth-barked eucalypt/ mallee (SBEM) communities that may be host to the Arid Bronze Azure Butterfly (*Ogyris subterrestris petrina),* host sugar ant *(Camponotus sp. nr. terebrans).*
- Prepare a report compiling information from the desktop and field surveys
- Prepare broadscale vegetation mapping of the survey area including locations of conservation significant flora

1.4 Environmental setting

1.4.1 Climate

The climate is described as semi-desert Mediterranean and characterised by hot dry summers and mild winters (Beard 1990). Climate data were sourced from two Bureau of Meteorology (BOM) recorded stations – Credo Station (BOM 12259; 2011 -) 15 km east of Iguana and Kalgoorlie (BOM 12038; 1939 -) 82 km south east of the survey area.

The mean annual rainfall recorded at Credo Station over the period 2011 - 2020 is 274.3 mm with the wettest period from January to March, and variable rainfall for the remainder of the year (Table 2, Figure 3). The mean annual rainfall recorded at Kalgoorlie over the period 1939 – 2020 is 264.9 mm with a slightly wetter period in January and February and a slight increase again from May to July. The records at Credo cover a more recent time period and reflect a recent increase in summer rainfall. Significant rainfall events during the summer are often the result of ex-tropical depressions coming from the north west. Significant falls were recorded during February and November 2020; however, the annual rainfall was below average for 2019 and 2020 at both Credo Station and Kalgoorlie.

Temperature data are only available for Kalgoorlie with the hottest months being December to February (mean maxima 32.1 – 33.6 °C; mean minima 16.7 – 18.3 °C) and coolest months being June to August (mean maxima 16.8 – 18.7 °C; mean minima 5.1 – 6.3 °C). 2019 was mostly warmer than average, with a cooler period in May, and 2020 was closer to average with a slightly warmer winter (Table 3, Figure 4).

Table 2: Monthly rainfall totals and means for Credo Station (Cr) and Kalgoorlie (Kal)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Cr Mean	58.2	40.4	37	11.5	13.7	19.3	24.5	20.2	11.8	20.5	33.5	18.9	274.3
Cr 2019	0.5	13	36.8	18.3	11.6	20.2	46.4	19	0.3	3.2	0.6	18.5	188.4
Cr 2020	25.6	70.5	9.7	0.4	5.1	10.6	11.1	19.3	6	1.5	40.4	3.7	203.9
Kal Mean	27.2	32.4	25	20	24.6	27.1	24.1	21.2	13.5	15.7	18.8	16.3	264.9
Kal 2019	8	7.2	0	36.2	9.8	41.2	3.8	20.6	0.4	2.2	0.2	13.6	143.2
Kal 2020	18.6	62.2	2.6	0.2	5.2	7.4	18.2	13.6	0	5.2	32.6	4.4	170.2

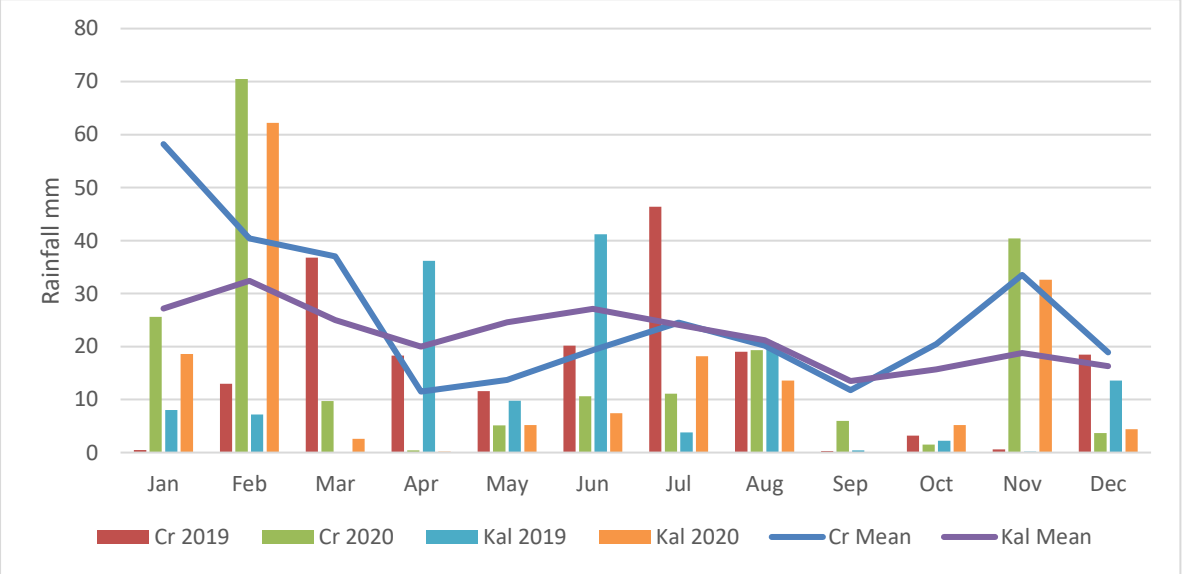


Figure 3: Monthly rainfall totals and means for Credo Station (Cr) and Kalgoorlie (Kal)

Table 3: Mean monthly maxima and minima temperatures for Kalgoorlie

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean max	33.6	32.1	29.5	25.3	20.7	17.6	16.8	18.7	22.4	26	29.1	32.1	25.4
2019 max	34.9	35.7	31.4	25.2	20.9	17.4	18.4	19.6	26.1	29.8	32	37.2	27.4
2020 max	34.2	31.9	29.4	27.5	21.1	20.2	19	19.4	24	27.7	30	31.7	26.3
Mean min	18.3	17.9	16.1	12.8	8.7	6.3	5.1	5.7	8.1	11.3	14.2	16.7	11.8
2019 min	18.5	19.1	18	13.2	6.5	6.3	4.8	7.2	10.3	13.9	15	21.1	12.8
2020 min	19.7	19	17	14.6	8	7.4	6.5	7.7	9.8	12.3	14.9	17.3	12.9

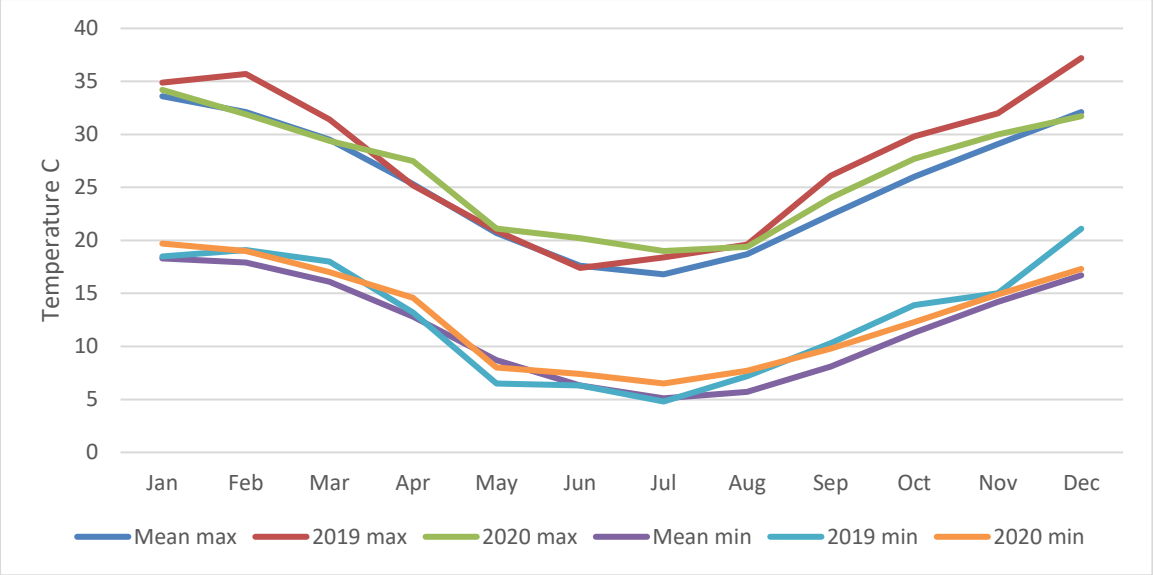


Figure 4: Mean monthly maximum and minimum temperatures with the long term means recorded at Kalgoorlie

1.4.2 Landforms, geology and hydrology

The Lady Ida Project is located in the northern area of the Yilgarn Craton, predominantly within the Kalgoorlie geological terrane which is separated from the adjacent Barlee terrane by the Ida Lineament. The Yilgarn Craton comprises linear to arcuate trending belts of greenstone and local gneissic rocks, intruded by granitoid rocks of Archaean age (Griffin 1990). The landforms are chiefly undulating sandy plains with minor rises associated with greenstone sequences. The proposed mining project is centred on a sequence of mafic and ultramafic volcanics on the western edge of the greenstone belt immediately east of the Ida Lineament. The greenstone sequence hosts the Iguana, Blue Tongue and Lizard open cut deposits.

The northern section of the survey area (Walhalla to Two Gums) lies within the mid to upper area of the Wangine Lake catchment with drainage to the east (Appendix 3). The southern section (Two Gums to Lizard) is located in the upper catchment of Muddy Lake/ Carnage Lake catchment with drainage to the east and south east into Clear and Muddy Lakes Nature Reserve and Rowles Lagoon Conservation Park. Drainage lines are ephemeral with flows of short duration occurring after significant rainfall events.

Land system (LS) mapping for the north-eastern Goldfields was undertaken by the Department of Agriculture Western Australia (Pringle et al. 1994). Four land units are mapped as occurring within the survey area (Figure 5, Table 4). Low greenstone rises occur in the Walhalla/ Two Gums areas and there are areas of outcropping granites in Lizard and just north of Iguana. Soils are chiefly sandy loams on the undulating plains south of Two Gums, with clay loams dominant north from here.

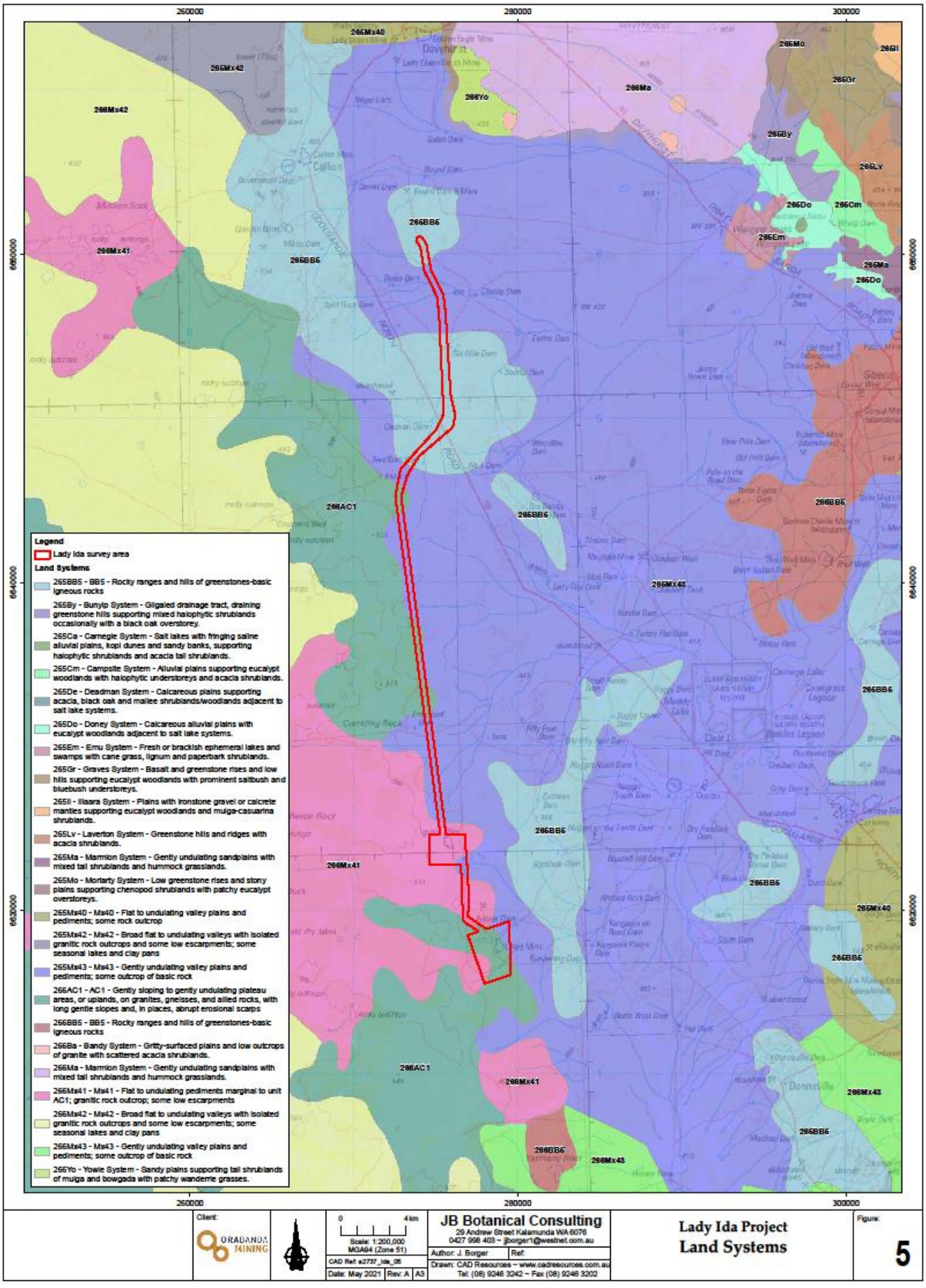


Figure 5: Land System Mapping

Table 4: Description of land units

Code	Description	Location
265BB5 (Light blue)	Rocky ranges and hills of greenstones-basic igneous rocks	North; Two Gums and Walhalla areas
265Mx43 (Dark blue)	Gently undulating valley plains and pediments; some outcrop of basic rock	Walhalla to Lizard
266AC1 (Cyan)	Gently sloping to gently undulating plateau areas, or uplands, on granites, gneisses, and allied rocks, with long gentle slopes and, in places, abrupt erosional scarps	Between Two Gums and Iguana; Lizard
266Mx41 (Pink)	Flat to undulating pediments marginal to unit AC1; granitic rock outcrop; some low escarpments	South; Iguana to Lizard

1.4.3 Regional vegetation

Recent mapping of the Interim Biogeographic Regionalisation for Australia (IBRA) places the survey area within the Coolgardie (COO) IBRA region. The Coolgardie bioregion covers an area of 129,117 km2 and is divided into three subregions: Mardabilla (COO 01), Southern Cross (COO 02) and Eastern Goldfields (COO 03) (Thackway and Cresswell 2017, Cowan 2001).

The proposal is located in the Eastern Goldfield subregion (COO 03) which is characterised by gently undulating plains with low hills and ridges of Archaean greenstones in the west and in the east by a horst (raised fault block) of Proterozoic basic granulite. Tertiary soils dominated by calcareous earths overlay eroded gneisses and granites. In the western half, a series of large playa lakes indicate the remnants of an ancient major drainage line (Cowan 2001).

The vegetation is described as mallee, *Acacia* thickets and shrub-heaths on sandplain, with dwarf shrublands of samphire adjacent to salt lakes, and surrounded by *Eucalyptus* woodlands. These woodlands are included in the Great Western Woodlands, which cover approximately 16 million hectares. Pre-European mapping undertaken by Beard (1978) included the survey area in the northern part of the Coolgardie Botanical District characterized by dry eucalypt woodlands bordering the Austin Botanical District supporting mulga communities (Figure 6). The Lady Ida survey area is mapped as Vegetation Associations 8, 435, 435.4 and 468 which are further described in Table 5.

Table 5: Vegetation Association descriptions and extent within the Eastern Goldfields sub-IBRA region

Code	**Description**	**Pre-European extent ha**	**Current extent ha**	**DBCA (all) managed ha**
8 Pink	Medium woodland; Salmon gum, gimlet, redwood etc.; Eucalyptus salubris, E. oleosa	226,086	225,022 (99.53 %)	15,918 (7.07%)
435 Blue	Shrublands, Wattle, Casuarina and teatree; Acacia-Allocasuarina-Melaleuca alliance	6118	6118 (100%)	2514 (41.1%)
435.4 Brown	Shrublands, Wattle, Casuarina and teatree; Acacia-Allocasuarina-Melaleuca alliance			
468 Green	Medium woodland; salmon gum (*Eucalyptus salmonophloia*) and goldfields blackbutt (*E. lesouefii*)	482,362	474,364 (98.34 %)	106,338 (22.43 %)

Current extents within lands protected for conservation are VA 8 (14,555 ha – 6.44 %); VA 435 (6.63 ha – 0.11 %), and VA 468 (610 ha – 0.13 %).

Meissner and Coppen (2013) undertook a survey of the flora and vegetation of the greenstone ranges occurring on Credo Station in 2011 from which six community groups were described (Table 6). Communities 1 – 4 occurred on basalt geology, and 5 and 6 occurred on laterised or ironstone geology. *Senna artemisioides* subsp. *filifolia, Austrostipa nitida* and *Eriochiton sclerolaenoides* were all indicator species for communities 1 – 4. Species names have been updated.

Table 6: Greenstone range vegetation communities (VC) described by Meissner & Coppen (2013)

VC	Description
1	Open woodlands to open forest of *Eucalyptus oleosa* subsp. *oleosa, E. clelandiorum or E. dundasii* over open to sparse shrublands of *Eremophila* sp. Mt Jackson and *Senna artemisioides* subsp. *filifolia* over low sparse shrubland of *Ptilotus obovatus, Acacia erinacea* and *Olearia muelleri* or isolated *Roepera ovata*. Gentle or lower slopes of basalt hills. IS* = 0
2	Open woodlands of either *Eucalyptus griffithsii* or *E. celastroides* over sparse shrubland of *Eremophila* sp. Mt Jackson and other *Eremophila* spp. (*E. interstans* subsp. *interstans or E. scoparia*), over low sparse shrubland of *Olearia muelleri*. Gentle slopes of basalt. IS = 0
3	Open to sparse woodlands of *Casuarina pauper* or *Eucalyptus griffithsii* over shrubland to open shrubland of *Dodonaea lobulata, Eremophila oldfieldii* subsp. *angustifolia, Senna artemisioides* subsp. *filifolia and Scaevola spinescens* over open to sparse low shrublands of *Ptilotus obovatus*. Crests and slopes of basalt hills. IS: *Enchylaena tomentosa*
4	Open forests to open woodlands of *Eucalyptus* spp. (*E. clelandiorum, E. celastroides, E. griffithsii*) and occasional *Casuarina pauper*, over shrublands to sparse shrublands of *Eremophila* spp. (*E. oldfieldii, E. interstans* and *E. scoparia*), *Senna artemisioides* subsp. *filifolia* and *Dodonaea lobulata* over open to sparse low shrublands of *Acacia erinacea, Olearia muelleri* and *Ptilotus obovatus* and isolated *Roepera ovata* forbs. Slopes and crests of the basalt hills. IS = 0
5	Open forest to open woodland of several dominant taxa *(Acacia burkittii, Allocasuarina eriochlamys, Grevillea oligomera, Eucalyptus oleosa*) over shrublands of to open shrublands of *Philotheca brucei* subsp. *brucei, Prostanthera grylloana* and *Dodonaea microzyga* subsp. *acrolobata*. Laterised basalt within the greenstone hills. IS = *Eremophila clarkei, Grevillea oligomera, Prostanthera grylloana, Allocasuarina eriochlamys* and *Dodonaea microzyga*; *Philotheca brucei* subsp. *brucei* and *Acacia burkittii* (Com. 5 & 6)
6	Either open tall shrubland or woodland of *Acacia burkittii* or *Allocasuarina dielsiana* over open to sparse shrublands of *Philotheca brucei* subsp. *brucei, Prostanthera althoferi* subsp. *althoferi* over sparse to isolated forbland or grassland of *Ptilotus helipteroides* and *Aristida contorta*. Ironstone geology. IS = *Cheilanthes sieberi* subsp. *sieberi; Philotheca brucei* subsp. *brucei* and *Acacia burkittii* (Com. 5 & 6)

IS = Indicator species; no IS were confined to communities 1, 2 and 4.

A Bush Blitz flora survey was undertaken on Credo Station in August – September 2011 from which 348 vascular were recorded, including 11 weeds and 5 priority taxa (Gibson & Langley 2012). With previous collections – the number of taxa recorded from Credo increased to 427. Vegetation was only broadly described. The vegetation on Credo is a mosaic of *Acacia* and *Eucalyptus* woodlands, chenopod shrublands, shrubland and forblands on granite outcrop and mallee/ shrublands on sandplains. The *Eucalyptus* woodlands form part of the Great Western Woodlands which represents the largest intact area of temperate woodlands left on the planet. These woodlands were heavily cutover during the 19th and early 20th centuries to supply timber for fuel and mine supports for the Kalgoorlie and Coolgardie mining centres. Several small historic mining towns are located in the Davyhurst area.

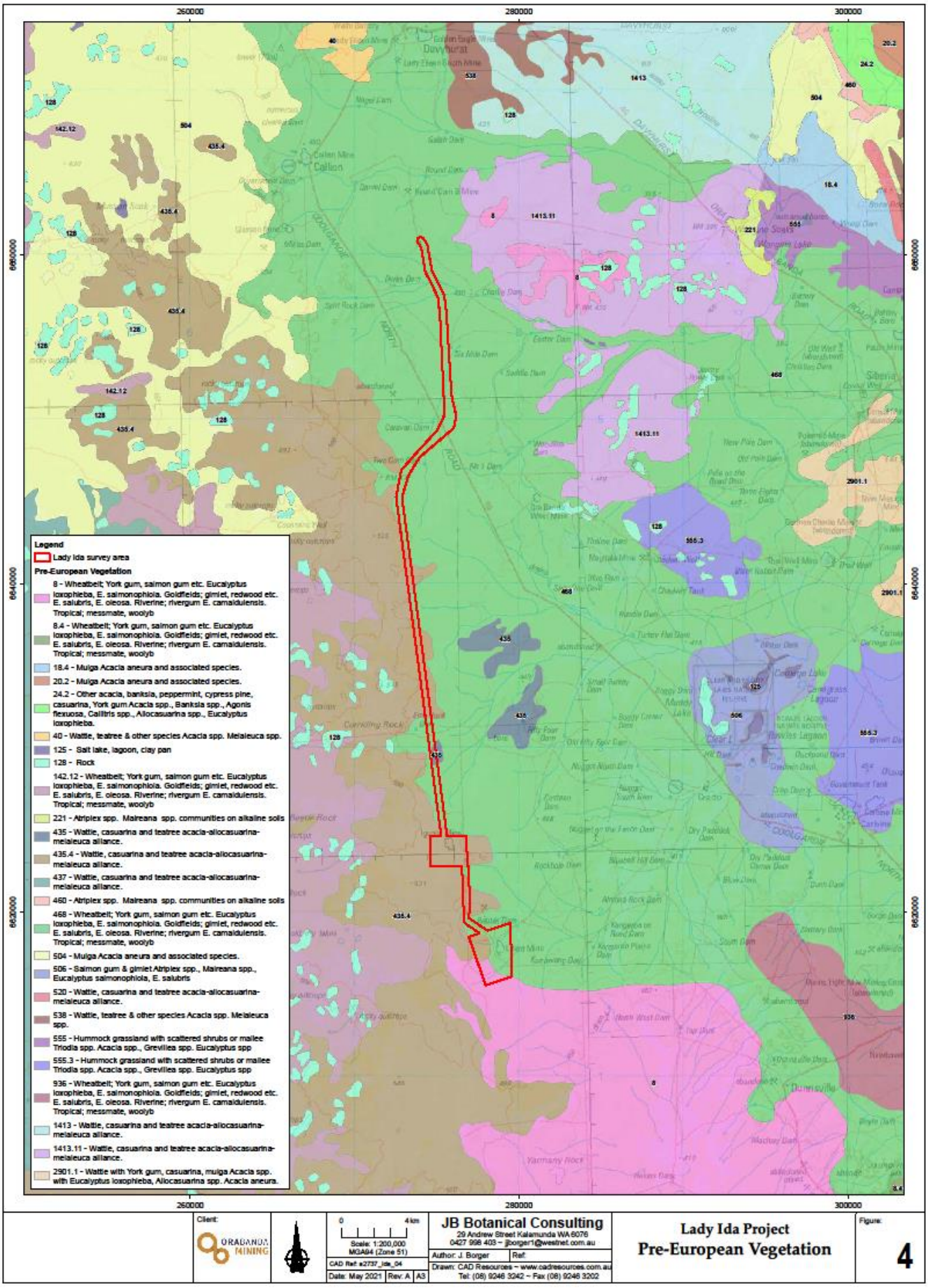
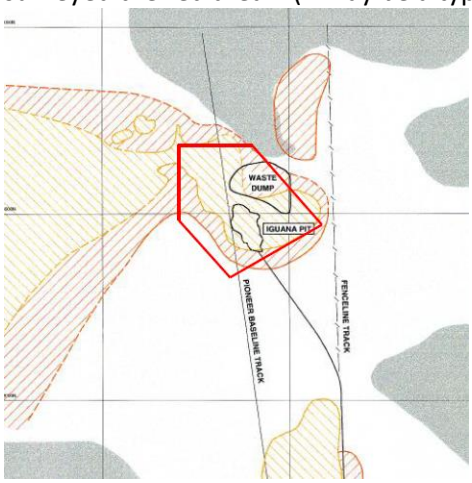


Figure 6: Pre-European vegetation mapping based on Beard's surveys

Several vegetation and flora surveys have been undertaken on mining leases within or near the survey area over the last 20 years. Some of these are summarised in Table 7. Those studies for which documentation was located are summarised in Table 7.

Table 7: Summary of vegetation and flora surveys and other reports on mining leases in the Lady Ida area

Year	Title and notes
1999	Ida Gold Pty Ltd Notice of Intent for the Lady Ida Project – Lizard and Iguana Pits November 1999 Relevance – mentions populations of *Calytrix creswellii* P3 in the Iguana area; locally abundant
2007	G & G Environmental Pty Ltd Flora and vegetation survey of proposed mining areas and a tailings storage facility at the Monarch Gold Mining Company Limited, Davyhurst Operation Relevance – Surveys at Iguana, Two Gums and Walhalla North. • *Grevillea georgeana* P3 was recorded in the Two Gums tenement by Mattiske in 2002; no plants were found in 2007 • It was estimated that there were > 500,000* *Calytrix creswellii* plants in the 75 ha area at Iguana hatched areas – extent mapped by Shepherdson in 1999/ 2000. GGE surveyed the red area. (* may be a typographical error and mean 50,000 plants)  • A total of 116 taxa from 28 families were recorded. The best represented families were Myrtaceae (21), Chenopodiaceae (19), Mimosaceae (Fabaceae (Acacia 16)), Scrophulariaceae (12) and Proteaceae (9). • Vegetation for Iguana (E8, E8d), Walhalla North (Al1, E1, E2, E9)
2007	Outback Ecology Services (OES) Monarch Gold Mining Company Ltd: Davyhurst Gold Mine Flora survey of Salmon Gums, Two Gums, Federal Flag, Walhalla, Golden Eagle, Makai, Sand King, Missouri and Lady Bountiful • Two Gums was an undisturbed site; previously mapped by Mattiske (2002) as five vegetation communities comprising Eucalypt woodlands. One priority species (Eremophila sp. Mt Jackson – currently delisted) recorded by Mattiske was not recorded by OES • Walhalla was a largely undisturbed site; previously mapped by Mattiske (2005) as five vegetation communities comprising Eucalypt woodlands. No priority species recorded.

Year	Title and notes
2017	JBBC Level 1 Vegetation and Flora Surveys of Proposed Airstrip Sites at Davyhurst *for* Eastern Goldfields Pty Ltd; 18th – 19th February 2017 • A total of sixty six taxa from twenty three families and thirty seven genera were recorded from the survey areas. The most diverse families (number of species) were Fabaceae (3 genera – *Acacia, Senna, Mirbelia*; 12 species); Myrtaceae (3 genera *Eucalyptus, Malleostemon, Melaleuca*; 11 species); and Scrophulariaceae (1 genera – *Eremophila*; 8 species). • 11 vegetation types were mapped for the 2 survey areas – predominantly Eucalyptus loxophleba subsp. lissophloia, E. oleosa, E. moderata, Acacia fuscaneura mallee woodlands and Acacia, Allocasuarina, Phebalium shrublands over Triodia hummock grasslands
2019	JBBC Targeted vegetation and flora survey of the Callion Gold Operations, Tenement M30/130 – OraBanda Mining Ltd Relevance: Callion is located 8 km north west of Walhalla • Seven vegetation types were mapped from the survey results including *Eucalyptus* woodlands, *Acacia* tall shrublands/ low woodland and mixed shrublands. There was a strong alliance with previous survey work on greenstone ranges undertaken by DPAW in 2011 (Meissner & Coppen 2013). • A total of 81 taxa were recorded from 305 ha which included 3 weeds and 78 natives from 21 families and 40 genera. The best represented families were: Scrophulariaceae: 1 genus, 8 taxa; Myrtaceae: 1 genus, 8 species; Fabaceae: 3 genera, 11 species; Chenopodiaceae: 5 genera, 16 species
2019	JBBC Targeted Vegetation and Flora Survey of the Davyhurst Tailings Storage Facility Expansion Project, Tenements M30/255, G30/06, G30/07 – OraBanda Mining Ltd Relevance: Davyhurst is located within 15 km of the survey area with some similarities in vegetation and flora. The ESA covered an area of 169 ha from which a total of 76 native taxa from 23 families and 43 genera were recorded. The best represented families were: • Fabaceae – 14 species from 3 genera (12 *Acacia*) • Myrtaceae – 13 species from 5 genera (8 *Eucalyptus*; one priority species – *Hysterobaeckea ochropetala* subsp. *cometes* P3) • Scrophulariaceae – 8 species from 1 genus • Poaceae – 5 species from 4 genera

1.4.4 Conservation Significant Flora

A desktop survey of databases of threatened and priority taxa was undertaken (FloraBase, NatureMap, Meissner & Coppen (2013) and DBCA database search (04-0121) and other survey reports (Section 1.4.3) to determine the likelihood of conservation significant flora (CSF) occurring within the proposal area. Taxa recorded within 20 km are listed in Table 8. One threatened species has been recorded within 50 km. Ten taxa recorded in the area are herbs which may not be present due to climatic conditions and/ or grazing pressure. A description of conservation codes is presented in Appendix 10. The DBCA database search results are presented in Appendix 7.

Table 8: Conservation significant flora recorded within 20 km of the Lady Ida survey area; likelihood of occurrence (LOO) – low, moderate, high – in proposed disturbance areas; PR = Previous record

Code	Scientific Name	Described Habitat	LOO
T	*Eucalyptus crucis subsp. crucis*	Granite outcrops Potential habitat at Lizard	H
P1	*Ptilotus procumbens*	Herb, gravelly plain; broad flats; Red clay/ gravelly sandy loam; flowers Sept – Nov	M – H
P2	*Eucalyptus educta*	Shallow soils on granite outcrops (Potential habitat at Lizard)	H
P2	*Ricinocarpos digynus*	Sandy loam on rocky hillslopes	L
P2	*Rumex crystallinus*	Herb; Margins of lakes; lake beds; floodplain	L
P2	*Thysanotus* sp. Yellowdine *(AS George 6040)*	Herb; Recorded on sandplain; PR Iguana	H (Ig)
P3	*Acacia cylindrica*	Undulating plains, flats; PR Iguana area	H (Ig)
P3	*Alyxia tetanifolia*	Drainage lines; near lakes	L
P3	*Atriplex lindleyi* subsp. *conduplicata*	Chenopod, short lived annual or perennial to 0.2 m high; crabhole plains	L
P3	*Austrostipa blackii*	Grass; wide distribution; flowers Sep – Nov; grazing by cattle, donkeys and rabbits may make identification difficult	L – M
P3	*Calytrix creswellii*	Sandplains; yellow sand sometimes with gravel PR Iguana area	H (Ig)
P3	*Calytrix hislopii*	Lateritic ridge; top of breakaway, granite	M – H
P3	*Grevillea georgeana*	Shrub; flowering recorded Jan, Mar, Sept – Nov; probably opportunistic; ironstone hilltops and slopes; foliage quite distinctive	L-M
P3	*Homalocalyx grandiflorus*	Shrub, yellow sand; sandplains Flowers Oct – Dec	H
P3	*Hysterobaeckea ochropetala subsp. cometes*	Yellow or red sandy soils	H
P3	*Lepidium fasciculatum* Credo Station	Herb; erect annual to 0.6 m high; basal leaves to 8cm long; very wide distribution; plains, lake beds (WA, SA, NSW, QLD, VIC, TAS)	L
P3	*Menkea draboides*	Prostrate spreading herb; wide distribution; flowers Aug – Sept; variety of habitats	L - M
P3	*Notisia intonsa* Credo Station	Herb; variety of habitats including red clay loams associated with greenstone; Flowers Sep – Oct	M
P4	*Goodenia berringbinensis* Credo Station	Herb; south end of wide distribution; along watercourses, clay pans; flowers recorded Jun – October; sometimes with aquatic leaves	N
P4	*Wurmbea murchisoniana* Credo Station	Cormous perennial herb; flowers Jul – Sep; very wide distribution from east of Esperance to north of Geraldton; rock pools; seasonally inundated clay hollows	N

1.5 Threatened and Priority Ecological Communities

No Threatened Ecological Communities (TEC) are located in the area. The Helena and Aurora Range vegetation complexes (banded ironstone formation (BIF) Priority Ecological Community (PEC) is located approximately 50 km west of the survey area. Vegetation complexes recorded in the Helena and Aurora Ranges are unlikely to occur within the Lady Ida Project area as there is no outcropping BIF within the site.

1.6 Conservation Reserves

Two reserves are located within the boundary of Credo Station – Rowles Lagoon Conservation Park and Clear and Muddy Lakes Nature Reserve which are both freshwater wetland areas. These are approximately 20 km east of the Iguana and Lizard mining areas.

1.7 Disturbance History

The Lady Ida Project is located mostly within Credo Station which was run as a pastoral lease from 1906/ 07 to 2007 when it was acquired by the Department of Environment and Conservation. It is currently Unallocated Crown Land (UCL) proposed for conservation. Most stock have been removed but cattle are still in the area. Other feral grazers including donkeys, camels and rabbits are present in the region. The main impacts to the vegetation have been timber cutting, minor areas of clearing for construction of dams and tracks and grazing impact on grasses and other palatable plants and mining and exploration. Species of plants can have variable responses to grazing pressure which were assigned different species indicator values by Pringle et al (1994). These are 'decreaser' (sensitive to grazing), 'increaser' (less palatable), 'intermediate' and 'non-responsive' or 'no value'. Grazing pressure appears to be higher in the northern section of the survey area between Walhalla and Two Gums.

Gold mining commenced in the Coolgardie area in the 1890's and several historic mining sites and abandoned towns are located in the Davyhurst area. Clearing of timber to support the mining industry has occurred over several decades. Signs of this were noted in some areas within the survey area with stumps and coppiced trees present. More recent mining activities have occurred at Lizard, Iguana and Two Gums with the excavation of pits, construction of waste dumps and roads, and clearing for exploration.

2. Methods

2.1 Desktop survey

OBM provided maps and shapefiles of the environmental survey area. A desktop survey was undertaken prior to the site visit to collect information on vegetation and flora, including threatened and priority flora and ecological communities which may occur in the area. Previous surveys in the local area included Flora and vegetation of the greenstone ranges of the Yilgarn Craton: Credo Station (Meissner & Coppen 2013), a Bush Blitz survey of a broader range of habitats within Credo Station (Gibson & Langley 2013) and several vegetation and flora surveys on mining leases. The results of the desktop survey are described in Section 1.4. Images of the conservation flora studied at the WA Herbarium were stored on mobile phones and printed with descriptions for reference in

the field. Field guide books were also taken in the field for assistance with identification/ verification of *Eremophila* and *Eucalyptus* species as required.

2.2 Field survey

The Lady Ida Project area was surveyed from the 15th to the 19th January 2021. As the survey was at a reconnaissance level most of the vegetation was described from relevés. Six 20 m x 20 m quadrats were established (3 near Walhalla and 3 at Lizard) and surveyed using the bushland quadrat methodology (Keighery 1994) and also described using the National Vegetation Information System (NVIS; Tables 9 – 11) (NVIS Technical Working Group 2017). Conservation significant flora and *Santalum spicatum*, a registered species, locations were recorded by GPS. Landform and land surface information were recorded for all quadrat sites and most relevé sites. The condition of the vegetation was based on the descriptions in Table 12 (EPA 2016).

Table 9: NVIS foliage cover codes

Cover Characteristics					
Foliage cover	70 – 100	30 – 70	10 – 30	< 10	~ 0 (<2)
Crown cover	>80	50 – 80	20 – 50	0.25 – 20	<0.25
% cover	>80	50 – 80	20 – 50	0.25 - <20	<0.25
Cover code	d	c	i	r	bi

Table 10: Height classes defined for the NVIS

Height		**Growth Form**				
Height Class	Height Range (m)	Tree	Shrub, chenopod shrub	Tree mallee, mallee shrub	Tussock grass	Bryophyte, lichen
8	>30	Tall	N/A	N/A	N/A	N/A
7	10 – 30	Mid	N/A	Tall	N/A	N/A
6	< 10	Low	N/A	Mid	N/A	N/A
5	<3	N/A	N/A	Low	N/A	N/A
4	>2	N/A	Tall	N/A	Tall	N/A
3	1 – 2	N/A	Mid	N/A	Tall	N/A
2	0.5 – 1	N/A	Low	N/A	Mid	Tall
1	< 0.5	N/A	Low	N/A	Low	Low

Table 11: Summary of NVIS strata codes

NVIS stratum code	**NVIS sub-stratum**	**Description**	**Growth forms**	**Height classes**
U	U1	Tallest stratum	Tree, tree mallees (mallee shrubs)	8, 7, 6, (5)
	U2	Sub-canopy layer, second tree layer		
	U3	Sub-canopy layer, third tree layer		
M	M1	Tallest shrub layer	Shrubs, low trees, mallee shrubs, low shrubs, vines	(6), 5, 4, 3
	M2	Next shrub layer		
	M3	Third shrub layer		

NVIS stratum code	NVIS sub-stratum	Description	Growth forms	Height classes
G	G1	Tallest ground species	Grasses, forbs, sedges, rushes, vines, lichens, low shrubs	(4, 3), 2, 1
	G2	Ground		
	G3	Substrate surface	Bryophytes, lichens, lower plants	1

More information can be sourced from the NVIS manual. Height classes and growth forms in brackets are currently allowed but not recommended.

Table 12: Vegetation Condition (adapted from Keighery 1994 and Trudgen 1988; EPA 2016)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance or damage caused by human activities since European settlement.
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species. Damage to trees caused by fire, the presence of non-aggressive weeds and occasional vehicle tracks.
Very Good	Vegetation structure altered obvious signs of disturbance. Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback and grazing
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees and shrubs.

Survey specific issues/ limitations have been addressed in Table 13.

Table 13: Survey limitations

Potential Limitation	Extent
Contextual information at a regional and local scale	Not limiting The results of surveys in or near the proposal area were available to study prior to the field survey. Regional surveys of the greenstone hills on Credo Station were undertaken by the Department of Parks and Wildlife in 2011 (Meissner and Coppen 2013) and surveys of several mining sites in the area are available. Land system mapping surveys broadly described the soils and landforms for the proposal area. Conservation significant species listed in Table 8 and Appendix 7 were researched prior to the survey with photographs taken of specimens at the Western Australian Herbarium, as well descriptions and images contained in published documents (Nuytsia Journal for example).

Potential Limitation	Extent
Competency/ experience	Not limiting The survey team included a botanist (J Borger) and an ecologist (J Shepherdson) who have undertaken surveying and monitoring work in the Ora Banda – Davyhurst area over several years, with at least 15 years' experience each in vegetation surveys in the state.
Proportion of flora recorded and/ or collected, any identification issues	Partly limiting Annual species and grasses were mostly absent due to climatic conditions and historical impacts from pastoral and feral grazers. Some grasses were present as grazed off tussocks which were not identifiable. Some perennial species were vegetative so identification was based on leaf/ phyllode and other characteristics. Some Myrtaceae species were not identified due to lack of reproductive structures and will need to be collected when in flower. Most *Eremophila* plants had some reproductive structures present which allowed identification. Significant areas south of Two Gums had been burnt in January 2020 by a fire ignited by a lightning strike. Regrowth in these areas was mostly under 1 m in height and was dominated by disturbance species, some of which were coming into flower.
Was the appropriate area fully surveyed	Partly limiting The survey area extended over a length of > 50 km and as the survey was being undertaken in January when the vegetation may have been in a stressed condition due to summer conditions, it was decided to undertake a reconnaissance survey to collect information to target areas for more detailed survey at a future time when conditions would be more favourable for identification and the presence of annuals would be more likely.
Access restrictions within the survey area	Partly limiting. Vehicle access was straightforward from Coolgardie North Road to Walhalla and south to Lizard along established dirt roads and minor tracks. Access from Walhalla to Coolgardie North Road was more difficult with mostly overgrown eroded pastoral tracks. Areas with no vehicle access were partly surveyed and vegetation mapped from interpretation of aerial imagery. The southern area of Lizard (SE) was not surveyed due to very wet condition of the track. The vegetation is mapped as vegetation community 16 based on aerial imagery patterns.
Survey timing, rainfall, season	Partly limiting The survey was undertaken in January following 2 years of below average rainfall. Above average rainfall was received in November 2020, 2 months prior to the survey which had resulted in the vegetation being in a healthy condition in most areas and some species were in flower. Annuals and grasses were mostly absent.
Disturbance that may have affected the results such as fire, flood or clearing	Partly limiting Historic pastoral and mining disturbances have had some impact on the vegetation. As the impact from grazing has been reduced since around 2007 it is likely that conditions have improved in some areas although cattle are still present, particularly in the northern parts of the survey area. Significant areas between Two Gums and Iguana were burnt a year prior to the survey and these areas supported mainly low open shrubland. The burnt remains of taller shrubs and trees or mallee remained in some areas which were used for identification of resprouting plants and new growth. The species composition was dominated by disturbance species in most of these areas.

3. Results

A total of 179 native taxa and 1 weed (*Salvia verbenaca**) were recorded from the survey area. Native taxa were recorded from 36 families and 81 genera, with the best represented families being:

- Myrtaceae (34 species from 10 genera)
- Fabaceae (24 species from 7 genera)
- Proteaceae (16 species from 5 genera)
- Chenopodiaceae (14 species from 4 genera)
- Scrophulariaceae (10 taxa from 1 genera)

Two priority species were recorded – *Calytrix creswellii* P3 and *Acacia cylindrica* P3 – and one registered species – *Santalum spicatum* (sandalwood). *Thysanotus sp. Yellowdine* P2 has been previously recorded at Iguana; however, due to seasonal timing it was not observed during the current survey.

3.1 Priority flora

Table 14: Description of *Acacia cylindrica* P3

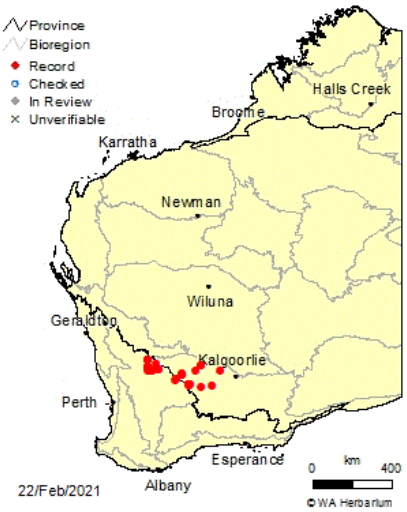
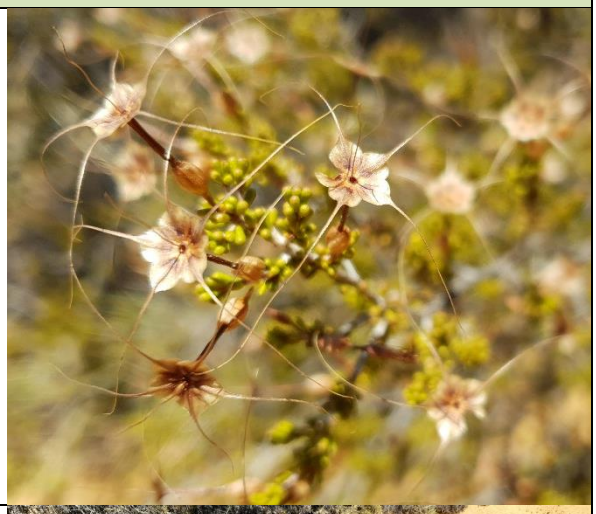
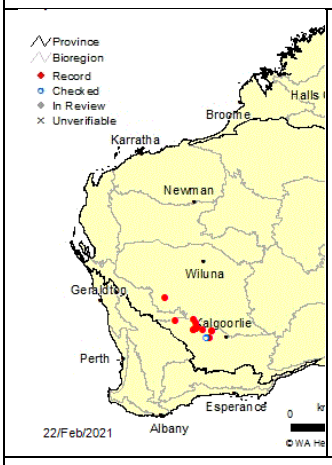
Acacia cylindrica P3	
Fabaceae Description: Spreading shrub 1.5 – 4 m tall; branchlets apically resin-ribbed; phyllodes erect, terete or quadrangular terete 8 – 13 cm long and 1 – 1.2 mm wide, coarsely pungent Pods linear, flat, slightly raised over and slightly constricted between seeds, straight, to 6.5 cm long, 2- 2.5 mm wide, chartaceous, sparsely and appressed-puberulous.	
Habitat: Deep yellow sand or gravelly well-drained sand, on flat to undulating plains or sides of low hills in open shrubland Distribution: It has been recorded from the Avon Wheatbelt and Coolgardie IBRA regions over a range of approximately 400 km x 100 km. *Acacia cylindrica* has been recorded flowering from August to October. No. plants recorded: Not counted, but locally common on sandplains > Distribution map (FloraBase 2021)	*Acacia cylindrica* 

Table 15: Description of *Calytrix creswellii* P3

<table>
<tr><th colspan="2">Calytrix creswellii P3</th></tr>
<tr><td>Myrtaceae

Description: spreading shrub to 1 m high; flowers white recorded from September to December; grows on yellow sand sometimes with lateritic gravel; sandplains

Locally abundant in the Iguana area in remnant bushland and within rehabilitated/ disturbed areas. Image below shows several shrubs along an old track near the waste dump. Several shrubs were present in regrowth on the waste dump too.</td><td>  </td></tr>
<tr><td> 

 </td><td>  </td></tr>
<tr><td>Calytrix creswellii has a distribution over approx. 400 km, with most records in the northern area of the Coolgardie IBRA region.</td><td>No flowers were observed during the survey, but a number of plants had dried buds, flowers or fruit. Plants were in excellent condition following recent rains.</td></tr>
</table>

The locations and partial counts of *Calytrix creswellii* and *Acacia cylindrica* were recorded by GPS (Appendices 4 and 5). A full count and survey was not undertaken due to the scope of the survey. *C. creswellii* was locally abundant in the Iguana area, including remnant bushland, mining disturbance and rehabilitation areas and parts of the haul road near this site. Previous surveys estimate the numbers of individuals to be in excess of 50,000 (GGE 2007) in the Iguana area based on earlier surveys. Two 10 m x 10 m quadrats were established in the eastern area of the Iguana mining area to accurately determine the density (R17-11 and R17-12 (Appendix 11, Section 3)) – 132 and 187/ 100 m^2, respectively which would estimate the presence of around 45,000 – 50,000 plants in the eastern area. Field observations support the extension of the distribution to the east and north east of the Iguana project area.

3.2 Vegetation

Twenty five vegetation types/ communities were described from the survey. The mapping of the vegetation was based on structure, floristics and landform/ landscape information. Significant areas between Two Gums and Iguana were burnt at the start of 2020, and low regrowth dominated by disturbance species was mostly present in these areas and further survey may be required to redefine these areas in the future as the vegetation matures. Initial delineation of the mapping in these areas was based on presence/ absence of *Eucalyptus* species; remnants of trees and shrubs remaining after the fire which had fruiting structures present (useful for *Eucalyptus* and *Allocasuarina* identification); soil colour and texture and place in the landscape. The vegetation units are described in Table 16. The vegetation was described at 89 sites over five days (15th – 19th January 2021) (Appendix 11) and mapped (Appendix 8). Potential smooth-barked Eucalypt/ mallee (SBEM) vegetation habitat as described by DBCA (2020) which may support the Arid Bronze Azure Butterfly are identified in the table.

Table 16: Vegetation community descriptions

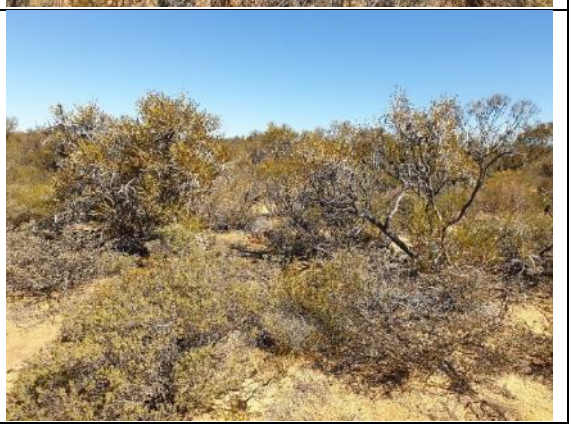
Code	Description	Image
1 Plain Alluvium; clay loam 1DL Broad drainage line	*Eucalyptus salmonophloia, E. transcontinentalis, E. salubris woodland over Eremophila spp, Atriplex spp., Exocarpos, Maireana and Senna shrublands* **SBEM – check for suitable host ants**	
2 Low rises, greenstone High cover of ironstone gravels	*Eucalyptus loxophleba subsp. lissophloia, E. concinna, E. flocktoniae* mallee woodland over *Eremophila, Acacia, Exocarpos, Casuarina pauper* shrubland	

Code	Description	Image
3 Low rises, greenstone	*Acacia fuscaneura, A. caesaneura* woodlands or tall shrublands over *Acacia, Eremophila, Grevillea oligomera* and *Prostanthera althoferi, P. grylloana* shrubland	
4 Drainage line; alluvial plain	*Casuarina pauper, Eucalyptus clelandiorum, E. salubris isolated low trees over Maireana sedifolia, Acacia hemiteles, Senna and Eremophila open shrubland*	
5 Low rises on alluvial plains	*Eucalyptus clelandiorum* woodland to open forest over *Eremophila, Acacia, Senna, Dodonaea lobulata* sparse shrubland	
6 Drainage lines; mid catchment	*Eucalyptus loxophleba subsp. lissophloia mallee woodland to Eucalyptus clelandiorum, E. griffithsii, E. loxophleba subsp. lissophloia woodland over Acacia, Eremophila, Senna shrublands* **SBEM**	

Code	Description	Image
7 Plain Red sandy loam	*Eucalyptus loxophleba subsp. lissophloia, E. longissima, E. oleosa subsp. oleosa open mallee woodland over Acacia, Halgania, Eremophila open shrubland over Triodia open hummock grassland* **SBEM – could be a potential area**	
8 Undulating plain	*Allocasuarina corniculata, A. acutivalvis (tent), Acacia sp., Philotheca brucei subsp. brucei shrubland over Philotheca brucei subsp. brucei, Aluta aspera subsp. aspera, Prostanthera althoferi subsp. althoferi low open shrubland*	
8fr Fire regrowth Undulating plain	Burnt *Allocasuarina* shrubland *Seringia velutina, Codonocarpus cotinifolius, Acacia seedlings, Solanum cleistogamum, Euphorbia tannensis subsp. eremophila low isolated shrubs and forbs* *Reddish yellow sand/ brown sandy clay loam*	
9 Undulating plain	*Eucalyptus loxophleba subsp. lissophloia low mallee woodland patch over Acacia burkittii, Philotheca brucei subsp. brucei, Aluta aspera subsp. aspera, Callitris columellaris sparse shrubland over Triodia rigidissima low open hummock grassland* *Yellowish red sandy loam/ sandy clay loam*	

Code	Description	Image
10fr Fire regrowth Undulating plain	*Eucalyptus incrassata, E. rigidula, E. leptopoda, Halgania andromedifolia, Triodia rigidissima, Hakea francisiana, Dasymalla terminalis, Gyrostemon racemiger open shrubland to low open shrubland* *Yellow sand/ brown sandy loam*	
11 Undulating plain; summit of low rise	*Eucalyptus loxophleba subsp. lissophloia open mallee woodland over Allocasuarina acutivalvis, Eremophila pustulata, E. decipiens subsp. decipiens, Halgania andromedifolia, Alyxia buxifolia, Grevillea teretifolia shrubland over Eremophila pustulata, Alyxia buxifolia, Acacia erinacea, Triodia rigidissima low sparse shrubland* *Red sandplain + gravel*	
11fr Fire regrowth Undulating plain summit of low rise	*Persoonia helix. Solanum plicatile, Eucalyptus seedlings, Acacia sp., Melaleuca hamata, Hannafordia bissillii subsp. latifolia, Euphorbia tannensis subsp. eremophila, Seringia velutina, Dasymalla terminalis low open shrubland* *Red sandplain + gravel*	
12 Undulating plain low rise; granite near surface; drainage lines	*Eucalyptus loxophleba subsp. lissophloia, E. clelandiorum, E. virella, Casuarina pauper open mallee forest over Hakea recurva subsp. recurva, Santalum spicatum, Alyxia buxifolia, Eremophila oppositifolia subsp. angustifolia, Acacia burkittii open shrubland; patches of Acacia aneura, Hakea recurva subsp. recurva open shrubland over Scaevola spinescens low isolated shrubs on shallow soil/ granite*	

Code	Description	Image
12fr Undulating plain Low rise	Tentative vegetation community – affinities with 11fr *Hannafordia bissillii subsp. latifolia, Eucalyptus griffithsii, Acacia burkittii (tent), Solanum plicatile, Hemiphora elderi, Melaleuca hamata, Halgania andromedifolia, Seringia velutina, Codonocarpus cotinifolius, Grevillea teretifolia*	
13 Undulating plain; low rise; minor areas of granite outcrops in area	*Eucalyptus virella, E. clelandiorum, E. rigidula, E. salubris, E. salmonophloia woodland/ Eremophila spp., Acacia spp., Grevillea acuaria, Scaevola, Santalum shrublands* *Acacia merrallii, Acacia sericocarpa, Eremophila pustulata present*	
13fr Fire regrowth	*Eucalyptus rigidula, E. incrassata low open mallee shrubland over Mixed Dodonaea viscosa subsp. mucronata, Codonocarpus cotinifolius, Triodia rigidissima, Acacia hemiteles, Solanum plicatile,* low sparse shrubland	
14 Undulating plain; depression	*Eucalyptus clelandiorum, E. salmonophloia, E. virella, E. griffithsii open woodland over Eremophila ionantha, E. interstans subsp. interstans, over Eremophila ionantha, E. scoparia, Senna artemisioides subsp. filifolia, Acacia hemiteles, A. murrayana open shrubland over Olearia muelleri, Maireana triptera, Lomandra effusa low sparse shrubland*	

Code	Description	Image
14fr Fire regrowth Undulating plain; depression	*Eucalyptus griffithsii, E. salmonophloia isolated crowns over Acacia hemiteles, Eremophila interstans subsp. interstans tall isolated shrubs over Senna artemisioides subsp. filifolia, Ptilotus obovatus, Solanum plicatile, Austrostipa scabra low sparse shrubland*	
15 Undulating plain; low rise	*Melaleuca hamata low woodland patches over Allocasuarina eriochlamys subsp. eriochlamys, Halgania andromedifolia, Melaleuca hamata, Leptospermum fastigiatum, Acacia burkittii* shrubland	
16 Undulating plain Yellow sandplain Old fire regrowth >20 years	*Eucalyptus incrassata, E. rigidula, Banksia elderiana, Acacia lasiocalyx low open mallee shrubland over Conospermum stoechadis, Melaleuca cordata, Acacia cylindrica, Leptospermum fastigiatum, Melaleuca calyptroides open shrubland over Triodia rigidissima, Calytrix creswellii, Melaleuca cordata, Myrtaceae sp. low hummock grassland/ shrubland*	
16B Undulating plain; yellow sandplain	*Mature shrublands to tall shrublands* *Allocasuarina corniculata, Banksia elderiana, Eucalyptus incrassata, Leptospermum fastigiatum tall open shrubland over Calytrix creswellii, Melaleuca cordata, M. calyptrata, Chrysitrix distigmatosa, Triodia low shrubland*	

Code	Description	Image
17 Low rises on undulating plains; upper catchment	*Eucalyptus woodlands (E. griffithsii, E. clelandiorum, E. oleosa subsp. oleosa, E. virella) over Acacia burkittii, E. hemiteles, Eremophila oppositifolia, e. pustulata, Dodonaea stenozyga, Philotheca, Halgania shrublands*	
18 Undulating plain Mid to upper slopes	*Eucalyptus incrassata, E. leptopoda subsp. subluta, Acacia lasiocalyx low open mallee woodland over Allocasuarina corniculata, Calothamnus gilesii, Eucalyptus incrassata, Melaleuca cordata, M. calyptroides, Conospermum stoechadis, Grevillea paradoxa, Banksia elderiana, Acacia lasiocalyx, A. cylindrica, Daviesia aphylla, Alyxia buxifolia shrubland*	
19 Undulating plain; upper catchment Red sand	*Eucalyptus virella low open mallee woodland/ Chrysitrix distigmatosa, Acacia hemiteles, Olearia sp. Eremicola, Scaevola spinescens sparse sedgeland* *Eucalyptus virella, E. eremophila mallee stands over Daviesia aphylla, Alyxia buxifolia, Scaevola spinescens, Acacia hemiteles, Eremophila sp. Mt Jackson, Acacia tetragonophylla, Exocarpos aphyllus shrubland*	
20 Hill, ridge, laterite outcrop; minor haematite	*Allocasurina, Acacia burkittii, Hakea preissii tall sparse shrubland over Allocasurina corniculata, Phebalium filifolium, Hysterobaeckea ochropetala, Allocasurina acutivalvis subsp. acutivalvis open shrubland over Hysterobaeckea ochropetala, Phebalium filifolium, Prostanthera grylloana, Acacia burkittii low open shrubland*	

Code	Description	Image
21 Drainage line; upper catchment	*Eucalyptus loxophleba subsp. lissophloia open mallee woodland over Acacia burkittii tall shrubland over sparse shrubland over sparse fernland* **SBEM**	
22 Granite outcrops Upper catchment	*Cheilanthes sieberi subsp. sieberi, Amphipogon caricinus, Isotoma petraea, lichens low fernland; isolated patches of shrubs (mostly Philotheca brucei subsp. brucei)*	
23 Granite outcrop surrounds; 30 – 50 +% surface rock Dark brown gritty soils	*Eucalyptus loxophleba subsp. lissophloia mallee woodland over Acacia burkittii, Alyxia buxifolia, Santalum spicatum tall sparse shrubland over Pittosporum angustifolium, Acacia tetragonophylla, Dodonaea lobulata, Pimelea microcephala shrubland over Senna artemisioides subsp. filifolia, Dodonaea lobulata, Ptilotus obovatus sparse shrubland*	
24 Plain, upper catchment Sandy clay loam	*Eucalyptus loxophleba subsp. supralaevis, E. celastroides open mallee forest over Eremophila sp. Mt Jackson, Scaevola spinescens, Acacia hemiteles sparse shrubland over Olearia muelleri, Scaevola spinescens, Eremophila oppositifolia subsp. angustifolia, Rhagodia drummondii, Exocarpos aphyllus low open shrubland*	

Code	Description	Image
25 Upper midslope; low hill sand/ brown sandy clay loam	*Eucalyptus rigidula open mallee woodland over Allocasuarina acutivalvis, Calothamnus gilesii, Callitris columellaris, Grevillea oligomera tall open shrubland over Calothamnus gilesii, Beyeria sulcata, Allocasuarina acutivalvis subsp. acutivalvis, A. corniculata, Phebalium filifolium open shrubland over Phebalium filifolium, Beyeria sulcata, Calothamnus gilesii, Allocasuarina corniculata low open shrubland*	

Table 17: Mapped extent of each vegetation community

Code	Extent (ha)	Code	Extent (ha)	Code	Extent (ha)	Code	Extent (ha)
1	330.479	8fr[3]	94.308	14	67.076	21	29.979
1DL	13.350	9	3.143	14fr	10.775	22	12.702
2	15.633	10fr	263.449	15	53.006	23	20.548
3	128.656	11	5.531	16	439.937	24	105.660
4	56.264	11fr	48.274	16B	23.943	25	77.709
5	113.392	12	36.640	17	218.941	C[1]	18.286
6	52.766	12fr	29.062	18	81.184	M[2]	40.208
7	14.903	13	119.930	19	65.637		
8	56.484	13fr	16.957	20	115.064	Total	2779.88

1. C – cleared; 2. M – modified; 3. fr – fire regrowth (1 year)

The total survey area was 2779.88 ha, of which 462.825 ha (16.65 %) was burnt in January 2020, 12 months prior to this survey. These areas supported low shrubland or low mallee shrubland. Cleared and modified (mostly waste dumps) land accounted for 2 % of the survey area.

3.2.1 Vegetation communities with land systems and pre-European vegetation mapping

The vegetation community mapping broadly follows the mapped land systems and pre-European vegetation (PEV) mapping. The alignment of vegetation mapping from this survey with land systems and PEV is presented in Table 18. There are no areas of Mulga associations mapped under PEV; however, the vegetation is likely representative of PEV 504 which is mapped as occurring to the west of the survey area.

The granite outcrop areas in Lizard (VC 22 and 23) are potentially representative of PEV 128 (rock) of which there are numerous occurrences to the west of the survey area. LS 265Mx43 and PEV 468 (*Eucalyptus* woodlands) are mapped in the same areas and are aligned with vegetation communities 1, 4, 6, 11, 12, 13, 14, 15, 17 from the Lady Ida survey. LS 266AC1 and PEV 435.4 are representative of the *Acacia, Allocasuarina, Melaleuca* shrublands which align with vegetation communities 7, 8, 9, 10,16, 18 and 19 from the Lady Ida survey (Table 18).

Table 18: Placement of the Lady Ida survey vegetation communities within land system and PEV mapping

Land system	Landform in survey area	Vegetation communities	Pre-European vegetation
265BB5 Rocky ranges and hills of greenstones-basic igneous rocks	Low hills/ rises	2, 3, 5 Mallee woodlands or Mulga alliances	504 (not mapped in area)
265Mx43 Gently undulating valley plains and pediments; some outcrop of basic rock	Plains; lower to mid-slopes; minor outcrops of granite	1, 4, 6 11, 12, 13, 14, 15, 17 Eucalyptus woodlands	468 *Eucalyptus* woodlands
266AC1 Gently sloping to gently undulating plateau areas, or uplands, on granites, gneisses, and allied rocks, with long gentle slopes and, in places, abrupt erosional scarps	Undulating plain; mid to upper slopes;	7, 8, 9, 10 16, 18, 19	435.4 Wattle, *Allocasuarina, Melaleuca*
266Mx41 Flat to undulating pediments marginal to unit AC1; granitic rock outcrop; some low escarpments	Granite outcrops and surrounding area; laterite	20, 21, 22, 23, 24, 25	8 *Eucalyptus salubris, E. oleosa* woodlands

The vegetation communities 1 and 5 described from the Greenstone Ranges (GR) (Meissner & Coppen 2013) (Table 6) are potentially represented by in the survey area by VCs 2 and 3 (GR 5) and 5 (GR 1). There were minor areas of greenstone ranges within the survey area, mostly at the northern end between Walhalla and Two Gums. The vegetation in this area was also similar to the vegetation mapped for Callion (JBBC 2019).

3.3 Vegetation Condition

The survey area is mostly located within Credo Station, an ex-pastoral lease now being managed for conservation. Most stock have been removed; however, there are currently cattle still present in the area, with many recent signs (tracks, cow pats) in the northern section between Walhalla and Two Gums, particularly along the valley flats and drainage lines. Grasses were present in some woodland areas although isolated or sparse. Forbs were mainly absent which is possibly due to seasonal and pastoral impacts. Weeds were only noted at one location (R15-6) within a moderately impacted valley area. Historic signs of mining were noted in several areas, with the most recent impacts in the Iguana and Lizard areas, and more historic impacts in the Two Gums area. Many overgrown exploration tracks are present in areas outside the main mining centres. The least impacted areas are to the south on the western side where there appears to have been minimal pastoral and mining activities. The granite outcrops in the south west corner of Lizard were in excellent condition with no obvious impacts to strata or to the land surface. Vegetation condition (Table 12) was described at each of the relevé/ quadrat sites with observed impacts (Appendix 11).

A significant area between Iguana and Two Gums was recently burnt in January 2020 by a fire ignited by a lightning strike. Most of the vegetation in these areas is currently described as low open to low sparse mallee shrublands over low open to sparse forbland/ shrubland/ hummock grasslands. There were some areas in which the fire appears to have been very hot with much sparser regrowth present and death of trees/ mallee, whereas other areas have some crown regrowth or epicormic growth present on the trunks. The vegetation is quite diverse in much of the regrowth and dominated by disturbance species such as *Gyrostemon racemiger, Codonocarpus cotinifolius*, Lamiaceae species - *Dasymalla terminalis, Hemiphora elderi* and *Physopsis viscida*, Malvaceae species - *Hannafordia bissillii* subsp. *latifolia* and *Seringia velutina*, and *Goodenia discophora* (Goodeniaceae). The regrowth on the mallee species has already reached close to 1 m in height, and, with recent rains, is likely to continue to grow well. As fire is a natural phenomenon and it is likely to have been more than 20 years since the previous fire (based on old fire scars and surviving patches of unburnt vegetation) the rating of Very Good was given for the condition of the regrowth vegetation. Erosion is currently minor, there are no weeds present and there are no signs of recent cattle activity in the area. The value as fauna habitat is reduced for perching birds; however, the distances to patches/ areas of taller vegetation is within easy flying distance from most areas. Vegetation condition mapping is presented in Appendix 9. The areas of each rating are presented in Table 19.

Table 19: Vegetation condition areas and description

Rating	Area (ha)	Description
Cleared	16.5	Pits and tracks/ roads; Iguana and Lizard
Modified	40.2	Modified landscapes – waste dumps etc; Iguana and Lizard
Good	49.2	South of Walhalla – pastoral impacts near dams and other infrastructure; just east of Two Gums – regrowth on cleared areas from historic mining activities, erosion along creek channels, and an old camp area; there are minor areas within the burnt section where the fire appears to have been very hot (these areas are too small to map at this scale).
Very Good	1798.8	Significant areas of the survey area – historic disturbances with good regrowth/ recovery
Excellent	875.1	Minor areas in the northern section away from mining or pastoral infrastructure; larger areas in the south with low impacts or several years since impacts and vegetation is intact.

4. Discussion

The construction of a haul road and recommencing of mining activities will impact on populations of priority flora, particularly in the Iguana to Lizard areas where there are known populations of *Calytrix creswellii* and *Acacia cylindrica*. The population of *Calytrix creswellii* extends to the east of, and likely to the west of, the Iguana mining area with the potential for thousands of plants to be present. *C. creswellii* had also recruited on disturbed sites (e.g., Waste dump and surrounds) so there is a high likelihood that following further disturbance there will be future recruitment in these areas. There were some Myrtaceae shrubs, mostly within VCs 20 and 25 in the Lizard area on laterite, which were vegetative and/ or stressed condition which were not identified and will need to be observed when

conditions/ seasonal timing are better. There is also the potential for conservation significant species to grow in the burnt areas.

The woodland areas support significant trees which provide fauna habitat, with several very old Salmon gums (*Eucalyptus salmonophloia*) in the valley floor between Walhalla and Two Gums. It would be desirable if these can be avoided during the planning and clearing of the route. The valley areas between Two Gums and Walhalla are likely to be susceptible to flooding which may require the road to be elevated which could have some impacts on drainage.

It is unlikely that there are conservation significant flora in the Walhalla – Two Gums area. Areas which have, or are likely to have, conservation significant flora are within VCs 16, 19 and 20 on sandplains/ laterite, and in the granite outcrop area in the south west corner of Lizard. Several CSF have been recorded from these land units, and the vegetation is in very good to excellent condition.

Vegetation mapping was provided to Ecotec (WA) Pty Ltd for fauna habitat mapping (Ecotec (WA) 2021). The 25 vegetation communities described for the vegetation report component were reduced to 9 broad habitat types suitable for describing fauna habitat.

Potentially suitable malleefowl (*Leipoa ocellata*) nesting habitat is found in Eucalypt Woodland 2 (is characterised by smaller Eucalypt trees and larger mallees, including *Eucalyptus griffithsii, E. clelandiorum, E. oleosa* subsp. *oleosa* and *E. campaspe*. The understorey typically comprises a variety of *Acacia* and *Eremophila* species), Eucalypt Woodland 3 (small mallee Eucalypts such as *E. leptopoda, E. rigidula* and *E. incrassata* over a mid- to low shrubland consisting of a variety of *Acacia, Allocasuarina, Melaleuca* and other species. Groundcover is typically *Triodia* hummock grassland) and denser areas of *Acacia/Allocasuarina* Shrubland 1 (low to medium height *Allocasuarina* and *Acacia* species over mixed low shrubs) habitats (Ecotec WA 2021). No evidence of Malleefowl tracks or active or disused mounds were identified during the survey, however there are numerous records in the surrounding region, and it is quite likely that malleefowl will be present in the general area when conditions are suitable for breeding.

Desktop environmental surveys and information from DBCA Guidelines (2020) identified that the Lady Ida Study Areas were within the potential range of the Arid Bronze Azure Butterfly *(Ogyris subterrestris petrina)* and the host Sugar ant *(Camponotus sp.nr. terebrans).* The target vegetation is mature mixed Gimlet *(Eucalyptus salubris)* / Salmon Gum *(Eucalyptus salmonophloia)* woodlands on red-brown loam soils, with an open understorey. In addition to Gimlet and Salmon Gum, other smooth-barked eucalypt/ mallee (SBEM) which have been identified as potentially supporting basal ant colonies include Wandoo *(Eucalyptus capillosa* subsp. *wandoo),* Smooth-barked York Gum *(Eucalyptus loxophleba* subsp. *lissophloia)* and Ribbon-barked Mallee *(Eucalyptus sheathiana).* Fauna survey site LI08, (Vegetation site 15-9) located in VT 6, was the only site considered to provide potentially suitable habitat for the ABAB, with vegetation being dominated by *Eucalyptus loxophleba* subsp. *lissophloia*. A targeted survey for host ants will be undertaken by fauna consultants at a later date and will include other sites in a range of potentially suitable vegetation types (including VTs 1 and 7). VT 21 may also have potential areas; however, this is outside the current proposed disturbance areas.

The vegetation mapping is generally representative of Land System and Pre-European vegetation mapping.

The two conservation reserves – Rowles Lagoon Conservation Park and Clear and Muddy Lakes Nature Reserve which are both freshwater wetland areas are located approximately 20 km east of the Iguana and Lizard mining areas. The proposed mine development at Lizard and the proposed haul road from Walhalla to Iguana are unlikely to impact these areas.

Recommendations from the survey include:

- Targeted survey for *Calytrix creswellii* and *Acacia cylindrica* in the Iguana/ Lizard area including areas outside the mining/ haul road areas
- Future survey of the recently burnt areas to capture new recruitments of potentially significant flora not present during the survey period
- Recording of locations of significant trees in woodland areas. Several very old salmon gums were present in the R15-6 area with diameters > 1 m, and a few > 1.5 m.
- An assessment of impacts on drainage in valley floor areas
- A survey for weeds in areas of higher disturbance (Walhalla – Two Gums) which may not have been present due to timing. These are most likely to be present along drainage lines as several species are known to occur in the Callion area (JBBC 2019). Drainage from Callion does not flow into the Walhalla area, but there are higher impacts from pastoral activities in the broader Callion area which may favour the spread of weeds.
- A survey of the granite outcrop area in Lizard during spring to determine the presence of forbs (e.g., *Stylidium*, orchids) and other flora restricted to outcrop areas which may be of conservation significance. The timing of this may depend on the extent of the mining footprint of the Lizard proposal.
- Further targeted presence/absence surveys in identified SBE Communities for the ABAB host Sugar ant *(Camponotus sp.nr. terebrans)* colonies using methodologies outlined in the Guideline for the Survey of Arid Bronze Azure Butterfly (DBCA 2020).

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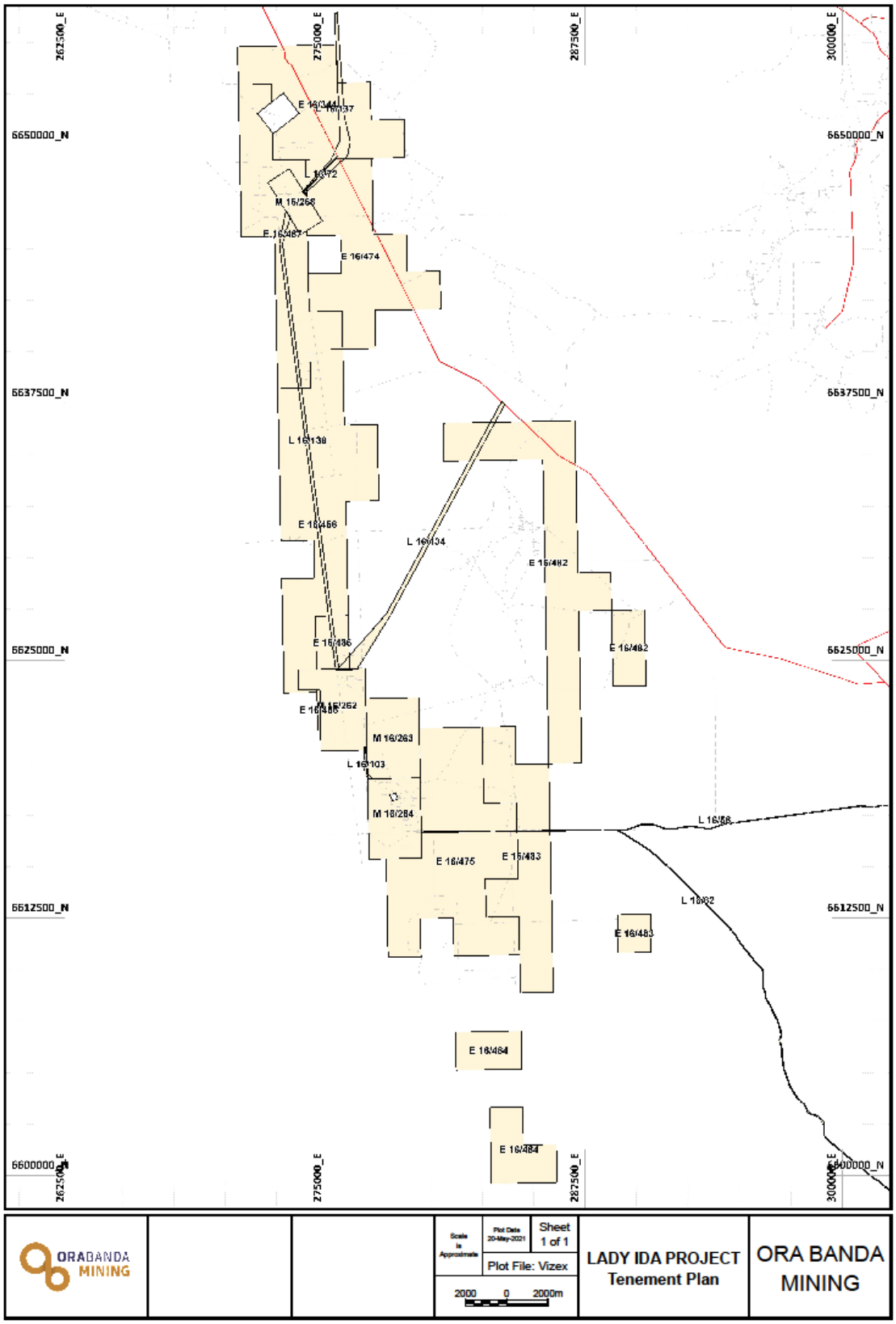
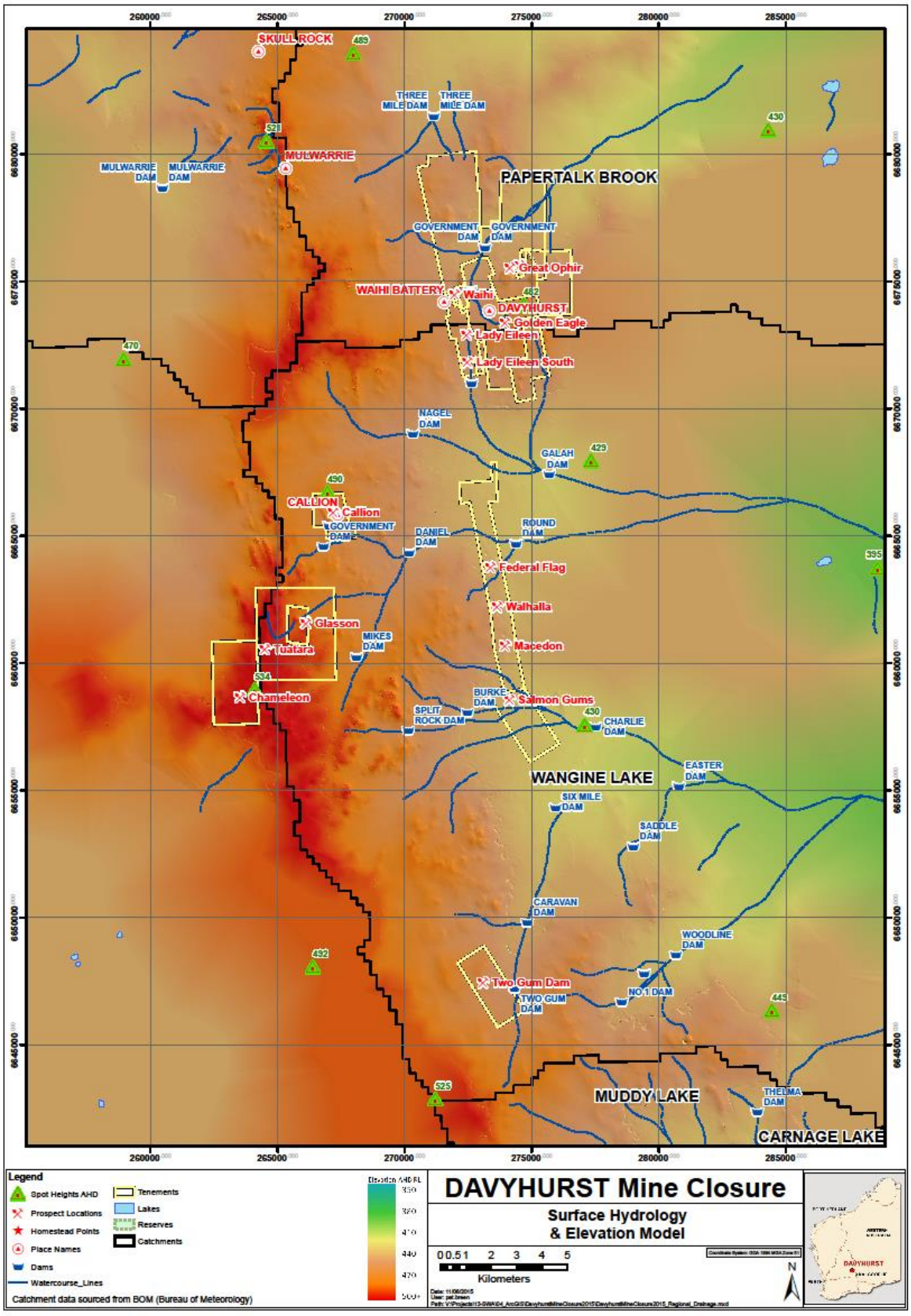
Appendix 1: Lady Ida Project Tenement Plan



Appendix 2: Surface hydrology for the northern area



Appendix 3: Species list

Family	Scientific Name	Code
Amaranthaceae	*Ptilotus drummondii*	
	Ptilotus exaltatus	
	Ptilotus obovatus	
Apiaceae	*Platysace trachymenioides*	
Apocynaceae	*Alyxia buxifolia*	
	Marsdenia australis	
	Vincetoxicum lineare	
Asparagaceae	*Lomandra effusa*	
Asteraceae	*Cratystylis subspinescens*	
	Olearia muelleri	
	Olearia sp. Eremicola	
	Waitzia acuminata	
Boraginaceae	*Halgania andromedifolia*	
	Heliotropium curassavicum	
Campanulaceae	*Isotoma petraea*	
Casuarinaceae	*Allocasuarina acutivalvis subsp. acutivalvis*	
	Allocasuarina campestris	
	Allocasuarina corniculata	
	Allocasuarina eriochlamys subsp. eriochlamys	
	Casuarina pauper	
Chenopodiaceae	*Atriplex nummularia*	
	Atriplex vesicaria	
	Maireana brevifolia	
	Maireana georgei	
	Maireana pyramidata	
	Maireana sedifolia	
	Maireana thesioides	
	Maireana tomentosa	
	Maireana triptera	
	Rhagodia drummondii	
	Sclerolaena cuneata	
	Sclerolaena diacantha	
	Sclerolaena eurotioides	
	Sclerolaena fusiformis	
Cupressaceae	*Callitris columellaris*	
Cyperaceae	*Chrysitrix distigmatosa*	
	Lepidosperma sp. Lizard	
	Lepidosperma sp. Sandplain	
Ericaceae	*Leucopogon sp. Clyde Hill*	

Family	Scientific Name	Code
Euphorbiaceae	*Beyeria sulcata*	
	Euphorbia drummondii	
	Euphorbia tannensis subsp. eremophila	
Fabaceae	*Acacia aneura*	
	Acacia burkittii	
	Acacia caesaneura	
	Acacia colletioides	
	Acacia cylindrica	P3
	Acacia eremophila var. eremophila	
	Acacia erinacea	
	Acacia fuscaneura	
	Acacia hemiteles	
	Acacia inaequiloba	
	Acacia lasiocalyx	
	Acacia merrallii	
	Acacia murrayana	
	Acacia prainii	
	Acacia ramulosa var. ramulosa	
	Acacia sericocarpa	
	Acacia tetragonophylla	
	Cryptandra micrantha	
	Daviesia aphylla	
	Daviesia sp. (hakeoides)	
	Leptosema aculeatum	
	Mirbelia sp	
	Phyllota luehmannii	
	Senna artemisioides subsp. filifolia	
	Senna cardiosperma	
	Senna pleurocarpa var. angustifolia	
	Swainsona canescens	
Frankeniaceae	*Frankenia setosa*	
Goodeniaceae	*Goodenia discophora*	
	Goodenia helmsii	
	Scaevola spinescens	
Gyrostemonaceae	*Codonocarpus cotinifolius*	
	Gyrostemon racemiger	
Haloragaceae	*Glischrocaryon aureum*	
Hemerocallidaceae	*Dianella revoluta var. divaricata*	
Lamiaceae	*Dasymalla terminalis*	
	Hemiphora elderi	
	Physopsis viscida	
	Prostanthera althoferi subsp. althoferi	

Family	Scientific Name	Code
Lamiaceae	*Prostanthera grylloana*	
	*Salvia verbenaca**	Weed
	Teucrium disjunctum	
	Westringia rigida	
Loranthaceae	*Amyema preissii*	
Malvaceae	*Sida calyxhymenia*	
	Seringia velutina	
	Hannafordia bissillii subsp. latifolia	
	Seringia velutina	
Myrtaceae	*Aluta aspera subsp. aspera*	
	Calothamnus gilesii	
	Calytrix creswellii	P3
	Eucalyptus campaspe	
	Eucalyptus clelandiorum	
	Eucalyptus concinna	
	Eucalyptus eremophila	
	Eucalyptus flocktoniae	
	Eucalyptus griffithsii	
	Eucalyptus incrassata	
	Eucalyptus leptopoda subsp. subluta	
	Eucalyptus livida	
	Eucalyptus longissima	
	Eucalyptus loxophleba subsp. lissophloia	
	Eucalyptus loxophleba subsp. supralaevis	
	Eucalyptus oleosa subsp. oleosa	
	Eucalyptus phenax	
	Eucalyptus phenax	
	Eucalyptus ravida	
	Eucalyptus rigidula	
	Eucalyptus salmonophloia	
	Eucalyptus salubris	
	Eucalyptus transcontinentalis	
	Eucalyptus virella	
	Homalocalyx thryptomenoides	
	Hysterobaeckea ochropetala subsp. reliqua	
	Leptospermum fastigiatum	
	Malleostemon roseus	
	Melaleuca calyptroides	
	Melaleuca cordata	
	Melaleuca hamata	
	Melaleuca lateriflora	
	Verticordia helmsii	
	Verticordia picta	

Family	Scientific Name	Code
Pittosporaceae	*Pittosporum angustifolium*	
Poaceae	*Amphipogon caricinus var. caricinus*	
	Austrostipa elegantissima	
	Austrostipa platychaeta	
	Austrostipa scabra	
	Monachather paradoxus	
	Triodia scariosa (tent)	
	Triodia rigidissima	
Proteaceae	*Banksia elderiana*	
	Conospermum stoechadis	
	Grevillea acuaria	
	Grevillea berryana	
	Grevillea hookeriana subsp. apiculata	
	Grevillea huegelii	
	Grevillea juncifolia	
	Grevillea oligomera	
	Grevillea teretifolia	
	Grevillea paradoxa	
	Hakea francisiana	
	Hakea minyma	
	Hakea preissii	
	Hakea recurva subsp. recurva	
	Persoonia coriacea	
	Persoonia helix	
Pteridaceae	*Cheilanthes sieberi subsp. sieberi*	
Restionaceae	*Lepidobolus preissianus* subsp. *volubilis*	
Rhamnaceae	*Stenanthemum stipulosum*	
Rutaceae	*Phebalium filifolium*	
	Philotheca tomentella	
	Philotheca brucei subsp. brucei	
	Phebalium canaliculatum	
	Philotheca tomentella	
Santalaceae	*Exocarpos aphyllus*	
	Santalum acuminatum	
	Santalum spicatum	
Sapindaceae	*Dodonaea lobulata*	
	Dodonaea microzyga subsp. acrolobata	
	Dodonaea stenozyga	
	Dodonaea viscosa subsp. angustissima	
	Dodonaea viscosa subsp. mucronata	

Family	Scientific Name	Code
Scrophulariaceae	*Eremophila caperata*	
	Eremophila clarkei	
	Eremophila decipiens subsp. decipiens	
	Eremophila granitica	
	Eremophila interstans subsp. interstans	
	Eremophila ionantha	
	Eremophila oppositifolia subsp. angustifolia	
	Eremophila pustulata	
	Eremophila scoparia	
	Eremophila sp. Mt Jackson	
Solanaceae	*Solanum lasiophyllum*	
	Solanum cleistogamum	
	Solanum nummularium	
	Solanum plicatile	
Thymelaeaceae	*Pimelea aeruginosa*	
	Pimelea microcephala	
Zygophyllaceae	*Roepera glauca*	

Appendix 4: Locations of Calytrix creswellii P3

The presence was recorded at a number of locations without a count. These sites have a 0 recorded against them. Numbers were estimated at several locations.

Scientific Name	Code	Date	Easting	Northing	No.
Calytrix creswellii	3	17/01/2021	276770	6623145	36
Calytrix creswellii	3	17/01/2021	276714	6623179	25
Calytrix creswellii	3	17/01/2021	276711	6623216	450
Calytrix creswellii	3	17/01/2021	276702	6623299	300
Calytrix creswellii	3	17/01/2021	276710	6623346	500
Calytrix creswellii	3	17/01/2021	276708	6623402	500
Calytrix creswellii	3	17/01/2021	276711	6623461	120
Calytrix creswellii	3	17/01/2021	276692	6623483	132
Calytrix creswellii	3	17/01/2021	276707	6623570	0
Calytrix creswellii	3	17/01/2021	276704	6623668	0
Calytrix creswellii	3	17/01/2021	276713	6623696	187
Calytrix creswellii	3	17/01/2021	276701	6623777	0
Calytrix creswellii	3	17/01/2021	276695	6623915	0
Calytrix creswellii	3	17/01/2021	276692	6623999	0
Calytrix creswellii	3	17/01/2021	276683	6624242	0
Calytrix creswellii	3	17/01/2021	276689	6624400	0
Calytrix creswellii	3	17/01/2021	276646	6624342	6
Calytrix creswellii	3	17/01/2021	276692	6624434	0
Calytrix creswellii	3	17/01/2021	276671	6624536	0
Calytrix creswellii	3	17/01/2021	276669	6624616	0
Calytrix creswellii	3	17/01/2021	276653	6625120	0
Calytrix creswellii	3	17/01/2021	276554	6624154	0
Calytrix creswellii	3	17/01/2021	276418	6624137	0
Calytrix creswellii	3	17/01/2021	276305	6624125	0
Calytrix creswellii	3	17/01/2021	276194	6624119	0
Calytrix creswellii	3	17/01/2021	276111	6624118	0
Calytrix creswellii	3	17/01/2021	276043	6624117	0
Calytrix creswellii	3	17/01/2021	275973	6624118	0
Calytrix creswellii	3	17/01/2021	275948	6624303	4
Calytrix creswellii	3	17/01/2021	275943	6624326	4
Calytrix creswellii	3	17/01/2021	275923	6624316	7
Calytrix creswellii	3	17/01/2021	275901	6624302	6
Calytrix creswellii	3	17/01/2021	275895	6624265	9
Calytrix creswellii	3	17/01/2021	275877	6624249	500
Calytrix creswellii	3	17/01/2021	275865	6624220	0
Calytrix creswellii	3	17/01/2021	275738	6624186	0
Calytrix creswellii	3	17/01/2021	275554	6624239	0
Calytrix creswellii	3	17/01/2021	275454	6624219	0

Scientific Name	Code	Date	Easting	Northing	No.
Calytrix creswellii	3	17/01/2021	275440	6624126	12
Calytrix creswellii	3	17/01/2021	275435	6623970	0
Calytrix creswellii	3	17/01/2021	275472	6623946	0
Calytrix creswellii	3	17/01/2021	275494	6623901	0
Calytrix creswellii	3	17/01/2021	275409	6623890	0
Calytrix creswellii	3	17/01/2021	275394	6623882	0
Calytrix creswellii	3	17/01/2021	275374	6623860	0
Calytrix creswellii	3	17/01/2021	275357	6623848	0
Calytrix creswellii	3	17/01/2021	275327	6623821	0
Calytrix creswellii	3	17/01/2021	275301	6623802	0
Calytrix creswellii	3	17/01/2021	275276	6623756	3
Calytrix creswellii	3	17/01/2021	275225	6623753	20
Calytrix creswellii	3	17/01/2021	275208	6623761	15
Calytrix creswellii	3	17/01/2021	275197	6623793	30
Calytrix creswellii	3	17/01/2021	275224	6623818	27
Calytrix creswellii	3	17/01/2021	275254	6623869	50
Calytrix creswellii	3	17/01/2021	275263	6623885	0
Calytrix creswellii	3	17/01/2021	275277	6623898	0
Calytrix creswellii	3	17/01/2021	275293	6623915	0
Calytrix creswellii	3	17/01/2021	275305	6623929	0
Calytrix creswellii	3	17/01/2021	275324	6623935	0
Calytrix creswellii	3	17/01/2021	275454	6623927	22
Calytrix creswellii	3	17/01/2021	275607	6623154	0
Calytrix creswellii	3	17/01/2021	275612	6623123	0
Calytrix creswellii	3	17/01/2021	275606	6623035	0
Calytrix creswellii	3	17/01/2021	275579	6623017	350
Calytrix creswellii	3	17/01/2021	275640	6622918	0
Calytrix creswellii	3	17/01/2021	275654	6622992	0
Calytrix creswellii	3	17/01/2021	275640	6622918	0
Calytrix creswellii	3	17/01/2021	275654	6622796	0
Calytrix creswellii	3	17/01/2021	275617	6623072	0
Calytrix creswellii	3	17/01/2021	275625	6623026	0
Calytrix creswellii	3	17/01/2021	275699	6623022	0
Calytrix creswellii	3	17/01/2021	275720	6623025	0
Calytrix creswellii	3	17/01/2021	275741	6623021	0
Calytrix creswellii	3	17/01/2021	275778	6623025	0
Calytrix creswellii	3	17/01/2021	275804	6623021	0
Calytrix creswellii	3	17/01/2021	276820	6620297	2
Calytrix creswellii	3	17/01/2021	276766	6620625	1
Calytrix creswellii	3	17/01/2021	276717	6622925	5
Calytrix creswellii	3	18/01/2021	275466	6624428	0
Calytrix creswellii	3	18/01/2021	275455	6624337	0

Scientific Name	Code	Date	Easting	Northing	No.
Calytrix creswellii	3	18/01/2021	275440	6624413	0
Calytrix creswellii	3	18/01/2021	275416	6624588	0
Calytrix creswellii	3	18/01/2021	275410	6624652	0
Calytrix creswellii	3	18/01/2021	275400	6624731	0
Calytrix creswellii	3	17/01/2021	275366	6624960	0
Calytrix creswellii	3	17/01/2021	275635	6623017	0
Calytrix creswellii	3	18/01/2021	275355	6624960	0
Acacia cylindrica	3	17/01/2021	276850	6619912	0
Acacia cylindrica	3	17/01/2021	276820	6620297	0
Acacia cylindrica	3	17/01/2021	276802	6620594	0
Acacia cylindrica	3	17/01/2021	275260	6623751	0
Acacia cylindrica	3	17/01/2021	275593	6623275	0
Acacia cylindrica	3	17/01/2021	275823	6623028	0
Acacia cylindrica	3	17/01/2021	275635	6623016	0
Acacia cylindrica	3	18/01/2021	272680	6645461	0
Calytrix creswellii	3	17/01/2021	276766	6620625	0
Calytrix creswellii	3	17/01/2021	275489	6623699	10
Calytrix creswellii	3	17/01/2021	275409	6624315	10
Calytrix creswellii	3	17/01/2021	275451	6623858	40
Calytrix creswellii	3	17/01/2021	275505	6623715	8
Calytrix creswellii	3	17/01/2021	275548	6623736	30
Calytrix creswellii	3	17/01/2021	275550	6623760	30
Calytrix creswellii	3	17/01/2021	275547	6623793	15
Calytrix creswellii	3	17/01/2021	275547	6623816	10
Calytrix creswellii	3	17/01/2021	275541	6623840	20
Calytrix creswellii	3	17/01/2021	275519	6623856	12
Calytrix creswellii	3	17/01/2021	275523	6623874	80
Calytrix creswellii	3	17/01/2021	275550	6623867	150
Calytrix creswellii	3	17/01/2021	275581	6623878	100
Calytrix creswellii	3	17/01/2021	275669	6622984	0
Calytrix creswellii	3	17/01/2021	275398	6624343	45
Calytrix creswellii	3	17/01/2021	275439	6623844	50
Calytrix creswellii	3	17/01/2021	275630	6622915	500
Calytrix creswellii	3	17/01/2021	275545	6622906	500
Calytrix creswellii	3	17/01/2021	275478	6622909	500
Calytrix creswellii	3	17/01/2021	275421	6622906	500
Calytrix creswellii	3	17/01/2021	275373	6622921	1000
Calytrix creswellii	3	17/01/2021	275296	6622934	60
Calytrix creswellii	3	17/01/2021	275251	6622950	100
Calytrix creswellii	3	17/01/2021	275265	6622998	20
Calytrix creswellii	3	17/01/2021	275415	6623832	60
Calytrix creswellii	3	17/01/2021	275281	6623019	20

Scientific Name	Code	Date	Easting	Northing	No.
Calytrix creswellii	3	17/01/2021	275316	6623033	100
Calytrix creswellii	3	17/01/2021	275347	6623046	500
Calytrix creswellii	3	17/01/2021	275386	6623067	200
Calytrix creswellii	3	17/01/2021	275423	6623078	1000
Calytrix creswellii	3	17/01/2021	275488	6623076	200
Calytrix creswellii	3	17/01/2021	275534	6623091	500
Calytrix creswellii	3	17/01/2021	275598	6623093	50
Calytrix creswellii	3	17/01/2021	275441	6624274	20
Calytrix creswellii	3	17/01/2021	275436	6624359	100
Calytrix creswellii	3	17/01/2021	275401	6623818	10
Calytrix creswellii	3	17/01/2021	275459	6623877	15
Calytrix creswellii	3	17/01/2021	275394	6623786	5
Calytrix creswellii	3	17/01/2021	275391	6623773	15
Calytrix creswellii	3	17/01/2021	275403	6623741	35
Calytrix creswellii	3	17/01/2021	275419	6623691	10
Calytrix creswellii	3	17/01/2021	275443	6623675	12
					9965

Appendix 5: Locations of Acacia cylindrica P3

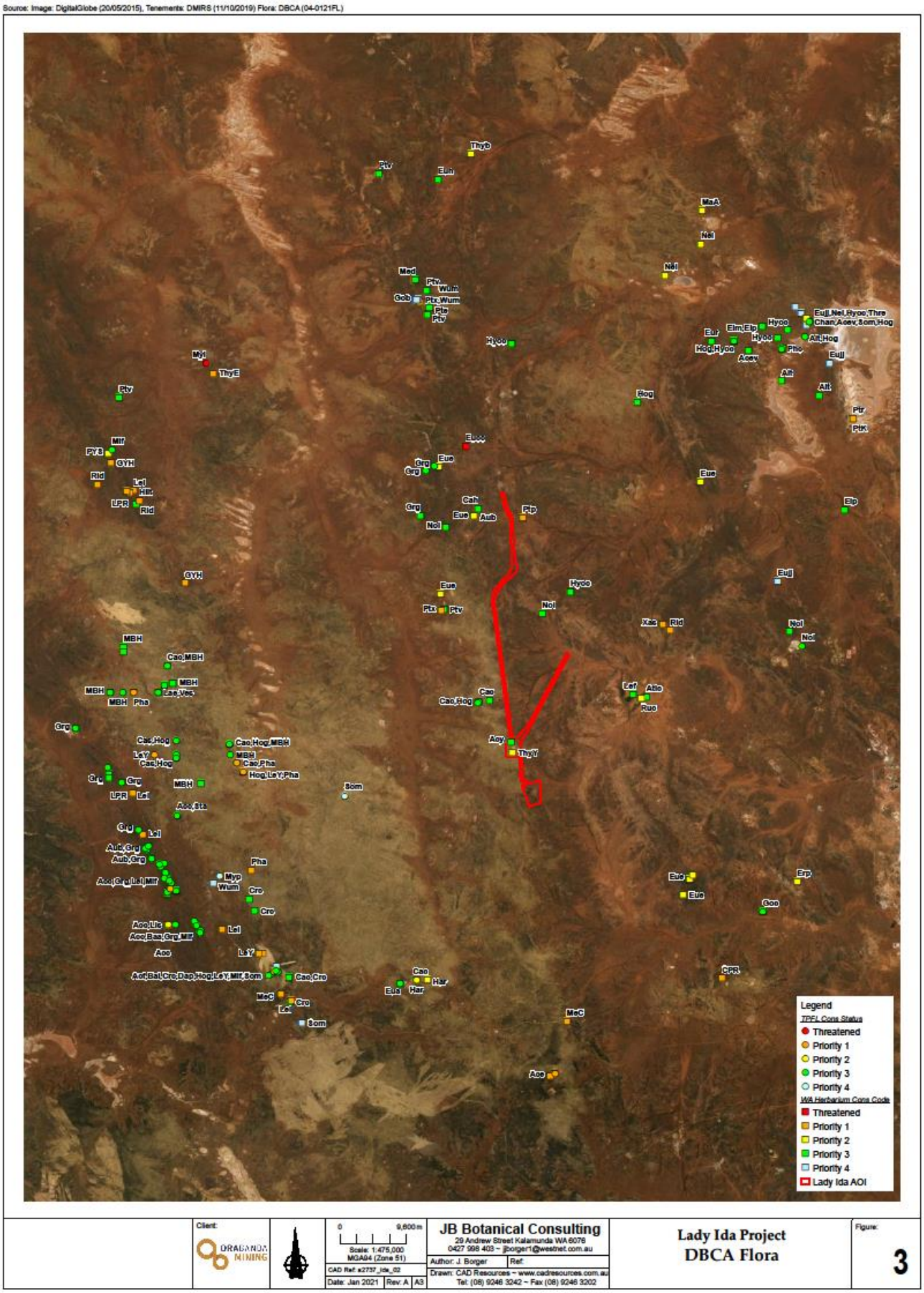
Scientific Name	Code	Date	Easting	Northing	No.
Acacia cylindrica	3	17/01/2021	276850	6619912	few
Acacia cylindrica	3	17/01/2021	276820	6620297	common
Acacia cylindrica	3	17/01/2021	276802	6620594	few
Acacia cylindrica	3	17/01/2021	275260	6623751	few
Acacia cylindrica	3	17/01/2021	275593	6623275	few
Acacia cylindrica	3	17/01/2021	275823	6623028	few
Acacia cylindrica	3	17/01/2021	275635	6623016	few
Acacia cylindrica	3	18/01/2021	272680	6645461	few

Appendix 6: Locations of Santalum spicatum (Registered)

Scientific Name	Code	Date	Easting	Northing	No.
Santalum spicatum	R	16/01/2021	277845	6616406	1
Santalum spicatum	R	16/01/2021	277831	6616316	3
Santalum spicatum	R	16/01/2021	277896	6616482	3
Santalum spicatum	R	16/01/2021	277916	6616541	3
Santalum spicatum	R	16/01/2021	277945	6616566	1
Santalum spicatum	R	16/01/2021	277906	6616525	1
Santalum spicatum	R	16/01/2021	279194	6616862	2
Santalum spicatum	R	16/01/2021	279179	6616881	2
Santalum spicatum	R	16/01/2021	279183	6616894	4
Santalum spicatum	R	16/01/2021	279194	6616862	2
Santalum spicatum	R	16/01/2021	279179	6616881	2
Santalum spicatum	R	16/01/2021	279183	6616894	4
Santalum spicatum	R	16/01/2021	278661	6617345	2
Santalum spicatum	R	16/01/2021	278654	6617374	4
Santalum spicatum	R	18/01/2021	275368	6625398	1
Santalum spicatum	R	18/01/2021	275291	6625455	1
Santalum spicatum	R	18/01/2021	275268	6625667	2
Santalum spicatum	R	18/01/2021	275290	6625640	2
Santalum spicatum	R	18/01/2021	275270	6625640	1
Santalum spicatum	R	18/01/2021	275262	6625657	1
Santalum spicatum	R	18/01/2021	275303	6625667	1
Santalum spicatum	R	18/01/2021	275228	6626035	2
Santalum spicatum	R	18/01/2021	275214	6626136	2
Santalum spicatum	R	18/01/2021	275120	6626790	4
Santalum spicatum	R	18/01/2021	274874	6628738	1
Santalum spicatum	R	18/01/2021	274730	6629756	1
Santalum spicatum	R	18/01/2021	274713	6629893	1
Santalum spicatum	R	18/01/2021	274716	6629984	1

Scientific Name	Code	Date	Easting	Northing	No.
Santalum spicatum	R	18/01/2021	274715	6629997	2
Santalum spicatum	R	18/01/2021	274690	6630030	2
Santalum spicatum	R	18/01/2021	274598	6630866	1
Santalum spicatum	R	18/01/2021	273776	6637155	3
Santalum spicatum	R	18/01/2021	273761	6637157	1
Santalum spicatum	R	18/01/2021	273747	6637347	10
Santalum spicatum	R	18/01/2021	273737	6637422	10
Santalum spicatum	R	18/01/2021	273729	6637481	6
Santalum spicatum	R	18/01/2021	273705	6637659	5
Santalum spicatum	R	18/01/2021	273700	6637709	1
Santalum spicatum	R	19/01/2021	275387	6649439	1
Santalum spicatum	R	19/01/2021	275396	6649454	1
Santalum spicatum	R	19/01/2021	275411	6649480	1
Santalum spicatum	R	19/01/2021	275398	6649543	10
Santalum spicatum	R	19/01/2021	275432	6649524	1
Santalum spicatum	R	15/10/2021	275501	6649482	2
Santalum spicatum	R	15/10/2021	275501	6649463	2
Santalum spicatum	R	15/10/2021	275514	6649472	1
Santalum spicatum	R	15/10/2021	275560	6649470	2
Santalum spicatum	R	15/10/2021	275552	6649459	3
Santalum spicatum	R	15/10/2021	275460	6649516	1
Santalum spicatum	R	17/01/2021	276818	6620297	1
Santalum spicatum	R	17/01/2021	276841	6622672	2
Santalum spicatum	R	18/01/2021	275355	6624960	1
Santalum spicatum	R	18/01/2021	275246	6625848	1
Santalum spicatum	R	18/01/2021	275233	6625856	9
Santalum spicatum	R	18/01/2021	274037	6635166	2
Santalum spicatum	R	18/01/2021	273763	6637205	1

Appendix 7: Mapped locations of conservation significant flora (DBCA database search)



Abbrev	Taxon
Acc	Acacia crenulata (3)
Ace	Acacia epedunculata (1)
Acev	Acacia eremophila var. variabilis (3)
Acf	Acacia formidabilis (3)
Acy	Acacia cylindrica (3)
Alt	Alyxia tetanifolia (3)
Atlc	Atriplex lindleyi subsp. conduplicata (3)
Aub	Austrostipa blackii (3)
Baa	Banksia arborea (4)
Bal	Banksia lullfitzii (3)
Cac	Calytrix creswellii (3)
Cah	Calytrix hislopii (3)
Chan	Chrysocephalum apiculatum subsp. norsemanense (3)
CPR	Chamelaucium sp. Parker Range (B.H. Smith 1255) (1)
Crc	Cryptandra crispula (3)
Dap	Dampiera prasiolitica (1)
Elm	Elatine macrocalyx (3)
Elp	Eleocharis papillosa (3)
Erp	Eremophila praecox (2)
Eua	Eutaxia actinophylla (3)
Eucc	Eucalyptus crucis subsp. crucis (T)
Eue	Eucalyptus educta (2)
Eujj	Eucalyptus jutsonii subsp. jutsonii (4)
Eun	Eutaxia nanophylla (3)
Eur	Eutaxia rubricarina (3)
Gob	Goodenia berringbinensis (4)
Goc	Gompholobium cinereum (3)
Grg	Grevillea georgeana (3)
GYH	Grevillea sp. Yerilgee Hills (T. Laslett TL 025) (1)
Har	Hakea rigida (2)
Hilt	Hibbertia lepidocalyx subsp. tuberculata (3)
Hog	Homalocalyx grandiflorus (3)
Hyoc	Hysterobaeckea ochropetala subsp. cometes (3)
Lae	Labichea eremaea (3)
Lef	Lepidium fasciculatum (3)
Lel	Lepidosperma lyonsii (1)
LeY	Leucopogon sp. Yellowdine (M. Hislop & F. Hort MH 3194) (1)
Lis	Lissanthe scabra (2)
LPR	Lepidosperma sp. Parker Range (N. Gibson & M. Lyons 2094) (1)
MaA	Malleostemon sp. Adelong (G.J. Keighery 11825) (2)
MBH	Melichrus sp. Bungalbin Hill (F.H. & M.P. Mollemans 3069) (3)
MeC	Melichrus sp. Coolgardie (K.R. Newbey 8698) (1)
Med	Menkea draboides (3)
Mif	Mirbelia ferricola (3)
Myl	Myriophyllum lapidicola (T)
Myp	Myriophyllum petraeum (4)
Nei	Newcastelia insignis (2)
Noi	Notisia intonsa (3)
Pha	Phebalium appressum (1)
Phc	Philotheca coateana (3)
Pte	Pterostylis elegantissima (1)
PtK	Ptilotus sp. Kalgoorlie (J. Jackson & B. Moyle 260) (1)
Ptp	Ptilotus procumbens (1)
Ptr	Ptilotus rigidus (1)
Ptv	Pterostylis virens (3)
Ptx	Pterostylis xerampelina (1)
PYS	Phebalium sp. Yerilgee Sandplain (J. Jackson 223) (2)
Rid	Ricinocarpos digynus (1)
Ruc	Rumex crystallinus (2)
Som	Sowerbaea multicaulis (4)
Sta	Styphelia saxicola (3)
Thre	Thryptomene eremaea (2)
Thyb	Thysanotus brachyantherus (2)
ThyE	Thysanotus sp. Ennuin (N. Gibson & M. Lyons 2665) (1)
ThyY	Thysanotus sp. Yellowdine (A.S. George 6040) (2)
Ves	Verticordia stenopetala (3)
Wum	Wurmbea murchisoniana (4)
Xas	Xanthoparmelia subbarbatica (1)

Appendix 8: Vegetation mapping

Code	Description	Area (ha)
1	*Eucalyptus salmonophloia, E. transcontinentalis, E. salubris woodland*	330.479
1DL	*Maireana pyramidata, Atriplex vesicaria, Acacia murrayana* open shrubland	13.350
2	*Eucalyptus loxophleba subsp. lissophloia, E. concinna* mallee woodland	15.633
3	*Acacia fuscaneura, A. caesaneura* over *Acacia, Eremophila, Grevillea oligomera* and *Prostanthera shrubland*	128.656
4	*Casuarina pauper, Eucalyptus clelandiorum, E. salubris isolated low trees over Maireana sedifolia, Acacia hemiteles, Senna and Eremophila open shrubland*	56.264
5	*Eucalyptus clelandiorum* woodland *Eremophila, Acacia, Senna, Dodonaea* shrubland	113.392
6	*Eucalyptus loxophleba mallee woodland over Acacia, Eremophila, Senna shrublands*	52.766
7	*Eucalyptus loxophleba subsp. lissophloia, E. longissima, E. oleosa open mallee woodland over Acacia, Halgania, Eremophila shrubland over Triodia grassland*	14.903
8	*Allocasuarina corniculata, Acacia sp., Philotheca brucei subsp. brucei shrubland Acacia sp., Philotheca brucei shrubland*	56.484
8fr	*Seringia velutina, Codonocarpus cotinifolius, Acacia sp, Solanum cleistogamum, Euphorbia tannensis low isolated shrubs and forbs*	94.308
9	*Eucalyptus loxophleba mallee woodland patch over Acacia burkittii, Philotheca brucei, Aluta aspera, Callitris shrubland over Triodia hummock grassland*	3.143
10fr	*Eucalyptus, Halgania andromedifolia, Triodia rigidissima, Hakea francisiana, Dasymalla terminalis, Gyrostemon racemiger open shrubland*	263.449
11	*Eucalyptus loxophleba subsp. lissophloia open mallee woodland*	5.531
11fr	*Persoonia helix. Solanum plicatile, Eucalyptus seedlings, Acacia sp., Melaleuca, Hannafordia, Euphorbia, Seringia, Dasymalla low open shrubland*	48.274
12	*Eucalyptus loxophleba, E. clelandiorum, Casuarina pauper open mallee forest*	36.640
12fr	*Hannafordia bissillii, Eucalyptus, Acacia, Solanum plicatile, Hemiphora, Melaleuca, Halgania, Seringia, Codonocarpus, Grevillea low sparse shrubland*	29.062
13	*Eucalyptus virella, E. clelandiorum, E. rigidula, E. salubris, E. salmonophloia woodland*	119.930
13fr	*Eucalyptus rigidula, E. incrassata low open mallee shrubland over Dodonaea viscosa, Codonocarpus, Triodia* low sparse shrubland	16.957
14	*Eucalyptus clelandiorum, E. salmonophloia, E. celastroides, E. griffithsii woodland*	67.076
14fr	*Eucalyptus griffithsii, E. salmonophloia isolated crowns over Acacia hemiteles, Eremophila interstans tall isolated shrubs over low sparse shrubland*	10.775
15	*Melaleuca hamata low woodland patches over Allocasuarina eriochlamys shrubland*	53.006
16	*Eucalyptus incrassata, E. rigidula, Banksia elderiana, Acacia lasiocalyx low open mallee shrubland*	439.937
16B	*Allocasuarina corniculata, Banksia elderiana, Eucalyptus incrassata, Leptospermum fastigiatum tall open shrubland*	23.943
17	*Eucalyptus woodlands over Acacia burkittii, E. hemiteles, Eremophila oppositifolia, E. pustulata, Dodonaea stenozyga, Philotheca shrublands*	218.941
18	*Eucalyptus incrassata, E. leptopoda subsp. subluta low open mallee woodland over Allocasuarina corniculata, Calothamnus gilesii shrubland*	81.184
19	*Eucalyptus virella low open mallee woodland/ Chrysitrix distigmatosa, Acacia hemiteles, Olearia sp. Eremicola, Scaevola sparse sedgeland*	65.637
20	*Allocasurina corniculata, Phebalium filifolium, Hysterobaeckea ochropetala, Allocasurina acutivalvis subsp. acutivalvis open shrubland*	115.064
21	*Eucalyptus loxophleba subsp. lissophloia open mallee woodland over Acacia burkittii tall shrubland over sparse shrubland over sparse fernland*	29.979
22	*Cheilanthes sieberi, Amphipogon caricinus, Isotoma petraea, lichens low fernland*	12.702
23	*Eucalyptus loxophleba subsp. lissophloia mallee woodland/ Dodonaea lobulata*	20.548
24	*Eucalyptus loxophleba subsp. lissophloia, E. celastroides open mallee forest over Eremophila sp. Mt Jackson, Scaevola spinescens, Acacia hemiteles sparse shrubland*	105.660
25	*Eucalyptus rigidula mallee woodland over Allocasuarina acutivalvis, Calothamnus gilesii, Callitris tall open shrubland over Calothamnus, Beyeria, A. corniculata open shrubland*	77.709
C	Cleared	18.286
M	Modified	40.208


270000
275000
280000
6665000
6660000
6655000
6650000
Walhalla
R15-1
R15-2
R15-3
R15-4
R15-5
R15-6
R15-7
R15-8
R15-9
R15-10
R15-11
R15-12
R15-13
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4
5
6
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Survey area
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Date: May 2021
Rev: A
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29 Andrew Street Kalamunda WA 6076
0427 998 403 ~ jborger1@westnet.com.au
Author: J. Borger
Ref:
Drawn: CAD Resources ~ www.cadresources.com.au
Tel: (08) 9246 3242 ~ Fax (08) 9246 3202
Lady Ida Project
Vegetation
Sheet 1 of 3
Figure:
1.1


270000
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Two Gums
R18-7
R18-6
R18-5
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0427 998 403 ~ jborger1@westnet.com.au
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Ref:
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Lady Ida Project
Vegetation
Sheet 2 of 3
Figure:
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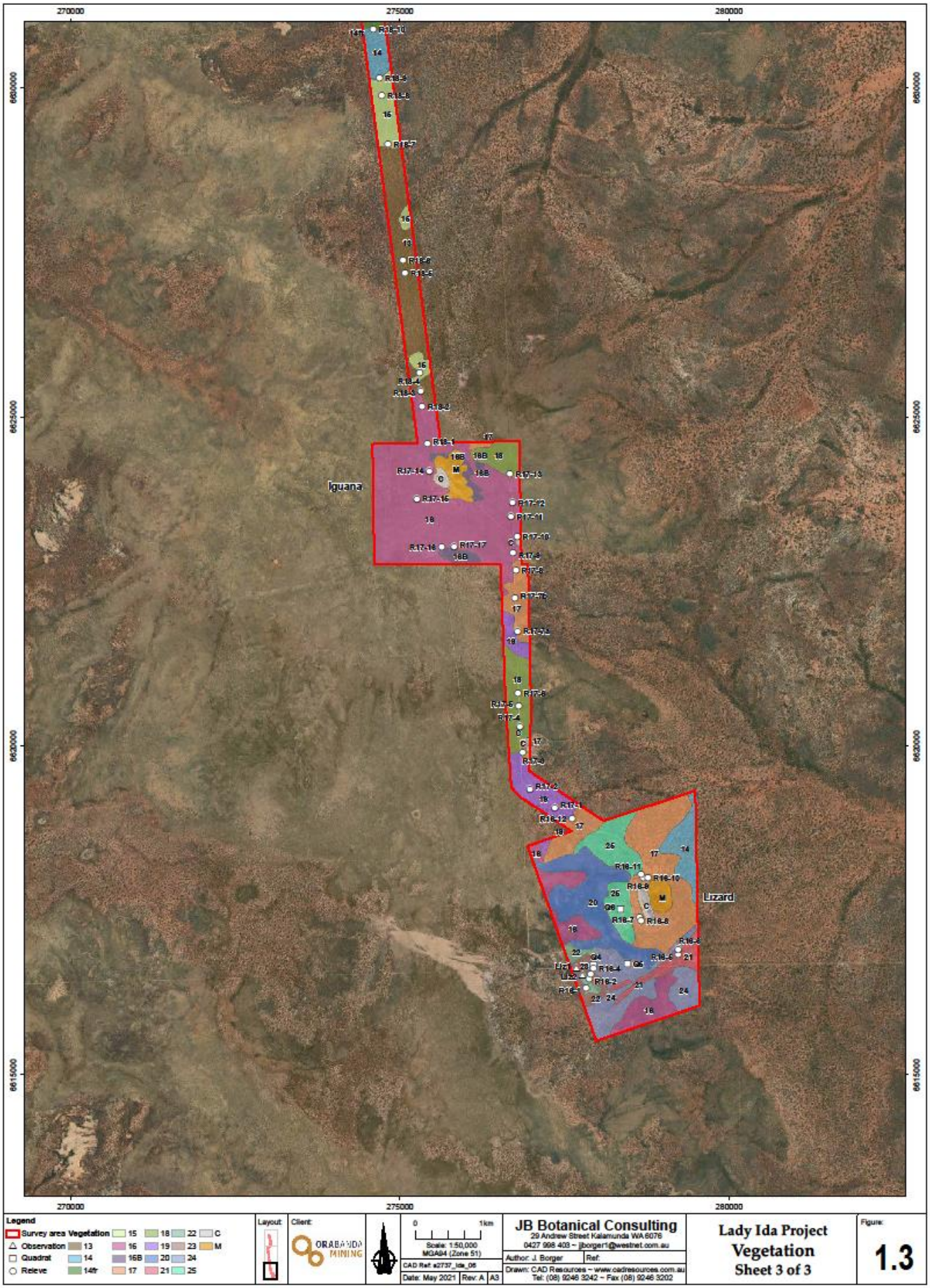
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Iguana
Lizard
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Survey area
Observation
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29 Andrew Street Kalamunda WA 6076
0427 998 403 ~ jborger1@westnet.com.au
Author: J. Borger
Ref:
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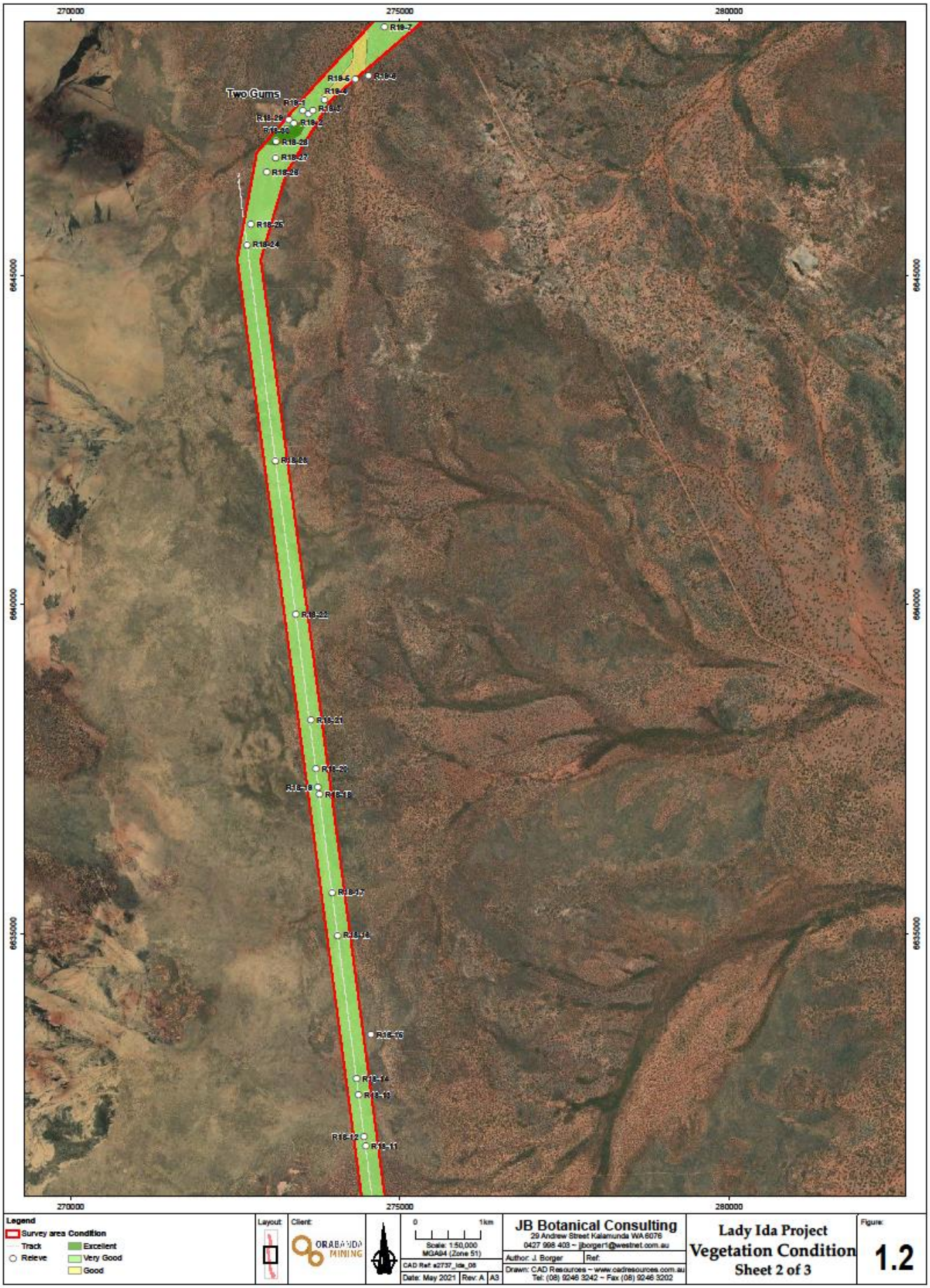
Vegetation
Sheet 3 of 3
Figure:
1.3

Appendix 9: Vegetation Condition mapping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Two Gums
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R18-6
R18-5
R18-4
R18-3
R18-1
R18-2
R18-29
R18-10
R18-28
R18-27
R18-26
R18-25
R18-24
R18-23
R18-22
R18-21
R18-20
R18-19
R18-18
R18-17
R18-16
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R18-14
R18-13
R18-12
R18-11
Legend
Survey area Condition
Track
Releve
Excellent
Very Good
Good
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Rev: A
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JB Botanical Consulting
29 Andrew Street Kalamunda WA 6076
0427 998 403 ~ jborger1@westnet.com.au
Author: J. Borger
Ref:
Drawn: CAD Resources ~ www.cadresources.com.au
Tel: (08) 9246 3242 ~ Fax (08) 9246 3202
Lady Ida Project
Vegetation Condition
Sheet 2 of 3
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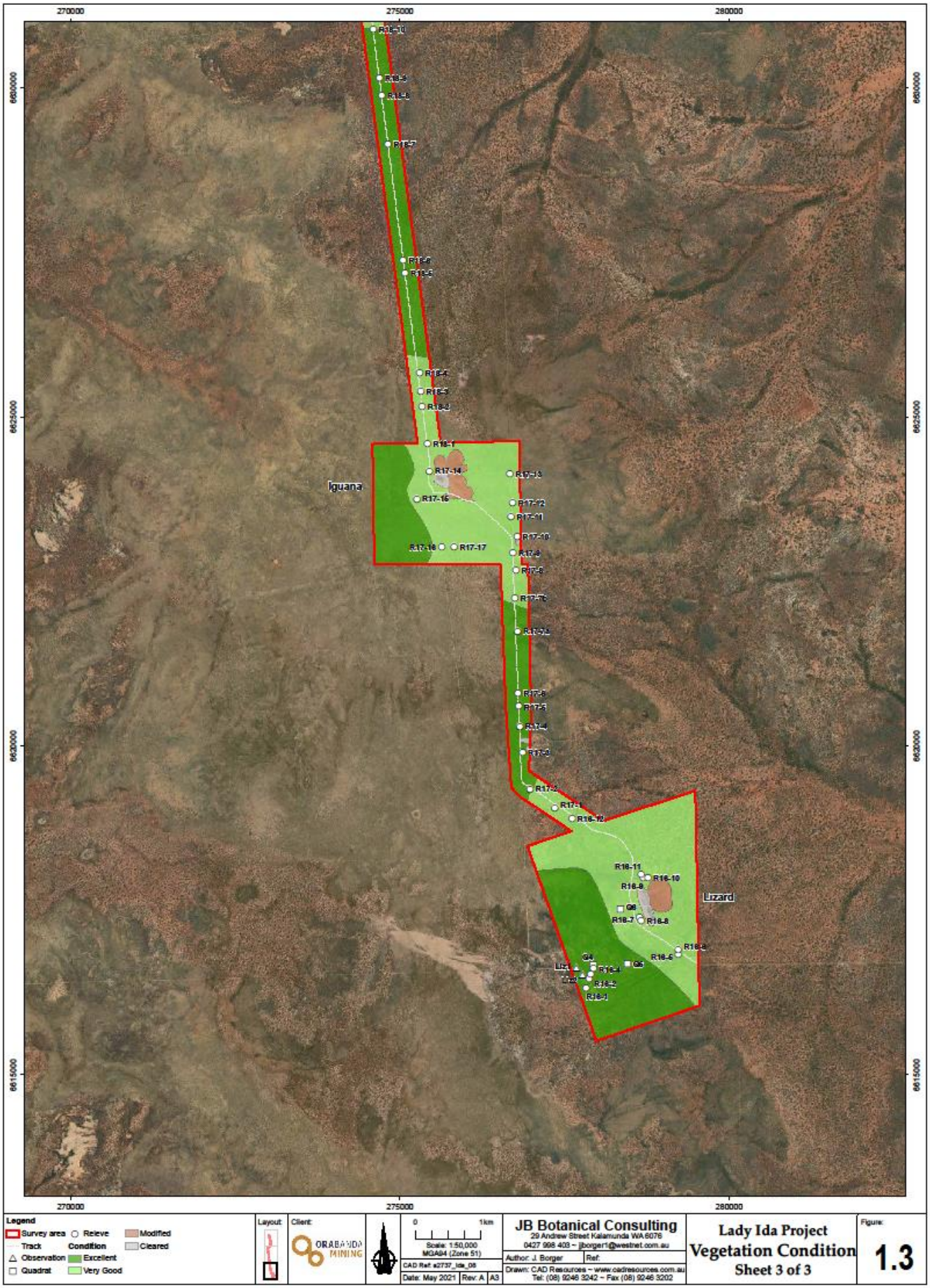
270000
275000
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6630000
6625000
6620000
6615000
Iguana
Lizard
Legend
Survey area
Relevé
Track
Condition
Observation
Excellent
Quadrat
Very Good
Modified
Cleared
Layout:
Client:
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MGA94 (Zone 51)
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Date: May 2021
Rev: A
A3
JB Botanical Consulting
29 Andrew Street Kalamunda WA 6076
0427 998 403 ~ jborger1@westnet.com.au
Author: J. Borger
Ref:
Drawn: CAD Resources ~ www.cadresources.com.au
Tel: (08) 9246 3242 ~ Fax (08) 9246 3202
Lady Ida Project
Vegetation Condition
Sheet 3 of 3
Figure:
1.3

Appendix 10: Conservation Codes (DBCA 2019)

Department of **Biodiversity, Conservation and Attractions**

GOVERNMENT OF WESTERN AUSTRALIA

CONSERVATION CODES

For Western Australian Flora and Fauna

Threatened, Extinct and Specially Protected fauna or flora[1] are species[2] which have been adequately searched for and are deemed to be, in the wild, threatened, extinct or in need of special protection, and have been gazetted as such.

The *Wildlife Conservation (Specially Protected Fauna) Notice 2018* and the *Wildlife Conservation (Rare Flora) Notice 2018* have been transitioned under regulations 170, 171 and 172 of the *Biodiversity Conservation Regulations 2018* to be the lists of Threatened, Extinct and Specially Protected species under Part 2 of the *Biodiversity Conservation Act 2016*.

Categories of Threatened, Extinct and Specially Protected fauna and flora are:

T **Threatened species**

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

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

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

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

CR **Critically endangered species**

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

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

EN **Endangered species**

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

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

VU **Vulnerable species**

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

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

Extinct species

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

EX **Extinct species**

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

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

EW **Extinct in the wild species**

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

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

Specially protected species

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

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

MI **Migratory species**

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

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

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

CD **Species of special conservation interest (conservation 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).

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

OS **Other specially protected species**

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

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

P **Priority species**

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

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

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

1 **Priority 1: Poorly-known species**

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

2 **Priority 2: Poorly-known species**

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

3 **Priority 3: Poorly-known species**

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

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

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.
(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

[1] The definition of flora includes algae, fungi and lichens
[2] Species includes all taxa (plural of taxon - a classificatory group of any taxonomic rank, e.g. a family, genus, species or any infraspecific category i.e. subspecies or variety, or a distinct population).

Last updated 3 January 2019

Appendix 11: Site Descriptions

Section 1: Walhalla to Two Gums

Plain with low greenstone rises, broad drainage line

Dominated by Eucalyptus woodlands

Lady Ida Haul Road
1. Walhalla to Two Gums

Lady Ida Quadrat Q1

Date: 15/01/2021 VC 1 Area: 20m x 20m (400m^2)

GPS: 274416 E/ 6660365 N Elevation: 449 m a s l	**Location: Walhalla**	**Landform: Plain; mid catchment; gentle slope; aspect east**
Land surface: Red (2.5 YR 4/6) to darkish red clay loam; surface rock (ironstone gravel 2 – 10 mm) > 60 %; litter > 80 % ^ 30 cm; fallen timber 10 – 15 %; cryptogams (lichen) < 10 %; bare ground < 1 %; surface moist – light shower		
Condition: Very good; few deaths in tall shrub layer		
Disturbance: Signs of cattle – broken shrubs, tracks; historic mining impacts in area; erosion along old tracks, sheet wash, debris dams – minor rills 10 – 20 cm deep		
NVIS VI: U1+^ *Eucalyptus salmonophloia, E. transcontinentalis\Eucalyptus\tree\7\i; M1^ Eremophila interstans subsp. interstans, Eremophila scoparia, Exocarpos aphyllus\Eremophila\shrub\4\i; M2^ Eremophila scoparia, Cratystylis subspinescens, Eremophila interstans subsp. interstans, Atriplex nummularia, Pittosporum angustifolium\Eremophila\shrub\3\c; M2^ Eremophila scoparia, Atriplex nummularia, Eremophila interstans subsp. interstans, Senna artemisioides subsp. filifolia, Exocarpos aphyllus\Eremophila\shrub\2\i; G1^ Atriplex vesicaria, Eremophila scoparia, Austrostipa elegantissima, Atriplex nummularia, Eremophila interstans subsp. interstans\Atriplex\^shrub, tussock grass\1\i*		

Height (m)	**Crown cover %**	**Habit**	**Species**	**No.**
> 10	60 – 70[1]	Tree	*Eucalyptus salmonophloia (2), E. transcontinentalis (2)*	4
2 – 4	10 – 15	Shrub	*Eremophila interstans subsp. interstans (9), E. scoparia (7), Exocarpos aphyllus (1)*	17
1 – 2	30 – 35	Shrub	*Eremophila scoparia (73), Cratystylis subspinescens (5), Eremophila interstans subsp. interstans (5), Atriplex nummularia (6), Pittosporum angustifolium (1), Alyxia buxifolia (1)*	91
0.5 – 1	10 – 15	Shrub	*Eremophila scoparia (24), Atriplex nummularia (6), Eremophila interstans (4), Senna artemisioides subsp. filifolia (2), Exocarpos aphyllus (1), Alyxia buxifolia (1)*	38
< 0.5	10 – 15	Shrub, tussock grass	*Atriplex vesicaria (72), Eremophila scoparia (9), Austrostipa elegantissima (19)*[2]*, Atriplex nummularia (3), Eremophila interstans subsp. interstans (3), Alyxia buxifolia (1), Eremophila decipiens subsp. decipiens (1)*	88
				238

1. Patch tree cover 60 – 70 %; broad area 25 – 30 %

2. Not counted in stem count

Stem density: 238/ 400 m^2; 59.5/ 100 m^2

Vegetation: *Eucalyptus salmonophloia, E. transcontinentalis woodland over Eremophila interstans subsp. interstans, Eremophila scoparia, Exocarpos aphyllus tall open shrubland over Eremophila scoparia, Cratystylis subspinescens, Eremophila interstans subsp. interstans shrubland over Eremophila scoparia, Atriplex vesicaria, A. nummularia, Eremophila interstans subsp. interstans, Senna artemisioides subsp. filifolia low open shrubland*

Atriplex nummularia	*Eremophila scoparia*
Atriplex vesicaria	*Eucalyptus salmonophloia*
Austrostipa elegantissima	*Eucalyptus transcontinentalis*
Alyxia buxifolia	*Exocarpos aphyllus*
Cratystylis subspinescens	*Pittosporum angustifolium*
Eremophila decipiens subsp. decipiens	*Senna artemisioides subsp. filifolia*
Eremophila interstans subsp. interstans	

Lady Ida Quadrat Q2

Date: 15/01/2021 VC 3 Area: 20m x 20m (400m^2)

GPS: 274213 E/ 6660275 N Elevation: 448 m a s l	**Location: Walhalla**	**Landform: Low hill; lower slope; aspect east; gentle; mid catchment**
Land surface: Reddish yellow clay loam; surface rock (ironstone gravel 2 – 4 mm) 30 – 50 %; litter 40 – 50% ^ 10cm; fallen timbe 15 – 20 %; cryptogams (lichen) 20 – 30 %; bare ground 1 – 2 %; surface slightly moist, showers earlier in day		
Condition: Very good		
Disturbance: Signs of cattle in area; rabbits, donkey tracks; historic mining exploration activities		
NVIS VI: U1+^ *Acacia fuscaneura\Acacia\^tree\6\i; M1^ Acacia ramulosa var. ramulosa, A. fuscaneura, Eucalyptus concinna\Acacia\^shrub, mallee\4\i; M2 ^ Olearia sp. Eremicola, Eremophila granitica, Acacia ramulosa var. ramulosa, A. burkittii, A. fuscaneura\Olearia\^shrub\3\i; M3^ Olearia sp. Eremicola, Scaevola spinescens, Acacia fuscaneura, Eremophila granitica, Ptilotus obovatus\Olearia\2\r; G1^ Cheilanthes sieberi subsp. sieberi, Monachather paradoxus, Austrostipa elegantissima, Solanum lasiophyllum, Acacia ramulosa var. ramulosa\Cheilanthes\^fern, tussock grass, shrub\1\r*		

Height (m)	**Crown cover %**	**Habit**	**Species**	**No.**
4 – 9	15 – 20	Tree	*Acacia fuscaneura (2)*	2
2 – 6	15 – 20	Shrub, mallee	*Acacia ramulosa var. ramulosa (5), A. fuscaneura (1), Eucalyptus concinna (1)*	7
1 – 2	10 – 15	Shrub	*Olearia* sp. Eremicola *(14), Eremophila granitica (6), Acacia ramulosa var. ramulosa (2), Acacia burkittii (2), A. fuscaneura (1), Dodonaea viscosa subsp. angustissima (1), Acacia hemiteles (1)*	27
0.5 – 1	5 – 10	Shrub	*Olearia sp. Eremicola (24), Scaevola spinescens (2), Acacia fuscaneura (1), Ptilotus obovatus (1)*	28
< 0.5	< 2	Shrub	*Olearia sp. Eremicola (10), Acacia fuscaneura (5), Eremophila granitica (5), Solanum lasiophyllum (9), Olearia muelleri (1), Acacia ramulosa var. ramulosa (1)*	31
< 0.5	4 – 5	Fern	*Cheilanthes sieberi subsp. sieberi*	
< 0.5	2 – 3	Tussock grass	*Monachather paradoxus (20), Austrostipa elegantissima (3)*	

0.5 m stratum crown cover: 7 – 10 %

Stem density: / 400 m^2; / 100 m^2

Other species: *Eremophila oppositifolia* subsp. *angustissima, E. decipiens* subsp. *decipiens, Grevillea berryana*; isolated *Eucalyptus concinna* taller mallees

Vegetation: *Acacia fuscaneura woodland over Acacia ramulosa var. ramulosa, A. fuscaneura, Eucalyptus concinna tall open shrubland over Olearia sp. Eremicola, Eremophila granitica, Acacia ramulosa var. ramulosa, A. burkittii, A. fuscaneura open shrubland over Olearia sp. Eremicola, Scaevola spinescens, Acacia fuscaneura, Eremophila granitica, Ptilotus obovatus low sparse shrubland over Cheilanthes sieberi subsp. sieberi, Monachather paradoxus, Austrostipa elegantissima, Solanum lasiophyllum, Acacia ramulosa var. ramulosa low sparse fernland*

Acacia burkittii	*Eremophila oppositifolia* subsp. *angustissima*
Acacia fuscaneura	*Eucalyptus concinna*
Acacia hemiteles	*Grevillea berryana*
Acacia ramulosa var. ramulosa	*Monachather paradoxus*
Austrostipa elegantissima	*Olearia muelleri*
Cheilanthes sieberi subsp. sieberi	*Olearia* sp. Eremicola
Dodonaea viscosa subsp. angustissima	*Ptilotus obovatus*
Eremophila decipiens subsp. *decipiens*	*Scaevola spinescens*
Eremophila granitica	*Solanum lasiophyllum*

Lady Ida Quadrat Q3

Date: 15/01/2021 VC 1 Area: 20m x 20m (400m^2)

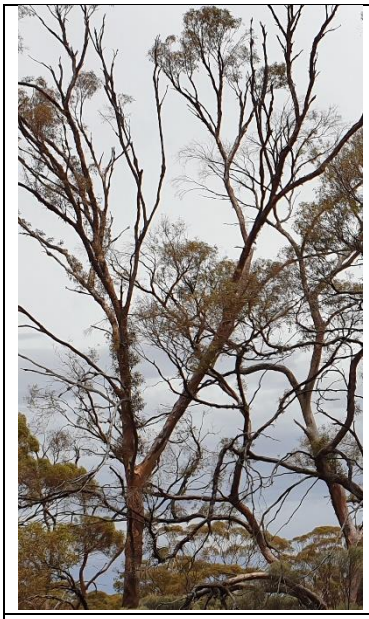
GPS: 275346 E/ 6654548 N; Elevation: 437 m a s l	Location: Near Coolgardie North Road; Walhalla/ Two Gums	Landform: Plain; lower catchment
Land surface: Yellowish red (5YR 5/6) clay loam; surface rock (ironstone gravel 5 – 12 mm) < 10 %; litter 40 – 50 % ^ 10 cm; fallen timber 2 – 3 %; cryptogams (lichen) 20 – 25 %; bare ground < 10 %		
Condition: Very good; some Eucalypts in poor condition – epicormic growth		
Disturbance: Historical mining and pastoral impacts; current stock impacts		
NVIS VI: U1+^ *Eucalyptus salmonophloia\Eucalyptus\^tree\7\i; M1^ Eremophila scoparia, Maireana sedifolia, Exocarpos aphyllus\Eremophila\^shrub\3\c; M2^ Eremophila scoparia, Maireana sedifolia, Scaevola spinescens, Exocarpos aphyllus, Senna artemisioides subsp. filifolia\Eremophila\^shrub\2\i; G1^ Eremophila scoparia, Maireana sedifolia, Senna artemisioides subsp. filifolia\Eremophila\^shrub\1\bi*		

Height (m)	Crown cover %	Habit	Species	No.
18 – 20	20 – 25	Tree	*Eucalyptus salmonophloia (2)*	2
2 – 3	< 2	Shrub	*Eremophila scoparia (3)*	3
1.2 – 2	30 – 40	Shrub	*Eremophila scoparia (300), Maireana sedifolia (4), Exocarpos aphyllus (1)*	305
0.5 – 1.2	20 – 25	Shrub	*Eremophila scoparia (77), Maireana sedifolia (29), Scaevola spinescens (1), Exocarpos aphyllus (1), Senna artemisioides subsp. filifolia (1)*	109
< 0.5	< 2	Shrub	*Eremophila scoparia (43), Maireana sedifolia (4), Senna artemisioides subsp. filifolia (1)*	48
				467

Stem density: 467/ 400 m^2; 116.75/ 100 m^2

Other species: *Austrostipa elegantissima, Atriplex nummularia, Maireana georgei, Olearia muelleri, Santalum acuminatum*

Vegetation: *Eucalyptus salmonophloia woodland over Eremophila scoparia, Maireana sedifolia, Scaevola spinescens, Exocarpos aphyllus, Senna artemisioides subsp. filifolia shrubland over Eremophila scoparia, Maireana sedifolia, Scaevola spinescens, Exocarpos aphyllus, Senna artemisioides subsp. filifolia low open shrubland*

	
Epicormic growth	Quadrat site

Atriplex nummularia	*Maireana sedifolia*
Austrostipa elegantissima	*Olearia muelleri*
Eremophila scoparia	*Santalum acuminatum*
Eucalyptus salmonophloia	*Scaevola spinescens*
Exocarpos aphyllus	*Senna artemisioides subsp. filifolia*
Maireana georgei	

Lady Ida Relevé 15-1

Date: 15/01/21 VC 2

GPS: 274110 E/ 6660805 N Elevation: 451 m a s l	Location: Lady Ida HR Walhalla	Landform: Plain; slight rise; mid catchment
Land surface: Yellowish red clay loam; surface rock (ironstone gravel, quartz) > 70 %		
Condition: Very good; Disturbance; historic mining and pastoral; current pastoral low		
NVIS V: *U+^ Eucalyptus concinna, E. griffithsii\^mallee, tree\6\i; M^ Acacia tetragonophylla, Eremophila sp. Mt Jackson, Exocarpos aphyllus\^shrub\3\i; G ^Olearia muelleri, ^Ptilotus obovatus, ^Atriplex vesicaria\^shrub\1\i*		

Height (m)	Crown cover %	Habit	Species
6 – 8	10 – 30	Mallee, tree	*Eucalyptus concinna, E. griffithsii, E. flocktoniae mallee woodland*
2 – 3	2 – 10	Shrub	*Acacia burkittii, Eremophila sp. Mt Jackson, Casuarina pauper*
1 – 2	10 – 20	Shrub, vine	*Acacia tetragonophylla, Eremophila sp. Mt Jackson, Exocarpos aphyllus, Eremophila scoparia, Vincetoxicum lineare, Casuarina pauper*
0.2 – 0.6	10 – 20	Shrub, tussock grass	*^Olearia muelleri, ^Ptilotus obovatus, ^Atriplex vesicaria, Austrostipa elegantissima, Casuarina pauper, Rhagodia drummondii low open shrubland*
< 0.2	2 – 10	Forb, shrub	*Sclerolaena diacantha, Ptilotus obovatus, Maireana tomentosa low sparse forbland*

Acacia burkittii
Acacia tetragonophylla
Atriplex vesicaria
Austrostipa elegantissima
Casuarina pauper
Eremophila scoparia
Eremophila sp. Mt Jackson
Eucalyptus concinna
Eucalyptus flocktoniae
Eucalyptus griffithsii
Exocarpos aphyllus
Maireana tomentosa
Olearia muelleri
Ptilotus obovatus
Rhagodia drummondii
Sclerolaena diacantha
Vincetoxicum lineare

Vegetation: *Eucalyptus concinna, E. griffithsii, E. flocktoniae mallee woodland over Acacia tetragonophylla, Eremophila sp. Mt Jackson, Exocarpos aphyllus, Eremophila scoparia open shrubland over Olearia muelleri, Ptilotus obovatus, Atriplex vesicaria low open shrubland*

Lady Ida Relevé 15-2

Date: 15/01/21 VC 1

GPS: 274103 E/ 6660698 N	Location: Walhalla	Landform: Plain; slight rise; mid catchment
Land surface: Yellowish red clay loam		
Condition: Good; Disturbance Historical pastoral and mining impacts; moderate pastoral current impacts; clearing, erosion		
NVIS V: *U^ Eucalyptus salubris, E. transcontinentalis, E. loxophleba subsp. lissophloia\^tree, mallee \7\r; M ^ Atriplex vesicaria, Rhagodia drummondii, Eremophila decipiens subsp. decipiens\^chenopod shrub, shrub\2\r; G ^ Sclerolaena cuneata, Maireana thesioides\ ^forb\1\i*		

Height (m)	Crown cover %	Habit	Species
8 – 14	2 – 10	Tree, mallee	*Eucalyptus salubris, E. transcontinentalis, E. loxophleba subsp. lissophloia open woodland*
1 – 2	< 2	Shrub	*Exocarpos aphyllus, Eremophila scoparia isolated shrubs*
0.2 – 1	2 – 10	Shrub	*Atriplex vesicaria, Rhagodia drummondii, Eremophila decipiens subsp. decipiens, E. scoparia*
< 0.2	10 – 20	Forb	*Sclerolaena cuneata, Maireana thesioides*

Atriplex vesicaria
Eremophila decipiens subsp. decipiens
Eremophila scoparia
Eucalyptus loxophleba subsp. lissophloia
Eucalyptus salubris
Eucalyptus transcontinentalis
Exocarpos aphyllus
Maireana thesioides
Rhagodia drummondii
Sclerolaena cuneata

Vegetation: *Eucalyptus salubris, E. transcontinentalis, E. loxophleba subsp. lissophloia open woodland over Atriplex vesicaria, Rhagodia drummondii, Eremophila decipiens subsp. decipiens low sparse shrubland over Sclerolaena cuneata, Maireana thesioides low open forbland*

Lady Ida Relevé 15-3

Date: 15/01/21 VC 2

GPS: 274164 E/ 6660666 N	Location: Walhalla	Landform: Plain; low rise; mid catchment
Land surface: Surface rock (ironstone gravel, quartz) > 80 %		
Condition: Good to very good; Disturbance: Historic mining and pastoral impacts		
NVIS V: U ^ *Eucalyptus loxophleba subsp. lissophloia, Pittosporum angustifolium\^mallee, tree\6\bi; M ^Acacia burkittii, Eremophila sp. Mt Jackson, Exocarpos aphyllus\^shrub\4\i; G ^Ptilotus obovatus, Maireana triptera, Atriplex vesicaria\^shrub\1\bi*		

Height (m)	Crown cover %	Habit	Species
6 – 10	< 2	Mallee, tree	*Eucalyptus loxophleba subsp. lissophloia, Pittosporum angustifolium isolated mallee and low trees*
2 – 3	20 – 30	Shrub	*Acacia burkittii, Eremophila sp. Mt Jackson, Exocarpos aphyllus tall open shrubland*
1 – 2	10 – 20	Shrub	*Acacia burkittii, Senna artemisioides subsp. filifolia, Atriplex nummularia, Eremophila sp. Mt Jackson open shrubland*
< 0.5	< 2	Shrub	*Ptilotus obovatus, Maireana triptera, Atriplex vesicaria isolated low shrubs*

Acacia burkittii
Atriplex nummularia
Atriplex vesicaria
Eremophila sp. Mt Jackson
Eucalyptus loxophleba subsp. lissophloia
Exocarpos aphyllus
Maireana triptera
Pittosporum angustifolium
Ptilotus obovatus
Senna artemisioides subsp. filifolia

Vegetation: *Eucalyptus loxophleba subsp. lissophloia, Pittosporum angustifolium isolated mallee and low trees over Acacia burkittii, Eremophila sp. Mt Jackson, Exocarpos aphyllus tall open shrubland over Acacia burkittii, Senna artemisioides subsp. filifolia, Atriplex nummularia, Eremophila sp. Mt Jackson open shrubland over Ptilotus obovatus, Maireana triptera, Atriplex vesicaria isolated low shrubs*

Lady Ida Relevé 15-4

Date: 15/01/21 VC 1

GPS: 274240 E/ 6660508 N	Location: Walhalla	Landform: Plain; mid catchment
Land surface: surface rock (ironstone gravel, quartz, granite) > 80 %		
Condition: Good to very good; Disturbance: historical pastoral impacts		
NVIS V: U+ *Eucalyptus salmonophloia\tree\7\r; M ^ Atriplex nummularia, Eremophila scoparia\ shrub\3\i; G ^ Atriplex vesicaria, Ptilotus obovatus, Olearia muelleri\Chenopod shrub, shrub\1\i*		

Height (m)	Crown cover %	Habit	Species
14 – 20	8 – 10	Tree	*Eucalyptus salmonophloia open woodland*
2 – 3	< 2	Shrub	*Eremophila scoparia tall isolated shrubs*
1 – 2	10 – 20	Shrub	*Atriplex nummularia, Eremophila scoparia open shrubland*
< 0.6	20 – 30	Shrub	*Atriplex vesicaria, Ptilotus obovatus, Olearia muelleri, Maireana thesioides, Atriplex nummularia low open shrubland*

Atriplex nummularia
Atriplex vesicaria
Eremophila scoparia
Eucalyptus salmonophloia
Maireana thesioides
Olearia muelleri
Ptilotus obovatus

Vegetation: *Eucalyptus salmonophloia open woodland over Atriplex nummularia, Eremophila scoparia open shrubland over Atriplex vesicaria, Ptilotus obovatus, Olearia muelleri, Maireana thesioides, Atriplex nummularia low open shrubland*

Lady Ida Relevé 15-5

Date: 15/01/21 VC 1 (Minor drainage line)

GPS: 274618 E/ 6660090 N	Location: Walhalla; just east of survey area	Landform: Plain; minor drainage line; mid catchment
Land surface: Yellowish red clay loam; surface rock (fine ironstone gravel) 10 – 20 %; litter 30 – 40 %; fallen timber 5 – 10 %		
Condition: Good; Disturbance: Historical and current pastoral impacts; erosion active along drainage line		
NVIS V: U1+^ *Eucalyptus ravida, E. salmonophloia\tree\7\c; M1^ Eremophila sp. Mt Jackson, E. scoparia, E. decipiens subsp. decipiens\shrub\3\bi; G1^ Atriplex vesicaria, Maireana triptera\ chenopod shrub\1\r*		

Height (m)	Crown cover %	Habit	Species
10 – 12	30 – 40	Tree	*Eucalyptus ravida, E. salmonophloia*
1 – 2	< 2	Shrub	*Eremophila sp. Mt Jackson, E. scoparia, E. decipiens subsp. decipiens isolated shrubs*
< 0.6	2 – 10	Shrub	*Atriplex vesicaria, Maireana triptera low sparse shrubland*

Atriplex vesicaria
Eremophila decipiens subsp. decipiens
Eremophila scoparia
Eremophila sp. Mt Jackson
Eucalyptus ravida
Eucalyptus salmonophloia
Maireana triptera

Vegetation: *Eucalyptus ravida, E. salmonophloia open forest over Eremophila sp. Mt Jackson, E. scoparia, E. decipiens subsp. decipiens isolated shrubs over Atriplex vesicaria, Maireana triptera low sparse chenopod shrubland*

Lady Ida Relevé 15-6

Date: 15/01/21 VC 1DL

GPS: 274958 E/ 6658132 N	Location: Walhalla – Two Gums	Landform: Plain; drainage line
Land surface: Red clay loam; surface rock < 2%; litter 10 – 20 %; fallen timber < 2 %		
Condition: Very good; significant trees – very old Salmon gums		
Disturbance: Cattle; pastoral activities; erosion along vehicle track		
NVIS V: U+^ *Eucalyptus salmonophloia, E. salubris\tree\7\i; M ^ Maireana pyramidata, Eremophila scoparia, E. sp. Mt Jackson\^chenopod shrub, shrub\2\c; G ^ Atriplex vesicaria, Maireana triptera, M. pyramidata\chenopod shrub\1\i*		

Height (m)	Crown cover %	Habit	Species
12 – 20	20 – 30	Tree	*Eucalyptus salmonophloia, E. salubris woodland*
3 – 4	< 2	Tree	*Casuarina pauper low isolated trees*
1.5 – 2	2 – 10	Shrub	*Eremophila scoparia, Acacia burkittii sparse shrubland*
0.8 – 1	30 – 40	Shrub	*Maireana pyramidata, Eremophila scoparia, E. sp. Mt Jackson, Santalum acuminatum, Acacia erinacea shrubland*
< 0.6	20 – 30	Shrub	*Atriplex vesicaria, Maireana triptera, M. pyramidata, M. thesioides low open shrubland*

Acacia burkittii	*Maireana pyramidata*
Acacia erinacea	*Maireana triptera*
Acacia murrayana	*Maireana thesioides*
Atriplex vesicaria	*Ptilotus exaltatus*
Casuarina pauper	*Ptilotus obovatus*
Eremophila scoparia	*Salvia verbenaca* (weed)*
Eremophila sp. Mt Jackson	*Santalum acuminatum*
Eucalyptus salmonophloia	*Sclerolaena diacantha*
Eucalyptus salubris	*Sclerolaena eurotioides*

	*Eucalyptus salmonophloia, E. salubris woodland over Casuarina pauper low isolated trees over Eremophila scoparia, Acacia burkittii sparse shrubland over Maireana pyramidata, Eremophila scoparia, E. sp. Mt Jackson, Santalum acuminatum low shrubland over Atriplex vesicaria, Maireana triptera, M. pyramidata, M. thesioides low open chenopod shrubland* < Several large salmon gums were present in the area, adjacent to the track. Litter 70 – 80 % ^ 30 cm; fallen timber 10 – 15 %

Open shrubland area: clay flat adjacent to *Eucalyptus* woodland; litter 5 – 10 %; fallen timber < 1 %; slightly sodic Condition: good; ^ pastoral impacts *Maireana pyramidata, Atriplex vesicaria, Acacia murrayana, Ptilotus obovatus, Eremophila scoparia* open shrubland (0.8 – 1.2 m) over *Sclerolaena eurotioides, S. diacantha, Ptilotus exaltatus, Eremophila scoparia, Salvia verbenaca** low sparse forbland with isolated low shrubs	

Lady Ida Relevé 15-7 Eucalyptus salubris woodland areas with patches of shrubland

Date: 15/01/21 VC 4

GPS: 275264 E/ 6655809 N Elevation: 439 m a s l	Location: Walhalla to Two Gums	Landform: Plain; drainage line

Height (m)	Crown cover %	Habit	Species
10 – 15	10 – 30	Tree	*Eucalyptus salubris woodland*
2 – 3	< 1	Shrub	*Eremophila interstans subsp. interstans tall isolated shrubs*
1.5 – 2	2 – 3	Shrub	*Eremophila scoparia sparse shrubland*
0.6 – 1.2	20 – 30	Shrub	*Maireana sedifolia, Eremophila ionantha, Senna artemisioides subsp. filifolia, Acacia hemiteles, Eremophila scoparia, Acacia colletioides, Casuarina pauper, Dodonaea lobulata open shrubland*
< 0.6	10 – 20	Shrub, tussock grass	*Olearia muelleri, Maireana sedifolia, M. triptera, Ptilotus obovatus, Austrostipa elegantissima, Maireana tomentosa, Sclerolaena cuneata, Eremophila decipiens* subsp. *decipiens, Olearia* sp. Eremicola low open shrubland

Vegetation: *Eucalyptus salubris woodland over Eremophila interstans subsp. interstans tall isolated shrubs over Eremophila scoparia sparse shrubland over Maireana sedifolia, Eremophila ionantha, Senna artemisioides subsp. filifolia, Acacia hemiteles, Eremophila scoparia open shrubland over Olearia muelleri, Maireana sedifolia, M. triptera, Ptilotus obovatus, Austrostipa elegantissima,* low open shrubland

GPS: 275295 E/ 6655875 N	Location: Walhalla to Two Gums	Landform: Plain
Land surface: Yellowish red clay loam; surface rock < 1 %; cryptogams (lichen) 40 – 50 %		
Condition: Very good; Disturbance: Historic pastoral activities; clearing – regrowth present; sheet wash, old erosion scars		
NVIS V: U^ *Casuarina pauper, Eucalyptus clelandiorum, E. salubris\tree\6\bi; M+ ^Maireana sedifolia, ^Acacia hemiteles Dodonaea lobulata\chenopod shrub, shrub\3\i; G ^ Maireana sedifolia, ^Ptilotus obovatus Eremophila ionantha\chenopod shrub, shrub\2\i*		

Height (m)	Crown cover %	Habit	Species
4 – 5	< 2	Tree	*Casuarina pauper, Eucalyptus clelandiorum, E. salubris isolated low trees*
2 – 3	2 – 10	Shrub	*Dodonaea lobulata, Eremophila scoparia, Acacia colletioides tall sparse shrubland*
1 – 2	10 – 30	Shrub	*^Maireana sedifolia, ^Acacia hemiteles, Senna artemisioides subsp. filifolia, Eremophila decipiens subsp. decipiens, E. scoparia, Senna cardiosperma open shrubland*
< 1	10 – 30	Shrub, tussock grass	*^Maireana sedifolia, ^Ptilotus obovatus Eremophila ionantha, E. scoparia, Maireana tomentosa, M. triptera, Senna artemisioides subsp. filifolia, Austrostipa elegantissima low open shrubland*

Vegetation: *Casuarina pauper, Eucalyptus clelandiorum, E. salubris isolated low trees over Dodonaea lobulata, Eremophila scoparia, Acacia colletioides tall sparse shrubland over ^Maireana sedifolia, ^Acacia hemiteles, Senna artemisioides subsp. filifolia, Eremophila decipiens subsp. decipiens, E. scoparia, Senna cardiosperma open shrubland over ^Maireana sedifolia, ^Ptilotus obovatus Eremophila ionantha, E. scoparia, Maireana tomentosa, M. triptera, Senna artemisioides subsp. filifolia, Austrostipa elegantissima low open shrubland*

R15-7

Acacia colletioides	*Eucalyptus salubris*
Acacia hemiteles	*Maireana sedifolia*
Austrostipa elegantissima	*Maireana tomentosa*
Casuarina pauper	*Maireana triptera*
Dodonaea lobulata	*Olearia muelleri*
Eremophila decipiens subsp. *decipiens*	*Olearia* sp. Eremicola
Eremophila ionantha	*Ptilotus obovatus*
Eremophila interstans subsp. interstans	*Sclerolaena cuneata*
Eremophila scoparia	*Senna artemisioides subsp. filifolia*
Eucalyptus clelandiorum	*Senna cardiosperma*

Lady Ida Relevé 15-8

Date: 15/01/21 VC 5

GPS: 275448 E/ 6653301 N 435 m a s l	Location: Walhalla to Two Gums – south end	Landform: Plain; very slight rise
Land surface: Yellowish red clay loam; surface rock < 1 %; litter > 85 %; fallen timber 2 – 5 %		
Condition: Very good; Disturbance: Cattle – grazing line to 1.5 m obvious		
NVIS V: U+^ *Eucalyptus clelandiorum, E. salmonophloia\tree\7\c; M^ Pimelea microcephala, Senna artemisioides subsp. filifolia, Pittosporum angustifolium\shrub\3\r; G ^Olearia muelleri, Atriplex vesicaria, Eremophila ionantha\shrub\2\r*		

Height (m)	Crown cover %	Habit	Species
10 – 14	30 – 40	Tree	*Eucalyptus clelandiorum, E. salmonophloia woodland patch*
2 – 3	< 2	Shrub	*Exocarpos aphyllus, Acacia colletioides tall isolated shrubs*
1 – 2	8 – 10	Shrub, vine	*Pimelea microcephala, Senna artemisioides subsp. filifolia, Pittosporum angustifolium, Vincetoxicum lineare, Acacia colletioides, Eremophila decipiens subsp. decipiens, Dodonaea lobulata, Teucrium disjunctum sparse shrubland*
< 0.9	2 – 5	Shrub	*Olearia muelleri, Atriplex vesicaria, Eremophila ionantha, Scaevola spinescens, Exocarpos aphyllus, Acacia murrayana low sparse shrubland*

Vegetation: *Eucalyptus clelandiorum open forest over Exocarpos aphyllus, Acacia colletioides tall isolated shrubs over Pimelea microcephala, Senna artemisioides subsp. filifolia, Pittosporum angustifolium, Vincetoxicum lineare, Acacia colletioides, Eremophila decipiens subsp. decipiens, Dodonaea lobulata, Teucrium disjunctum sparse shrubland over Olearia muelleri, Atriplex vesicaria, Eremophila ionantha, Scaevola spinescens, Exocarpos aphyllus, Acacia murrayana low sparse shrubland*

Acacia colletioides
Acacia murrayana
Atriplex vesicaria
Dodonaea lobulata
Eremophila decipiens subsp. decipiens
Eremophila ionantha
Eucalyptus clelandiorum
Eucalyptus salmonophloia
Exocarpos aphyllus
Olearia muelleri
Pimelea microcephala
Pittosporum angustifolium
Scaevola spinescens
Senna artemisioides subsp. filifolia
Teucrium disjunctum
Vincetoxicum lineare

Lady Ida Relevé 15-9

Date: 15/01/21 VC 6

GPS: 275479 E/ 6652647 N	Location: Walhalla to Two Gums	Landform: Plain; depression/ drainage line
Land surface: Washed sand over red clay loam; surface rock 0 %; litter > 70 % ^ 5cm		
Condition: Excellent		
Disturbance: Low historical and current pastoral impacts		
NVIS V: U1+^ *Eucalyptus loxophleba subsp. lissophloia\mallee\6\i; M1^ Eremophila ionantha, Senna artemisioides subsp. filifolia, Eremophila pustulata\shrub\3\i; G1 ^ Ptilotus obovatus, Eremophila ionantha, Senna artemisioides subsp. filifolia\shrub\1\c*		

Height (m)	Crown cover %	Habit	Species
8 – 10	25 – 30	Mallee	*Eucalyptus loxophleba subsp. lissophloia mallee woodland*
1 – 1.5	15 – 20	Shrub	*Eremophila ionantha, Senna artemisioides subsp. filifolia, Eremophila pustulata open shrubland*
< 0.8	30 – 40	Shrub	*Ptilotus obovatus, Eremophila ionantha, Senna artemisioides subsp. filifolia, Maireana triptera, Olearia muelleri low open shrubland*

Other species: *Acacia hemiteles, Atriplex nummularia, Exocarpos aphyllus, Maireana pyramidata, M. thesioides, M. tomentosa, Scaevola spinescens*

Acacia hemiteles
Atriplex nummularia
Eremophila ionantha
Eremophila pustulata
Exocarpos aphyllus
Eucalyptus loxophleba subsp. lissophloia
Maireana pyramidata
Maireana thesioides
Maireana tomentosa
Maireana triptera
Olearia muelleri
Ptilotus obovatus
Scaevola spinescens
Senna artemisioides subsp. filifolia

Vegetation: *Eucalyptus loxophleba subsp. lissophloia mallee woodland over Eremophila ionantha, Senna artemisioides subsp. filifolia, Eremophila pustulata open shrubland over Ptilotus obovatus, Eremophila ionantha, Senna artemisioides subsp. filifolia, Maireana triptera, Olearia muelleri low open shrubland*

Lady Ida Relevé 15-10

Date: 15/01/21 VC 3

GPS: 275540 E/ 6649477 N	Location: Coolgardie North Rd	Landform: Drainage line
Land surface: Reddish brown fine sandy clay loam; surface rock < 1 %; litter 20 – 30 %; fallen timber 15 – 20 %		
Condition: Very good; Disturbance: Historic pastoral and mining impacts		
NVIS V: U+^ *Acacia caesaneura\tree\6\c; M^ Acacia burkittii, Santalum spicatum, Hakea recurva\^shrub, tree\4\i; G^ Prostanthera grylloana, Eremophila granitica, Acacia caesaneura\ shrub\2\i*		

Height (m)	Crown cover %	Habit	Species
4 – 8	40 – 50	Tree	*Acacia caesaneura low open forest*
2 – 4	10 – 30	Shrub, tree	*Acacia burkittii, Santalum spicatum, Hakea recurva tall open shrubland*
0.5 – 1.2	20 – 30	Shrub	*Prostanthera grylloana, Eremophila granitica, Acacia caesaneura, Olearia sp. Eremicola low open shrubland*

Acacia burkittii
Acacia caesaneura
Eremophila granitica
Hakea recurva subsp. recurva
Olearia sp. Eremicola
Prostanthera grylloana
Santalum spicatum

Vegetation: *Acacia caesaneura low open forest over Acacia burkittii, Santalum spicatum, Hakea recurva tall open shrubland over Prostanthera grylloana, Eremophila granitica, Acacia caesaneura, Olearia sp. Eremicola low open shrubland*

Lady Ida Relevé 15-11

Date: 15/01/21 VC 5

GPS: 275642 E/ 6649488 N	Location: Coolgardie Rd; east side	Landform: Low rise
Land surface: Yellowish red clay loam; surface rock (ironstone gravel, calcrete) 60 – 70 %; litter 20 - 30 %; fallen timber 5 – 10 %		
Condition: Very good; lot of lerps present on *Eucalyptus*		
Disturbance: Historic mining; clearing, coppicing; historic pastoral, current feral impacts		
NVIS V: U+^^ *Eucalyptus griffithsii, E. clelandiorum, E. oleosa subsp. oleosa\^tree, mallee\7\c; M Eremophila sp. Mt Jackson\shrub\3\r; G ^ Olearia muelleri, Eremophila sp. Mt Jackson, Acacia burkittii\1\bi*		

Height (m)	Crown cover %	Habit	Species
10 – 14	30 – 40	Tree, mallee	*Eucalyptus griffithsii, E. clelandiorum, E. oleosa subsp. oleosa, E. sp Mixed Eucalyptus woodland*
1 – 2	2 – 4	Shrub	*Eremophila sp. Mt Jackson sparse shrubland*
< 0.6	< 2	Shrub	*Olearia muelleri, Eremophila sp. Mt Jackson, Acacia burkittii low isolated shrubs*

Other species: *Grevillea oligomera, G. acuaria, Westringia rigida, Scaevola spinescens*

Acacia burkittii
Eremophila sp. Mt Jackson
Eucalyptus clelandiorum
Eucalyptus griffithsii
Eucalyptus oleosa subsp. oleosa
Eucalyptus sp
Grevillea acuaria
Grevillea oligomera
Olearia muelleri
Scaevola spinescens
Westringia rigida

Vegetation: *Eucalyptus griffithsii, E. clelandiorum, E. oleosa subsp. oleosa, E. sp Eucalyptus woodland over Eremophila sp. Mt Jackson sparse shrubland over Olearia muelleri, Eremophila sp. Mt Jackson, Acacia burkittii low isolated shrubs*

Lady Ida Relevé 15-12

Date: 15/01/21 VC 3

GPS: 275728 E/ 6649517 N	Location: Two Gums, east	Landform: Low rise; lateritic
Land surface: Yellowish red sandy clay loam; surface rock (ironstone gravel, calcrete) 70 - > 80 %; litter 10 – 20 %; fallen timber 10 – 15 %		
Condition: Very good		
Disturbance: historic mining and pastoral activities; timber cutting; grasses absent		
NVIS V: U^ *Casuarina pauper, Eucalyptus oleosa subsp. oleosa\^tree, mallee\6\bi; M+ ^ Scaevola spinescens, Grevillea acuaria, G. oligomera\shrub\3\i; G ^ Scaevola spinescens, Westringia rigida, Olearia muelleri\shrub\2\i*		

Height (m)	Crown cover %	Habit	Species
8 – 10	< 2	Tree, mallee	*Casuarina pauper, Eucalyptus oleosa subsp. oleosa low isolated trees and mallee*
4 – 6	5 – 10	Shrub, tree	*Acacia burkittii, Casuarina pauper tall sparse shrubland*
1 – 2	20 – 30	Shrub	*Scaevola spinescens, Grevillea acuaria, G. oligomera, Eremophila granitica open shrubland*
< 1	20 – 30	Shrub	*Scaevola spinescens, Westringia rigida, Olearia muelleri, Acacia burkittii, Eremophila granitica low open shrubland*

Other species: *Acacia fuscaneura, Acacia tetragonophylla, Exocarpos aphyllus, Prostanthera campbellii, P. grylloana*

Acacia burkittii
Acacia fuscaneura
Acacia tetragonophylla
Casuarina pauper
Eremophila granitica
Eucalyptus oleosa subsp. oleosa
Exocarpos aphyllus
Grevillea acuaria
Grevillea oligomera
Olearia muelleri
Prostanthera campbellii
Prostanthera grylloana
Scaevola spinescens
Westringia rigida

Vegetation: *Casuarina pauper, Eucalyptus oleosa subsp. oleosa, Acacia fuscaneura low isolated trees and mallee over Acacia burkittii, Casuarina pauper tall sparse shrubland over Scaevola spinescens, Grevillea acuaria, G. oligomera, Eremophila granitica open shrubland over Scaevola spinescens, Westringia rigida, Olearia muelleri, Acacia burkittii, Prostanthera campbellii, P. grylloana low open shrubland*

Lady Ida Relevé 15-13

Date: 15/01/21 VC 3

GPS: 275556 E/ 6649528 N	Location: Two Gums; east of Coolgardie North Rd	Landform: Edge of low rise > drainage line
Land surface: Yellowish red fine sandy clay loam; surface rock (fine ironstone gravel) 30 – 40 %; litter 50 – 60 %; fallen timber 5 – 10 %; cryptogams (lichen) 20 – 30 %		
Condition: Very good		
Disturbance Historic mining and pastoral activities; timber cutting		
NVIS V: U+^ *Acacia fuscaneura, A. caesaneura\shrub\4\c; M Santalum spicatum\tree\6\bi; G ^ Philotheca tomentella, Eremophila clarkei\shrub\i*		

Height (m)	Crown cover %	Habit	Species
8 – 10	40 – 50	Shrub	*Acacia fuscaneura, A. caesaneura tall shrubland*
2 – 4	< 2	Tree	*Santalum spicatum low isolated trees*
1 – 2	20 – 30	Shrub	*Philotheca tomentella, Eremophila clarkei open shrubland*

Acacia caesaneura *Acacia fuscaneura* *Eremophila clarkei* *Philotheca tomentella* *Santalum spicatum*	

Vegetation: *Acacia fuscaneura, A. caesaneura tall shrubland over Santalum spicatum low isolated trees over Philotheca tomentella, Eremophila clarkei open shrubland*

Lady Ida Relevé 18-27

Date: 18/01/21 (3.53 pm) VC 1

GPS: 273114 E/ 6646786 N	Location: Two Gums, south	Landform: Plain; lower catchment
Land surface: Reddish brown clay loam; litter 70 – 90 % in patches under trees, < 10 % in open areas		
Condition: Good to very good; some drought stress (*E. virella*)		
Disturbance: Historic mining and pastoral disturbances; some clearing, tracks		
NVIS V: U+^ *Eucalyptus salubris, E. virella, E. salmonophloia\tree\7\r; M ^ Eremophila ionantha, Acacia hemiteles, Westringia rigida\shrub\r\3; G ^ Sclerolaena diacantha, S. fusiformis\forb\1\bi*		

Height (m)	Crown cover %	Habit	Species
8 – 12	8 – 10 (20)	Tree	*Eucalyptus salubris, E. virella, E. salmonophloia open woodland*
1 – 1.5	2 – 10	Shrub	*Eremophila ionantha, Acacia hemiteles, Westringia rigida sparse shrubland*
< 0.2	< 2	Forb	*Sclerolaena diacantha, S. fusiformis low isolated forbs*

Other species: *Santalum acuminatum, Atriplex nummularia*

Acacia hemiteles *Atriplex nummularia* *Eremophila ionantha* *E. salmonophloia* *Eucalyptus salubris* *E. virella* *Santalum acuminatum* *Sclerolaena diacantha* *S. fusiformis* *Westringia rigida*	

Vegetation: *Eucalyptus salubris, E. virella, E. salmonophloia open woodland over Eremophila ionantha, Acacia hemiteles, Westringia rigida sparse shrubland over Sclerolaena diacantha, S. fusiformis low isolated forbs*

Lady Ida Relevé 18-28

Date: 18/01/21 VC 6

GPS: 273126 E/ 6647033 N	Location: Two Gums	Landform: Plain, lower catchment; drainage line
Land surface: Red clay loam; surface rock < 1 %; litter 30 – 40 %; fallen timber 5 – 10 %; cryptogams (lichen) 60 – 70 %		
Condition: Excellent; structure intact; good diversity		
Disturbance: Low; historic mining and pastoral impacts in broader area		
NVIS V: U+^ *Eucalyptus clelandiorum, E. griffithsii, E. loxophleba subsp. lissophloia\tree, mallee\ 7\i; M1 ^ Acacia tetragonophylla, A. burkittii\shrub\4\c; M2 ^ Senna artemisioides subsp. filifolia, Acacia colletioides, Acacia tetragonophylla\shrub\3\c*		

Height (m)	Crown cover %	Habit	Species
7 – 14 (18)	20 – 30 (40)	Tree, mallee	*Eucalyptus clelandiorum, E. griffithsii, E. loxophleba subsp. lissophloia woodland*
4 – 6	10 – 30	Shrub	*Acacia burkittii tall open shrubland*
2 – 3	20 – 30	Shrub	*Acacia tetragonophylla, A. burkittii tall open shrubland*
1 – 2	30 – 40	Shrub	*Senna artemisioides subsp. filifolia, Acacia colletioides, Acacia tetragonophylla, Exocarpos aphyllus, Eremophila ionantha shrubland*
< 1	20 – 30 (40)	Shrub	*Senna artemisioides subsp. filifolia, Eremophila ionantha, Ptilotus obovatus, Westringia rigida, Olearia muelleri, Rhagodia drummondii low open shrubland to low shrubland*

Other species: *Austrostipa elegantissima, Casuarina pauper, Eremophila decipiens subsp. decipiens, E. pustulata, E. scoparia, Acacia hemiteles, A. merrallii, Eucalyptus transcontinentalis, E. salubris, Ptilotus exaltatus, Sida sp., Santalum acuminatum*

Edges of drainage line: *Eucalyptus clelandiorum, E. griffithsii* woodland over *Eremophila pustulata* shrubland over *Olearia muelleri, Westringia rigida* low open shrubland

Vegetation: *Eucalyptus clelandiorum, E. griffithsii, E. loxophleba subsp. lissophloia woodland over A. burkittii, Acacia tetragonophylla tall open shrubland over Senna artemisioides subsp. filifolia, Acacia colletioides, Acacia tetragonophylla, Exocarpos aphyllus, Eremophila ionantha shrubland over Senna artemisioides subsp. filifolia, Eremophila ionantha, Ptilotus obovatus, Westringia rigida, Olearia muelleri, Rhagodia drummondii low open shrubland to low shrubland*

Acacia burkittii	*Eucalyptus loxophleba subsp. lissophloia*
Acacia colletioides	*Eucalyptus salubris*
Acacia hemiteles	*Eucalyptus transcontinentalis*
Acacia merrallii	*Exocarpos aphyllus*
Acacia tetragonophylla	*Olearia muelleri*
Austrostipa elegantissima	*Ptilotus exaltatus*
Casuarina pauper	*Ptilotus obovatus*
Eremophila decipiens subsp. decipiens	*Rhagodia drummondii*
Eremophila ionantha	*Santalum acuminatum*
Eremophila pustulata	*Senna artemisioides subsp. filifolia*
Eremophila scoparia	*Sida sp.*
Eucalyptus clelandiorum	*Westringia rigida*
Eucalyptus griffithsii	

Lady Ida Relevé 18-29

Date: 18/01/21 VC 3

GPS: 273312 E/ 6647353 N	Location: Two Gums	Landform: Low hill; laterite
Land surface: Yellowish red silty clay loam; surface rock (ironstone gravel) > 70 %; litter 20 – 30 %; fallen timber 1 – 2 %; bare ground < 5%		
Condition: Very good		
Disturbance: Historic mining activities; clearing, tracks		
NVIS V: U *Eucalyptus griffithsii\mallee\6\bi; Grevillea oligomera, Allocasuarina acutivalvis subsp. acutivalvis, Phebalium filifolium\shrub\3\c; G Prostanthera althoferi subsp. althoferi\shrub\2\r*		

Height (m)	Crown cover %	Habit	Species
8 – 10	< 2	Mallee	*Eucalyptus griffithsii isolated mallee*
1.2 – 1.8	30 – 40	Shrub	*Grevillea oligomera, Allocasuarina acutivalvis subsp. acutivalvis, Phebalium filifolium, Alyxia buxifolia, Acacia burkittii shrubland*
< 1	< 2 – 15	Shrub	*Prostanthera althoferi subsp. althoferi low open shrubland (lower slopes)*

Acacia burkittii
Allocasuarina acutivalvis subsp. acutivalvis
Alyxia buxifolia
Eucalyptus griffithsii
Grevillea oligomera
Phebalium filifolium
Physopsis viscida
Prostanthera althoferi subsp. althoferi

Other species: *Physopsis viscida* (regrowth) on bund

Vegetation: *Eucalyptus griffithsii isolated mallee over Grevillea oligomera, Allocasuarina acutivalvis subsp. acutivalvis, Phebalium filifolium, Alyxia buxifolia, Acacia burkittii shrubland over Prostanthera althoferi subsp. althoferi low sparse shrubland*

Lady Ida Relevé 18-30

Date: 18/01/21 VC 1/ 3 change

GPS: 273387 E/ 6647313 N	Location: Two Gums, east	Landform: Plain
Land surface: Yellowish red clay loam; surface rock (lateritic gravel, quartz, granite) 30 – 40 %; litter 30 – 50 %; fallen timber 5 – 10 %		
Condition: Very good		
Disturbance: Historic mining and pastoral impacts; current pastoral impacts		
NVIS V: U+^ *Eucalyptus griffithsii, E. oleosa subsp. oleosa, E. salmonophloia\mallee, tree\7\i; M1 ^ Grevillea oligomera, Acacia hemiteles, Scaevola spinescens\3\c; M2 ^ Scaevola spinescens, Phebalium filifolium, Westringia rigida\2\i*		

Height (m)	Crown cover %	Habit	Species
10 – 14	10 – 20	Mallee, tree	*Eucalyptus griffithsii, E. oleosa subsp. oleosa, E. salmonophloia woodland*
2 – 3	10 – 20	Shrub	*Eremophila ionantha tall open shrubland*
1 – 2	30 – 40	Shrub	*Grevillea oligomera, Acacia hemiteles, Scaevola spinescens shrubland*
< 1	20 – 30	Shrub	*Scaevola spinescens, Phebalium filifolium, Westringia rigida, Olearia muelleri low open shrubland*

Acacia hemiteles
Eremophila ionantha
Eucalyptus griffithsii
Eucalyptus oleosa subsp. oleosa
Eucalyptus salmonophloia
Grevillea oligomera
Olearia muelleri
Phebalium filifolium
Scaevola spinescens
Westringia rigida

Lady Ida Relevé 19-1

Date: 19/01/21 (6.54 am) VC 5/1 change

GPS: 273525 E/ 6647497 N Elevation: 456 m a s l	Location: Two Gums, east	Landform: Plain
Land surface: Red clay loam; surface rock (ironstone gravel) 70 – 80 %; litter 30 – 40 %; fallen timber 1 – 2 %; bare ground < 1 %		
Condition: Very good		
Disturbance: Historic mining and pastoral impacts; some coppicing; lack of grasses		
NVIS V: U+^ *Eucalyptus griffithsii, E. salmonophloia, E. virella\mallee, tree\6\i; M1 ^ Acacia hemiteles, Exocarpos aphyllus, Eremophila scoparia\shrub\3\i; M2 ^ Grevillea acuaria, Senna artemisioides subsp. filifolia, Olearia muelleri\shrub\2\r*		

Height (m)	Crown cover %	Habit	Species
9 – 11	20 – 30	Mallee, tree	*Eucalyptus griffithsii, E. salmonophloia, E. virella mallee woodland*
1 – 2	20 – 30	Shrub	*Acacia hemiteles, Exocarpos aphyllus, Eremophila scoparia, E. sp. Mt Jackson, Senna artemisioides subsp. filifolia open shrubland*
< 1	2 – 10	Shrub	*Grevillea acuaria, Senna artemisioides subsp. filifolia, Olearia muelleri, Eremophila scoparia low sparse shrubland*

Acacia hemiteles
Acacia tetragonophylla
Eremophila clarkei
Eremophila scoparia
E. sp. Mt Jackson
E. clelandiorum
Eucalyptus griffithsii
E. oleosa subsp. oleosa
E. salubris
E. salmonophloia
Eucalyptus transcontinentalis
E. virella
Exocarpos aphyllus
Olearia muelleri
Ptilotus obovatus
Sclerolaena diacantha
Senna artemisioides subsp. filifolia

Other species: *Eucalyptus transcontinentalis, E. salubris, E. oleosa subsp. oleosa, E. clelandiorum; Acacia tetragonophylla, Ptilotus obovatus, Eremophila clarkei, Sclerolaena diacantha*

Lady Ida Relevé 19-2

Date: 19/01/21 VC 5

GPS: 273615 E/ 6647449 N	Location: Two Gums, east	Landform: Plain; edge of slight rise
Land surface: Surface rock (ironstone gravel) > 90 %; litter < 10 %; fallen timber < 1 %		
Condition: Very good		
Disturbance: Historic mining and pastoral impacts; current pastoral impacts		
NVIS V: M1 ^ *Eremophila sp. Mt Jackson, Acacia burkittii\shrub\4\r; M2 +^ Acacia hemiteles, Eremophila scoparia, E. sp. Mt Jackson\shrub\3\r; G ^ Ptilotus obovatus, Olearia muelleri, Rhagodia drummondii\shrub\2\r*		

Height (m)	Crown cover %	Habit	Species
8 – 9	< 2	Mallee	*Eucalyptus virella isolated mallee*
2 – 4	2 – 10	Shrub	*Eremophila sp. Mt Jackson, Acacia burkittii tall sparse shrubland*
1 – 2	2 – 10	Shrub	*Acacia hemiteles, Eremophila scoparia, E. sp. Mt Jackson, Acacia burkittii, Senna artemisioides subsp. filifolia sparse shrubland*
< 1	2 – 5	shrub	*Ptilotus obovatus, Olearia muelleri, Rhagodia drummondii, Eremophila scoparia, Sclerolaena sp., Maireana thesioides low sparse shrubland*

Acacia burkittii
Acacia hemiteles
Eremophila scoparia
Eremophila sp. Mt Jackson
Eucalyptus virella
Maireana thesioides
Olearia muelleri
Ptilotus obovatus
Rhagodia drummondii
Sclerolaena sp.
Senna artemisioides subsp. filifolia

Lady Ida Relevé 19-3

Date: 19/01/21 VC 1

GPS: 273682 E/ 6647495 N	Location: Two gums	Landform: Plain
Land surface: Yellowish red clay loam/ clay – some areas of cracking clay; surface rock (ironstone gravel) 10 – 20 %; litter > 80 %; fallen timber 10 – 15 %; cryptogams (lichen) 10 – 20 %		
Condition: Very good		
Disturbance: Historic mining and pastoral impacts; old tracks; timber cutting - coppicing		
NVIS V: U+^ *Eucalyptus salubris, E. salmonophloia, E. transcontinentalis\tree\7\c; M1 ^ Eremophila sp. Mt Jackson, Acacia tetragonophylla\shrub\3\r; M2 ^ Eremophila scoparia, E. sp. Mt Jackson\shrub\2\i*		

Height (m)	Crown cover %	Habit	Species
10 – 20	30 – 40	Tree, coppice	*Eucalyptus salubris, E. salmonophloia, E. transcontinentalis*
2 – 3	2 – 10	Shrub	*Eremophila sp. Mt Jackson, Acacia tetragonophylla tall sparse shrubland*
1 – 2	10 – 30	Shrub	*Eremophila scoparia, E. sp. Mt Jackson open shrubland*
< 1	2 – 10	Shrub	*Olearia muelleri, Acacia tetragonophylla, Eremophila scoparia, Santalum acuminatum, Eremophila decipiens subsp. decipiens low sparse shrubland*

Other species*: Acacia hemiteles, A. colletioides, Atriplex nummularia, Eremophila ionantha, Maireana brevifolia, Senna artemisioides subsp. filifolia, S. cardiosperma*

Acacia colletioides *Acacia hemiteles* *Acacia tetragonophylla* *Atriplex nummularia* *Eremophila decipiens subsp. decipiens* *Eremophila ionantha* *Eremophila scoparia* *Eremophila sp. Mt Jackson* *Eucalyptus salmonophloia* *Eucalyptus salubris* *Eucalyptus transcontinentalis* *Maireana brevifolia* *Olearia muelleri* *Santalum acuminatum* *Senna artemisioides subsp. filifolia* *Senna cardiosperma* Swainsona canescens	

Open patches in area with isolated trees (timber clearing – stumps present); patch of *Swainsona canescens*

Lady Ida Relevé 19-4

Date: 19/01/21 VC 1

GPS: 273859 E/ 6647666 N	Location: Two Gums; east	Landform: Plain; mid catchment
Land surface: Yellowish red clay loam; surface rock (fine ironstone gravel, quartz) 30 – 40 %		
Condition: Degraded; regrowth		
Disturbance: Historic mining and pastoral; current pastoral		
NVIS V: M+^ *Eremophila scoparia, Pittosporum angustifolium, Acacia ramulosa var. ramulosa\3\i; G^ Maireana thesioides, M. triptera, Sclerolaena diacantha\chenopod shrub\1\r*		

Height (m)	Crown cover %	Habit	Species
2 – 3	< 2	Tree	*Eucalyptus salubris isolated young trees*
1 – 1.5	10 – 30	Shrub	*Eremophila scoparia, Pittosporum angustifolium, Acacia ramulosa var. ramulosa, Eremophila ionantha, Acacia murrayana, Senna cardiosperma, Atriplex nummularia, Senna artemisioides subsp. filifolia low open shrubland*
< 0.3	2 – 10	Shrub	*Maireana thesioides, M. triptera, Sclerolaena diacantha low sparse shrubland*

19-4

North of track – Gimlet patch

North of track: 273785 E/ 6647767 N

Eucalyptus salubris woodland patch/ *Eremophila ionantha, Exocarpos aphyllus, Eremophila scoparia, Acacia colletioides* sparse shrubland/ *Maireana spp., Sclerolaena diacantha, Ptilotus obovatus* low sparse shrubland

Other species: *Acacia ramulosa var. ramulosa, Eremophila decipiens subsp. decipiens*

Lady Ida Relevé 19-5

Date: 19/01/21 VC 1

GPS: 274324 E/ 6647977 N	Location: Two Gums; east	Landform: Plain; drainage line
Land surface: Surface rock (fine ironstone gravel) 10 – 15 %; cryptogams (lichen) 20 – 30 %; bare ground > 50 %		
Condition: Degraded		
Disturbance: Erosion, cattle (recent signs); historic mining - clearing		
NVIS V: U ^ *Eucalyptus virella, E. salmonophloia\mallee, tree\6\bi; M+^ Eremophila scoparia, Acacia burkittii, Exocarpos aphyllus\shrub\3\r; G ^ Ptilotus obovatus, Rhagodia drummondii, Sclerolaena diacantha\shrub, forb\1\r*		

Height (m)	Crown cover %	Habit	Species
7 – 10 +	< 2	Mallee, tree	*Eucalyptus virella, E. salmonophloia isolated mallee and trees*
2 – 3	< 2	Shrub, tree	*Acacia burkittii, Exocarpos aphyllus, Santalum acuminatum tall isolated shrubs*
1 – 2	2 – 10	Shrub	*Eremophila scoparia, Acacia burkittii, Exocarpos aphyllus, Acacia hemiteles, Eremophila ionantha, Senna cardiosperma sparse shrubland*
< 0.5	2 – 10	Shrub, forb	*Ptilotus obovatus, Rhagodia drummondii, Sclerolaena diacantha, Maireana thesioides, Atriplex vesicaria low sparse shrubland*

Acacia burkittii
Acacia hemiteles
Atriplex vesicaria
Eremophila ionantha
Eremophila scoparia
Eucalyptus salmonophloia
Eucalyptus virella
Maireana thesioides
Ptilotus obovatus
Rhagodia drummondii
Santalum acuminatum
Sclerolaena diacantha
Senna cardiosperma

Vegetation: *Eucalyptus virella, E. salmonophloia isolated mallee and trees over Acacia burkittii, Exocarpos aphyllus, Santalum acuminatum tall isolated shrubs over Eremophila scoparia, Acacia burkittii, Exocarpos aphyllus, Acacia hemiteles, Eremophila ionantha, Senna cardiosperma sparse shrubland over Ptilotus obovatus, Rhagodia drummondii, Sclerolaena diacantha, Maireana thesioides, Atriplex vesicaria low sparse shrubland*

Lady Ida Relevé 19-6

Date: 19/01/21 VC 1

GPS: 274526 E/ 6648024 N	Location: Two Gums, east	Landform: Plain, lower catchment
Land surface: Yellowish red clay loam/ clay; cracking clay in lower areas, sodic; surface rock (fine ironstone gravel) 70 – 80 %; litter < 10 %; fallen timber < 5 % - mostly 0 %; bare ground 5 – 10 %		
Condition: Degraded to good		
Disturbance: Historic mining and pastoral; timber cutting, coppicing; clearing, camping; current pastoral impacts (cattle); erosion		
NVIS V: U+^ *Eucalyptus salmonophloia\tree\7\r; M^ Eremophila ionantha, Acacia hemiteles, Atriplex nummularia\shrub\3\bi; G ^ Frankenia setosa, Atriplex vesicaria, Ptilotus obovatus\shrub\1\bi*		

Height (m)	Crown cover %	Habit	Species
14 – 18	2 – 10	Tree	*Eucalyptus salmonophloia stands of trees at edges of bare areas*
1 – 1.5	< 2	Shrub	*Eremophila ionantha, Acacia hemiteles, Atriplex nummularia, Cratystylis subspinescens, Exocarpos aphyllus, Senna artemisioides subsp. filifolia, Eremophila scoparia isolated*
< 0.6	< 2	Shrub	*Frankenia setosa, Atriplex vesicaria, Ptilotus obovatus low isolated shrubs*

Acacia hemiteles
Atriplex nummularia
Atriplex vesicaria
Cratystylis subspinescens
Eremophila ionantha
Eremophila scoparia
E. griffithsii
Eucalyptus salmonophloia
Eucalyptus virella
Exocarpos aphyllus
Frankenia setosa
Maireana sedifolia
Ptilotus obovatus
Senna artemisioides subsp. filifolia

Vegetation: *Eucalyptus salmonophloia open woodland over Eremophila ionantha, Acacia hemiteles, Atriplex nummularia, Cratystylis subspinescens, Exocarpos aphyllus, Senna artemisioides subsp. filifolia, Eremophila scoparia isolated shrubs over Frankenia setosa, Atriplex vesicaria, Ptilotus obovatus low isolated shrubs*

19-6a Woodland areas: 274696 E/ 6648287 N

Eucalyptus salmonophloia, E. salubris (16 – 18 m) > *Eucalyptus virella, E. griffithsii, E. salmonophloia woodland/ Senna artemisioides subsp. filifolia, Eremophila scoparia, E. ionantha, Atriplex vesicaria, Maireana sedifolia open shrubland*

Lady Ida Relevé 19-7

Date: 19/01/21 (8.41 am) VC 5

GPS: 274768 E/ 6648764 N	Location: Two Gums, near Coolgardie North Road	Landform: Plain; lower catchment; slight rise
Land surface: Yellowish red clay loam; litter 30 – 50 %		
Condition: Good to very good		
Disturbance: Historical mining and pastoral impacts; current pastoral impacts		
NVIS V: U+^ *Eucalyptus clelandiorum, E. virella, E. oleosa subsp. oleosa\tree, mallee\7\r; M1^ Eremophila scoparia, E. ionantha, Senna artemisioides subsp. filifolia\3\r; M2 ^ Olearia muelleri, Eremophila ionantha\shrub\2\r*		

Height (m)	Crown cover %	Habit	Species
9 – 16	2 – 10	Tree, mallee	*Eucalyptus clelandiorum, E. virella, E. oleosa subsp. oleosa, E. salmonophloia, E. transcontinentalis open woodland*
1 – 1.5	10 – 20	Shrub	*Eremophila scoparia, E. ionantha, Senna artemisioides subsp. filifolia, Eremophila decipiens subsp. decipiens open shrubland*
< 0.8	2 – 10	Shrub	*Olearia muelleri, Eremophila ionantha low sparse shrubland*

Other species: *Casuarina pauper* isolated trees, more to north in depression/ drainage line

Vegetation: *Eucalyptus clelandiorum, E. virella, E. oleosa subsp. oleosa, E. salmonophloia, E. transcontinentalis open woodland over Eremophila scoparia, E. ionantha, Senna artemisioides subsp. filifolia, Eremophila decipiens subsp. decipiens open shrubland over Olearia muelleri, Eremophila ionantha low sparse shrubland*

Casuarina pauper	*Eucalyptus salmonophloia*
Eremophila decipiens subsp. decipiens	*Eucalyptus transcontinentalis*
Eremophila ionantha	*Eucalyptus virella*
Eremophila scoparia	*Olearia muelleri*
Eucalyptus clelandiorum	*Senna artemisioides subsp. filifolia*
Eucalyptus oleosa subsp. oleosa	

Lady Ida Relevé 19-8

Date: 19/01/21 VC 3

GPS: 275399 E/ 6649480 N	Location: Coolgardie Road; west side	Landform: Low rise; minor drainage line on north side
Land surface: Yellowish red clay loam; surface rock (fine ironstone gravel) 20 – 40 %; litter 10 – 20 %; fallen timber 5 – 10 %		
Condition: Very good; more disturbance towards edge of road		
Disturbance: Historical mining; road maintenance		
NVIS V: U+^ *Eucalyptus oleosa subsp. oleosa, Acacia caesaneura\tree\6\i; M1^Senna artemisioides subsp. filifolia, Phebalium filifolium, Alyxia buxifolia\shrub\ 3\c; M2 Prostanthera grylloana\shrub\1\r*		

Left

Height (m)	Crown cover %	Habit	Species
8 – 10	20 – 30	Tree	*Eucalyptus oleosa subsp. oleosa, Acacia caesaneura low woodland*
1. 3 – 2.5	30 – 40	Shrub, tree, vine	*Senna artemisioides subsp. filifolia, Phebalium filifolium, Alyxia buxifolia, Acacia burkittii, Santalum spicatum, Marsdenia australis shrubland*
0.6 – 1	2 – 10	Shrub	*Prostanthera grylloana low sparse shrubland*

Right (south of intersection)

Height (m)	Crown cover %	Habit	Species
8 – 10	30 – 40	Tree	*Acacia caesaneura, Eucalyptus oleosa subsp. oleosa low open forest*
1.8 – 2.5	10 – 20	Shrub	*Acacia burkittii, Santalum spicatum tall open shrubland*
< 1	10 – 20	Shrub	*Acacia burkittii, Prostanthera grylloana, Dodonaea lobulata, Prostanthera althoferi subsp. althoferi low open shrubland*

Other species: *Grevillea berryana, Acacia prainii, Eremophila interstans subsp. interstans, Austrostipa elegantissima, Eremophila granitica, E. decipiens subsp. decipiens, Acacia sp., Acacia murrayana, A. tetragonophylla, Eremophila oppositifolia subsp. angustifolia, Exocarpos aphyllus, Philotheca brucei subsp. brucei*

Vegetation: *Acacia caesaneura, Eucalyptus oleosa subsp. oleosa low open forest over Acacia burkittii, Santalum spicatum tall open shrubland over Senna artemisioides subsp. filifolia, Phebalium filifolium, Acacia burkittii, Santalum spicatum open shrubland over Acacia burkittii, Prostanthera grylloana, Dodonaea lobulata, Prostanthera althoferi subsp. althoferi low open shrubland*

Acacia burkittii	*Eremophila oppositifolia subsp. angustifolia*
Acacia caesaneura	*Eucalyptus oleosa subsp. oleosa*
Acacia murrayana	*Exocarpos aphyllus*
Acacia prainii	*Grevillea berryana*
Acacia tetragonophylla	*Marsdenia australis*
Alyxia buxifolia	*Phebalium filifolium*
Austrostipa elegantissima	*Philotheca brucei subsp. brucei*
Dodonaea lobulata	*Prostanthera althoferi subsp. althoferi*
Eremophila decipiens subsp. decipiens	*Prostanthera grylloana*
Eremophila granitica	*Santalum spicatum*
Eremophila interstans subsp. interstans	*Senna artemisioides subsp. filifolia*

Section 2: Two Gums to Iguana

Relevé 18-3 to 18-26

Undulating sandplains with areas of woodlands mainly on granite; significant areas burnt January 2020.

Lady Ida Relevé 18-3

Date: 18/01/21 VC 13

GPS: 275317 E/ 6625389 N	Location: 1 km north of Iguana	Landform: Plain; upper catchment
Land surface: Yellowish red sandy clay loam; surface rock (lateritic gravel; isolated granite, chert, quartz; gneiss larger rocks) < 10 %; litter 30 – 40 %; fallen timber 5 – 10 %; dry		
Condition: Very good; some recent drought impacts – *Eucalyptus* a bit stressed		
Disturbance: Historic mining activities – old drill lines, timber cutting		
NVIS V: U+^ *Eucalyptus clelandiorum, E. salmonophloia, E. virella\^tree, mallee\7\i; M1^ Acacia burkittii, Alyxia buxifolia, Eremophila oppositifolia subsp. angustifolia\shrub\3\i; M2^ Eremophila clarkei, Olearia muelleri, Acacia erinacea\shrub\2\r*		

Height (m)	Crown cover %	Habit	Species
8 – 14	20 – 30	Tree, mallee	*Eucalyptus clelandiorum, E. salmonophloia, E. virella woodland*
2 – 4	< 2	Shrub	*Acacia burkittii, Alyxia buxifolia, Eremophila oppositifolia subsp. angustifolia, tall isolated shrubs*
1 – 2	10 – 20	Shrub	*Acacia burkittii, Alyxia buxifolia, Eremophila oppositifolia subsp. angustifolia, Dodonaea lobulata, Eremophila clarkei open shrubland*
< 1	5 – 10	Shrub	*Eremophila clarkei, Olearia muelleri, Acacia erinacea, A. burkittii, Dodonaea lobulata, Grevillea acuaria low sparse shrubland*

Other species: *Eremophila scoparia, Eucalyptus griffithsii*, *Santalum spicatum, Scaevola spinescens, Allocasuarina acutivalvis* subsp. *acutivalvis*

Acacia burkittii
Acacia erinacea
Alyxia buxifolia
Allocasuarina acutivalvis subsp. *acutivalvis*
Dodonaea lobulata
Eremophila clarkei
Eremophila oppositifolia subsp. angustifolia
Eremophila scoparia
Eucalyptus virella
Eucalyptus clelandiorum
Eucalyptus griffithsii
E. salmonophloia
Grevillea acuaria
Olearia muelleri
Santalum spicatum
Scaevola spinescens

Vegetation: *Eucalyptus clelandiorum, E. salmonophloia, E. virella woodland over Acacia burkittii, Alyxia buxifolia, Eremophila oppositifolia subsp. angustifolia, tall isolated shrubs over Acacia burkittii, Alyxia buxifolia, Eremophila oppositifolia subsp. angustifolia, Dodonaea lobulata, Eremophila clarkei open shrubland over Eremophila clarkei, Olearia muelleri, Acacia erinacea, A. burkittii, Dodonaea lobulata, Grevillea acuaria low sparse shrubland*

Lady Ida Relevé 18-4

Date: 18 /01/21 VC 15

GPS: 275303 E/ 6625667 N	Location: 1.3 km north of Iguana	Landform: Low rise; upper slope in undulating plain; drainage line
Land surface: Depression downslope from granite outcrop; yellowish red sandy clay loam		
Condition: Excellent		
Disturbance: Historic mining – old overgrown exploration tracks in area		
NVIS V: M1+^ *Acacia tetragonophylla, A. burkittii, Eremophila oppositifolia subsp. angustifolia\shrub\4\c; M2^ Alyxia buxifolia, Dodonaea lobulata, Grevillea acuaria\shrub\3\i; G Olearia sp. Eremicola\shrub\1\r*		

Height (m)	Crown cover %	Habit	Species
2 – 3.5	40 – 50	Shrub, tree	*Acacia tetragonophylla, A. burkittii, Eremophila oppositifolia subsp. angustifolia, Santalum spicatum tall shrubland*
0.8 – 1. 3	10 – 20	Shrub	*Alyxia buxifolia, Dodonaea lobulata, Grevillea acuaria, Scaevola spinescens, Philotheca brucei subsp. brucei, Santalum spicatum, Eremophila clarkei open to sparse shrubland*
< 0.5	2 – 10	Shrub	*Olearia sp. Eremicola*

Other species: *Eremophila pustulata, Hakea recurva subsp. recurva, Phebalium canaliculatum, Prostanthera grylloana*

Acacia burkittii *Acacia tetragonophylla* *Alyxia buxifolia* *Dodonaea lobulata* *Eremophila clarkei* *Eremophila oppositifolia subsp. angustifolia* *Eremophila pustulata* *Grevillea acuaria* *Hakea recurva subsp. recurva* *Olearia sp. Eremicola* *Phebalium canaliculatum* *Philotheca brucei subsp. brucei* *Prostanthera grylloana* *Santalum spicatum* *Scaevola spinescens*	

18-4a: Tall shrubland patch between woodland areas; changes to *Eucalyptus griffithsii, E. celastroides, E. rigidula* woodland to north and east

GPS 275262 E/ 6625784 N: Tall shrubland – *Acacia tetragonophylla, A. burkittii, Hakea recurva* subsp. *recurva, Santalum spicatum* tall shrubland over *Phebalium filifolia, Philotheca brucei subsp. brucei, Alyxia buxifolia, Prostanthera grylloana, Dodonaea lobulata* shrubland

18-4b; GPS 275252 E/ 6625849 N VC 15

Low rise; upper catchment; rocky outcrop

Red gritty sandy loam shallow soils/ granite, quartz

Dodonaea lobulata, Exocarpos aphyllus, Santalum spicatum, Scaevola spinescens, Eremophila oppositifolia subsp. angustifolia shrubland over *Scaevola spinescens, Grevillea acuaria, Acacia erinacea, Olearia muelleri, Eremophila pustulata* low shrubland

Acacia erinacea *Dodonaea lobulata* *Eremophila oppositifolia subsp. angustifolia* *Eremophila pustulata* *Exocarpos aphyllus* *Grevillea acuaria* *Olearia muelleri* *Santalum spicatum* *Scaevola spinescens*	

Lady Ida Relevé 18-5

Date: 18/01/21 VC 13

GPS: 275079 E/ 6627183 N	**Location: North of Iguana**	**Landform: Undulating plain; upper catchment; aspect east**
Land surface: Washed sand over yellowish red clay loam; surface rock < 2 %; litter 20 – 30 %		
Condition: Very good		
Disturbance: Historic pastoral activities; removal of ground cover species (grasses); few old tracks in area; minor sheet and wind erosion; hummocking		
NVIS V: U+^ *Eucalyptus celastroides, E. clelandiorum, E. rigidula\tree, mallee\7\i; M^ Eremophila pustulata, E. scoparia, Scaevola spinescens\shrub\3\i; G ^ Eremophila pustulata, Olearia sp. Eremicola, Ptilotus obovatus\shrub\1\r*		

Height (m)	**Crown cover %**	**Habit**	**Species**
10 – 15	25 – 30 (40)	Tree, mallee	*Eucalyptus celastroides, E. clelandiorum, E. rigidula, E. salubris woodland*
1 – 2	10 – 30	Shrub	*Eremophila pustulata, E. scoparia, Scaevola spinescens, E. sp. Mt Jackson, Santalum spicatum, Alyxia buxifolia, Eremophila oppositifolia subsp. angustifolia open shrubland*
< 0.6	2 – 10	Shrub	*Eremophila pustulata, Olearia sp. Eremicola, Ptilotus obovatus, Grevillea acuaria, low sparse shrubland*

Other species: *Acacia hemiteles, Casuarina pauper, Acacia tetragonophylla, Eremophila caperata, Eucalyptus salmonophloia, Senna cardiosperma, Senna artemisioides subsp. filifolia*

Vegetation (18-5): *Eucalyptus virella, E. clelandiorum, E. rigidula, E. salubris woodland over Eremophila pustulata, E. scoparia, Scaevola spinescens, E. sp. Mt Jackson, Santalum spicatum, Alyxia buxifolia, Eremophila oppositifolia subsp. angustifolia open shrubland over Eremophila pustulata, Olearia sp. Eremicola, Ptilotus obovatus, Grevillea acuaria, low sparse shrubland*

GPS: 275184 E/ 6626379 N	GPS: 275079 E/ 6627183
Acacia hemiteles	*Eucalyptus salmonophloia*
Acacia tetragonophylla	*Eucalyptus salubris*
Alyxia buxifolia	*Eucalyptus virella*
Casuarina pauper	*Grevillea acuaria*
Eremophila caperata	*Olearia sp. Eremicola*
Eremophila oppositifolia subsp. angustifolia	*Ptilotus obovatus*
Eremophila pustulata	*Santalum spicatum*
Eremophila scoparia	*Scaevola spinescens*
Eremophila sp. Mt Jackson	*Senna artemisioides subsp. filifolia*
Eucalyptus clelandiorum	*Senna cardiosperma*
Eucalyptus rigidula	

Lady Ida Relevé 18-6

Date: 18/01/21 VC 13/ 14

GPS: 275050 E/ 6627380 N	Location:	Landform: Plain; upper catchment; aspect east
Land surface: Red sandy clay loam, washed sand on surface; litter 30 – 40 %		
Condition: Excellent		
Disturbance: Old timber cutting		
NVIS V: U+^ *Eucalyptus transcontinentalis, E. salubris, E. salmonophloia\tree\7\i; M1^ Eremophila scoparia, E. ionantha, Senna artemisioides subsp. filifolia\shrub\3\c; M2^ Acacia erinacea, Scaevola spinescens, Senna artemisioides subsp. filifolia\2\c*		

Height (m)	Crown cover %	Habit	Species
9 – 15	20 – 30	Tree	*Eucalyptus transcontinentalis, E. salubris, E. salmonophloia, E. virella woodland*
1 – 2	30 – 40	Shrub	*Eremophila scoparia, E. ionantha, Senna artemisioides subsp. filifolia, Acacia burkittii, Santalum acuminatum, Acacia merrallii shrubland*
< 1	30 – 40	Shrub	*Acacia erinacea, Scaevola spinescens, Senna artemisioides subsp. filifolia, Exocarpos aphyllus, Santalum acuminatum low shrubland*

Other species: *Acacia sericocarpa, Atriplex nummularia, Eremophila oppositifolia subsp. angustifolia, Swainsona canescens*

Vegetation: Eucalyptus transcontinentalis, E. salubris, E. salmonophloia, E. virella woodland over Eremophila scoparia, E. ionantha, Senna artemisioides subsp. filifolia, Acacia burkittii, Santalum acuminatum, Acacia merrallii shrubland over Acacia erinacea, Scaevola spinescens, Senna artemisioides subsp. filifolia, Exocarpos aphyllus, Santalum acuminatum low shrubland

Acacia burkittii
Acacia erinacea
Acacia merrallii
Acacia sericocarpa
Atriplex nummularia
Eremophila ionantha
Eremophila oppositifolia subsp. angustifolia
Eremophila scoparia
Eucalyptus salubris
Eucalyptus salmonophloia
Eucalyptus transcontinentalis
Eucalyptus virella
Exocarpos aphyllus
Santalum acuminatum
Scaevola spinescens
Senna artemisioides subsp. filifolia
Swainsona canescens

Lady Ida Relevé 18-7

Date: 18/01/21 VC 15

GPS: 274821 E/ 6629143 N 18-7a	Location: Iguana to Two Gums Haul Road	Landform: Low rise; upper catchment
Land surface: Yellowish red sandy clay loam; surface rock 5 – 10 %; litter 10 – 20 %, fallen timber 10 – 20 %; cryptogams (lichen) 30 – 40 %		
Condition: Excellent		
Disturbance: Old timber cutting; lot of fallen timber (storm damage)		
NVIS V: *U+ Melaleuca hamata\tree\6\i; M1^ Melaleuca hamata, Philotheca brucei subsp. brucei, Phebalium canaliculatum\3\i; M2^ Phebalium canaliculatum, Cryptandra aridicola\shrub\2\r*		

Height (m)	Crown cover %	Habit	Species
8 – 12	< 2	Tree	*Eucalyptus griffithsii, E. rigidula isolated emergent trees*
7 – 9	20 – 30	Tree	*Melaleuca hamata low woodland*
1 – 2	20 – 30	Shrub	*Melaleuca hamata, Philotheca brucei subsp. brucei, Phebalium canaliculatum, Alyxia buxifolia open shrubland*
< 1	8 – 10	Shrub	*Phebalium canaliculatum, Cryptandra aridicola low sparse shrubland*

Other species: *Allocasuarina eriochlamys* subsp. *eriochlamys, Grevillea paradoxa, G. oligomera, Santalum acuminatum, Myrtaceae sp., Hysterobaeckea sp.*

18-7a

18-7b

18-7b: Gravelly rise

Allocasuarina eriochlamys subsp. eriochlamys, Halgania andromedifolia, Melaleuca hamata, Leptospermum fastigiatum, Acacia burkittii shrubland over *Triodia rigidissima* low sparse hummock grassland

Other species: *Santalum acuminatum,* Myrtaceae sp. (*Aluta aspera?), Eucalyptus rigidula* isolated mallee; *Hakea francisiana, Eucalyptus griffithsii*

Acacia burkittii *Allocasuarina eriochlamys subsp. eriochlamys* *Alyxia buxifolia* *Cryptandra aridicola* *Eucalyptus griffithsii* *Eucalyptus rigidula* *Grevillea oligomera* *Grevillea paradoxa* *Hakea francisiana*	*Halgania andromedifolia* *Hysterobaeckea sp.* *Leptospermum fastigiatum* *Melaleuca hamata* Myrtaceae sp. (*Aluta aspera?),* *Phebalium canaliculatum* *Philotheca brucei subsp. brucei* *Santalum acuminatum* *Triodia rigidissima*

Lady Ida Relevé 18-8

Date: 18/01/21 VC (patch in VC 15)

GPS: 274727 E/ 6629877 N	**Location:**	**Landform: Plain**
Land surface: Red sand patch; surface rock < 2 %; litter 30 – 40 %; fallen timber		
Condition: Very good to excellent; Disturbance: Historic timber cutting; trees coppiced		
NVIS V: U+^ *Eucalyptus virella, E. griffithsii, E. oleosa subsp. oleosa\mallee\6\i; G Triodia rigidissima\hummock grass\1\i*		

Height (m)	**Crown cover %**	**Habit**	**Species**
8 – 10	10 – 20	Mallee	*Eucalyptus virella, E. griffithsii, E. oleosa subsp. oleosa mallee woodland*
< 0.5	20 – 30	Hummock grass	*Triodia rigidissima low open hummock grassland*

Other species: *Acacia burkittii, E. salmonophloia, Ptilotus drummondii*; shrubland around patch – *Philotheca brucei* subsp. *brucei, Acacia tetragonophylla, Allocasuarina eriochlamys* subsp. *eriochlamys*

Acacia burkittii *Acacia tetragonophylla* *Allocasuarina eriochlamys* subsp. *eriochlamys* *Eucalyptus griffithsii* *Eucalyptus oleosa subsp. oleosa* *Eucalyptus salmonophloia* *Eucalyptus virella* *Philotheca brucei* subsp. *brucei* *Ptilotus drummondii* *Triodia rigidissima*	

Vegetation: *Eucalyptus virella, E. griffithsii, E. oleosa subsp. oleosa mallee woodland over Triodia rigidissima low open hummock grassland*

Lady Ida Relevé 18-9

Date: 18/01/21 VC 14

GPS: 274690 E/ 6630142 N	Location: Iguana to Two Gums	Landform: Plain; upper catchment; depression
Land surface: Yellowish red sandy clay loam; litter 40 – 50 %; fallen timber < 2%		
Condition: Excellent; some drought deaths		
Disturbance: Historic pastoral, mining impacts; low		
NVIS V: U+^ *Eucalyptus clelandiorum, E. salmonophloia, E. virella\tree, mallee\7\r; M^ Eremophila ionantha, E. scoparia, Senna artemisioides subsp. filifolia\3\i; G ^ Olearia muelleri, Maireana triptera, Lomandra effusa\shrub, forb\1\r*		

Height (m)	Crown cover %	Habit	Species
10 – 18	8 – 10 (20)	Tree, mallee	*Eucalyptus clelandiorum, E. salmonophloia, E. virella, E. griffithsii open woodland*
2 – 4	< 2	Shrub	*Eremophila ionantha, E. interstans subsp. interstans, Santalum spicatum tall isolated shrubs*
1 – 2	25 – 30	Shrub	*Eremophila ionantha, E. scoparia, Senna artemisioides subsp. filifolia, Acacia hemiteles, A. murrayana open shrubland*
< 0.6	5 – 10	Shrub, forb	*Olearia muelleri, Maireana triptera, Lomandra effusa low sparse shrubland*

Acacia hemiteles
Acacia murrayana
Eremophila interstans subsp. interstans
Eremophila ionantha
Eremophila scoparia
Eucalyptus clelandiorum
Eucalyptus griffithsii
Eucalyptus salmonophloia
Eucalyptus virella
Lomandra effusa
Maireana triptera
Lomandra effusa
Santalum spicatum
Senna artemisioides subsp. filifolia

Vegetation: *Eucalyptus clelandiorum, E. salmonophloia, E. celastroides, E. griffithsii open woodland over Eremophila ionantha, E. interstans subsp. interstans, Santalum spicatum tall isolated shrubs over Eremophila ionantha, E. scoparia, Senna artemisioides subsp. filifolia, Acacia hemiteles, A. murrayana open shrubland over Olearia muelleri, Maireana triptera, Lomandra effusa low sparse shrubland*

Lady Ida Relevé 18-10 Woodland fire regrowth

Date: 18 /01/21 VC 14 fr

GPS: 274598 E/ 6630886 N	Location: Iguana to Two Gums; north edge of woodland	Landform: Plain; upper catchment; depression
Land surface: Yellowish red sandy clay loam; surface rock 0%; litter 20 – 30 %; fallen timber 5 – 10 %, bare ground 30 – 40 %		
Condition: Good; recently burnt; epicormic growth on some trees		
Disturbance: Fire, 12 months (lightning strike); sheet erosion		
NVIS V: U *Eucalyptus griffithsii, E. salmonophloia\tree\7\bi; M Acacia hemiteles, Eremophila interstans subsp. interstans\shrub\4\bi; G+^ Senna artemisioides subsp. filifolia, Ptilotus obovatus, Solanum plicatile\shrub\2\r*		

Height (m)	Crown cover %	Habit	Species
8 – 16	(< 2) 2 – 10	Tree, mallee	*Eucalyptus griffithsii, E. salmonophloia sparse isolated crowns*
2 – 4	< 2	Shrub	*Acacia hemiteles, Eremophila interstans subsp. interstans tall isolated shrubs*
< 1	2 – 10	Shrub, grass	*Senna artemisioides subsp. filifolia, Ptilotus obovatus, Solanum plicatile, Austrostipa scabra, Codonocarpus cotinifolius, Austrostipa platychaeta, Solanum cleistogamum, Ptilotus exaltatus, Eucalyptus seedlings, Sclerolaena diacantha, Solanum nummularium, Scaevola spinescens, Roepera glauca low sparse shrubland*

Acacia hemiteles
Austrostipa platychaeta
Austrostipa scabra
Codonocarpus cotinifolius
Eremophila interstans subsp. interstans
Eucalyptus griffithsii
Eucalyptus salmonophloia
Ptilotus exaltatus
Ptilotus obovatus
Roepera glauca
Scaevola spinescens
Sclerolaena diacantha
Solanum cleistogamum
Solanum plicatile
Solanum nummularium

Vegetation: *Eucalyptus griffithsii, E. salmonophloia sparse isolated crowns over Acacia hemiteles, Eremophila interstans subsp. interstans tall isolated shrubs over Senna artemisioides subsp. filifolia, Ptilotus obovatus, Solanum plicatile, Austrostipa scabra, Codonocarpus cotinifolius, Austrostipa platychaeta, Solanum cleistogamum, Ptilotus exaltatus, Eucalyptus seedlings, Sclerolaena diacantha, Solanum nummularium, Scaevola spinescens, Roepera glauca low sparse shrubland*

Lady Ida Relevé 18-11 Fr

Date: 18/01/21 VC 13 fr

GPS: 274484 E/ 6631768 N	Location: Change in vegetation from woodlands to sandplain	Landform: Undulating sand plain; upper catchment
Land surface: Yellow sand/ clay loam; litter 20 – 30 %; fallen timber 5 – 10 %; bare ground 30 – 40 %		
Condition: Very good; Disturbance: Fire; 1 yr		
NVIS V: M+1^*Eucalyptus rigidula, E. incrassata\mallee shrub\5\i; G Dodonaea viscosa subsp. mucronata, Codonocarpus cotinifolius, Triodia rigidissima\shrub, hummock grass\1\r*		

Height (m)	Crown cover %	Habit	Species
0.9 – 1.2	10 – 20	Mallee	*Eucalyptus rigidula, E. incrassata low open mallee shrubland*
0.1 – 0.4	5 – 10	Shrub, grass	*Mixed Dodonaea viscosa subsp. mucronata, Codonocarpus cotinifolius, Triodia rigidissima, Acacia hemiteles, Solanum plicatile, Austrostipa sp., Glischrocaryon aureum, Halgania cyanea, Chrysitrix distigmatosa, Dasymalla terminalis, Hemiphora elderi, Melaleuca calyptroides, Platysace trachymenioides, Westringia rigida* low sparse shrubland

Acacia hemiteles
Austrostipa sp
Chrysitrix distigmatosa
Codonocarpus cotinifolius
Dasymalla terminalis
Dodonaea viscosa subsp. mucronata
Eucalyptus incrassata
Eucalyptus rigidula
Glischrocaryon aureum
Hemiphora elderi
Melaleuca calyptroides
Platysace trachymenioides
Senna pleurocarpa
Solanum plicatile
Triodia rigidissima
Westringia rigida

Vegetation: *Eucalyptus rigidula, E. incrassata low open mallee shrubland over Mixed Dodonaea viscosa subsp. mucronata, Codonocarpus cotinifolius, Triodia rigidissima, Acacia hemiteles, Solanum plicatile,* low sparse shrubland

Melaleuca calyptroides becoming dominant in some areas

Other species: *Amphipogon caricinus* var. *caricinus, Chrysitrix distigmatosa* dominant patches with *Platysace trachymenioides*

Lady Ida Relevé 18-12 Fr

Date: 18/01/21 VC 13 fr change to 10 fr

GPS: 274457 E/ 6631913 N	Location: Iguana to Two Gums	Landform: Sandplain; upper catchment; broad gently sloping depression
Land surface: Yellow sand over reddish brown sandy clay loam		
Condition: Very good; Disturbance -fire, 1 year		
NVIS V: *M Eucalyptus rigidula, E. incrassata\mallee shrub\5\r; G^ Melaleuca calyptrata, Leptosema aculeatum, Lepidobolus preissianus* subsp. *volubilis\shrub, rush\1\i*		

Height (m)	Crown cover %	Habit	Species
0.8 – 1	2 – 10	Mallee	*Eucalyptus rigidula, E. incrassata low sparse mallee shrubland*
0.1 – 0.8	25 – 30	Shrub, rush	*Melaleuca calyptrata, Leptosema aculeatum, Lepidobolus preissianus* subsp. *volubilis, Hemiphora elderi, Melaleuca cordata, Codonocarpus cotinifolius, Solanum plicatile, Acacia inaequiloba, Phyllota luehmannii, Westringia rigida, Hannafordia bissillii subsp. latifolia, Hibbertia sp. (tent), Grevillea hookeriana subsp. apiciloba open shrubland*

Acacia inaequiloba
Codonocarpus cotinifolius
Dianella revoluta var. divaricata
Eucalyptus incrassata
Eucalyptus rigidula
Grevillea hookeriana subsp. apiciloba
Hannafordia bissillii subsp. latifolia
Hemiphora elderi
Hibbertia sp. (tent)
Lepidobolus preissianus subsp. *volubilis*
Leptosema aculeatum
Melaleuca calyptrata
Melaleuca cordata
Phyllota luehmannii
Solanum plicatile
Triodia rigidissima
Westringia rigida

Other species: *Dianella revoluta var. divaricata, Triodia rigidissima*

Lady Ida Relevé 18-13

Date: 18/01/21 (12.09 PM) VC 10 fr

GPS: 274375 E/ 6632543 N	Location: Iguana to Two Gums	Landform: Plain; low rise
Land surface:		
Condition: Good – diversity a bit lower than other burn areas		
Disturbance: Fire, fairly hot burn		
NVIS V: *M Eucalyptus leptopoda subsp. subluta\mallee shrub\5\r; G ^ Hannafordia bissillii subsp. latifolia, Eucalyptus leptopoda, Acacia inaequiloba\shrub, mallee shrub\1\i*		

Height (m)	Crown cover %	Habit	Species
1 – 1.2	2 – 4	Mallee	*Eucalyptus leptopoda subsp. subluta low sparse mallee shrubland*
0.3 – 0.6	10 – 15	Shrub	*Hannafordia bissillii subsp. latifolia, Eucalyptus leptopoda, Acacia inaequiloba, Hemiphora elderi, Codonocarpus cotinifolius, Phyllota luehmannii low open shrubland*
< 0.2	< 2		*Triodia rigidissima low isolated grass hummocks*

Pre-fire: *Eucalyptus leptopoda* low open mallee woodland over *Allocasuarina* shrubland

Acacia inaequiloba *Codonocarpus cotinifolius* *Eucalyptus leptopoda subsp. subluta* *Hannafordia bissillii subsp. latifolia* *Phyllota luehmannii low* *Triodia rigidissima*	

Vegetation: *Eucalyptus leptopoda subsp. subluta low sparse mallee shrubland over Hannafordia bissillii subsp. latifolia, Eucalyptus leptopoda, Acacia inaequiloba, Hemiphora elderi, Codonocarpus cotinifolius, Phyllota luehmannii low open shrubland over Triodia rigidissima low isolated grass hummocks*

Lady Ida Relevé 18-14

Date: 18/01/21 VC 12fr

GPS:	Location:	Landform: Undulating plain
Land surface: Yellowish red sandy clay loam; litter < 5%; fallen timber 5 – 10%; bare ground 60 – 70 %		
Condition: Good		
Disturbance: Fire 1 year; risk of erosion		
NVIS V: G+^ *Hannafordia bissillii subsp. latifolia, Eucalyptus griffithsii, Acacia burkittii\1\i*		

Height (m)	Crown cover %	Habit	Species
< 0.8	10 – 30	Mallee, shrub	*Hannafordia bissillii subsp. latifolia, Eucalyptus griffithsii, Acacia burkittii (tent), Solanum plicatile, Hemiphora elderi, Melaleuca hamata, Halgania andromedifolia, Seringia velutina, Codonocarpus cotinifolius, Grevillea teretifolia (tent)*

Pre fire vegetation: *Eucalyptus griffithsii, E. sp*. open mallee woodland over *Allocasuarina* shrubland

Acacia burkittii (tent)
Codonocarpus cotinifolius
Eucalyptus griffithsii
Eucalyptus sp.
Grevillea teretifolia
Halgania andromedifolia
Hannafordia bissillii subsp. latifolia
Hemiphora elderi
Melaleuca hamata
Seringia velutina
Solanum plicatile

Lady Ida Relevé 18-15

Date: 18/01/21 VC 10fr (affinities with VC 16)

GPS: 274256 E/ 6633458 N	Location: Iguana to Two Gums	Landform: Sandplain; mid-slope; upper catchment
Land surface: Reddish yellow sand		
Condition: Very good; Disturbance: Fire; 1 year; high diversity in regrowth		
NVIS V: M^ *Banksia elderiana, Eucalyptus leptopoda\shrub, mallee shrub\3\r; G+^ Seringia velutina, Banksia elderiana, Halgania andromedifolia\shrub\1\i*		

Height (m)	Crown cover %	Habit	Species
1 – 2	2 – 10	Shrub, mallee	*Banksia elderiana, Eucalyptus leptopoda subsp. subluta sparse shrubland*
< 0.8	10 – 20	Shrub, hummock grass, forb	*Seringia velutina, Banksia elderiana, Halgania andromedifolia, Platysace trachymenioides, Triodia rigidissima, Leptosema aculeatum, Hemiphora elderi, Melaleuca calyptrata, Grevillea hookeriana subsp. apiciloba, Goodenia discophora open shrubland*

Other species: *Eucalyptus leptopoda, E. griffithsii*, *Chrysitrix distigmatosa, Goodenia helmsii (tent), Allocasuarina eriochlamys, Lepidobolus preissianus* subsp. *volubilis, Hannafordia bissillii subsp. latifolia, Aluta aspera subsp. aspera (tent), Lepidosperma sp., Hakea francisiana, Conospermum stoechadis, Santalum acuminatum, Allocasuarina acutivalvis subsp. acutivalvis, Grevillea teretifolia, Melaleuca cordata*

Vegetation: *Banksia elderiana, Eucalyptus leptopoda subsp. subluta sparse shrubland over low Seringia velutina, Banksia elderiana, Halgania andromedifolia shrubland*

Allocasuarina acutivalvis subsp. acutivalvis
Allocasuarina corniculata
Allocasuarina eriochlamys subsp. eriochlamys
Banksia elderiana
Aluta aspera subsp. aspera (tent)
Chrysitrix distigmatosa
Conospermum stoechadis
Eucalyptus leptopoda subsp. subluta
Eucalyptus griffithsii
Goodenia discophora
Goodenia helmsii
Grevillea hookeriana subsp. apiciloba
Grevillea teretifolia
Hakea francisiana
Halgania andromedifolia
Hannafordia bissillii subsp. latifolia
Hemiphora elderi
Lepidobolus preissianus subsp. *volubilis*
Leptosema aculeatum
Melaleuca calyptrata
Melaleuca cordata

Santalum acuminatum
Seringia velutina

Lady Ida Relevé 18-16

Date: 18/01/21 VC 12fr

GPS: 274058 E/ 6634971 N	Location: Iguana to Two Gums	Landform: Plain; gently sloping valley/ depression
Land surface: Red sandy clay loam; litter 20 – 25 %; fallen timber 10 – 15 %		
Condition: Good		
Disturbance: Fire – trees killed, few with epicormic growth		
NVIS V: *M Eucalyptus griffithsii\shrub\3\r; G+^ Halgania andromedifolia, Codonocarpus cotinifolius, Austrostipa sp.\shrub, tussock grass\2\i*		

Height (m)	Crown cover %	Habit	Species
0.8 – 1.5	2 – 10	tree/ shrub	*Eucalyptus griffithsii sparse shrubland*
0.1 – 0.8	(2) 10 – 15	Shrub, mallee, grass	*Halgania andromedifolia, Codonocarpus cotinifolius, Austrostipa sp., Amphipogon sp., Goodenia discophora, Hakea francisiana, Triodia rigidissima, Hannafordia bissillii subsp. latifolia, Solanum plicatile, Monachather paradoxus, Alyxia buxifolia, Acacia burkittii, Santalum spicatum, Eucalyptus oleosa subsp. oleosa (tent)*

Pre fire vegetation: *Eucalyptus griffithsii* open woodland

Acacia burkittii *Alyxia buxifolia* *Amphipogon sp* *Austrostipa sp* *Codonocarpus cotinifolius* *Eucalyptus griffithsii* *Eucalyptus oleosa subsp. oleosa* *Goodenia discophora* *Hakea francisiana* *Halgania andromedifolia* *Hannafordia bissillii subsp. latifolia* *Monachather paradoxus* *Santalum spicatum* *Solanum plicatile* *Triodia rigidissima*	

Vegetation: *Eucalyptus griffithsii sparse shrubland over Halgania andromedifolia, Codonocarpus cotinifolius, Austrostipa sp. low sparse to low open shrubland/ grassland*

Lady Ida Relevé 18-17 (Burnt)

Date: 18/01/21 VC 10fr

GPS: 2733993 E/ 6635459 N	Location: Iguana to Two Gums	Landform: Plain, depression
Land surface: Yellowish red sandy clay loam		
Condition: Good		
Disturbance: Fire 1 yr		
NVIS V: *M ^Eucalyptus rigidula, Eucalyptus sp., Callitris columellaris \mallee shrub\5\i; Grevillea hookeriana subsp. apiciloba, Waitzia acuminata, Halgania andromedifolia\shrub, forb\1\r*		

Height (m)	Crown cover %	Habit	Species
0.8 – 1.2	10 – 20	Mallee, shrub	*Eucalyptus rigidula, Eucalyptus sp., Callitris columellaris, Gyrostemon racemiger, Melaleuca hamata, Codonocarpus cotinifolius open shrubland*
< 0.3	2 – 10	Shrub, forb	*Seedlings, Grevillea hookeriana subsp. apiciloba, Waitzia acuminata, Halgania andromedifolia low sparse shrubland*

Callitris columellaris
Codonocarpus cotinifolius
Eucalyptus rigidula
Eucalyptus sp.
Grevillea hookeriana subsp. apiciloba
Gyrostemon racemiger
Halgania andromedifolia
Melaleuca hamata
Waitzia acuminata

Vegetation: *Eucalyptus rigidula, Eucalyptus sp., Callitris columellaris low open mallee shrubland over Grevillea hookeriana subsp. apiciloba, Waitzia acuminata, Halgania andromedifolia low sparse shrubland*

Lady Ida Relevé 18-18 (Unburnt)

Date: 18/01/21 VC

GPS: 273778 E/ 6637118 N	Location:	Landform: Low rise
Land surface: Reddish yellow sand/ sandy clay loam; surface rock (lateritic gravel) 20 – 30 %		
Condition: Very good		
Disturbance: Old tracks; near edge of fire		
NVIS V: *M Acacia burkittii, Allocasuarina eriochlamys subsp. eriochlamys\shrub\4\bi; G +^ Triodia rigidissima\hummock grass\1\i*		

Height (m)	Crown cover %	Habit	Species
2 – 4	< 2	Shrub	*Acacia burkittii, Allocasuarina eriochlamys subsp. eriochlamys isolated tall shrubs*
< 0.5	20 – 30	Hummock grass	*Triodia rigidissima low open hummock grassland*

Small patch on edge of woodland area with isolated *Acacia burkittii, Allocasuarina* shrubs (not mapped)

Acacia burkittii *Allocasuarina eriochlamys subsp. eriochlamys* *Triodia rigidissima*	

Lady Ida Relevé 18-19 (Unburnt)

Date: 18/01/21 (2.06 pm) VC 12

GPS: 273757 E/ 6637213 N	Location: Iguana to Two Gums	Landform: Plain, low rise; outcropping granite; minor drainage lines
Land surface: surface rock (granite, fine lateritic gravel) < 10 %		
Condition: Very good; Disturbance: historic mining – overgrown exploration tracks in area		
NVIS V: U+^ *Eucalyptus loxophleba subsp. lissophloia, E. clelandiorum\mallee, tree\6\c; M^ Hakea recurva subsp. recurva, Santalum spicatum, Alyxia buxifolia\shrub\3\i; G Scaevola spinescens, Acacia burkittii\shrub\2\bi*		

Height (m)	Crown cover %	Habit	Species
9 – 11	30 – 40	Mallee, tree	*Eucalyptus loxophleba subsp. lissophloia, E. clelandiorum open mallee forest*
1 – 2	10 – 30	Shrub	*Hakea recurva subsp. recurva, Santalum spicatum, Alyxia buxifolia, Eremophila oppositifolia subsp. angustifolia, Acacia burkittii open shrubland*
< 1	< 2	Shrub	*Scaevola spinescens, Acacia burkittii low isolated shrubs*

	
Woodland	Open shrubland patch: surface rock > 70 %

Vegetation: *Eucalyptus loxophleba subsp. lissophloia, E. clelandiorum open mallee forest over Hakea recurva subsp. recurva, Santalum spicatum, Alyxia buxifolia, Eremophila oppositifolia subsp. angustifolia, Acacia burkittii open shrubland*

Open shrubland patches on low rises: *Acacia aneura, Hakea recurva subsp. recurva open shrubland over Scaevola spinescens low isolated shrubs*

Acacia burkittii *Acacia aneura* *Acacia burkittii* *Eremophila oppositifolia subsp. angustifolia* *Eucalyptus clelandiorum*	*Eucalyptus loxophleba subsp. lissophloia* *Hakea recurva subsp. recurva* *Santalum spicatum* *Scaevola spinescens*

Lady Ida Relevé 18-20 (unburnt)

Date: 18/01/21 VC 12

GPS: 273726 E/ 6637505 N	Location: Iguana to Two Gums	Landform: Low granitic rise on plain; drainage line
Land surface: Yellowish red clay loam		
Condition: Very good		
Disturbance: Historic mining (overgrown access tracks, drill locations); historic pastoral impacts; minor erosion		
NVIS V: *U+^ Casuarina pauper, Eucalyptus virella, E. clelandiorum\tree, mallee\7\i; M1^ Casuarina pauper, Santalum spicatum, Acacia burkittii\shrub, tree\4\c; Alyxia buxifolia, Exocarpos aphyllus, Eremophila oppositifolia subsp. angustifolia \shrub\3\i*		

Height (m)	Crown cover %	Habit	Species
9 – 12	20 – 30	Tree, mallee	*Casuarina pauper, Eucalyptus virella, E. clelandiorum woodland*
2 – 4	30 – 40	Shrub, tree	*Casuarina pauper, Santalum spicatum, Acacia burkittii, Eremophila oppositifolia subsp. angustifolia tall shrubland*
0.6 – 1.5	10 – 30	Shrub	*Alyxia buxifolia, Exocarpos aphyllus, Eremophila oppositifolia subsp. angustifolia, Senna artemisioides subsp. filifolia open shrubland*

Acacia burkittii
Alyxia buxifolia
Casuarina pauper
Eremophila oppositifolia subsp. angustifolia
Eucalyptus clelandiorum
Eucalyptus virella
Santalum spicatum
Senna artemisioides subsp. filifolia

Vegetation: *Casuarina pauper, Eucalyptus virella, E. clelandiorum woodland over Casuarina pauper, Santalum spicatum, Acacia burkittii, Eremophila oppositifolia subsp. angustifolia tall shrubland over Alyxia buxifolia, Exocarpos aphyllus, Eremophila oppositifolia subsp. angustifolium, Senna artemisioides subsp. filifolia open shrubland*

Lady Ida Relevé 18-21 (edge of burnt area)

Date: 18/01/21 (2.14 pm) VC 10 fr

GPS: 273652 E/ 6638241 N	Location: Iguana to Two Gums	Landform: Undulating plain; upper mid catchment
Land surface: Red sand/ brown sandy clay loam		
Condition: Good; burn quite hot		
Disturbance: Fire 1 yr; old tracks (exploration)		
NVIS V: *M ^ Eucalyptus incrassata, E. rigidula\mallee shrub\5\r; G Solanum plicatile, Acacia hemiteles, Codonocarpus cotinifolius\shrub\1\r*		

Height (m)	Crown cover %	Habit	Species
0.5 – 1	2 – 10	Shrub	*Eucalyptus incrassata, E. rigidula low sparse shrubland*
< 0.5	5 – 10	Shrub, sedge, grass, forb	*Solanum plicatile, Acacia hemiteles, Codonocarpus cotinifolius, Melaleuca hamata, Austrostipa scabra, Lepidosperma sp., Halgania andromedifolia, Euphorbia drummondii, Alyxia buxifolia low sparse shrubland*

Acacia hemiteles
Austrostipa scabra
Alyxia buxifolia
Codonocarpus cotinifolius
Eucalyptus incrassata
Eucalyptus rigidula
Euphorbia drummondii
Halgania andromedifolia
Lepidosperma sp
Melaleuca hamata
Solanum plicatile

Eucalyptus incrassata, E. rigidula low sparse mallee shrubland over Solanum plicatile, Acacia hemiteles, Codonocarpus cotinifolius, Melaleuca hamata, Austrostipa scabra, Lepidosperma sp., Halgania andromedifolia, Euphorbia drummondii, Alyxia buxifolia low sparse shrubland

Lady Ida Relevé 18-22

Date: 18/01/21 VT 10 fr

GPS: 273419 E/ 6639842 N	Location: Iguana to Two Gums	Landform: Plain; low rise; mid catchment; yellow sandplain
Land surface: Reddish yellow sand/ brown sandy clay loam; gravel rise to north		
Condition: Good		
Disturbance: Fire (hot); very little original shrubland remaining		
NVIS V: G ^ *Eucalyptus incrassata, E. rigidula, Halgania andromedifolia*\2\i		

Height (m)	Crown cover %	Habit	Species
0.1 – 0.8	20 – 30	Mallee shrub, shrub, grass	*Eucalyptus incrassata, E. rigidula, Halgania andromedifolia, Triodia rigidissima, Hakea francisiana, Dasymalla terminalis, Gyrostemon racemiger, Hannafordia bissillii subsp. latifolia, Seringia velutina low open mallee shrubland*

Pre-fire: Low mallee woodland over *Acacia, Allocasurina* shrubland

Dasymalla terminalis *Eucalyptus incrassata* *E. rigidula* *Gyrostemon racemiger* *Hakea francisiana* *Halgania andromedifolia* *Hannafordia bissillii subsp. latifolia* *Seringia velutina* *Triodia rigidissima*	

Vegetation: *Eucalyptus incrassata, E. rigidula, Halgania andromedifolia, Triodia rigidissima, Hakea francisiana low open mallee shrubland*

Lady Ida Relevé 18-23

Date: 18/01/21 VC 11

GPS:	Location:	Landform:
Land surface: Red sand; surface rock < 5 %; litter 20 – 30 %; fallen timber 15 – 20 %		
Condition: Good		
Disturbance: Old fire; lot of fallen timber – trees/ mallee		
NVIS V: *U Eucalyptus loxophleba subsp. lissophloia\mallee\6\r; M+^ Allocasuarina acutivalvis subsp. acutivalvis, Eremophila pustulata, E. decipiens subsp. decipiens\shrub\3\c; Eremophila pustulata, Alyxia buxifolia, Acacia erinacea\shrub\1\r*		

Height (m)	Crown cover %	Habit	Species
4 – 6	2 – 10	Mallee, tree	*Eucalyptus loxophleba subsp. lissophloia low open mallee woodland*
1 – 1.5	30 -40	Shrub	*Allocasuarina acutivalvis subsp. acutivalvis, Eremophila pustulata, E. decipiens subsp. decipiens, Halgania andromedifolia, Alyxia buxifolia, Grevillea teretifolia shrubland*
0.2 – 0.4	5 – 10	Shrub, hummock grass	*Eremophila pustulata, Alyxia buxifolia, Acacia erinacea, Triodia rigidissima low sparse shrubland*

Old burn VC 11

Burnt area to west VC 11fr

Vegetation: *Eucalyptus loxophleba subsp. lissophloia open mallee woodland over Allocasuarina acutivalvis subsp. acutivalvis, Eremophila pustulata, E. decipiens subsp. decipiens, Halgania andromedifolia, Alyxia buxifolia, Grevillea teretifolia shrubland over Eremophila pustulata, Alyxia buxifolia, Acacia erinacea, Triodia rigidissima low sparse shrubland*

Burnt area to west; Condition: Poor to good; hot fire -

Persoonia helix, Solanum plicatile, Eucalyptus seedlings, Acacia sp., Melaleuca hamata, Hannafordia bissillii subsp. latifolia, Euphorbia tannensis subsp. eremophila, Seringia velutina, Dasymalla terminalis

Burnt area to north; Condition: Poor – *Allocasuarina* burnt shrubland with isolated mallee

Ground cover: *Euphorbia tannensis subsp. eremophila, Hannafordia bissillii subsp. latifolia low open forbland with isolated low mallee, Allocasuarina low shrubs*

Unburnt	Burnt
Acacia erinacea	*Acacia sp.*
Allocasuarina acutivalvis subsp. acutivalvis	*Allocasuarina sp.*
Alyxia buxifolia	*Dasymalla terminalis*
Eremophila decipiens subsp. decipiens	*Eucalyptus sp.*
Eremophila pustulata	*Euphorbia tannensis subsp. eremophila*
Eucalyptus loxophleba subsp. lissophloia	*Hannafordia bissillii subsp. latifolia*
Grevillea teretifolia	*Melaleuca hamata*
Halgania andromedifolia	*Seringia velutina*
Triodia rigidissima	*Solanum plicatile*

Lady Ida Relevé 18-24

Date: 18/01/21 VC 8

GPS: 272678 E/ 6645461 N	Location: Iguana to Two Gums; 1.8 km south of Two Gums	Landform: Undulating plain; mid catchment; aspect west
Land surface: Reddish yellow sand/ brown sandy clay loam; surface rock (lateritic gravel) 2 – 10 %; dry		
Condition: Good; some drought impacts; missed out on recent rainfall		
Disturbance: Old fire; semi mature regrowth; drought impacts		
NVIS V: *M1+^ Allocasuarina corniculata, A. acutivalvis subsp. acutivalvis, Acacia sp.\shrub\3\c; M2 ^Philotheca brucei subsp. brucei, Aluta aspera subsp. aspera, Prostanthera althoferi subsp. althoferi\shrub\2\i*		

Height (m)	Crown cover %	Habit	Species
1 – 1.5	40 – 50	Shrub	*Allocasuarina corniculata, A. acutivalvis subsp. acutivalvis, Acacia sp. (A. cylindrica (tent)), Philotheca brucei subsp. brucei shrubland*
0.3 – 1	20 – 30	Shrub	*Philotheca brucei subsp. brucei, Aluta aspera subsp. aspera, Prostanthera althoferi subsp. althoferi low open shrubland*

Non-burnt *Allocasuarina* shrubland

Burnt area

Unburnt	Burnt
Acacia sp. (A. cylindrica (tent)), *Allocasuarina acutivalvis subsp. acutivalvis* *Allocasuarina corniculata* *Aluta aspera subsp. aspera* *Philotheca brucei subsp. brucei* *Prostanthera althoferi subsp. althoferi*	*Acacia seedlings* *Codonocarpus cotinifolius* *Euphorbia tannensis subsp. eremophila* *Seringia velutina* *Solanum cleistogamum*

Vegetation: Allocasuarina corniculata, A. acutivalvis subsp. acutivalvis, Acacia sp. shrubland

Lady Ida Relevé 18-25

Date: 18/01/21 VC 9

GPS: 272741 E/ 6645780 N	Location: Iguana to Two Gums; just south of Two Gums	Landform: Plain; lower slopes of low rise
Land surface: Yellowish red sand/ sandy loam; surface rock (fine ironstone gravel) < 10 %		
Condition: Very good to excellent		
Disturbance: Low		
NVIS V: *U+^ Eucalyptus loxophleba subsp. lissophloia\mallee\6\i; M ^Acacia burkittii, Philotheca brucei subsp. brucei, Aluta aspera subsp. aspera\shrub\3\r; G ^ Triodia rigidissima, Stenanthemum stipulosum\hummock grass, shrub\1\i*		

Height (m)	Crown cover %	Habit	Species
7 – 8	10 – 20	Mallee	*Eucalyptus loxophleba subsp. lissophloia low mallee woodland patch*
1 – 2	2 – 10	Shrub	*Acacia burkittii, Philotheca brucei subsp. brucei, Aluta aspera subsp. aspera, Callitris columellaris sparse shrubland*
< 0.5	20 – 30	Hummock grass	*Triodia rigidissima, Stenanthemum stipulosum low open hummock grassland*

Acacia burkittii
Aluta aspera subsp. aspera
Callitris columellaris
Eucalyptus loxophleba subsp. lissophloia
Philotheca brucei subsp. brucei
Stenanthemum stipulosum
Triodia rigidissima

Vegetation: *Eucalyptus loxophleba subsp. lissophloia low mallee woodland patch over Acacia burkittii, Philotheca brucei subsp. brucei, Aluta aspera subsp. aspera, Callitris columellaris sparse shrubland over Triodia rigidissima, Stenanthemum stipulosum low open hummock grassland*

Lady Ida Relevé 18-26

Date: 18/01/21 VC 7

GPS: 272976 E/ 6646562 N GPS: 272741 E/ 6645780 N	Location: Just south of Two Gums	Landform: Plain; change from sandplain to plain
Land surface: Yellowish red sand/ brown sandy clay loam		
Condition: Very good; Disturbance: Old tracks; fences – historic mining and pastoral		
NVIS V: *U+^ Eucalyptus loxophleba subsp. lissophloia, E. longissima, E. oleosa subsp. oleosa\mallee\6\r; M1 ^Acacia burkittii, Halgania andromedifolia, Allocasuarina acutivalvis subsp. acutivalvis\shrub\3\i; M2 ^ Scaevola spinescens, Acacia burkittii, Eremophila ionantha\shrub\2\i*		

Height (m)	Crown cover %	Habit	Species
6 – 8	2 – 10	Mallee	*Eucalyptus loxophleba subsp. lissophloia, E. longissima, E. oleosa subsp. oleosa open mallee woodland*
1 – 2	10 – 20	Shrub	*Acacia burkittii, Halgania andromedifolia, Allocasuarina acutivalvis subsp. acutivalvis, Eremophila ionantha, Santalum acuminatum, Acacia tetragonophylla, Eremophila interstans open shrubland*
< 1	20 – 30	Shrub, hummock grass	*Scaevola spinescens, Acacia burkittii, Eremophila ionantha, Exocarpos aphyllus, Olearia muelleri, Westringia rigida, Triodia rigidissima low open shrubland*

Other species: *Philotheca tomentella, Hakea minyma, Beyeria sulcata, Acacia hemiteles, Senna artemisioides subsp. filifolia, Eremophila scoparia, Solanum cleistogamum*

Acacia burkittii
Acacia hemiteles
Acacia tetragonophylla
Allocasuarina acutivalvis subsp. acutivalvis
Beyeria sulcata
Eremophila ionantha
Eremophila interstans
Eremophila scoparia
Eucalyptus longissima
Eucalyptus loxophleba subsp. lissophloia
Eucalyptus oleosa subsp. oleosa
Exocarpos aphyllus
Halgania andromedifolia
Olearia muelleri
Philotheca tomentella
Senna artemisioides subsp. filifolia
Solanum cleistogamum
Triodia rigidissima
Westringia rigida

Vegetation: *Eucalyptus loxophleba subsp. lissophloia, E. longissima, E. oleosa subsp. oleosa open mallee woodland over Acacia burkittii, Halgania andromedifolia, Allocasuarina acutivalvis, Eremophila ionantha, Santalum acuminatum, Acacia tetragonophylla, Eremophila interstans open shrubland over Scaevola spinescens, Acacia burkittii, Eremophila ionantha, Exocarpos aphyllus, Olearia muelleri, Westringia rigida, Triodia rigidissima low open shrubland*

Section 3: Iguana to Lizard

Shrublands on undulating sandplains; Eucalyptus woodlands on heavier soils/ granite; minor granite outcrops

Lady Ida Quadrat Q4

Date: 16/01/2021 VC24 Area: 20m x 20m (400m^2)

GPS: 277938 E/ 6616663 N Elevation: 476 m a s l	**Location: Lizard; west of Coolgardie North Rd**	**Landform: Hill; midslope; gentle; upper catchment**
Land surface: Yellowish red (5YR 4/6) sandy clay loam; surface rock 0 %; litter 55 – 65 % ^20 cm; fallen timber 15 – 20 %; cryptogams (lichen) 20 – 25 %; bare ground 4 – 5 %; surface wet, recent showers		
Condition: Excellent; lerps present on *Eucalyptus*		
Disturbance: No signs of stock or feral grazers, no weeds; vehicle access track nearby; minor erosion in NE corner		
NVIS VI: U1^ *Eucalyptus loxophleba subsp. supralaevis, E. celastroides\Eucalyptus\^mallee, tree\6\c; M1^ Eremophila sp. Mt Jackson, Scaevola spinescens, Acacia hemiteles\Eremophila\ ^shrub\3\r; M2 ^ Olearia muelleri, Scaevola spinescens, Eremophila oppositifolia subsp. angustifolia, Rhagodia drummondii, Exocarpos aphyllus\Olearia\^shrub\2\i; G1^ Olearia muelleri, Maireana triptera, Austrostipa elegantissima, Maireana georgei, Olearia sp. Eremicola\Olearia\^shrub, tussock grass\1\i*		

Height (m)	**Crown cover %**	**Habit**	**Species**	**No.**
6 – 10	40 – 50	Mallee, tree	*Eucalyptus loxophleba subsp. lissophloia (6), Eucalyptus celastroides (2)*	8
> 2	< 1	Shrub	*Exocarpos aphyllus (1), Eremophila sp. Mt Jackson (1), Acacia tetragonophylla (1)*	3
1 – 2	4 – 5	Shrub	*Eremophila sp. Mt Jackson (3), Scaevola spinescens (2), Acacia hemiteles (1)*	6
0.5 – 1	20 – 30	Shrub	*Olearia muelleri (102), Scaevola spinescens (4), Eremophila oppositifolia subsp. angustifolia (2), Rhagodia drummondii (2), Exocarpos aphyllus (1), Eremophila sp. Mt Jackson (1)*	112
< 0.5	10 – 15	Shrub, tussock grass	*Olearia muelleri (36), Maireana triptera (11), Austrostipa elegantissima (4)*[1]*, Maireana georgei (2), Olearia sp. Eremicola (1), Senna artemisioides subsp. filifolia (1)*	51
				180

1. Grass, not counted in stems

Stem density: 180/ 400 m^2; 45/ 100 m^2

Other species: *Callitris columellaris, Santalum spicatum* (1), *Eucalyptus griffithsii*

Vegetation: *Eucalyptus loxophleba subsp. supralaevis, E. celastroides open mallee forest over Eremophila sp. Mt Jackson, Scaevola spinescens, Acacia hemiteles sparse shrubland over Olearia muelleri, Scaevola spinescens, Eremophila oppositifolia subsp. angustifolia, Rhagodia drummondii, Exocarpos aphyllus low open shrubland*

Acacia hemiteles	*Exocarpos aphyllus*
Acacia tetragonophylla	*Maireana georgei*
Austrostipa elegantissima	*Maireana triptera*
Callitris columellaris	*Olearia muelleri*
Eremophila oppositifolia subsp. angustifolia	*Olearia sp. Eremicola*
Eremophila sp. Mt Jackson	*Rhagodia drummondii*
Eucalyptus celastroides	*Santalum spicatum*
Eucalyptus griffithsii	*Scaevola spinescens*
Eucalyptus loxophleba subsp. lissophloia	*Senna artemisioides subsp. filifolia*

Lady Ida Quadrat Q5

Date: 16/01/2021 VC20 Area: 20m x 20m (400m^2)

GPS: 278460 E/ 6616682 N Elevation: 480 m a s l	Location: Credo Station, Lizard; southern end	Landform: Low hill; laterite outcrop
Land surface: Strong brown (7.5 YR 5/6) clay loam; surface rock (outcropping laterite; chert, schist, haematite, ironstone gravel 0.6 – 3 cm) > 60 %; litter 30 – 40 % ^ 2 – 5 cm; fallen timber < 2 %; cryptogams (lichen) 20 – 30 %; bare ground < 1 %; surface wet, recent showers (significant falls, some areas with pooling water)		
Condition: Excellent; some drought impacts, some shrubs still semi senescent		
Disturbance: Historic mining; lot of old overgrown drill lines in broader area; adjacent to a vehicle track		
NVIS VI: U1^ *Allocasurina acutivalvis subsp. acutivalvis, Acacia burkittii, Hakea preissii\Allocasuarina\^shrub\4\r; M1 +^ Allocasurina corniculata, Phebalium filifolium, Hysterobaeckea ochropetala, Allocasurina acutivalvis subsp. acutivalvis \Allocasuarina\^shrub\3\i; M2^ Hysterobaeckea ochropetala, Phebalium filifolium, Prostanthera grylloana, Allocasurina acutivalvis subsp. acutivalvis, Acacia burkittii\Hysterobaeckea\^shrub\1\i*		

Height (m)	Crown cover %	Habit	Species	No.
1.6 – 3	2 – 4	Shrub	*Allocasurina acutivalvis subsp. acutivalvis (12), Acacia burkittii (1), Hakea preissii (1)*	14
0.8 – 1.6	25 – 30	Shrub	*Allocasurina corniculata (130), Phebalium filifolium (48), Hysterobaeckea ochropetala (20), Allocasuarina acutivalvis subsp. acutivalvis (2)*	200
< 0.8	25 – 30	Shrub, sedge	*Hysterobaeckea ochropetala (154), Phebalium filifolium (61), Prostanthera grylloana (20), Allocasuarina acutivalvis subsp. acutivalvis (4), Myrtaceae sp. (1), Acacia burkittii (1), Leucopogon sp. Clyde Hill (2), Lepidosperma sp. (2 clumps)*[1]	243
				457

1. Not counted in stem count

Stem density: 457/ 400 m^2; 114.25/ 100 m^2

Other species: *Allocasuarina campestris, Cryptandra micrantha*

Vegetation: *Allocasurina acutivalvis subsp. acutivalvis, Acacia burkittii, Hakea preissii tall sparse shrubland over Allocasurina corniculata, Phebalium filifolium, Hysterobaeckea ochropetala, Allocasurina acutivalvis subsp. acutivalvis open shrubland over Hysterobaeckea ochropetala, Phebalium filifolium, Prostanthera grylloana, Allocasurina acutivalvis subsp. acutivalvis, Acacia burkittii low open shrubland*

Acacia burkittii	*Hysterobaeckea ochropetala subsp. reliqua*
Allocasuarina acutivalvis subsp. acutivalvis	*Myrtaceae sp.*
Allocasurina campestris	*Phebalium filifolium*
Allocasurina corniculata	*Prostanthera grylloana*
Cryptandra micrantha	*Lepidosperma sp*
Hakea preissii	*Leucopogon sp. Clyde Hill*

Lady Ida Quadrat Q6

Date: 16/01/2021 VC 25 Area: 20m x 20m (400m^2)

GPS: 278353 E/ 6617523 N Elevation: 491 m a s l	**Location: Credo Station; Lizard; west of mining area**	**Landform: Hill; ridge upper slope; gentle; upper catchment**
Land surface: Washed sand/ strong brown (7.5YR 4/6) sandy clay loam; surface rock (ironstone gravel, 3 – 10 mm) 5 – 10 %; litter 20 – 30 % ^ 5cm; fallen timber 2 – 3 %; surface dry, damp below surface		
Condition: Very good		
Disturbance: Historic mining activities; erosion – sheet erosion		
NVIS VI: *U1^ Eucalyptus rigidula\Eucalyptus\^mallee\6\r; M1+^ Allocasuarina acutivalvis subsp. acutivalvis, Calothamnus gilesii, Callitris columellaris, Grevillea oligomera\Allocasuarina\ ^shrub\4\i; M2^ Calothamnus gilesii, Beyeria sulcata, Allocasuarina acutivalvis subsp. acutivalvis, A. corniculata, Phebalium filifolium\Calothamnus\^shrub\3\i; M3^ Phebalium filifolium, Beyeria sulcata, Calothamnus gilesii, Myrtaceae sp., Allocasuarina corniculata\Phebalium\^shrub\2\i; G1^ Myrtaceae sp., Phebalium filifolium, Beyeria sulcata, Stenanthemum stipulosum\^Myrtaceae sp.\^shrub\1\r*		

Height (m)	**Crown cover %**	**Habit**	**Species**	**No.**
8 – 10	10 – 20	Mallee	*Eucalyptus rigidula (4)*	4
2 – 4	25 – 30	Shrub	*Allocasuarina acutivalvis subsp. acutivalvis (29), Calothamnus gilesii (4), Callitris columellaris (2), Grevillea oligomera (1)*	7
1 – 2	25 – 30	Shrub	*Calothamnus gilesii (24), Beyeria sulcata (23), Allocasuarina acutivalvis subsp. acutivalvis (19), A. corniculata (21) Phebalium filifolium (5), Grevillea oligomera (3), Callitris columellaris (2), Acacia hemiteles (1), Hysterobaeckea ochropetala subsp. reliqua (1)*	99
0.5 – 1	10 – 20	Shrub	*Phebalium filifolium (20), Beyeria sulcata (15), Calothamnus gilesii (10), Myrtaceae sp. (10), Allocasuarina corniculata (7), Halgania andromedifolia (6), Stenanthemum stipulosum (1)*	69
< 0.5	4 – 5	Shrub	*Myrtaceae sp. (14), Phebalium filifolium (8), Beyeria sulcata (1), Stenanthemum stipulosum (1)*	24
				203

Stem density: 203/ 400 m^2; / 100 m^2

Other species: *Melaleuca hamata, Eucalyptus incrassata, E. oleosa subsp. oleosa, E. virella*

Vegetation: *Eucalyptus rigidula open mallee woodland over Allocasuarina acutivalvis subsp. acutivalvis, Calothamnus gilesii, Callitris columellaris, Grevillea oligomera tall open shrubland over Calothamnus gilesii, Beyeria sulcata, Allocasuarina acutivalvis subsp. acutivalvis, A. corniculata, Phebalium filifolium open shrubland over Phebalium filifolium, Beyeria sulcata, Calothamnus gilesii, Myrtaceae sp., Allocasuarina corniculata low open shrubland*

Acacia hemiteles	*Eucalyptus virella*
Allocasuarina acutivalvis subsp. acutivalvis	*Grevillea oligomera*
Allocasuarina corniculata	*Halgania andromedifolia*
Beyeria sulcata	*Hysterobaeckea ochropetala subsp. reliqua*
Callitris columellaris	*Melaleuca hamata*
Calothamnus gilesii	*Myrtaceae sp.*
Eucalyptus incrassata	*Phebalium filifolium*
Eucalyptus oleosa subsp. oleosa	*Stenanthemum stipulosum*
Eucalyptus rigidula	

Lady Ida Observations Lizard SW area Liz1, Liz2

Date: 16/01/21 VC 23

GPS: 277681 E/ 6616625 N	Location: Lizard, SW corner, near track	Landform: Hill; granite outcropping; upper slope
Land surface: Shallow sandy loam with some deeper patches; surface rock (granite rocks, outcrop) 30 – 40 %		
Condition: Excellent		
Disturbance: minor disturbances adjacent to track		

Acacia acuminata, Philotheca brucei subsp. brucei, Eremophila clarkei, Dodonaea lobulata, Alyxia buxifolia shrubland over Prostanthera grylloana, Dodonaea lobulata, Eremophila clarkei low open shrubland

GPS: 277773 E/ 6616519 N	Location: Lizard SW corner	Landform: Hill; granite outcrops
Land surface: Shallow sandy soils with outcropping granite		
Condition: Excellent; forb diversity likely to be moderate to high during good conditions		
Disturbance: Minor; possibly some feral grazers such as rabbits		
Fauna habitat: High – many crevices; water catchment – ephemeral pools; diverse habitats		

Acacia acuminata, Santalum spicatum tall isolated shrubs or low trees over Philotheca brucei subsp. brucei, Aluta aspera subsp. aspera, Acacia tetragonophylla shrubland over Solanum cleistogamum, Sida calyxhymenia, Mirbelia sp., Isotoma petraea, Acacia tetragonophylla low open shrubland

Edges of outcrops VC 22

Significant areas of rock outcrop with sparse vegetation

Cheilanthes sieberi subsp. sieberi, Amphipogon caricinus, lichens low fernland

Potential habitat for a variety of herbs such as *Stylidium, Wurmbea, Drosera* and orchids

Potential habitat for *Eucalyptus crucis* subsp. *crucis* T which is recorded from granite outcrops in the region.

Lady Ida Relevé R LIZ01 R16-1

Date: 16/01/21 VC 23 small patches on rocky outcrops

GPS: 277831 E/ 6616316 N	Location: Lizard SW area	Landform: Granitic hill; upper slope with outcrops
Land surface: dark brown (7.5YR 3/3) sandy loam; surface rock (granite boulders, rocks 30 – 50 %) litter > 50%; fallen timber 15 – 20 %; surface wet, recent rain; pools of water present on outcrop areas downslope		
Condition: Excellent		
Disturbance: Minor		
NVIS V: U1+^ *Eucalyptus loxophleba subsp. lissophloia\mallee\6\i; M1 ^ Acacia burkittii, Alyxia buxifolia, Santalum spicatum\^shrub, tree\4\r; M2 ^ Pittosporum angustifolium, Acacia tetragonophylla, Dodonaea lobulata\shrub\3\c; G1^ Senna artemisioides subsp. filifolia, Dodonaea lobulata, Ptilotus obovatus\shrub\1\r*		

Height (m)	Crown cover %	Habit	Species
8 – 10	25 – 30	Mallee	*Eucalyptus loxophleba subsp. lissophloia mallee woodland*
> 2	2 – 10	Shrub, tree	*Acacia burkittii, Alyxia buxifolia, Santalum spicatum (3) tall sparse shrubland*
0. 8 – 1.6	30 – 40	Shrub	*Pittosporum angustifolium, Acacia tetragonophylla, Dodonaea lobulata, Pimelea microcephala, Senna artemisioides subsp. filifolia shrubland*
<0.5	5 – 10	Shrub, vine	*Senna artemisioides subsp. filifolia, Dodonaea lobulata, Ptilotus obovatus, Vincetoxicum lineare (vine), Eremophila clarkei low sparse shrubland*

Other species: *Scaevola spinescens, Sida calyxhymenia, Eremophila oppositifolia subsp. angustifolia, Eremophila decipiens subsp. decipiens, Hakea recurva, Sclerolaena diacantha*

Acacia burkittii
Acacia tetragonophylla
Alyxia buxifolia
Dodonaea lobulata
Eremophila clarkei
Eremophila decipiens subsp. decipiens
Eremophila oppositifolia subsp. angustifolia
Eucalyptus loxophleba subsp. lissophloia
Hakea recurva subsp. recurva
Pimelea microcephala
Pittosporum angustifolium
Ptilotus obovatus
Santalum spicatum
Scaevola spinescens
Sclerolaena diacantha
Senna artemisioides subsp. filifolia
Sida calyxhymenia
Vincetoxicum lineare

R16-1 Vegetation: *Eucalyptus loxophleba subsp. lissophloia mallee woodland over Acacia burkittii, Alyxia buxifolia, Santalum spicatum tall sparse shrubland over Pittosporum angustifolium, Acacia tetragonophylla, Dodonaea lobulata, Pimelea microcephala, Senna artemisioides subsp. filifolia shrubland over Senna artemisioides subsp. filifolia, Dodonaea lobulata, Ptilotus obovatus, Vincetoxicum lineare, Eremophila clarkei low sparse shrubland*

Lady Ida Relevé R16-2

Date: 16/01/21 (RLIZ02) VC24

GPS: 277874 E/ 6616462 N	**Location: Lizard SW area**	**Landform: Hill; outwash slope below granite outcrops; midslope; east aspect**
Land surface: Dark brown sandy loam		
Condition: Excellent		
Disturbance: Low		
NVIS V: *U^ Eucalyptus loxophleba subsp. lissophloia, E. virella\mallee\6\r; M1+^ Acacia burkittii, Hakea recurva, Acacia murrayana\shrub\4\c; Senna artemisioides subsp. filifolia, Eremophila clarkei, Santalum spicatum\shrub\3\i*		

Height (m)	**Crown cover %**	**Habit**	**Species**
7 – 11	2 – 10	Mallee	*Eucalyptus loxophleba subsp. lissophloia, E. virella open mallee woodland*
3 – 5	30 – 40	Shrub, tree	*Acacia burkittii, Hakea recurva, Acacia murrayana, Santalum spicatum tall shrubland*
1 – 2	10 – 20	Shrub	*Senna artemisioides subsp. filifolia, Eremophila clarkei, Santalum spicatum, Pittosporum angustifolium open shrubland*
0.2 – 1	10 – 20	Shrub	*Olearia sp. Eremicola, Eremophila clarkei, Senna artemisioides subsp. filifolia, Hakea recurva low open shrubland*
< 0.2	5 – 10	Fern, tussock grass	*Cheilanthes sieberi subsp. sieberi, Poaceae sp. (grazed)*

Acacia burkittii
Acacia murrayana
Cheilanthes sieberi subsp. sieberi
Eremophila clarkei
Eucalyptus loxophleba subsp. lissophloia
Eucalyptus virella
Hakea recurva
Olearia sp. Eremicola
Pittosporum angustifolium
Poaceae sp.
Santalum spicatum

Lady Ida Relevé R16-3

Date: 16/01/21 (RLIZ03) VC 24

GPS: 277903 E/ 6616525 N	Location: Lizard, SW area	Landform: Granite hill; outwash slope; midslope
Land surface: Yellowish red clay loam; surface rock < 2%; litter 40 – 50 %; fallen timber 10 – 20 %; cryptogams (lichen) 20 – 30 %; bare ground < 5 %		
Condition: Excellent		
Disturbance: Vehicle access track to north		
NVIS V: *U+^ Eucalyptus loxophleba subsp. lissophloia, E. virella\^mallee, tree\6\c; M ^ Eremophila clarkei, Acacia tetragonophylla, Acacia burkittii\shrub\3\i; G Eremophila clarkei, Olearia sp. Eremicola, Sida calyxhymenia\shrub\2\r*		

Height (m)	Crown cover %	Habit	Species
6 – 8	30 – 40	Mallee, tree	*Eucalyptus loxophleba subsp. lissophloia, E. virella open mallee forest*
1 – 2.5	15 – 20	Shrub	*Eremophila clarkei, Acacia tetragonophylla, Acacia burkittii, Santalum spicatum, Pimelea microcephala open shrubland*
0.2 – 1	2 – 10	Shrub	*Eremophila clarkei, Olearia sp. Eremicola, Sida calyxhymenia low sparse shrubland*
< 0.2	< 2	Shrub, fern	*Eremophila clarkei, Cheilanthes sieberi subsp. sieberi, Ptilotus obovatus isolated low shrubs and ferns*

Other species: *Prostanthera grylloana, Scaevola spinescens, Acacia hemiteles, Olearia muelleri, Eremophila granitica, Exocarpos aphyllus*

Acacia burkittii
Acacia hemiteles
Acacia tetragonophylla
Cheilanthes sieberi subsp. sieberi
Eremophila clarkei
Eremophila granitica
Eucalyptus loxophleba subsp. lissophloia
Eucalyptus virella
Exocarpos aphyllus
Olearia muelleri
Olearia sp. Eremicola
Pimelea microcephala
Ptilotus obovatus
Prostanthera grylloana
Santalum spicatum
Scaevola spinescens
Sida calyxhymenia

Vegetation: *Eucalyptus loxophleba subsp. lissophloia, E. virella open mallee forest over Eremophila clarkei, Acacia tetragonophylla, Acacia burkittii, Santalum spicatum, Pimelea microcephala open shrubland*

Lady Ida Relevé R LZ04 R16-4

Date: 16/01/21 VC 24

GPS: 277939 E/ 6616616 N	Location: Lizard, SW area	Landform: Undulating plains below granite outcrops
Land surface: Yellowish red clay loam/ red clay loam; surface rock 0%; litter 20 – 30 %; fallen timber < 2 %		
Condition: Very good		
Disturbance: Vehicle tracks; historic mining/ camping		
NVIS V: *U +^Eucalyptus virella, E. griffithsii\mallee\6\i; M ^Olearia muelleri, Maireana pyramidata, Scaevola spinescens\shrub\3\i*		

Patches of mallee within shrubland

Height (m)	Crown cover %	Habit	Species
8 – 10	10 – 30	Mallee	*Eucalyptus virella, E. griffithsii* mallee woodland
1 – 2	10 – 20	Shrub	*Olearia muelleri, Maireana pyramidata, Scaevola spinescens, Senna artemisioides subsp. filifolia, Acacia burkittii, Senna cardiosperma, Eremophila oppositifolia subsp. angustifolia open shrubland*

Other species: *Eucalyptus loxophleba subsp. lissophloia, Olearia sp. Eremicola, Eremophila sp. Mt Jackson, Pittosporum angustifolium, Acacia hemiteles*

Acacia burkittii
Acacia hemiteles
Eremophila oppositifolia subsp. angustifolia
Eremophila sp. Mt Jackson
E. griffithsii
Eucalyptus loxophleba subsp. lissophloia
Eucalyptus virella
Maireana pyramidata
Olearia muelleri
Olearia sp. Eremicola
Pittosporum angustifolium
Scaevola spinescens
Senna artemisioides subsp. filifolia
Senna cardiosperma

Vegetation: *Eucalyptus virella, E. griffithsii* mallee woodland over *Olearia muelleri, Maireana pyramidata, Scaevola spinescens, Senna artemisioides subsp. filifolia, Acacia burkittii, Senna cardiosperma, Eremophila oppositifolia subsp. angustifolia open shrubland*

Lady Ida Relevé (R LZ05) R16-5

Date: 16/01/21 VC21

GPS: 279229 E/ 6616827 N Elevation: 464 m a s l	Location: Lizard, south of mining area	Landform: Plain, gently sloping; drainage line (unincised), upper catchment
Land surface: Yellowish red sandy clay loam; surface rock 0%; litter 30 – 50 %;		
Condition: Excellent		
Disturbance: Mining activities adjacent, haul road		
NVIS V: *U Eucalyptus loxophleba subsp. lissophloia\mallee\6\r; M1+ Acacia burkittii\4\c; M2 ^ Eremophila granitica, Olearia sp. Eremicola, O. muelleri\shrub\3\r*		

Height (m)	Crown cover %	Habit	Species
5 – 8	5 – 10	Mallee	*Eucalyptus loxophleba subsp. lissophloia open mallee woodland*
4 – 5	40 – 50	Shrub	*Acacia burkittii tall shrubland*
0.6 – 1.5	2 – 5	Shrub, vine	*Eremophila granitica, Olearia sp. Eremicola, O. muelleri, Senna artemisioides subsp. filifolia, Phebalium filifolium, Acacia burkittii, Marsdenia australis (vine), Acacia prainii sparse shrubland*
< 0.3	2 – 10	Fern, sedge, shrub	*Cheilanthes sieberi subsp. sieberi, Prostanthera grylloana, Ptilotus obovatus, Lomandra effusa low sparse fernland*

Other species: *Casuarina pauper, Santalum spicatum, Exocarpos aphyllus, Scaevola spinescens, Acacia hemiteles*

Acacia burkittii *Acacia hemiteles* *Acacia prainii* *Casuarina pauper* *Eremophila granitica* *Eucalyptus loxophleba subsp. lissophloia* *Lomandra effusa* *Marsdenia australis* *Olearia muelleri* *Olearia sp. Eremicola* *Phebalium filifolium* *Prostanthera grylloana* *Ptilotus obovatus* *Santalum spicatum* *Scaevola spinescens* *Senna artemisioides subsp. filifolia*	

Vegetation: Eucalyptus loxophleba subsp. lissophloia open mallee woodland over Acacia burkittii tall shrubland over Eremophila granitica, Olearia sp. Eremicola, O. muelleri sparse shrubland over Cheilanthes sieberi subsp. sieberi, Prostanthera grylloana, Ptilotus obovatus low sparse fernland

Lady Ida Relevé R LIZ06 R16-6

Date: 16/01/21 VC 24 change to VC17

GPS: 279233 E/ 6616906 N	Location: Lizard, near haul road	Landform: Plain
Land surface: Yellowish red silty clay loam; surface rock <2 %; litter 40 – 50 %		
Condition: Excellent		
Disturbance: Haul road to west		
NVIS V: *U +^ Eucalyptus virella, E. oleosa subsp. oleosa, E. salmonophloia\mallee, tree\7\c; M Eremophila scoparia, E. oppositifolia subsp. angustifolia, Exocarpos aphyllus\shrub\3\i; G ^Olearia muelleri, Grevillea acuaria, Solanum nummularium\shrub\2\i*		

Height (m)	Crown cover %	Habit	Species
8 – 10 (14)	> 50 %	Tree, mallee	*Eucalyptus virella, E. oleosa subsp. oleosa, E. salmonophloia, E. salubris low open forest to open forest*
1 – 2	20 – 30	Shrub	*Eremophila scoparia, E. oppositifolia subsp. angustifolia, Exocarpos aphyllus, Teucrium disjunctum, Eremophila decipiens subsp. decipiens, E. sp. Mt Jackson, E. granitica, Senna artemisioides subsp. filifolia open shrubland*
< 1	10 – 20	Shrub	*Olearia muelleri, Grevillea acuaria, Solanum nummularium low open shrubland*

Eucalyptus loxophleba subsp. lissophloia woodland closer to drainage line, + Acacia prainii

Eucalyptus virella, E. oleosa subsp. oleosa, E. salmonophloia, E. salubris low open forest to open forest over Eremophila scoparia, E. oppositifolia subsp. angustifolia, Exocarpos aphyllus, Teucrium disjunctum, Eremophila decipiens subsp. decipiens, E. sp. Mt Jackson, E. granitica, Senna artemisioides subsp. filifolia, open shrubland over Olearia muelleri, Grevillea acuaria, Solanum nummularium low open shrubland

Eremophila decipiens subsp. decipiens	*Eucalyptus salubris*
Eremophila granitica	*Eucalyptus virella*
Eremophila scoparia	*Grevillea acuaria*
Eremophila oppositifolia subsp. angustifolia	*Olearia muelleri*
Eremophila sp. Mt Jackson	*Senna artemisioides subsp. filifolia*
Eucalyptus oleosa subsp. oleosa	*Solanum nummularium*
Eucalyptus salmonophloia	*Teucrium disjunctum*

Lady Ida Relevé R LIZ07 R16-7

Date: 16/01/21 VC 17

GPS: 278639 E/ 6617388 N	Location: Lizard; west of pit	Landform: Low hill; depression – minor drainage area
Land surface:		
Condition: Very good; a number of disturbances at the edges		
Disturbance: Mining		
NVIS V: *U Eucalyptus griffithsii\mallee\6\r; M ^Alyxia buxifolia, Eremophila oppositifolia, Acacia burkittii\shrub\4\c; M2^ Scaevola spinescens, Dodonaea stenozyga, Acacia erinacea\shrub\3\c*		

Height (m)	Crown cover %	Habit	Species
8 – 10	8 – 10	Mallee	*Eucalyptus griffithsii open mallee woodland*
2 – 4	30 – 40	Shrub	*Alyxia buxifolia, Eremophila oppositifolia subsp. angustifolia, Acacia burkittii, Acacia hemiteles, Exocarpos aphyllus, Santalum spicatum tall shrubland*
0.8 – 1.5	30 – 40	Shrub	*Scaevola spinescens, Dodonaea stenozyga, Acacia erinacea, Halgania andromedifolia, Dodonaea lobulata, Philotheca brucei subsp. brucei shrubland*
< 0.7	25 – 30	Shrub	*Olearia muelleri, Grevillea acuaria, Halgania andromedifolia, Eremophila clarkei low open shrubland*

Acacia burkittii
Acacia hemiteles
Acacia erinacea
Dodonaea lobulata
Dodonaea stenozyga
Eremophila clarkei
Eremophila oppositifolia subsp. angustifolia
Eucalyptus griffithsii
Exocarpos aphyllus
Grevillea acuaria
Halgania andromedifolia
Olearia muelleri
Philotheca brucei subsp. brucei
Santalum spicatum
Scaevola spinescens

Vegetation: *Eucalyptus griffithsii open mallee woodland over Alyxia buxifolia, Eremophila oppositifolia, Acacia burkittii, Acacia hemiteles, Exocarpos aphyllus, Santalum spicatum tall shrubland over Scaevola spinescens, Dodonaea stenozyga, Acacia erinacea, Halgania andromedifolia, Dodonaea lobulata, Philotheca brucei subsp. brucei shrubland over Olearia muelleri, Grevillea acuaria, Halgania andromedifolia, Eremophila clarkei low open shrubland*

Lady Ida Relevé R LIZ08 R16-8

Date: 16/01/21 VC 17

GPS: 278664 E/ 6617337 N	Location: Lizard, near mining area	Landform: Hill; upper slope
Land surface: > 50 % surface rock (lateritic gravel)		
Condition: Good		
Disturbance: Mining; some clearing, erosion		
NVIS V: *U+^ Eucalyptus clelandiorum\tree\7\i; M ^ Acacia burkittii, Scaevola spinescens, Acacia erinacea\shrub\2\r*		

Height (m)	Crown cover %	Habit	Species
10 – 12	20 – 30	Tree	*Eucalyptus clelandiorum woodland*
0.4 – 1.2	2 – 10	Shrub	*Acacia burkittii, Scaevola spinescens, Acacia erinacea, Eremophila oppositifolia subsp. angustifolia, Allocasuarina acutivalvis subsp. acutivalvis, Acacia hemiteles sparse shrubland*

Acacia burkittii
Acacia erinacea
Acacia hemiteles
Allocasuarina acutivalvis subsp. acutivalvis
Eremophila oppositifolia subsp. angustifolia
Eucalyptus clelandiorum
Scaevola spinescens

Vegetation: *Eucalyptus clelandiorum woodland over Acacia burkittii, Scaevola spinescens, Acacia erinacea, Eremophila oppositifolia subsp. angustifolia, Allocasuarina acutivalvis subsp. acutivalvis, Acacia hemiteles sparse shrubland*

Lady Ida Relevé R LIZ09 R16-9

Date: 16/01/21 VC 17

GPS: 278696 E/ 6617996 N	Location: Lizard; north of pit	Landform: Hill grading to plain; north aspect; gentle sloping
Land surface: Yellowish red clay loam		
Condition: Good to very good		
Disturbance: Historic mining activities – clearing, rehabilitation; semi-mature regrowth along old tracks; good diversity		
NVIS V: *U+^ Eucalyptus transcontinentalis, E. griffithsii, E. clelandiorum\^tree, mallee\7\i; M ^ Acacia hemiteles, Olearia muelleri, Acacia erinacea\shrub\2\r*		

Height (m)	Crown cover %	Habit	Species
9 – 16	25 – 40	Tree, mallee	*Eucalyptus transcontinentalis, E. griffithsii, E. clelandiorum, E. oleosa subsp. oleosa, E. campaspe woodland*
0.5 – 1.4	8 – 10	Shrub	*Acacia hemiteles, Olearia muelleri, Acacia erinacea, Dodonaea stenozyga, Eremophila oppositifolia subsp. angustifolia, Acacia burkittii, Westringia rigida, Eremophila pustulata sparse shrubland*

Acacia burkittii
Acacia erinacea
Acacia hemiteles
Dodonaea stenozyga
Eremophila oppositifolia subsp. angustifolia
Eremophila pustulata
Eucalyptus campaspe
Eucalyptus clelandiorum
Eucalyptus griffithsii
Eucalyptus oleosa subsp. oleosa
Eucalyptus transcontinentalis
Olearia muelleri
Westringia rigida

Vegetation: *Eucalyptus transcontinentalis, E. griffithsii, E. clelandiorum, E. oleosa subsp. oleosa, E. campaspe woodland to open forest over Acacia hemiteles, Olearia muelleri, Acacia erinacea, Dodonaea stenozyga, Eremophila oppositifolia subsp. angustifolia, Acacia burkittii, Westringia rigida, Eremophila pustulata sparse shrubland*

Lady Ida Relevé (LIZ10) R16-10

Date: 16/01/21 VC 17

GPS: 278768 E/ 6617996 N	Location: Lizard; north of pit	Landform: Hill grading to plain; north aspect; gentle sloping
Land surface: Yellowish red sandy clay loam; surface rock (ironstone gravel) < 10 %; litter > 80 %; fallen timber 10 – 15 %		
Condition: Very good; most structure intact		
Disturbance: Historic mining activities – clearing, rehabilitation; semi-mature regrowth along old tracks; good diversity; pastoral – old cow pats present, no recent signs		
NVIS V: *U1 +^ Eucalyptus clelandiorum\tree\7\i; U2 Eucalyptus virella\mallee\6\i; M Eremophila pustulata\shrub\3\i*		

Height (m)	Crown cover %	Habit	Species
15 – 20	10 – 20	Tree	*Eucalyptus clelandiorum woodland*
7 – 9	20 – 30	Mallee	*Eucalyptus virella mallee woodland*
1 – 2	20 – 30	Shrub	*Eremophila pustulata open shrubland*
< 1	8 – 10	Shrub	*Eremophila pustulata, Olearia muelleri, Scaevola spinescens low sparse shrubland*

Other species: *Eremophila scoparia, Mirbelia microphylla, Acacia hemiteles, Exocarpos aphyllus*

Acacia hemiteles
Eremophila pustulata
Eremophila scoparia
Eucalyptus clelandiorum
Eucalyptus virella
Exocarpos aphyllus
Mirbelia microphylla
Olearia muelleri
Scaevola spinescens

Vegetation: *Eucalyptus clelandiorum woodland over Eucalyptus virella mallee woodland over Eremophila pustulata open shrubland over Eremophila pustulata, Olearia muelleri, Scaevola spinescens low sparse shrubland*

Lady Ida Relevé R LIZ11 R16-11

Date: 16/01/21 VC25

GPS: 278664 E/ 6618038 N	Location: Lizard	Landform: Plain
Land surface: Red sandy clay loam		
Condition: Good		
Disturbance: Historic clearing; mining activities		
NVIS V: *U ^ Eucalyptus rigidula, E. ravida\mallee, tree\6\r; M +^ Melaleuca hamata\shrub\4\c; G Westringia rigida, Acacia erinacea, Olearia muelleri\shrub\2\bi*		

Height (m)	Crown cover %	Habit	Species
7 – 8	5 – 10	Mallee, tree	*Eucalyptus rigidula, E. ravida open mallee woodland*
1.5 – 3	40 – 50	Shrub	*Melaleuca hamata tall shrubland*
< 1	< 2	Shrub	*Westringia rigida, Acacia erinacea, Olearia muelleri isolated low shrubs*

Acacia erinacea
Eucalyptus ravida
Eucalyptus rigidula
Melaleuca hamata
Olearia muelleri
Westringia rigida

Eucalyptus rigidula, E. ravida open mallee woodland over Melaleuca hamata tall shrubland over Westringia rigida, Acacia erinacea, Olearia muelleri isolated low shrubs

Lady Ida Relevé (LIZ12) R16-12

Date: 16/01/21 VC17

GPS: 277616 E/ 6618892 N	Location: Lizard; north area	Landform: Plain
Land surface: Dark red sandy clay loam; surface rock < 1 %; litter 40 – 50 (60) %; fallen timber 10 – 15 %; cryptogams (lichen) 10 – 30 %; surface moist		
Condition: Excellent; although grasses absent		
Disturbance: Recent water flows, minor erosion; adjacent to haul road		
NVIS V: *U+ Eucalyptus griffithsii\tree\7\i; M1 ^ Acacia burkittii, A. tetragonophylla, Alyxia buxifolia\shrub\4\i; M2 ^ Alyxia buxifolia, Exocarpos aphyllus, Acacia burkittii\shrub\i*		

Height (m)	Crown cover %	Habit	Species
14 – 20	20 – 30	Tree	*Eucalyptus griffithsii woodland*
2 – 4	20 – 30	Shrub	*Acacia burkittii, A. tetragonophylla, Alyxia buxifolia tall open shrubland*
1 – 2	10 – 30	Shrub	*Alyxia buxifolia, Exocarpos aphyllus, Acacia burkittii, A. tetragonophylla, A. hemiteles open shrubland*
< 1	10 – 20	Shrub	*Acacia hemiteles, Alyxia buxifolia, Westringia rigida, Olearia muelleri, Acacia tetragonophylla, Scaevola spinescens, Exocarpos aphyllus low open shrubland*

Other species: *Senna artemisioides subsp. filifolia, Eremophila clarkei, Grevillea acuaria, Cryptandra* sp.

Acacia burkittii
Acacia hemiteles
Acacia tetragonophylla
Alyxia buxifolia
Cryptandra
Eucalyptus griffithsii
Exocarpos aphyllus
Grevillea acuaria
Olearia muelleri
Scaevola spinescens
Senna artemisioides subsp. filifolia
Westringia rigida

Vegetation: *Eucalyptus griffithsii woodland over Acacia burkittii, A. tetragonophylla, Alyxia buxifolia tall open shrubland over Alyxia buxifolia, Exocarpos aphyllus, Acacia burkittii, A. tetragonophylla, A. hemiteles open shrubland over Acacia hemiteles, Alyxia buxifolia, Westringia rigida, Olearia muelleri, Acacia tetragonophylla, Scaevola spinescens, Exocarpos aphyllus low open shrubland*

Lady Ida Lizard to Iguana Relevé R 17-1

Date: 17/01/21 VC 19

GPS: 277353 E/ 6619059 N	Location: Lizard to Iguana Haul Road	Landform: Plain
Land surface: Red sand/ yellowish red sandy clay loam; surface rock 0%; litter 10 – 15 %; fallen timber 8 – 10 %; cryptogams (lichen) 20 – 30 %; bare ground > 50%		
Condition: Good; patches of very good		
Disturbance: Historic mining and pastoral impacts; erosion active 8 – 10 % of area; depression, minor drainage line		
NVIS V: *U+ Eucalyptus virella\mallee\6\r; G Chrysitrix distigmatosa, Acacia hemiteles, Olearia sp. Eremicola\sedge, shrub\2\r*		

Height (m)	Crown cover %	Habit	Species
6 – 8	2 – 10	Mallee	*Eucalyptus virella low open mallee woodland*
< 1	5 – 10	Sedge, shrub	*Chrysitrix distigmatosa, Acacia hemiteles, Olearia sp. Eremicola, Scaevola spinescens sparse sedgeland*

Mallee clumps

Eucalyptus virella, E. eremophila mallee stands over Alyxia buxifolia, Scaevola spinescens, Acacia hemiteles, Eremophila sp. Mt Jackson, Acacia tetragonophylla, Exocarpos aphyllus (with mistletoe) shrubland

Mistletoe (vegetative) – possibly Amyema preissii

East side of road: GPS277206 E/ 6619162

Eucalyptus clelandiorum, E. oleosa subsp. *oleosa* woodland, *E. eremophila* (tree, mallee) + *Acacia erinacea, Senna artemisioides* subsp. *filifolia* (as well as above species)

Lady Ida Relevé R 17-2

Date: 17/01/21 VC 19

GPS: 276980 E/ 6619344 N	Location: Haul Road Lizard to Iguana	Landform: sandplain
Land surface: Red (2.5YR 4/6) sandy loam; surface rock 0%; litter 15 – 20 %; fallen timber 5 – 10 %		
Condition: Very good to excellent		
Disturbance: Some erosion; semi mature fire regrowth		
NVIS V: U+ *Eucalyptus virella\mallee\6\i; M Daviesia aphylla, Eucalyptus virella\shrub\3\i; G ^ Halgania andromedifolia, Acacia erinacea, Sida calyxhymenia\shrub\2\i*		

Height (m)	Crown cover %	Habit	Species
3 – 8	10 – 20	Mallee	*Eucalyptus virella open mallee woodland*
1 – 2	20 – 30	Shrub, mallee	*Daviesia aphylla, Eucalyptus virella open shrubland*
0.5 – 1	10 – 20	Shrub	*Halgania andromedifolia low open shrubland*
< 0.3	2 – 10	Shrub	*Acacia erinacea, Sida calyxhymenia low sparse shrubland*

Other species: *Callitris columellaris, Santalum acuminatum, Hakea francisiana, Phebalium filifolium, Persoonia coriacea*

Acacia erinacea
Callitris columellaris
Daviesia aphylla
Eucalyptus virella
Hakea francisiana
Halgania andromedifolia
Phebalium filifolium
Persoonia coriacea
Sida calyxhymenia

Vegetation: *Eucalyptus virella open mallee woodland over Daviesia aphylla, Eucalyptus virella open shrubland over Halgania andromedifolia low open shrubland over Acacia erinacea, Sida calyxhymenia low sparse shrubland*

R 17-3
Lady Ida Relevé R 17-3a

Date: 17/01/21 VC 19

GPS: 276863 E/ 6619898 N	**Location: Lizard to Iguana Haul Road; south of camp entrance**	**Landform: Low rise on undulating plain**
Land surface: Strong brown (7.5YR 5/4) sandy loam; surface rock 0%; litter 40 – 60 %; fallen timber 10 – 15 %; bare ground 25 – 50 %		
Condition: Excellent		
Disturbance: Mining impacts adjacent to haul road; otherwise insignificant		
NVIS V*: U Eucalyptus virella, Santalum acuminatum\mallee, tree\6\r; M1+Allocasuarina acutivalvis subsp. acutivalvis\shrub\4\c; M2 ^ Phebalium filifolium, Halgania andromedifolia, Halgania andromedifolia\shrub\2\c*		

Height (m)	**Crown cover %**	**Habit**	**Species**
7 – 8	2 – 10	Mallee, tree	*Eucalyptus virella, Santalum acuminatum open mallee woodland*
3.5 – 6	30 – 40	Shrub	*Allocasuarina acutivalvis subsp. acutivalvis tall shrubland*
0.8 – 1.2	30 – 50	Shrub	*Phebalium filifolium, Halgania andromedifolia, Halgania andromedifolia shrubland*
<1	< 2	Shrub	*Isolated low shrubs*

Other species: Patches of *Melaleuca hamata* tall shrubland

17-3b GPS: 276863 E/ 6619907 N

Eucalyptus oleosa subsp. oleosa, E. eremophila, Allocasuarina acutivalvis subsp. acutivalvis, Callitris columellaris open mallee woodland over *Phebalium filifolium, Halgania andromedifolia, Persoonia coriacea* shrubland (30 – 40 %; 0.7 – 1.1 m) over Triodia sp. low open hummock grassland

Other species: *Allocasuarina corniculata, Hysterobaeckea ochropetala* subsp. *reliqua, Aluta aspera* subsp. *aspera, Acacia cylindrica* P3 (276850 E/ 6619912 N)

Lady Ida Relevé 17-4

Date: 17/01/21 VC 18

GPS: 276820 E/ 6620297 N	Location: Lizard to Iguana	Landform: Sandplain
Land surface: Yellow washed sand over strong brown loamy sand		
Condition: Excellent		
Disturbance: Semi mature fire regrowth ~ 20 years; road maintenance		
NVIS V: *U Eucalyptus rigidula\mallee\6\bi; M+^ Allocasuarina acutivalvis subsp. acutivalvis, A. corniculata, Acacia cylindrica\ shrub\3\c; Calytrix creswellii (tent), Melaleuca lateriflora, Triodia rigidissima\2\i*		

Height (m)	Crown cover %	Habit	Species
3 – 4	< 2	Mallee	*Eucalyptus rigidula isolated mallee*
1.5 – 2	50 – 60	Shrub	*Allocasuarina acutivalvis subsp. acutivalvis, A. corniculata, Acacia cylindrica, Santalum spicatum, Hakea francisiana shrubland*
< 1	10 – 20	Shrub, hummock grass	*Calytrix creswellii (tent), Melaleuca lateriflora, Triodia rigidissima, Halgania andromedifolia, Aluta aspera subsp. aspera, Phebalium filifolium low open shrubland with isolated grass hummocks*

Other species: *Seringia velutina*

Acacia cylindrica
Allocasuarina acutivalvis subsp. acutivalvis
Allocasuarina corniculata
Aluta aspera subsp. aspera
Calytrix creswellii
Eucalyptus rigidula
Hakea francisiana
Halgania andromedifolia
Melaleuca lateriflora
Phebalium filifolium
Santalum spicatum
Seringia velutina
Triodia rigidissima

Vegetation: *Eucalyptus rigidula isolated mallee over Allocasuarina acutivalvis subsp. acutivalvis, A. corniculata, Acacia cylindrica, Santalum spicatum, Hakea francisiana shrubland over Calytrix creswellii (tent), Melaleuca lateriflora, Triodia rigidissima, Halgania andromedifolia, Aluta aspera subsp. aspera, Phebalium filifolium low open shrubland with isolated grass hummocks*

Lady Ida Relevé 17-5

Date: 17/01/21 VC 18

GPS: 276803 E/ 6620594 N	Location: Lizard to Iguana HR	Landform: Plain; drainage, valley
Land surface: Red washed sand/ strong brown sandy loam; surface rock 0 %; litter > 80 % ^ 3 cm; fallen timber 5 – 10 %		
Condition: Excellent		
Disturbance: Edge of road; edge effects		
NVIS V: *M1+^ Allocasuarina acutivalvis subsp. acutivalvis, A. corniculata, Acacia cylindrica\shrub, mallee\4\c; M2 Halgania andromedifolia, Calytrix creswellii, Aluta aspera subsp. aspera\shrub\2\r*		

Height (m)	Crown cover %	Habit	Species
4 – 5	50 – 70	Shrub, mallee	*Allocasuarina acutivalvis subsp. acutivalvis, A. corniculata, Acacia cylindrica, Melaleuca hamata, Leptospermum fastigiatum (tent), Eucalyptus rigidula tall shrubland*
0.6 – 1.2	2 – 10	Shrub	*Halgania andromedifolia, Calytrix creswellii, Aluta aspera subsp. aspera sparse shrubland*

Other species: *Callitris columellaris*

Acacia cylindrica
Allocasuarina acutivalvis subsp. acutivalvis
A. corniculata
Aluta aspera subsp. aspera
Calytrix creswellii
Callitris columellaris
Eucalyptus sp.
Halgania andromedifolia
Leptospermum fastigiatum
Melaleuca hamata

Vegetation: *Allocasuarina acutivalvis subsp. acutivalvis, A. corniculata, Acacia cylindrica, Melaleuca hamata, Leptospermum fastigiatum (tent), Eucalyptus rigidula tall shrubland over Halgania andromedifolia, Calytrix creswellii, Aluta aspera subsp. aspera sparse shrubland*

Lady Ida Relevé 17-6

Date: 17/01/21 VC 18

GPS: 276792 E/ 6620794 N	Location: Lizard to Iguana HR	Landform: Sandplain
Land surface: Yellow sand/ brown sandy loam; surface rock 0%; litter 30 – 40 %; fallen timber < 2 %		
Condition: Excellent		
Disturbance: Fire; semi-mature fire regrowth		
NVIS V: *M+^ Allocasuarina acutivalvis subsp. acutivalvis, A. corniculata, Melaleuca hamata\shrub, mallee\3\c; G^ Aluta aspera subsp. aspera, Halgania andromedifolia, Myrtaceae sp.\shrub\1\i*		

Height (m)	Crown cover %	Habit	Species
1 – 2	40 – 60	Shrub, mallee	*Allocasuarina acutivalvis subsp. acutivalvis, A. corniculata, Melaleuca hamata, Eucalyptus eremophila, Acacia burkittii shrubland*
< 0.6	10 – 30	Shrub	*Aluta aspera subsp. aspera, Halgania andromedifolia, Myrtaceae sp., Callitris columellaris, Seringia velutina low open shrubland*

Acacia burkittii
Allocasuarina corniculata
Allocasuarina acutivalvis subsp. acutivalvis
Aluta aspera subsp. aspera
Callitris columellaris
Eucalyptus eremophila
Halgania andromedifolia
Melaleuca hamata
Myrtaceae sp. (? Verticordia)
Seringia velutina

Image: larger mallee closer to road

Vegetation: *Allocasuarina acutivalvis subsp. acutivalvis, A. corniculata, Melaleuca hamata, Eucalyptus eremophila, Acacia burkittii shrubland over Aluta aspera subsp. aspera, Halgania andromedifolia, Myrtaceae sp., Callitris columellaris, Seringia velutina low open shrubland*

Lady Ida Relevé 17-7a

Date: 17/01/21 VC17

GPS: 276788 E/ 6621740 N	Location: Lizard to Iguana HR	Landform: Low rise; upper slope, gravelly ridge; aspect south
Land surface: Red fine sandy clay loam; surface rock (ironstone gravel) 40 – 50 %; litter 35 – 40 %; fallen timber 4 – 5 %		
Condition: Very good		
Disturbance: historic pastoral and mining; low impacts; timber cutting; erosion minor		
NVIS V: *U+ Eucalyptus griffithsii\mallee\6\i; Halgania andromedifolia, Eremophila pustulata, Dodonaea microzyga subsp. acrolobata\shrub\3\i; G Cryptandra ?aridicola, Acacia erinacea\shrub\1\r*		

Height (m)	Crown cover %	Habit	Species
8 – 10	20 – 30 (40)	Mallee	*Eucalyptus griffithsii mallee woodland*
1 – 2	10 – 20	Shrub	*Halgania andromedifolia, Eremophila pustulata, Dodonaea microzyga subsp. acrolobata, Dodonaea stenozyga open shrubland*
< 0.5	2 – 10	Shrub	*Cryptandra ?aridicola, Acacia erinacea low sparse shrubland*

Acacia erinacea
Cryptandra ?aridicola
Dodonaea microzyga subsp. acrolobata
Dodonaea stenozyga
Eremophila pustulata
Eucalyptus griffithsii
Halgania andromedifolia

Vegetation: *Eucalyptus griffithsii mallee woodland over Halgania andromedifolia, Eremophila pustulata, Dodonaea microzyga subsp. acrolobata, Dodonaea stenozyga open shrubland over Cryptandra ?aridicola, Acacia erinacea low sparse shrubland*

Lady Ida Relevé 17-7b

Date: 17/01/21 VC 19

GPS: 276749 E/ 6622246 N	Location: Lizard to Iguana HR	Landform: Low rise on plain
Land surface: Sandplain; surface rock (ironstone gravel) 20 – 30 %; litter 5 – 10 %; fallen timber 2 – 3 %		
Condition: Very good		
Disturbance: Fire regrowth (> 20 yrs)		
NVIS V*: U+ Eucalyptus rigidula\mallee\6\i; Allocasuarina corniculata, Eucalyptus rigidula, Acacia hemiteles\shrub, mallee\3\i; G ^Triodia sp., Halgania andromedifolia\Hummock grass, shrub\2\i*		

Height (m)	Crown cover %	Habit	Species
5 – 6	20 – 30	Mallee	*Eucalyptus rigidula open mallee woodland*
1 – 2.5	20 – 30	Shrub, mallee	*Allocasuarina corniculata, Eucalyptus rigidula, Acacia hemiteles, Dodonaea viscosa subsp. mucronata, Halgania andromedifolia, Melaleuca sp. open shrubland with isolated low mallee shrubs*
< 0.8	20 – 30	Hummock grass, shrub	*Triodia sp., Halgania andromedifolia open hummock grassland*

Other species: *Acacia burkittii, A. erinacea, Callitris columellaris, Cryptandra aridicola (tentative, leaves ~2mm long, recurved mucro), Daviesia aphylla, Eremophila pustulata, Acacia eremophila var. eremophila, Dodonaea stenozyga, Eucalyptus griffithsii, Eucalyptus eremophila, Hakea francisiana*

Acacia burkittii *Acacia hemiteles* *Acacia eremophila var. eremophila* *Allocasuarina corniculata* *Callitris columellaris* *Cryptandra aridicola (tent)* *Daviesia aphylla* *Dodonaea stenozyga* *Dodonaea viscosa subsp. mucronata* *Eremophila pustulata* *Eucalyptus eremophila* *Eucalyptus griffithsii* *Eucalyptus rigidula* *Hakea francisiana* *Halgania andromedifolia* *Melaleuca sp.* *Triodia rigidissima*	

Vegetation: *Eucalyptus rigidula open mallee woodland over Allocasuarina corniculata, Eucalyptus rigidula, Acacia hemiteles, Dodonaea viscosa subsp. mucronata, Halgania andromedifolia, Melaleuca sp. open shrubland with isolated low mallee shrubs over Triodia rigidissima, Halgania andromedifolia open hummock grassland*

Lady Ida Relevé 17-8

Date: 17/01/21 VC17/ 19

GPS: 276761 E/ 6622672 N	Location: Lizard to Iguana	Landform: Low rise; upper slope
Land surface: Reddish sand/ sand clay loam		
Condition: Very good		
Disturbance: historic pastoral impacts		
NVIS V: *U Eucalyptus rigidula, E. eremophila\mallee\6\r; M1+ Callitris columellaris, Eucalyptus rigidula, Daviesia aphylla\shrub, mallee\4\i; M2 ^Dodonaea stenozyga, Acacia hemiteles, Dodonaea viscosa subsp. mucronata\shrub\2\r*		

Height (m)	Crown cover %	Habit	Species
8 – 10	2 – 10	Mallee	*Eucalyptus rigidula, E. eremophila open mallee woodland*
2 – 3	10 – 20	Shrub, mallee	*Callitris columellaris, Eucalyptus rigidula, Daviesia aphylla, Melaleuca hamata tall open shrubland*
0.8 – 2	5 – 10	Shrub	*Dodonaea stenozyga, Acacia hemiteles, Dodonaea viscosa subsp. mucronata, Grevillea huegelii sparse shrubland*

Acacia hemiteles
Callitris columellaris
Daviesia aphylla
Dodonaea stenozyga
Dodonaea viscosa subsp. mucronata
Eucalyptus eremophila
Eucalyptus rigidula
Grevillea huegelii
Melaleuca hamata

East (80 m): *Eucalyptus salmonophloia* woodland over *Alyxia buxifolia, Santalum spicatum, Acacia hemiteles*

Vegetation: *Eucalyptus rigidula, E. eremophila open mallee woodland over Callitris columellaris, Eucalyptus rigidula, Daviesia aphylla, Melaleuca hamata tall open shrubland over Dodonaea stenozyga, Acacia hemiteles, Dodonaea viscosa subsp. mucronata, Grevillea huegelii sparse shrubland*

Lady Ida Relevé 17-9

Date: 17/01/21 VC 16

GPS: 276717 E/ 6622925 N	Location:	Landform: Low rise
Land surface: Reddish yellow loamy sand; surface rock (laterite; lateritic gravel) 30 – 40 %		
Condition: Very good		
Disturbance: Mining – access road, clearing, regrowth		
NVIS V: *M+^ Allocasuarina acutivalvis subsp. acutivalvis, A. corniculata, Calothamnus gilesii\shrub \3\i; Triodia rigidissima, Grevillea hookeriana subsp. apiculata, Calytrix creswellii\hummock grass, shrub\1\i*		

Height (m)	Crown cover %	Habit	Species
1.5 – 2.5	20 – 30 (40)	Shrub	*Allocasuarina acutivalvis subsp. acutivalvis, A. corniculata, Calothamnus gilesii shrubland; isolated low mallee*
< 0.6	20 – 30	Hummock grass, shrub	*Triodia rigidissima, Grevillea hookeriana subsp. apiculata, Calytrix creswellii low open hummock grassland*

Allocasuarina acutivalvis subsp. acutivalvis *Allocasuarina corniculata* *Calothamnus gilesii* *Calytrix creswellii P3* *Eucalyptus leptopoda subsp. subluta* *Grevillea hookeriana subsp. apiculata* *Triodia rigidissima*	

Vegetation: *Allocasuarina acutivalvis subsp. acutivalvis, A. corniculata, Calothamnus gilesii shrubland; Eucalyptus leptopoda subsp. subluta isolated low mallee over Triodia rigidissima, Grevillea hookeriana subsp. apiculata, Calytrix creswellii low open hummock grassland*

Iguana Lady Ida Relevé 17-10

Date: 17/01/21 VC 16

GPS: 276783 E/ 6623183 N	Location: Iguana SE corner 10.35 am	Landform: Undulating plain, upper slope; yellow sandplain
Land surface: Reddish yellow (7.5YR 6/6) sand over strong brown (7.5YR 5/6) sandy loam		
Condition: Very good		
Disturbance: Adjacent to mining tracks; dam		
NVIS V: M+^ *Melaleuca hamata, Leptospermum fastigiatum, Santalum acuminatum\3\i; G ^Triodia rigidissima, Calytrix creswellii, Melaleuca cordata\hummock grass, shrub\2\i*		

Height (m)	Crown cover %	Habit	Species
1 – 2.5	25 – 30	Shrub, mallee	*Melaleuca hamata, Leptospermum fastigiatum, Santalum acuminatum, Allocasuarina corniculata, Hakea francisiana shrubland with Eucalyptus leptopoda subsp. subluta isolated low mallee*
< 0.8	20 – 30	Hummock grass, shrub	*Triodia rigidissima, Calytrix creswellii, Melaleuca cordata open hummock grassland*

Other species: *Heliotropium curassavicum, Acacia eremophila var. eremophila*

Acacia eremophila var. eremophila *Allocasuarina corniculata* *Calytrix creswellii P3* *Eucalyptus leptopoda subsp. subluta* *Hakea francisiana* *Heliotropium curassavicum* *Melaleuca hamata* *Santalum acuminatum* *Triodia rigidissima*	

Vegetation: *Melaleuca hamata, Leptospermum fastigiatum, Santalum acuminatum, Allocasuarina corniculata, Hakea francisiana shrubland with Eucalyptus leptopoda subsp. subluta isolated low mallee over Triodia rigidissima, Calytrix creswellii, Melaleuca cordata open hummock grassland*

Lady Ida Relevé 17-11

Date: 17/01/21 VC 16 10 x 10 m area

GPS: 276692 E/ 6623483 N	Location: Iguana, east	Landform: Undulating sandplain; upper catchment
Land surface: Reddish yellow (7.5YR 6/6) sand over strong brown (7.5YR 5/6) sandy loam; surface rock 0%		
Condition: Excellent		
Disturbance: Historic mining/ pastoral; minor access track		
NVIS V: M+^ *Eucalyptus leptopoda subsp. subluta, Acacia burkittii, A. eremophila var. eremophila\ mallee, shrub\6\i; G^ Triodia rigidissima, Calytrix creswellii, Melaleuca cordata\ hummock grass, shrub\2\c*		

Height (m)	Crown cover %	Habit	Species
1.5 – 3.5	20 – 30	Mallee	*Eucalyptus leptopoda subsp. subluta, Acacia burkittii, A. eremophila var. eremophila, Allocasuarina corniculata, Banksia elderiana low open mallee shrubland*
< 1	40 – 50	Hummock grass, shrub	*Triodia rigidissima, Calytrix creswellii, Melaleuca cordata, Persoonia helix low hummock grassland/ low shrubland*

Calytrix creswellii count: 132/ 100 m^2

Acacia burkittii *Acacia eremophila var. eremophila* *Allocasuarina corniculata* *Banksia elderiana* *Calytrix creswellii* *Eucalyptus leptopoda subsp. subluta* *Melaleuca cordata* *Persoonia helix* *Triodia rigidissima*	

Vegetation: *Eucalyptus leptopoda subsp. subluta, Acacia burkittii, A. eremophila var. eremophila, Allocasuarina corniculata, Banksia elderiana low open mallee shrubland over Triodia rigidissima, Calytrix creswellii, Melaleuca cordata, Persoonia helix low hummock grassland/ low shrubland*

Lady Ida Relevé 17-12

Date: 17/01/21 VC16 10 m x 10 m

GPS: 276713 E/ 6623696 N	Location: Iguana; eastern side	Landform: Undulating sandplain; upper catchment
Land surface: Reddish yellow (7.5YR 6/6) sand over strong brown (7.5YR 5/6) sandy loam; surface rock 0%; litter 20 – 25 %; fallen timber < 2 %		
Condition: Excellent; semi mature fire regrowth		
Disturbance: fire > 20 yrs		
NVIS V: *M+^ Allocasuarina corniculata, Eucalyptus leptopoda subsp. subluta, Acacia eremophila var. eremophila\shrub, mallee\4\c; G ^Triodia rigidissima, Calytrix creswellii, Melaleuca cordata\ hummock grass, shrub\1\c*		

Height (m)	Crown cover %	Habit	Species
2 – 2.5	30 – 40	Shrub, mallee	*Allocasuarina corniculata, Eucalyptus leptopoda subsp. subluta, Acacia eremophila var. eremophila tall shrubland*
< 0.8	30 – 40	Hummock grass, shrub	*Triodia rigidissima, Calytrix creswellii, Melaleuca cordata, Aluta aspera subsp. aspera, Chrysitrix distigmatosa*

Calytrix creswellii count: 187/ 100 m^2

Other species: *Eucalyptus eremophila; Phebalium filifolium, Santalum acuminatum*

Acacia eremophila var. eremophila
Allocasuarina corniculata
Aluta aspera subsp. aspera
Calytrix creswellii
Eucalyptus leptopoda subsp. subluta
Eucalyptus eremophila
Chrysitrix distigmatosa
Melaleuca cordata
Phebalium filifolium
Santalum acuminatum

Vegetation: *Allocasuarina corniculata, Eucalyptus leptopoda subsp. subluta, Acacia eremophila var. eremophila tall shrubland over Triodia rigidissima, Calytrix creswellii, Melaleuca cordata, Aluta aspera subsp. aspera, Chrysitrix distigmatosa*

Lady Ida Relevé IG3 17-13

Date: 17/01/21 VC 18

GPS: 276672 E/ 6624129 N	Location: Iguana; NE 11.34	Landform: Sandplain, upper catchment
Land surface: Reddish yellow sand/ sandy loam		
Condition: Excellent; more mature shrubland – longer since fire		
Disturbance: low; historic mining/ pastoral – old access tracks; some drought impacts		
NVIS V: *M+^ Allocasuarina corniculata, Acacia eremophila subsp. eremophila, Eucalyptus leptopoda subsp. subluta\shrub, mallee\4\i; G ^Triodia rigidissima, Aluta aspera subsp. aspera, Allocasuarina corniculata\hummock grass, shrub\1\c*		

Height (m)	Crown cover %	Habit	Species
2 – 2.5	20 – 30	Shrub, mallee	*Allocasuarina corniculata, Acacia eremophila subsp. eremophila, Eucalyptus leptopoda subsp. subluta, Eucalyptus eremophila tall open shrubland*
< 0.6	30 – 40	Hummock grass, shrub	*Triodia rigidissima, Aluta aspera subsp. aspera, Allocasuarina corniculata, Homalocalyx thryptomenoides (tent), Grevillea hookeriana subsp. apiciloba, Seringia velutina low hummock grassland*

Acacia eremophila subsp. eremophila
Acacia lasiocalyx
Aluta aspera subsp. aspera
Allocasuarina corniculata
Allocasuarina eriochlamys subsp. eriochlamys
Banksia elderiana
Calytrix creswellii
Eucalyptus eremophila
Eucalyptus incrassata
Eucalyptus leptopoda subsp. subluta
Grevillea hookeriana subsp. apiciloba
Grevillea paradoxa
Homalocalyx thryptomenoides
Seringia velutina
Triodia rigidissima
Verticordia helmsii
Verticordia picta

Other species in area: *Grevillea paradoxa* (poor condition, tentative), *Verticordia helmsii (*tent), *Verticordia picta, Acacia lasiocalyx*, *Allocasuarina eriochlamys*, *Eucalyptus incrassata (IG1), Banksia elderiana;* Waste dump area: *Eucalyptus incrassata, Grevillea hookeriana, Calytrix creswellii*

Vegetation: *Allocasuarina corniculata, Acacia eremophila subsp. eremophila, Eucalyptus leptopoda subsp. subluta, Eucalyptus eremophila tall open shrubland over Triodia rigidissima, Aluta aspera subsp. aspera, Allocasuarina corniculata, Homalocalyx thryptomenoides (tent), Grevillea hookeriana subsp. apiciloba, Seringia velutina low hummock grassland*

Lady Ida Relevé IG4 R17-14

Date: /01/21 VC 16/ 16B

GPS: 275446 E/ 6624174 N	Location: Iguana, west of mining area	Landform: Undulating sandplain
Land surface: Yellow sand/ brown sandy loam		
Condition: Very good; Disturbance: mining impacts; clearing, regrowth at edges		
NVIS V: *U ^ Eucalyptus incrassata, E. leptopoda subsp. subluta, Acacia lasiocalyx\mallee, shrub\ 5\r; M +^Calothamnus gilesii, Allocasuarina corniculata, Eucalyptus incrassata\shrub, mallee\2\c; G ^ Triodia rigidissima, Melaleuca calyptroides\hummock grass\1\i*		

Height (m)	Crown cover %	Habit	Species
2 – 3	2 – 10	Mallee, shrub	*Eucalyptus incrassata, E. leptopoda subsp. subluta, Acacia lasiocalyx low open mallee woodland*
0.8 – 1.2	30 – 40	Shrub	*Calothamnus gilesii, Allocasuarina corniculata, Eucalyptus incrassata, Melaleuca cordata, M. calyptroides, Conospermum stoechadis, Grevillea paradoxa, Banksia elderiana, Acacia lasiocalyx, A. cylindrica, Daviesia aphylla, Alyxia buxifolia shrubland*
< 0.6	20 – 30	Hummock grass, shrub	*Triodia rigidissima, Melaleuca calyptroides low open hummock grassland*

Acacia cylindrica P3
Acacia lasiocalyx
Allocasuarina corniculata
Alyxia buxifolia
Banksia elderiana
Calothamnus gilesii
Conospermum stoechadis
Daviesia aphylla
Eucalyptus incrassata
Eucalyptus leptopoda subsp. subluta
Grevillea paradoxa
Melaleuca calyptroides
Melaleuca cordata
Triodia rigidissima

Vegetation: *Eucalyptus incrassata, E. leptopoda subsp. subluta, Acacia lasiocalyx low open mallee woodland over Calothamnus gilesii, Allocasuarina corniculata, Eucalyptus incrassata, Melaleuca cordata, M. calyptroides, Conospermum stoechadis, Grevillea paradoxa, Banksia elderiana, Acacia lasiocalyx, A. cylindrica, Daviesia aphylla, Alyxia buxifolia shrubland over Triodia rigidissima, Melaleuca calyptroides low open hummock grassland*

Lady Ida Relevé IG5 R17-15

Date: 17/01/21 VC 16

GPS: 275258 E/ 6623750 N	Location: Iguana, SW of pit	Landform: Undulating sandplain
Land surface: Yellow sandplain; surface rock 0%; litter 20 – 30 %; fallen timber 2 – 4 %		
Condition: Excellent		
Disturbance: historic mining activities – overgrown drill lines; old fire regrowth		
NVIS V: U+^ *Eucalyptus incrassata, Banksia elderiana, Acacia lasiocalyx\mallee, shrub\5\i; M Conospermum stoechadis, Melaleuca cordata, Acacia cylindrica\shrub\2\i; G ^ Triodia rigidissima, Calytrix creswellii, Melaleuca cordata\hummock grass, shrub\1\i*		

Height (m)	Crown cover %	Habit	Species
2 – 3	25 – 30	Mallee, shrub	*Eucalyptus incrassata, Banksia elderiana, Acacia lasiocalyx low open mallee shrubland*
0.6 – 1.2	20 – 30	Shrub	*Conospermum stoechadis, Melaleuca cordata, Acacia cylindrica, Leptospermum fastigiatum, Melaleuca calyptroides open shrubland*
< 0.6	20 – 30	Hummock grass, shrub	*Triodia rigidissima, Calytrix creswellii, Melaleuca cordata, Myrtaceae sp. low hummock grassland/ shrubland*

Other species: *Eucalyptus rigidula; Persoonia helix, Grevillea juncifolia*

Acacia cylindrica P3
Acacia lasiocalyx
Banksia elderiana
Calytrix creswellii P3
Conospermum stoechadis
Eucalyptus incrassata
Eucalyptus rigidula
Grevillea juncifolia
Leptospermum fastigiatum
Melaleuca cordata
Melaleuca calyptroides
Myrtaceae sp.
Persoonia helix
Triodia rigidissima

Eucalyptus incrassata, E. rigidula, Banksia elderiana, Acacia lasiocalyx low open mallee shrubland over Conospermum stoechadis, Melaleuca cordata, Acacia cylindrica, Leptospermum fastigiatum, Melaleuca calyptroides open shrubland over Triodia rigidissima, Calytrix creswellii, Melaleuca cordata, Myrtaceae sp. low hummock grassland/ shrubland

Lady Ida Relevé IG6 R17-16

Date: 17/01/21 VC 16B

GPS: 275635 E/ 6623016 N	Location: Iguana; south end	Landform: Undulating sandplain
Land surface: Reddish yellow sand/ brown loamy sand; surface rock (lateritic gravel 2 – 3 mm) < 1 %; litter 10 – 20 %; fallen timber 2 – 3 %		
Condition: Very good		
Disturbance: Moderate level of historic mining disturbances; mature regrowth along old drill lines		
NVIS V: *M+^ Allocasuarina corniculata, Banksia elderiana, Eucalyptus incrassata\shrub, mallee\5\i; G ^Calytrix creswellii, ^Melaleuca cordata, M. calyptrata\shrub\2\c*		

Height (m)	Crown cover %	Habit	Species
1.5 – 3	20 – 30	Shrub, mallee	*Allocasuarina corniculata, Banksia elderiana, Eucalyptus incrassata, Leptospermum fastigiatum tall open shrubland*
< 1	30 – 40	Shrub, hummock grass	*^Calytrix creswellii, ^Melaleuca cordata, M. calyptrata, Chrysitrix distigmatosa, Triodia low shrubland*

Other species: A*cacia burkittii, A. cylindrica* P3, *Eucalyptus rigidula*

Calytrix creswellii is extensive; healthy; co-dominant understorey with *Melaleuca cordata*

Acacia burkittii
Acacia cylindrica P3
Allocasuarina corniculata
Banksia elderiana
Calytrix creswellii P3
Chrysitrix distigmatosa
Eucalyptus incrassata
Eucalyptus rigidula
Leptospermum fastigiatum
Melaleuca calyptrata
Melaleuca cordata

Lady Ida Relevé IG7 R17-17

Date: 17/01/21 VC 16B

GPS: 275823 E/ 6623026 N	Location: Iguana south	Landform: Undulating sandplain
Land surface: as for IG6; slightly more surface rock from drilling		
Condition: Very good		
Disturbance: historic mining activities		
NVIS V: *M1 Eucalyptus leptopoda subsp. subluta, E. incrassata, E. rigidula\mallee shrub\5\bi; M2 Acacia cylindrica P3, Calothamnus gilesii, Santalum acuminatum\shrub\3\i; G+^Calytrix creswellii, Melaleuca cordata, Triodia rigidissima\2\c*		

Height (m)	Crown cover %	Habit	Species
1.5 – 1.8	< 2	Mallee	*Eucalyptus leptopoda subsp. subluta, E. incrassata, E. rigidula low isolated mallee*
1 – 1.5	10 – 20	Shrub	*Acacia cylindrica P3, Calothamnus gilesii, Santalum acuminatum open shrubland*
< 0.8	30 – 40	Shrub	*Calytrix creswellii, Melaleuca cordata, Triodia rigidissima, Stenanthemum stipulosum, Phebalium filifolium low shrubland*

Other species: *Allocasuarina corniculata, Grevillea juncifolia*

Acacia cylindrica P3
Allocasuarina corniculata
Calothamnus gilesii
Calytrix creswellii P3
Eucalyptus leptopoda subsp. subluta
Eucalyptus incrassata
Eucalyptus rigidula
Grevillea juncifolia
Melaleuca cordata
Phebalium filifolium
Santalum acuminatum
Stenanthemum stipulosum
Triodia rigidissima

Vegetation: *Eucalyptus leptopoda subsp. subluta, E. incrassata, E. rigidula low isolated mallee over Acacia cylindrica P3, Calothamnus gilesii, Santalum acuminatum open shrubland over Calytrix creswellii P3, Melaleuca cordata, Triodia rigidissima, Stenanthemum stipulosum, Phebalium filifolium low shrubland*

Lady Ida Relevé 18-1

Date: 18/01/21 VC 16/ 16B

GPS: 275416 E/ 6624588 N	Location: Iguana; north – HR	Landform: Undulating sandplain
Land surface: Yellow sandplain; surface rock - < 1%		
Condition: Very good		
Disturbance: Historic mining impacts; regrowth mature		
NVIS V: *U Eucalyptus leptopoda, E. incrassata, E. rigidula\mallee\6\r; M^ Allocasuarina corniculata, Acacia cylindrica P3\shrub\3\i; G Calothamnus gilesii, Melaleuca cordata, Triodia rigidissima\shrub, hummock grass\2\c*		

Height (m)	Crown cover %	Habit	Species
3 – 6	2 – 10	Mallee	*Eucalyptus leptopoda, E. incrassata, E. rigidula, Acacia lasiocalyx mallee patches*
1 – 2	10 – 20	Shrub	*Allocasuarina corniculata, Acacia cylindrica P3 open shrubland*
0.4 – 1	20 – 30	Shrub	*Calothamnus gilesii, Melaleuca cordata, Calytrix creswellii P3, Persoonia helix, Callitris columellaris low open shrubland*
< 0.4	10 – 30	Hummock grass	*Triodia rigidissima low open hummock grassland*

This relevé was recorded over 100 m; Isolated mallee patches within open shrubland

Other species: *Acacia erinacea, Banksia elderiana, Daviesia* sp. (hakeoides), *Melaleuca calyptrata, Pimelea aeruginosa, Stenanthemum stipulosum, Halgania andromedifolia, Dodonaea viscosa* subsp. *mucronata, Malleostemon roseus*

Vegetation: *Eucalyptus leptopoda, E. incrassata, E. rigidula, Acacia lasiocalyx mallee patches over Allocasuarina corniculata, Acacia cylindrica P3 open shrubland over Calothamnus gilesii, Melaleuca cordata, Calytrix creswellii P3, Persoonia helix, Callitris columellaris low open shrubland over Triodia rigidissima low open hummock grassland*

Acacia cylindrica	*Eucalyptus leptopoda*
Acacia erinacea	*Eucalyptus rigidula*
Acacia lasiocalyx	*Halgania andromedifolia*
Allocasuarina corniculata	*Malleostemon roseus*
Banksia elderiana	*Melaleuca calyptrata*
Callitris columellaris	*Melaleuca cordata*
Calothamnus gilesii	*Persoonia helix*
Calytrix creswellii P3	*Pimelea aeruginosa*
Daviesia sp. (hakeoides)	*Stenanthemum stipulosum*
Dodonaea viscosa subsp. *mucronata*	*Triodia rigidissima*
Eucalyptus incrassata	

Lady Ida Relevé 18-2

Date: 18/01/21 VC 18 (minor area)

GPS: 275336 E/ 6625146 N	Location: Haul Road; north of Iguana	Landform: Undulating plain; lateritic rise
Land surface: Reddish yellow sand/ red clay loam; surface rock (lateritic gravel) 15 – 30 %; litter 20 – 30 %; fallen timber < 5 %		
Condition: Very good; some drought impacts		
Disturbance: Historic mining – overgrown drill lines in broader area		
NVIS V: *M+^ Allocasuarina eriochlamys subsp. eriochlamys, Melaleuca hamata\shrub\3\c; G Triodia rigidissima\hummock grass\1\i*		

Height (m)	Crown cover %	Habit	Species
2 – 3	< 1	Shrub	*Melaleuca hamata, Allocasuarina eriochlamys subsp. eriochlamys tall isolated shrubs*
0.5 – 1.5	30 – 40	Shrub	*Allocasuarina eriochlamys subsp. eriochlamys, Melaleuca hamata, Callitris columellaris, Persoonia coriacea shrubland*
< 0.5	10 – 20	Hummock grass	*Triodia rigidissima low open hummock grassland*

Other species: *Aluta aspera subsp. aspera, Phebalium canaliculatum, Alyxia buxifolia, Phebalium filifolium, Myrtaceae* sp.

Allocasuarina eriochlamys subsp. eriochlamys
Aluta aspera subsp. aspera
Alyxia buxifolia
Callitris columellaris
Melaleuca hamata
Myrtaceae sp.
Persoonia coriacea
Phebalium canaliculatum
Phebalium filifolium
Triodia rigidissima

Vegetation: *Melaleuca hamata, Allocasuarina eriochlamys subsp. eriochlamys tall isolated shrubs over Allocasuarina eriochlamys subsp. eriochlamys, Melaleuca hamata, Callitris columellaris, Persoonia coriacea shrubland over Triodia rigidissima low open hummock grassland*

Targeted Flora Survey of the Lady Ida Project – Iguana Gold Mining Proposal

Tenement M16/262 and M16/263, E16/486 for OraBanda Mining Ltd

March 2023

Jenny Borger Botanical Consulting

29 Andrew Street, Kalamunda WA 6076

E: jjborger1@westnet.com.au

Mobile: 0427 998 403

ABN 29 082 526 297

Executive Summary

Ora Banda Mining Ltd (ASX: OBM) is a gold exploration and development company operating in the Davyhurst area, 110 km northwest of Kalgoorlie, Western Australia. Following receipt of the required regulatory approvals, OBM plan to recommence mining activities initially at the Iguana minesite, part of the historic Lady Ida Project (the Project) area located approximately 65 km northeast of Coolgardie and 55 km south of the Davyhurst Processing Plant (Figure 1). The Project tenure contains a number of shallow gold pits (Lizard, Iguana and Blue Tongue) and rehabilitated low waste rock landforms that were mined from 1999 to 2001 and are currently on Care and Maintenance. A reconnaissance vegetation and flora survey of the Iguana minesite and proposed northern infrastructure corridor was commissioned by OBM and undertaken by JBBC in January 2021 (Borger 2021) as part of a broader survey from which two priority species were initially recorded at Iguana – *Calytrix creswellii* P3 and *Acacia cylindrica* P3 – and one registered species – *Santalum spicatum* (sandalwood). Although *Calytrix creswellii* was previously recorded in an earlier 1999 mining campaign, the taxa's disturbance and rehabilitation was managed at the time through a Flora Management Plan (SES 1999, a & b), approved by the then Department of Conservation and Land Management(Kealley 15 November 1999).

Following the Minesite and Corridor Survey undertaken in 2021, a targeted survey was recommended for the Iguana mine environs which was undertaken in August (13th – 18th) and September (7th – 10th) 2022. The site was mostly surveyed in transects 20 – 25 m apart.

Three Conservation Significant Flora (CSF) species were recorded – *Acacia cylindrica* P3, *Calytrix creswellii* P3 and *Homalocalyx grandiflorus* P3. CSF were recorded over most of the proposed disturbance and near mine area, with *Calytrix* being locally abundant. *Santalum spicatum* (sandalwood) – a registered species – was also recorded. Sandalwood were more common in woodland areas north of the proposal.

An updated site layout was provided in March 2023 which includes areas not covered by the survey. Estimations of impact to CSF were calculated from presence and densities of CSF in adjacent areas.

The following counts and estimations were recorded for each of the CSF:

Scientific Name	Code	No. Counted	No. impacted	No. estimated impact (unsurveyed areas)	Estimated impacted; %
Acacia cylindrica R. S. Cowan & Maslin	P3	28,999	813	0	813; 2.8 %
Calytrix creswellii (F.Muell) B.D.Jacks	P3	131,048	71104	40824 (Total 171,872)	111,928; 65 %
Homalocalyx grandiflorus (C.A.Craven) Craven	P3	1504	544	0	544; 36.2 %
Santalum spicatum (R.Br) A.D.C.	R	8	5	0	5; 62.5 %

Surface disturbance associated with the proposed pit cutback activities at Iguana will disturb varying numbers of the three P3 CSF. However recent survey evidence from historically mined and rehabilitated areas suggests that regrowth of some priority species is rapid when the yellow sands growth medium is returned at the completion of mining as part of surface rehabilitation. A review of the original pre mining plant distribution (SES 1999 a, & b) and the distribution of the 3 taxa recorded as part of this study suggests this is the case for 2 of the 3 priority species identified.

A review of FloraBase (1998-) data reports that all three priority species are present at a number of sites outside the proposed development area, including some in the Conservation Estate. An estimate of the number of plants that will be removed as part of the proposed development is listed in the following Table:

In addition, two significant range extensions were recorded for Eremophila *gibbosa* and *Grevillea cagiana*, with both occurring approximately 50 km north of previous records.

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1. Background

1.1 Introduction

Ora Banda Mining Ltd (OBM) are a gold exploration and development company located in the Davyhurst area, 110 km northwest of Kalgoorlie, Western Australia. OBM plan to recommence mining activities at the Iguana Minesite, one of several previously mined prospects, that forms part of the Lady Ida Project (the Project) . The minesite is located approximately 65 km northeast of Coolgardie and 55 km south of the Davyhurst Processing Plant (Figure 1.1). The Project tenure contains a series of shallow pits (Lizard, Iguana and Blue Tongue) that were mined from 1999 to 2001. A reconnaissance vegetation and flora survey was undertaken of the Iguana area in January 2021 (JBBC 2021) as part of a broader survey from which two priority species were recorded at Iguana – *Calytrix creswellii* P3 and *Acacia cylindrica* P3 – and one registered species – *Santalum spicatum* (sandalwood). *Calytrix creswellii* was found to be locally common and occurred within bushland and in historic disturbance areas including on the waste rock landform. *Acacia cylindrica* was less common in the survey area.

Twenty-five vegetation communities were described from the January Reconnaissance survey for the 150m wide corridor area from the Walhalla minesite, 10 km south of Davyhurst, to the Lizard Gold mine, 7.4km south of Iguana. The proposed disturbance area (Table 1.1, Figure 1.2) is located in an area which supports semi-mature fire regrowth (VC 16) with small pockets of unburnt vegetation (16B), as well as historical disturbances from previous mining activities (Cleared and modified). VCs 17 and 18 (long unburnt) are located in the north eastern area. As the reconnaissance survey was undertaken in January, some taxa were unable to be identified to species level, including some Myrtaceae shrubs. It was recommended that a targeted survey scheduled when the vegetation was in a better condition and likely to have reproductive structures present was thought necessary. The proposed disturbance footprint is likely to impact *Calytrix creswellii, Homalocalyx grandiflorus* and *Acacia cylindrica.* The new Project disturbance is located mainly on the western and northern sides of the current Iguana minesite.

Table 1.1: Vegetation communities mapped for the Iguana area in January 2021 from the reconnaissance survey

Vegetation community	Description
16	*Eucalyptus incrassata, E. rigidula, Banksia elderiana, Acacia lasiocalyx low open mallee shrubland*
16B	*Allocasuarina corniculata, Banksia elderiana, Eucalyptus incrassata, Leptospermum fastigiatum tall open shrubland*
17	*Eucalyptus woodlands over Acacia burkittii, E. hemiteles, Eremophila oppositifolia, E. pustulata, Dodonaea stenozyga, Philotheca shrublands*
18	*Eucalyptus incrassata, E. leptopoda subsp. subluta low open mallee woodland over Allocasuarina corniculata, Calothamnus gilesii shrubland*

More detailed vegetation descriptions were completed during the Targeted surveys. The disturbance footprint had been identified but not been finalized at the time of survey. The area was surveyed from the 13th to 18th August and 7th to 10th September 2021. The Iguana minesite survey area is located on Unallocated Crown Land (UCL) adjacent to the western boundary of Credo Station, an ex-pastoral lease now being managed by the Department of Biodiversity, Conservation and Attractions (DBCA) for conservation (Appendix 1).

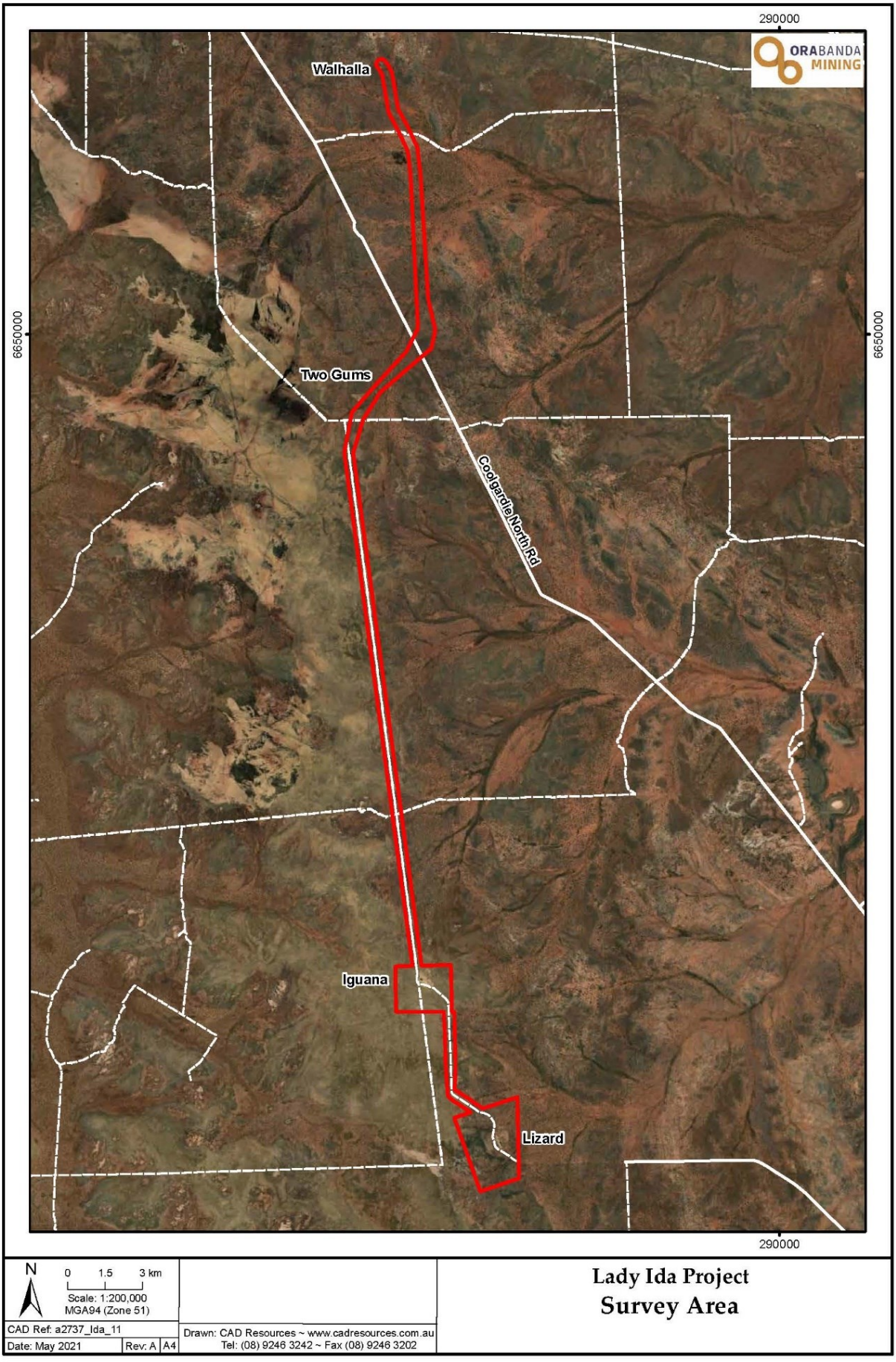

Figure 1.1: Location of the Iguana survey area within the Lady Ida Project area

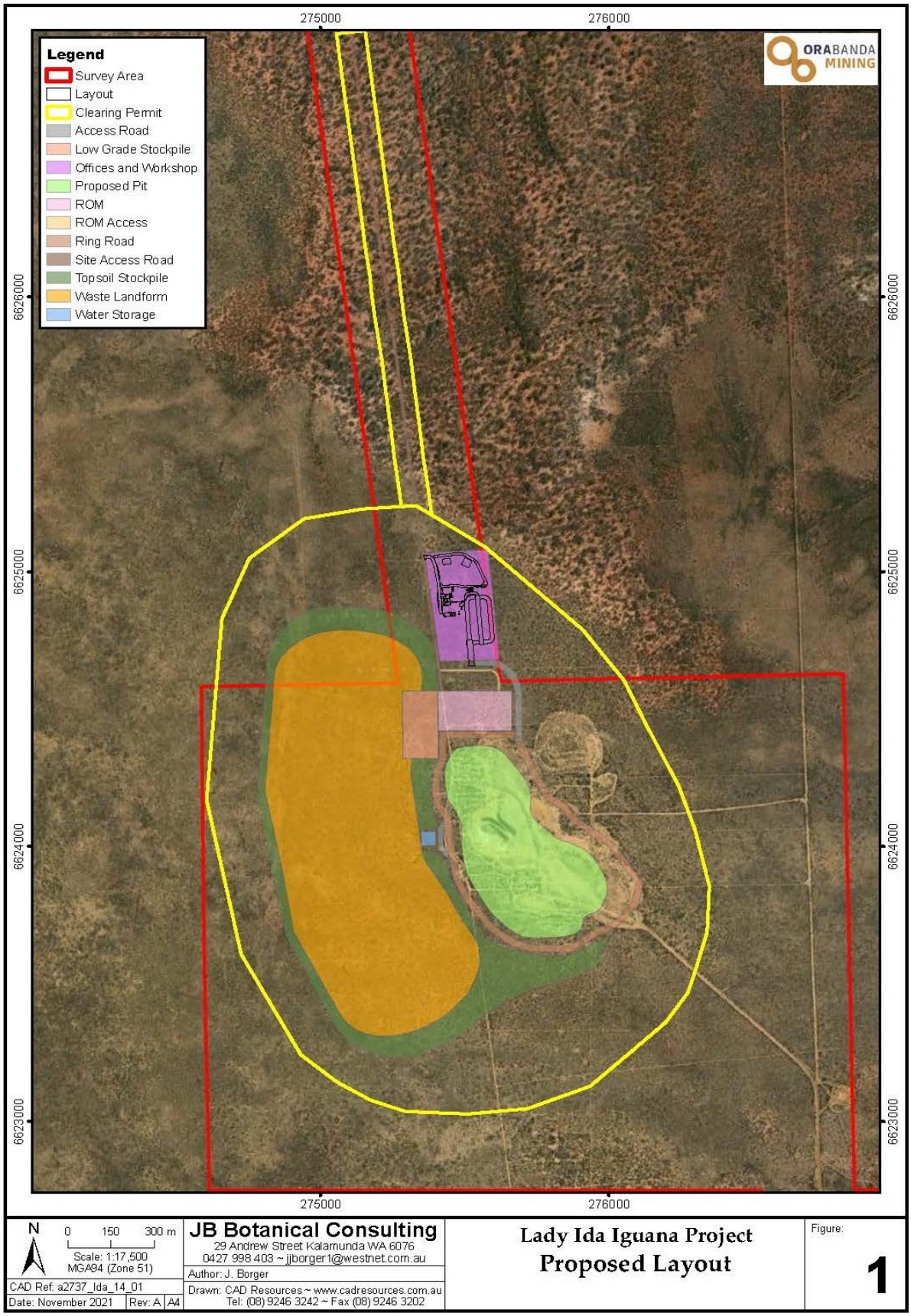

Figure 1.2: The proposed layout for the Iguana Project showing clearing permit area (yellow boundary) and survey area for January 2021 (red boundary). The targeted survey was located mainly within areas likely to be disturbed in the western and northern areas of the Iguana Project.

1.2 Scope of Works

The objectives of the survey were to:

- Review existing environmental survey information for the area including physical environment and climate;
- Undertake searches of databases for conservation significant flora, vegetation communities and environmentally sensitive areas and which may occur in the survey area;
- Undertake a targeted flora survey for conservation significant flora;
- Describe the vegetation within the survey area;
- Record the condition of the vegetation, disturbances and threats;
- Prepare a report compiling information from the desktop and field surveys to support a Purpose Clearing Permit Application for the recommencement of pit mining activities at the Iguana minesite.

1.3 Environmental Setting

1.3.1 Climate

The climate is described as semi-desert Mediterranean and characterised by hot dry summers and mild winters (Beard 1990). Climate data were sourced from two Bureau of Meteorology (BOM) recorded stations – Credo Station (BOM 12259; 2011 -) 15 km east of Iguana and Kalgoorlie (BOM 12038; 1939 -) 82 km south east of the survey area.

The mean annual rainfall recorded at Credo Station over the period 2011 - 2021 is 274.3 mm with the wettest period from January to March, and variable rainfall for the remainder of the year (Table 1.2, Figure 1.3), with September – October the driest period. The mean annual rainfall recorded at Kalgoorlie over the period 1939 – 2021 is 264.9 mm with a slightly wetter period in January and February and a slight increase again from May to July. The records at Credo cover a more recent time period and reflect a recent increase in summer rainfall. Significant rainfall events during the summer are often the result of ex-tropical depressions coming from the north west. The annual rainfall was below average for 2019 and 2020 at both Credo Station and Kalgoorlie. Rainfall records were only available to the end of July for Credo Station. Rainfall recorded during 2021 to the end of the survey period (September 10th) was close to the long term mean at Credo Station and Kalgoorlie, with well above average falls in February at both locations and above average in May and July.

Table 1.2: Monthly rainfall totals and means for Credo Station (Cr) and Kalgoorlie (Kal)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Cr Mean	58.2	40.4	37	11.5	13.7	19.3	24.5	20.2	11.8	20.5	33.5	18.9	274.3
Cr 2019	0.5	13	36.8	18.3	11.6	20.2	46.4	19	0.3	3.2	0.6	18.5	188.4
Cr 2020	25.6	70.5	9.7	0.4	5.1	10.6	11.1	19.3	6	1.5	40.4	3.7	203.9
Cr 2021	5.1	83	30.6	0.4	41.3	0	35						
Kal Mean	27.2	32.4	25	20	24.6	27.1	24.1	21.2	13.5	15.7	18.8	16.3	264.9
Kal 2019	8	7.2	0	36.2	9.8	41.2	3.8	20.6	0.4	2.2	0.2	13.6	143.2
Kal 2020	18.6	62.2	2.6	0.2	5.2	7.4	18.2	13.6	0	5.2	32.6	4.4	170.2
Kal 2021	10.8	95.2	32.2	1.2	36	29.2	30.8	4.8	2				

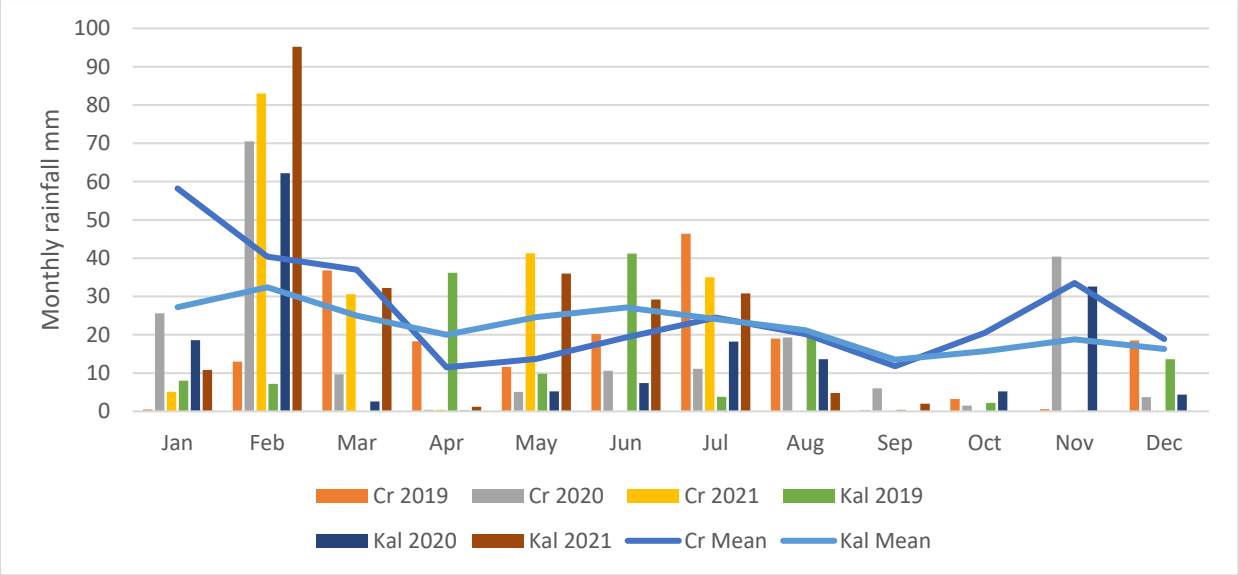

Figure 1.3: Monthly rainfall totals and means for Credo Station (Cr) and Kalgoorlie (Kal)

Temperature data are only available for Kalgoorlie with the hottest months being December to February (mean maxima 32.1 – 33.6 °C; mean minima 16.7 – 18.3 °C) and coolest months being June to August (mean maxima 16.8 – 18.7 °C; mean minima 5.1 – 6.3 °C). 2020 maximum temperatures were close to average for January and February followed by mostly above average temperatures until December. Summer maxima were slightly below average (Jan, Feb) followed by warmer March – May, cooler June and warmer July – August. Minimum temperatures were mostly above average in 2020, below average in January – February 2021 and warmer in March – May and July – August 2021 (Table 1.3, Figure 1.4).

The impacts of the climate in 2021 with average or above rainfall, with significant falls recorded in February, May and July, and close to average temperatures over the winter period have resulted in most of the species at Iguana being robust and many in flower and/or fruiting.

Table 1.3: Maxima and minima temperatures recorded at Kalgoorlie

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean max	33.6	32.1	29.5	25.3	20.7	17.6	16.8	18.7	22.4	26	29.1	32.1	25.4
2020 max	34.2	31.9	29.4	27.5	21.1	20.2	19	19.4	24	27.7	30	31.7	26.3
2021 max	32	30	30.5	28.3	21.3	16.6	16.9	19.8					
Mean min	18.3	17.9	16.1	12.8	8.7	6.3	5.1	5.7	8.1	11.3	14.2	16.7	11.8
2020 min	19.7	19	17	14.6	8	7.4	6.5	7.7	9.8	12.3	14.9	17.3	12.9
2021 min	17.7	17.6	17.4	14.2	10.3	6.3	6.9	6.4					

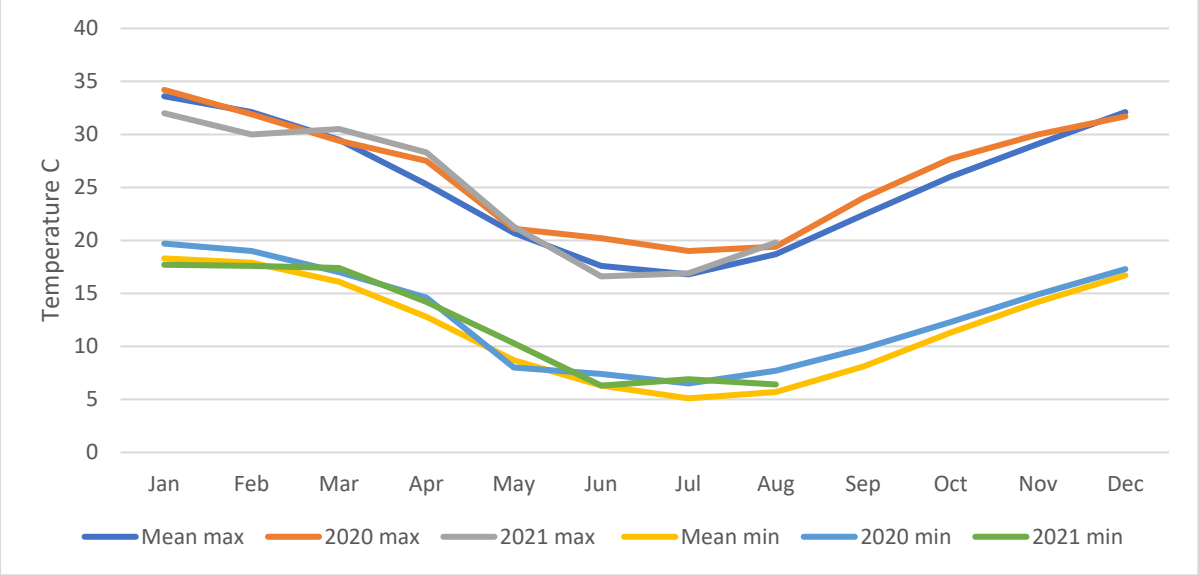

Figure 1.4: Graphed maxima and minima mean monthly temperatures recorded at Kalgoorlie

1.3.2 Land Systems, Geology and Hydrology

The elements of Land Systems, geology and hydrology were discussed in the Reconnaissance Survey Report (JBBC 2021) with relevant information for the Iguana survey area summarised in this document. The Lady Ida Project area is located on a regional divide between the Roe Palaeodrainage in the east and the upper reaches of the Rebecca Palaeodrainage in the west. Iguana sits on the divide with a series of east and north easterly ephemeral drainage lines flowing toward the Carnage Lake Nature Reserve. Within the near mine environs, mining has altered some flow paths so that local resource sinks or limited area closed drainage areas have developed.

Iguana is mapped as mainly 266Mx41, with minor areas of 265Mx43 at the north-eastern edge and in the south-east corner (Table 1.4). A narrow band of pegmatite outcrop is present on the western side of Iguana and forms a long narrow ridge within an undulating sandplain at an elevation of about 520m ASL.

Table 1.4: Description of land units

Code	Description	Location
265Mx43	Gently undulating valley plains and pediments; some outcrop of basic rock	Eastern margins of Iguana
266Mx41	Flat to undulating pediments marginal to unit AC1; granitic rock outcrop; some low escarpments	Most of Iguana minesite

1.3.3 Regional Vegetation

Recent mapping of the Interim Biogeographic Regionalisation for Australia (IBRA) places the survey area within the Coolgardie (COO) IBRA region. The Coolgardie bioregion covers an area of 129,117 km2 and is divided into three subregions: Mardabilla (COO 01), Southern Cross (COO 02) and Eastern Goldfields (COO 03) (Thackway and Cresswell 2017, Cowan 2001).

The proposed mine development is located in the Southern Cross subregion (COO 02) which is characterised by subdued relief comprising gently undulating uplands dissected by broad valleys with bands of low greenstone hills. COO 02 is located on the Southern Cross Terrains of the Yilgarn Craton. Drainage is occluded. Upper levels in the landscape, where the development is located, are the eroded remnants of a lateritic duricrust yielding yellow sandplains, gravelly sandplains and laterite breakaways. Mallees (*Eucalyptus leptopoda, E. platycorys* and *E. scyphocalyx*) and scrub-heaths (*Allocasuarina corniculata, Callitris preissii, Melaleuca uncinata* and *Acacia beauverdiana*) occur on these uplands. (Cowan 2001). The western boundary of COO 03 is located at the north eastern edge of the survey area. The vegetation is described as mallee, *Acacia* thickets and shrub-heaths on sandplain, with dwarf shrublands of samphire adjacent to salt lakes, and surrounded by *Eucalyptus* woodlands. These woodlands are included in the Great Western Woodlands, which cover approximately 16 million hectares.

Pre-European mapping undertaken by Beard (1978) included the survey area in the northern part of the Coolgardie Botanical District characterized by dry eucalypt woodlands bordering the Austin Botanical District supporting mulga communities. The Iguana survey area is mapped as Vegetation Associations 435.4 (dominant) and 468 (northern edge) which are further described in Table 1.5. A portion of the map presented in the reconnaissance report is included (Figure 6). Current extents within lands protected for conservation are VA 435 (6.63 ha – 0.11 %), and VA 468 (610 ha – 0.13 %).

Table 1.5: Pre-European vegetation association descriptions for the Iguana area and extent within the Eastern Goldfields sub-IBRA region

Code	Description	Mapping	Pre-European extent ha	Current extent ha	DBCA (all) managed ha
435.4 Brown	Shrublands, Wattle, Casuarina and teatree; Acacia-Allocasuarina-Melaleuca alliance		6118	6118 (100%)	2514 (41.1%)
468 Green	Medium woodland; salmon gum (*Eucalyptus salmonophloia*) and goldfields blackbutt (*E. lesouefii*)		482,362	474,364 (98.34 %)	106,338 (22.43 %)

1.3.4 Conservation Significant Flora (CSF)

As discussed in the Reconnaissance report (JBBC 2021a) *Calytrix creswellii* was found to be locally abundant in previous surveys (Borger 2021, GGE 2007 – which also includes results of earlier surveys in 1999 (SES 1999a & b). There are DBCA records for the Iguana area for *C. creswellii* P3, *Acacia cylindrica* P3 and *Thysanotus* sp. Yellowdine P2. The record for the *Thysanotus* is located to the south of the proposal and has the potential to occur. A list of taxa considered likely to occur, based on similar landforms and proximity to the survey are listed in Table 1.6 and presented in Figure 1.5. A description of Conservation Codes is referenced in Appendix 2.

Figure 1.5: CSF recorded in the Iguana area. The proposed Lady Ida Haul Road is shown (red) with the Iguana area located towards the south.

Table 1.6: DBCA CSF records occurring on sandplains near Iguana

Mapping code	Scientific Name	Cons code	Habitat Description
Ace	*Acacia epedunculata*	P1	Sandplains, also recorded from greenstone
Acy	*Acacia cylindrica*	P3	Grows in deep yellow sand or gravelly, well-drained sand, on flat to gently undulating plains or on the sides of low hills, in open shrubland
Cac	*Calytrix creswellii*	P3	Yellow sand, sometimes with gravel; sandplains
Har	*Hakea rigida*	P2	Sandy soil, sandplains
Hog	*Homalocalyx grandiflorus*	P3	Yellow sand; sandplains
Lae	*Labichea eremaea*	P3	Red sand
LeY	*Leucopogon* sp. Yellowdine	P2	Sandplain
MeC	*Melichrus* sp. Coolgardie (K.R. Newbey 8698)	P1	Several records in Goldfields Woodlands CP; sandplain area
MBH	*Melichrus* sp. Bungalbin Hill (F.H. & M.P. Mollemans 3069)	P3	Recorded with C. creswellii and H. grandiflorus ~ 50 km west of Iguana on sandplain
Pha	*Phebalium adpressum*	P1	Yellow sandplain; ~ 50 km west of the survey area
Som	*Sowerbaea multicaulis*	P4	Yellow brown sand; < 30 km west
ThyY	*Thysanotus sp. Yellowdine* (A. S. George 6040)	P2	Sandplain; previous record near survey area
Ves	*Verticordia stenopetala*	P3	Yellow sand; sometimes with gravel; undulating plains

1.3.5 Previous Vegetation Surveys in the Area

Vegetation and flora surveys undertaken in the area which are relevant to the Iguana Project are summarised in Table 1.7 with a listing of the Conservation Flora recorded.

Table 1.7: Summary of previous vegetation surveys

Year	Title and description	CSF
2021	JBBC Reconnaissance vegetation and flora survey of a proposed haul road from Walhalla to Lizard mining areas for Ora Banda Mining Pty Ltd May 2021 *Calytrix creswellii* common in Iguana area A total of 179 native taxa and 1 weed (*Salvia verbenaca**) were recorded from the survey area. Native taxa were recorded from 36 families and 81 genera, with the best represented families being: • Myrtaceae (34 species from 10 genera) • Fabaceae (24 species from 7 genera) • Proteaceae (16 species from 5 genera) • Chenopodiaceae (14 species from 4 genera) • Scrophulariaceae (10 taxa from 1 genera)	*Calytrix* creswellii P3 *Acacia cylindrica* P3
1999	Ida Gold Pty Ltd Notice of Intent for the Lady Ida Project – Lizard and Iguana Pits Shepherdson Environmental Services (1999b). *Location and Estimation of Numbers of of Calytrix creswellii in the Vicinity of the Proposed Iguana Pit the Lady Ida Project.* Notice of Intent for the Proposed Iguana Pit. Reg Id 3207. November 1999.	*Calytrix creswellii* P3
2007	G & G Environmental Pty Ltd Flora and vegetation survey of proposed mining areas and a tailings storage facility at the Monarch Gold Mining Company Limited, Davyhurst Operation Relevance – Surveys at Iguana, Two Gums and Walhalla North. It was estimated that there were > 500,000 *Calytrix creswellii* plants in the 75 ha area at Iguana hatched areas – extent mapped by Shepherdson in 1999/ 2000. A total of 116 taxa from 28 families were recorded. The best represented families were Myrtaceae (21), Chenopodiaceae (19), Mimosaceae (Fabaceae (*Acacia* 16)), Scrophulariaceae (12) and Proteaceae (9).	*Calytrix creswellii* P3
2016	PGV Environmental Sandy Ridge Project Level 1 vegetation and flora survey – Tenement E16/440 for Tellus Holdings P/L The survey area is located 56 km NNW of Iguana A total of 97 taxa from 27 families and 50 genera were recorded. The best represented families were Myrtaceae 21 (*Eucalyptus* 8, *Melaleuca* 5), Fabaceae 13 (*Acacia* 11), Proteaceae 8 (*Grevillea* 7) and Asteraceae 8.	*Calytrix creswellii* P3 *Lepidosperma lyonsii* P1

Year	Title and description	CSF
2012	Mattiske Consulting (referred to in PGV 2016) Threatened and priority flora survey of the yellow sandplain vegetation – Mt Walton Road.- 56 km W. Prepared for Polaris Metals Pty Ltd. Many separate populations of *Calytrix creswellii* with population sizes greater than 50 plants common	*Calytrix creswellii* P3
2013	Gibson and Langley Vascular flora of Credo Station and adjacent reserves. -Overlaps the area. A Report to the Bush Blitz Program, Australian Biological Resources Study. A total of 348 taxa were recorded of which 5 were priority species, none of which were recorded on sandplain.	No CSF recorded on similar landforms
2013	ecologia Environment Polaris Metals Pty Ltd J4 Mine and Haul Road Flora and Vegetation Assessment. Located 60 – 115 km west The survey area includes BIF ranges (Finnerty Range/ Mt Dimer/ Yendilberin Hills, and Mount Jackson Range) and plains. A total of 359 taxa were recorded from 57 families and 179 genera. The best represented families were Myrtaceae 49 (*Eucalyptus* 23, *Melaleuca* 9), Fabaceae 38 (*Acacia* 26), Asteraceae 21, Scrophulariaceae 19 (*Eremophila* 19) and Lamiaceae 24 (*Prostanthera* 6). Fourteen priority taxa were recorded, of which 4 were recorded from sandplain.	CSF recorded on similar landforms *Calytrix creswellii* P3 (112) *Hysterobaeckea cornuta* P3 *(Baeckea* sp. Bungalbin Hill) (2770) *Melichrus* sp. Bungalbin Hill P3 (26) *Sowerbaea multicaulis* P4 (2)

1.3.6 Threatened and Priority Ecological Communities

No Threatened Ecological Communities (TEC's) are identified in the Lady Ida Project tenure. The Helena and Aurora Range vegetation complexes (banded ironstone formation (BIF) Priority Ecological Community (PEC) is located approximately 50 km west of the survey area. Vegetation complexes recorded in the Helena and Aurora Ranges are unlikely to occur within the Iguana survey area, as there is no outcropping BIF within the site or near mine environments.

1.4 Conservation Reserves

Two Reserves are located within the boundary of Credo Station – Rowles Lagoon Conservation Park and Clear and Muddy Lakes Nature Reserve which are both episodic freshwater wetland areas. These are located approximately 20 km east of the Iguana survey area in a localized flood plain depression.

1.5 Disturbance History

The Iguana survey area is located on Unallocated Crown Land with a common eastern boundary with Ex Credo Station, the station was run as a pastoral lease from 1906/07 to 2007 when it was acquired by the Department of Environment and Conservation. Credo is currently Unallocated Crown Land (UCL) proposed for conservation. The station has been destocked, and the waters turned off, however cattle are still present in the area. Other feral grazers including donkeys, camels and rabbits are present in the region. The main impacts to the vegetation have occurred from timber cutting, minor areas of clearing for construction of dams and tracks, grazing impact on grasses and other palatable plants and mining and exploration. Species of plants can have variable responses to grazing pressure which were assigned different species indicator values by Pringle

et al (1994). These are 'decreaser' (sensitive to grazing), 'increaser' (less palatable), 'intermediate' and 'non-responsive' or 'no value'. Grazing pressure appears to be higher in woodland, chenopod shrubland areas, and the lower catchment and low in the upper catchment areas including the Iguana site.

Gold mining commenced in the Coolgardie area in the 1890's and several historic mining sites and abandoned towns are located in the Davyhurst area. Clearing of timber to support the mining industry occurred over several decades. Signs of this were noted in some areas near the survey area with old stumps and coppiced trees present. More recent pit mining activities have occurred at Lizard, Iguana and Two Gums with the excavation of pits, construction of waste rock landforms and roads, and clearing for exploration.

2. Methods

2.1 Desktop Survey

OBM provided maps and shapefiles of the proposed development area. A desktop survey was undertaken prior to the site visit to collect information on vegetation and flora, including threatened and priority flora and ecological communities which may occur in the area. Previous surveys in the local area included Flora and vegetation of the Greenstone Ranges of the Yilgarn Craton: Credo Station (Meissner & Coppen 2013), a Bush Blitz survey of a broader range of habitats within Credo Station (Gibson & Langley 2013) and several vegetation and flora surveys on mining leases. The results of the desktop survey which are relevant to the current survey are described in Section 1.3.5. Images of the conservation flora studied at the WA Herbarium were stored on mobile phones and printed with descriptions for reference in the field. Field guide books were also taken in the field for assistance with identification/ verification of *Eremophila* and *Eucalyptus* species as required.

2.2 Field Survey

A targeted flora survey was undertaken at Iguana from the 13th to 18th August and 7th to 10th September 2021 by an experienced arid land botanist, Jenny Borger, with assistance from OBM geological personnel. The OBM staff were trained in the field with the survey time spent directly working with the botanist to ensure they were able to identify the targeted species. Most of the area was surveyed along transects 20 m to 25 m apart following a northing from east to west/ west to east. A wider distance between transects was not adopted as many of the target species were low shrubs and not easily visible over longer distances, with some of the vegetation becoming quite dense. Working in close association also allowed frequent communication between survey team members, Due to the frequent occurrence of CSF a count was made over an area (between 50 – 100 m east/west) with a central GPS location recorded.

The vegetation was described at relevés at various locations and vegetation change boundaries recorded to assist with mapping. The vegetation was described in more detail than during the previous reconnaissance survey in January 2021 using the National Vegetation Information System (NVIS; Tables 2.1 – 2.3) (NVIS Technical Working Group 2017). Landform and land surface information were recorded at relevé sites. The condition of the vegetation was based on the descriptions in Table 2.4 (EPA 2016).

Table 2.1: NVIS foliage cover codes

Cover Characteristics					
Foliage cover	70 – 100	30 – 70	10 – 30	< 10	~ 0 (<2)
Crown cover	>80	50 – 80	20 – 50	0.25 – 20	<0.25
% cover	>80	50 – 80	20 – 50	0.25 - <20	<0.25
Cover code	d	c	i	r	bi

Table 2.2: Height classes defined for the NVIS

Height		Growth Form				
Height Class	Height Range (m)	Tree	Shrub, chenopod shrub	Tree mallee, mallee shrub	Tussock grass	Bryophyte, lichen
8	>30	Tall	N/A	N/A	N/A	N/A
7	10 – 30	Mid	N/A	Tall	N/A	N/A
6	< 10	Low	N/A	Mid	N/A	N/A
5	<3	N/A	N/A	Low	N/A	N/A
4	>2	N/A	Tall	N/A	Tall	N/A
3	1 – 2	N/A	Mid	N/A	Tall	N/A
2	0.5 – 1	N/A	Low	N/A	Mid	Tall
1	< 0.5	N/A	Low	N/A	Low	Low

Table 2.3: Summary of NVIS strata codes

NVIS stratum code	NVIS sub-stratum	Description	Growth forms	Height classes
U	U1	Tallest stratum	Tree, tree mallees (mallee shrubs)	8, 7, 6, (5)
	U2	Sub-canopy layer, second tree layer		
	U3	Sub-canopy layer, third tree layer		
M	M1	Tallest shrub layer	Shrubs, low trees, mallee shrubs, low shrubs, vines	(6), 5, 4, 3
	M2	Next shrub layer		
	M3	Third shrub layer		
G	G1	Tallest ground species	Grasses, forbs, sedges, rushes, vines, lichens, low shrubs	(4, 3), 2, 1
	G2	Ground		
	G3	Substrate surface	Bryophytes, lichens, lower plants	1

More information can be sourced from the NVIS manual. Height classes and growth forms in brackets are currently allowed but are not recommended.

Table 2.4: Vegetation Condition (adapted from Keighery 1994 and Trudgen 1988; EPA 2016)

Condition rating	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance or damage caused by human activities since European settlement.
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species. Damage to trees caused by fire, the presence of non-aggressive weeds and occasional vehicle tracks.
Very Good	Vegetation structure altered obvious signs of disturbance. Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.

Condition rating	Description
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback and grazing
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees and shrubs.

Survey specific issues/ limitations have been addressed in Table 2.5.

Table 2.5: Survey limitations

Potential Limitation	Extent
Contextual information at a regional and local scale	Not limiting The results of surveys in or near the proposal area were available to study prior to the field survey and on similar landforms in the broader area. Land system mapping surveys broadly described the soils and landforms for the proposal area. Conservation significant species listed in Table 6 and Appendix 3 were researched prior to the survey with photographs taken of specimens at the Western Australian Herbarium, as well descriptions and images contained in published documents (Nuytsia Journal for example).
Competency/ experience	Partly limiting The survey team included a botanist (J Borger), with several years' experience in the region, and geology staff from OBM. Due to a high demand for trained botanical/ ecological specialists by other companies during the spring, the shortage of field staff was solved by using two staff provided by OBM to assist in the field who were able to use GPS and worked with the botanist in the field to record locations of CSF.
Proportion of flora recorded and/ or collected, any identification issues	Not limiting The surveys were undertaken in late winter and spring and most species were in flower. Species not identified in the field were identified from specimens held at the WA Herbarium. Where the identification was not known in the field, all locations of the plant were recorded in the potential case that the plant was CSF.
Was the appropriate area fully surveyed	Partly limiting More than 90 % of the potential disturbance area was surveyed at 20 – 25 m transect intervals due to the significant numbers of CSF. Time constraints, and lack of qualified people did limit the amount of area covered as training and familiarization with the species took up some of the time. A small area at the southern end of the proposal was not surveyed.

Potential Limitation	Extent
Access restrictions within the survey area	Not limiting. Vehicle access was direct from Coolgardie North Road to Iguana along an existing ex-pastoral track with 4WD only required in small sections. No accessible vehicle tracks were present in much of the Iguana area; however these areas required full survey, and the survey boundary was approximately 1 km west at the furthest point, which was safely achievable due to cool weather conditions, with each return transect covering approximately 2 km back to within a relatively short distance of the vehicle.
Survey timing, rainfall, season	Partly limiting The surveys were undertaken in late winter and mid spring following average rainfall during the year. Plants were healthy and many were in flower or fruiting. Slightly below average rainfall in August and September may have resulted in a sparse groundcover.
Disturbance that may have affected the results such as fire, flood or clearing	Partly limiting Iguana is located mostly within Ex-Credo Station which is currently being managed for conservation. Few stock (cattle) were noted in the broader area – mostly in *Eucalyptus* woodland areas in valleys to the north. A camel was observed on the access track on one day. Impacts from grazing appeared to be low in the Iguana area itself. There have been several historical mining impacts in the Iguana area, with most concentrated around the pit and waste dump areas. Old fire scars were present, with fires approximately > 20 yrs.

3. Results

3.1 Flora Summary

A total of 109 taxa were recorded from 30 families and 60 genera and presented in Appendix 1. The best represented families were Myrtaceae 27 species from 13 genera (*Eucalyptus* 8; *Melaleuca* 5); Proteaceae 17 species from 6 genera (*Grevillea* 9) and Fabaceae 17 species from 5 genera (*Acacia* 9). No weeds were recorded. Three priority species were recorded - *Acacia cylindrica* P3, *Calytrix creswellii* P3 and *Homalocalyx grandiflorus* P3. *Santalum spicatum*, which is a registered species in Western Australia was recorded. Conservation codes are described in Appendix 2. Two range extensions were recorded – *Eremophila gibbosa* (50 km north) and *Grevillea cagiana* (50 km north) (Table 3.3).

3.2 Conservation Significant Flora and Range Extensions

Counts of the three priority species are presented in Table 3.1 and described in more detail in Table 3.2. *Calytrix creswellii* was widespread and abundant in the survey area, while the occurrences of *Homalocalyx grandiflorus* were sparser, and most of the occurrences of *Acacia cylindrica* were confined to the northern area. The GPS locations are presented in Appendices 5 – 9 and mapped in Appendix 4. The field survey was undertaken along transect lines 20 – 25 m apart. *Calytrix* and *Homalocalyx* are low shrubs, some of which were < 10 cm high and were growing between spinifex clumps and other shrubs. It is highly likely that > 95 % of plants present were counted in the areas surveyed. Some very small plants may have been missed if present under spinifex. *Acacia cylindrica* were mostly 1 – 1.5 m tall and easier to see and count.

Sandalwood locations are presented in Appendix 10 with locations of two occurrences of *Tetratheca efoliata*, which is a slight range extension. *T. efoliata* was collected and identified at the WA Herbarium. Several species of *Tetratheca* are listed as priority or threatened species and these were able to be excluded.

Sandalwood (*Santalum spicatum*), a registered species, is a hemi-parasitic shrub or low tree which is harvested for the timber which contains aromatic oils. Harvesting of sandalwood is managed by the Western Australian Forest Products Commission under the Biodiversity Conservation Act (2016) and permission is required to clear or harvest with penalties for illegal harvesting. It has recently been added to the IUCN's (International Union for Conservation of Nature) international Red List for threatened species.

Table 3.1: Numbers of CSF recorded in the Iguana survey area

Scientific Name	Code	No.
Acacia cylindrica R. S. Cowan & Maslin	P3	28,999
Calytrix creswellii (F.Muell) B.D.Jacks	P3	131,048
Homalocalyx grandiflorus (C.A.Craven) Craven	P3	1504
Santalum spicatum (R.Br) A.D.C.	R	8

Santalum spicatum was mostly recorded outside the proposed disturbance areas and occurred within *Eucalyptus* woodlands to the east and north.

Table 3.2: Descriptions of conservation significant flora recorded within the Iguana survey area

Scientific name and description	Habit/ vegetation	Image
Acacia cylindrica P3 Fabaceae IBRA regions: Avon Wheatbelt, Coolgardie IBRA subregions: Merredin, Southern Cross ~ 400 km east – west range Spreading shrub 1.5 – 3 m high; branchlets apically resin ribbed; phyllodes erect, straight, terete or quadrangular terete to 13 cm long, 1 – 1.2 mm diam; inflorescences simple, 1 or 2 per axil; spikes 10 – 11 mm long; flowering recorded August to October. Grows on deep yellow or gravelly well drained sand.		
Calytrix creswellii P3 Myrtaceae IBRA regions: Coolgardie, Murchison IBRA subregions: Eastern Murchison, Southern Cross ~ 400 km NE – SW range (south of Mt Magnet to north of Boorabbin) Spreading shrub to 1 m high; flowers white, recorded from September to December; grows on yellow sand sometimes with lateritic gravel; sandplains Not flowering at time of survey; old flowers present.		

Scientific name and description	Habit/ vegetation	Image
Homalocalyx grandiflorus P3 Myrtaceae IBRA regions: Coolgardie, Murchison IBRA subregions: Eastern Murchison, Southern Cross ~ < 200 km range from the Helena Aurora Conservation Park to Goldfields Hwy south of Menzies. Spreading shrub, 0.2 – 0.5 (2) m high. Flowers purple, red, pink, recorded from October to December. Grows on yellow sand, sandplains. Flowering at the time of survey in August and September.		
Santalum spicatum R Santalaceae Shrub or small tree to 5 m high; obligate hemiparasite on roots of host plants during early years of growth. Flowers green/ red, recorded from Feb – Jun. Often on red sandy soils, associated with granite or other rocks. Widespread in arid and semi-arid areas of Australia, it is under threat from overharvesting. It has recently been added to the IUCN's (International Union for Conservation of Nature) international Red List for threatened species.	 ^ Image taken January 2021 > File image	

Table 3.3: Descriptions of significant range extensions

Scientific name and description		Image
Eremophila gibbosa Scrophulariaceae Range extension north by approximately 50 km An erect open shrub 0.5 – 2.5 m high with broad shiny leaves to 34 mm long and 18 mm wide. It has greenish sepals (see image right) , and a dull green, yellowish green or greenish brown corolla. The fruit has an obvious swelling on the upper part. Flowering recorded May to September. This was recorded in two areas, with immature fruit present.		
Grevillea cagiana Proteaceae Range extension ~ 50 km; closest records about 15 – 20 km north of Coolgardie. Erect or occasionally spreading, non-lignotuberous shrub, (0.8-)1.5-4(-6) m high. Fl. red/orange & green & cream, Jun to Dec or Jan to Mar. Sand over laterite or clay or deep sand, gravelly clay. Flowering mid-August	 Vegetation: *Acacia eremaea* shrubland over *Phebalium, Aluta* and *Triodia* low open shrubland and hummock grassland	

3.3 Vegetation

Broadscale mapping of the vegetation in the Iguana area was described in the Lady Ida Project Haul Road Reconnaissance Survey (JBBC 2021). Vegetation communities 13, 15, 16, 16B, 17 and 18 (Table 3.4) were mapped for the area, including part of the proposed haul road to the north. Vegetation has been further defined in the current survey (Figure 3.1, Table 3.5). Vegetation type (VT) 16.3 is restricted to pegmatite outcrops on ridges and may be regionally restricted. Species recorded in this VT are not restricted to the area.

Table 3.4: Vegetation communities mapped for the Iguana area in January 2021

Vegetation community	Description
13	*Eucalyptus virella, E. clelandiorum, E. rigidula, E. salubris, E. salmonophloia woodland*
15	*Melaleuca hamata low woodland patches over Allocasuarina eriochlamys shrubland*
16	*Eucalyptus incrassata, E. rigidula, Banksia elderiana, Acacia lasiocalyx low open mallee shrubland*
16B	*Allocasuarina corniculata, Banksia elderiana, Eucalyptus incrassata, Leptospermum fastigiatum tall open shrubland*
17	*Eucalyptus woodlands over Acacia burkittii, E. hemiteles, Eremophila oppositifolia, E. pustulata, Dodonaea stenozyga, Philotheca shrublands*
18	*Eucalyptus incrassata, E. leptopoda subsp. subluta low open mallee woodland over Allocasuarina corniculata, Calothamnus gilesii shrubland*

Table 3.5: Vegetation types mapped from the survey results in August and September 2021. Vegetation communities from the previous survey (VC) are marked. Fr – fire regrowth ~ 20 years

Code		Area (ha)
13 (VC)	*Eucalyptus virella, E. clelandiorum, E. rigidula, E. salubris, E. salmonophloia woodland*	12.905
15 (VC) Haul Rd	*Melaleuca hamata* low woodland patches over *Allocasuarina eriochlamys shrubland*	3.811
16.1 Fr	*Eucalyptus incrassata, E. rigidula* mallee woodland patches over *Calytrix creswellii, Micromyrtus monotaxis, Melaleuca calyptroides, Chamelaucium ciliatum, Acacia eremophila* low shrubland over *Triodia rigidissima* low open hummock grassland on sandplain	95.456
16.2 Fr	*Acacia yorkrakinensis* subsp. *acrita* shrubland to tall shrubland over *Chamelaucium ciliatum, Calytrix creswellii, Triodia rigidissima, Balaustion pulcherrimum* low open shrubland on upper slopes to summits of undulating sandplain	58.445
16.3 Fr	*Acacia lasiocalyx, Eucalyptus leptopoda* tall shrubland to tall open shrubland over *Allocasuarina corniculata, Grevillea juncifolia, G. hookeriana subsp. apiciloba, Melaleuca cordata, Calytrix creswellii, Banksia elderiana* low open shrubland on shallow soils with outcropping pegmatite; ridge	13.489
16.4 Fr	*Acacia lasiocalyx* isolated tall shrubs over *Acacia cylindrica, Allocasuarina corniculata, A. eriochlamys* shrubland over *Triodia rigidissima, Aluta aspera, Phebalium canaliculatum* low open hummock grassland on lower slopes/ depressions on gravelly sandplain	19.887

16.5	*Acacia lasiocalyx, A. burkittii* tall open shrubland over *Grevillea, Acacia lasiocalyx, Leptospermum fastigiatum* open shrubland over *Homalocalyx grandiflorus, Melaleuca cordata, Triodia rigidissima* low open shrubland	12.304
16.6	*Eucalyptus rigidula, E. tenera, E. pileata* mallee woodland over *Dodonaea viscosa subsp. spatulata*, *D. bursariifolia, Grevillea hookeriana subsp. apiciloba, Micromyrtus monotaxis open shrubland over Triodia rigidissima, Melaleuca cordata, Calytrix creswellii, low open hummock grassland*	34.902
16B (VC)	*Allocasuarina corniculata, Banksia elderiana, Eucalyptus incrassata, Leptospermum fastigiatum tall open shrubland*	23.198
18 (VC)	*Eucalyptus incrassata, E. leptopoda subsp. subluta low open mallee woodland over Allocasuarina corniculata, Calothamnus gilesii shrubland*	0.021
C	Cleared – existing pit – isolated plants – not surveyed	5.184
M	Modified – waste rock dumps; tracks; regrowth	29.057

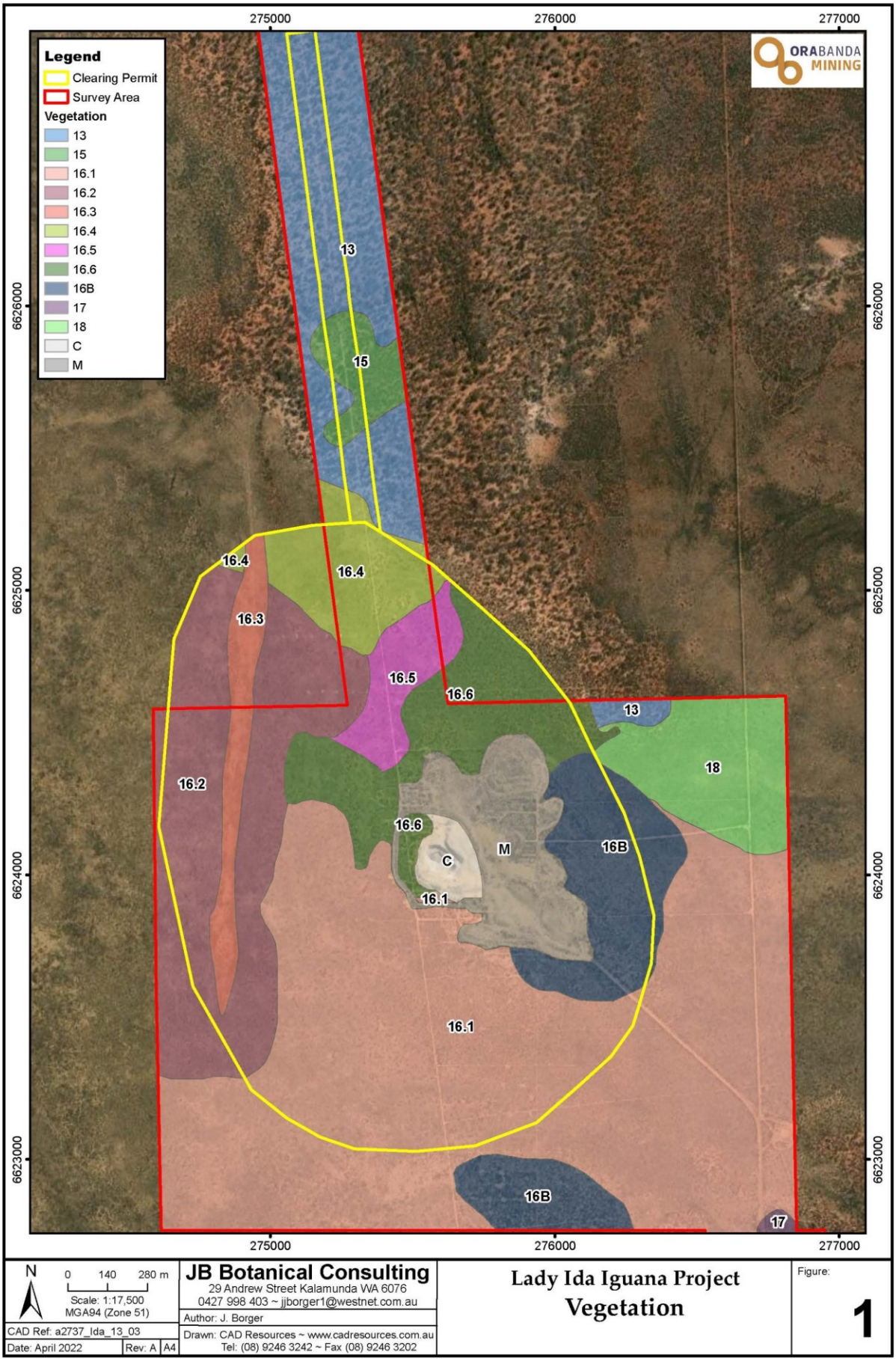

Figure 3.1: Vegetation mapping for the Iguana area described from the current survey

4. Discussion

4.1 Amended site layout March 2023

OBM updated the proposed site layout in March 2023 (Figure 4.1) moving all infrastructure within the mining tenement with the offices and workshop to the eastern side and the WRD further south. Impacts to conservation significant flora have been calculated (Table 4.1) using recorded locations and densities from adjacent areas that were surveyed and estimating densities within unsurveyed areas (Figure 4.2). *Santalum spicatum* is unlikely to occur within the unsurveyed area as suitable habitat is unlikely to be present. *Acacia cylindrica* was mostly recorded to the north, and *Homalocalyx grandiflorus* was more common to the west and north.

Table 4.1 Numbers of CSF impacted within the updated site layout, including estimations. The estimated impact to *Calytrix creswellii* will be 111, 928.

Scientific Name	Number of Sites within Site Layout Footprint	Number of Plants within Site Layout Footprint	Number of Estimated Sites within Site Layout Footprint	Number of Estimated Plants within Site Layout Footprint	Total impact/ estimated impact
Acacia cylindrica	16	813	0	0	813
Calytrix creswellii	694	71104	353	40824	111,928
Homalocalyx grandiflorus	96	544	0	0	544
Santalum spicatum	3	5	0	0	5

4.2 Conservation Significant Flora

Calytrix creswellii was locally abundant. Only isolated plants were in flower; however the shape and colour of the shrub and leaves makes it easy to distinguish from other species. *C. creswellii* was recorded within bushland areas and within rehabilitated areas. The proposed mining activities, although not finalised, are likely to impact several thousand plants. The population of *C. creswellii* is likely to extend much further to the west and east of the proposal. Due to its presence in previously disturbed areas it is likely to recolonize disturbance areas following the completion of this project, if topsoil stockpiles are stored correctly and distributed within a timely manner. The likely extent of *Calytrix creswellii* based on landform pattern in the Iguana area is presented in Figure 4.3. The extent could be broader than mapped.

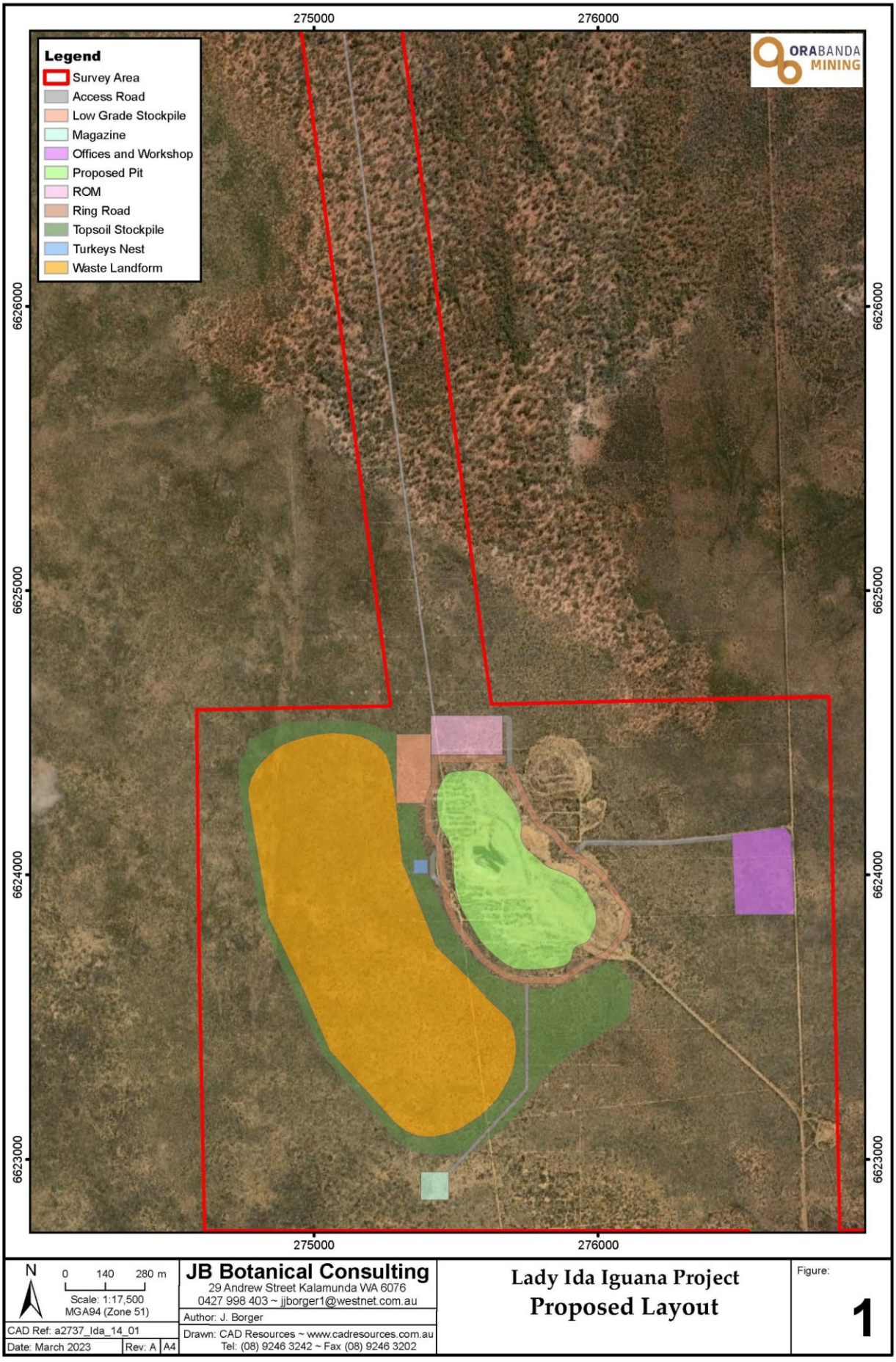

Figure 4.1 Amended disturbance footprint – March 2023

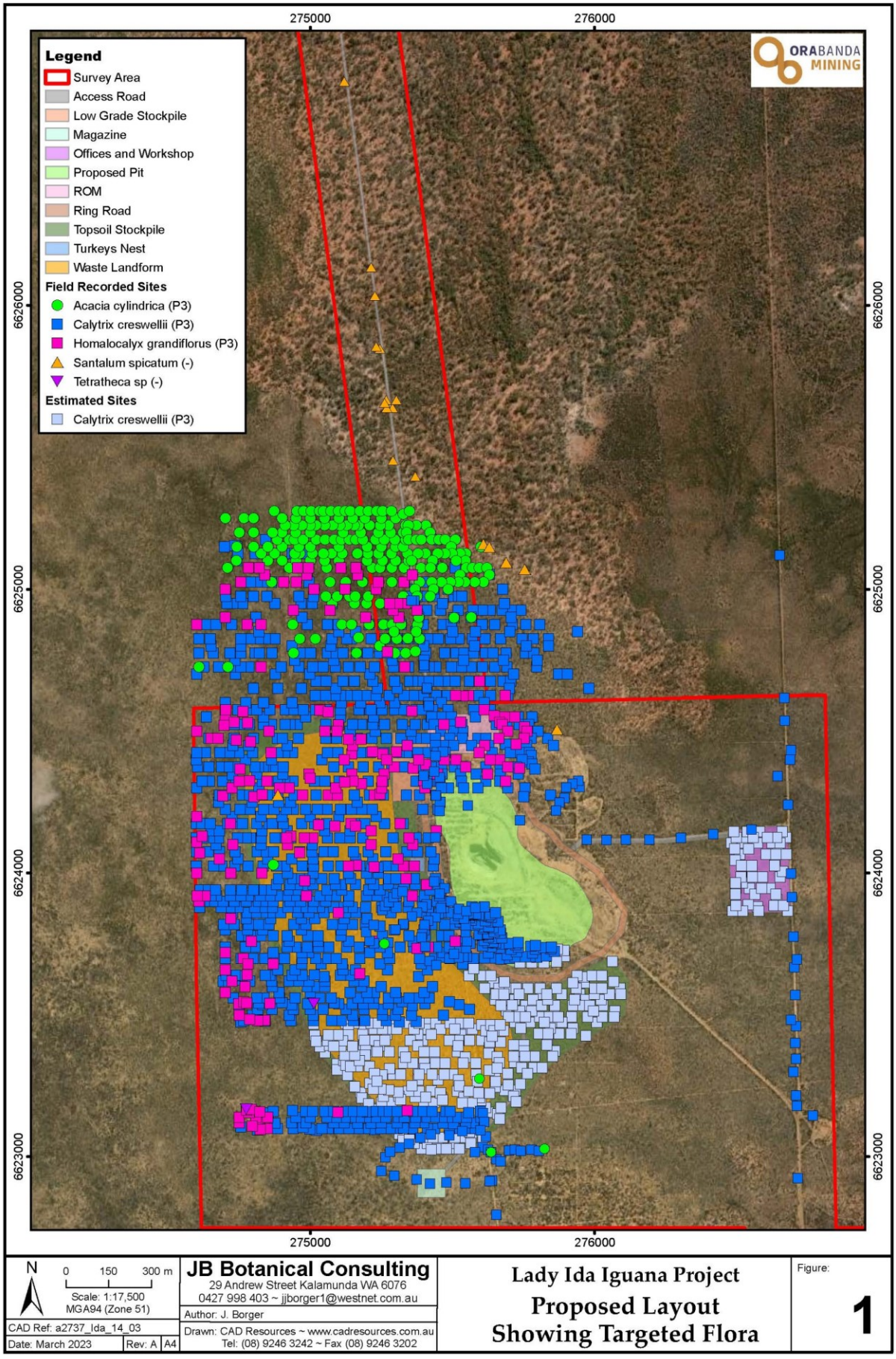

Figure 4.2 Estimations of densities of conservation significant flora within proposed disturbance areas in the updated site layout based on densities in adjacent areas within similar vegetation types.

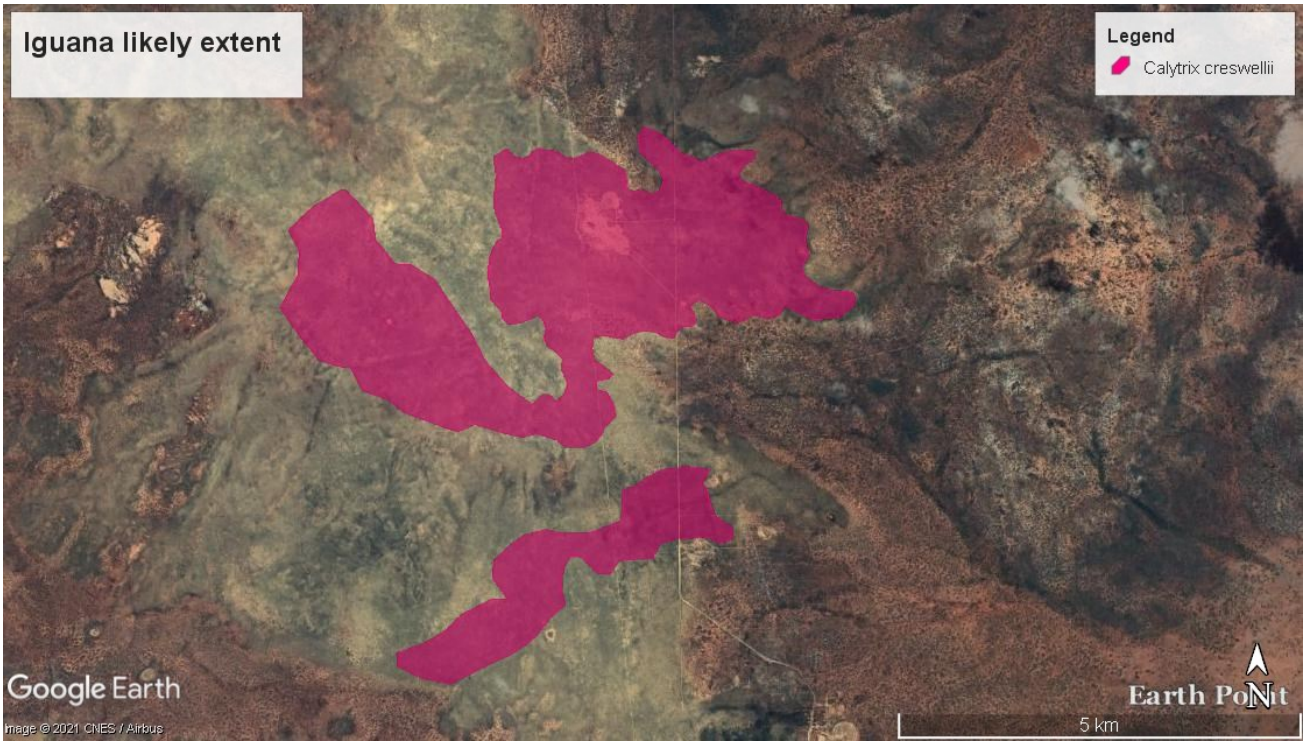

Figure 4.3: Likely extent of *Calytrix creswellii* in the Iguana area based on landform and soil patterns.

Recorded locations of *Calytrix creswellii* in the broader area – including survey results from ecologia Environment (2013) and PGV Environmental (2016) and a potential area south west of Iguana are presented in Figure 4.4. The taxon has been recorded in the Coolgardie and Murchison areas on sandplains which are extensive in the broader region. It has been recorded in the Mount Manning Range Nature Reserve and Mount Manning – Helena and Aurora Ranges Conservation Park.

Homalocalyx grandiflorus was thought likely to occur as the described habitat was present and the species has been recorded within 8 km of Iguana. *H. grandiflorus* was in flower during the survey period which made it easier to identify in the field. The species also has habit and leaf characteristics which are distinguishable from other low shrubs in the area. *H. grandiflorus* is likely to be present in areas outside the survey area. It is not as locally abundant as *Calytrix;* however it is relatively common. *H. grandiflorus* has also been recorded from the Mount Manning Range NR and Mount Manning – Helena and Aurora Ranges Conservation Park, and areas east of Ex-Credo Station and south of Menzies. It is likely to be present in other sandplain areas in the region.

Acacia cylindrica P3 was dominant in the north western survey area which is now mostly excluded from proposed disturbances. It has been recorded from the Mount Manning Range NR and Mount Manning – Helena and Aurora Ranges Conservation Park and Boorabbin National Park, and several other locations within the Coolgardie and Wheatbelt IBRA regions.

Santalum spicatum (sandalwood) was uncommon in the survey area with 8 recorded; however they become more common within woodland areas north of the project (Figure 4.2).

Thysanotus sp. Yellowdine P2 was not recorded within the survey area. It had previously been recorded just south of the current survey area and suitable habitat is likely to be present. Some species with similar habit were present which were not in flower; however these were checked against specimens held at the WA Herbarium and found to be other taxa which were not conservation significant. It has been recorded from the

Coolgardie and Mallee IBRA regions including the Mount Manning – Helena and Aurora Ranges Conservation Park and Boorabbin National Park.

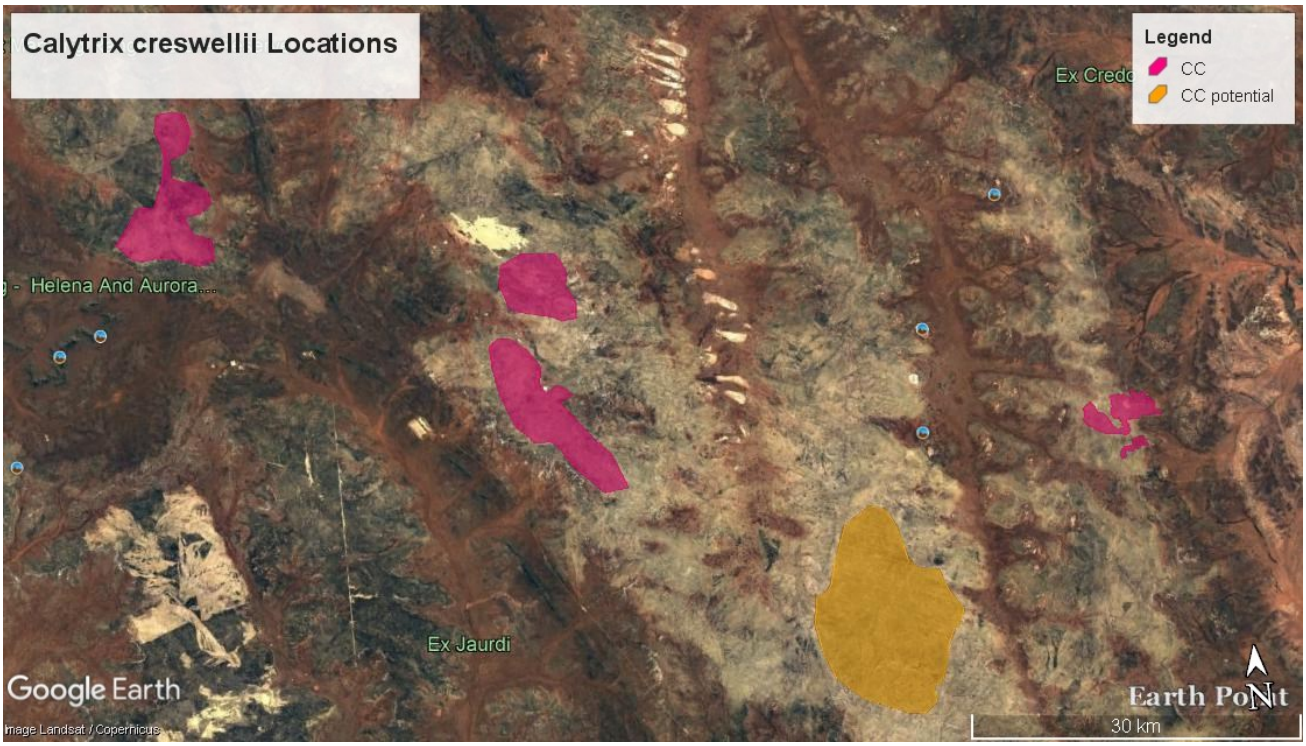

Figure 4.4: *Calytrix creswellii* locations recorded in the Region (pink – extrapolation to soil type/ landform; Iguana small area in the east of the frame) and potential location (yellow).

4.3 Vegetation

No vegetation representative of priority or threatened ecological communities was recorded in the Survey area. Described PEC's and TEC's in the region are mainly associated with banded ironstone formations which are not present within the Iguana prospect. The vegetation types mapped for the area occur mostly on sandplain or gravelly sandplain with a minor area of shallow soils on outcropping pegmatite (VCT 16.3 – 13.5 ha).

The condition of the vegetation was found to be mostly very good to excellent with minimal disturbances away from the mining area. Old exploration tracks and drill locations were present which were mostly overgrown. No weeds were recorded.

4.4 Assessment against Relevant Clearing Principles

In assessing whether the Iguana 'recommencement of mining" proposed clearing is likely to have a significant impact on the environment, local habitats, and conservation flora, proposed disturbance was assessed against the relevant Clearing Principles (Environmental Protection Act 1986 -Schedule 5) in accordance with DWER's *Guide to the Assessment of Applications to Clear Native Vegetation.*

***(a)* Native Vegetation should not be cleared if it comprises a high level of biological diversity**

The proposed clearing is unlikely to be at variance to this Principle.

The Proposal area is mapped as Beard Vegetation Association 435.4 and described as Shrublands, Wattle, Casuarina and teatree; Acacia-Allocasuarina-Melaleuca alliance. 7 Vegetation Types were mapped in the clearing permit area (approximately 370 ha) with vegetation condition rated mainly very good to excellent.

No Threatened or Priority Ecological Communities are recorded within 20km of the Iguana Mine Project Area.

Three Priority 3 taxa - *Calytrix creswellii*, Homalocalyx *grandiflorus* and Acacia *cylindrica* were identified within the Project development area and their distribution is discussed in Section 4. Given the widespread distribution of the species, the numbers of individuals identified during the surveys, and the evidence of previous post mine rehabilitation recolonization, the impact of the proposed removal of plants for mine development is unlikely to affect the species.

(b) **Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.**

The proposed clearing is unlikely to be at variance to this Principle.

No Threatened flora was identified in the several surveys conducted over the mine environs over the past 23 years

(b) 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.

The proposed clearing is unlikely to be at variance to this Principle

The Iguana mine site is located on Unallocated Crown Land adjacent to the western boundary of ex Credo Pastoral Station now destocked and managed as Unallocated Crown Land by DBCA. Two Reserves managed by DBCA are located within the boundary of ex- Credo Station – Rowles Lagoon Conservation Park and Clear and Muddy Lakes Nature Reserve which are both episodic freshwater wetland areas located approximately 20 km east of the Iguana survey area in a localized flood plain depression.

The proposed clearing of vegetation for the Iguana mine development is limited in area and unlikely to have an impact on the environmental values of the nearby Conservation Reserves

5. Conclusions and Recommendations

The proposed mining development is likely to impact significant numbers of *Calytrix creswellii* and *Homalocalyx grandifloras* plants. *Acacia cylindrica* were present mostly in the northern area, a significant part of which is outside the proposed development area. Areas east of the existing pit and WRD are also likely to support significant populations of *Calytrix* and *Homalocalyx, and* relocating the position of the waste rock landform and other infrastructure is unlikely to result in significantly less impact.

The three CSF have been recorded from other regional locations, including conservation estate, and there are likely to be significant areas which would support these species which may not have been surveyed in the broader region. Provided OBM adopt a progressive approach to land clearing and rehabilitation the potential impacts on CSF may be reduced in the long term. Evidence from past mining disturbed areas at Iguana suggests the Priority species identified, like many sand plain species, are disturbance colonizers and respond to habitat disturbance. Management approaches should avoid clearing native vegetation where possible and include the placement of temporary ancillary assets such as site offices, laydown areas and stockpiles in previously cleared areas, schedule careful recovery and stockpiling of topsoil and site weed control and the implementation of

progressive rehabilitation of disturbed areas. Once statutory Clearing Permits are granted, OBM authorizes site clearing activities through an In-house Surface Disturbance Approval Process and manages stockpiles and progressive rehabilitation of disturbed lands through a Minesite Rehabilitation Plan.

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Appendix 1: Species list for the Iguana Survey Area

Family	Scientific Name	Code
Apiaceae	*Platysace effusa*	
Apocynaceae	*Alyxia buxifolia*	
Asparagaceae	*Lomandra collina*	
Asteraceae	*Olearia muelleri*	
Asteraceae	*Olearia* sp. Eremicola	
Boraginaceae	*Halgania cyanea*	
Casuarinaceae	*Allocasuarina acutivalvis subsp. acutivalvis*	
Casuarinaceae	*Allocasuarina corniculata*	
Casuarinaceae	*Allocasuarina eriochlamys subsp. eriochlamys*	
Cupressaceae	*Callitris verrucosa*	
Cyperaceae	*Lepidobolus preissianus subsp. volubilis*	
Cyperaceae	*Lepidosperma* sp. (sterile)	
Cyperaceae	*Mesomelaena preissii*	
Cyperaceae	*Chrysitrix distigimatosa*	
Dilleniaceae	*Hibbertia eatoniae*	
Elaeocarpaceae	*Tetratheca efoliata*	Slight RE
Euphorbiaceae	*Beyeria sulcata var. sulcata*	
Ericaceae	*Styphelia hamulosa*	
Fabaceae	*Acacia assimilis subsp. assimilis*	
Fabaceae	*Acacia burkittii*	
Fabaceae	*Acacia cylindrica*	P3
Fabaceae	*Acacia eremophila subsp. eremophila*	
Fabaceae	*Acacia erinacea*	
Fabaceae	*Acacia inaequiloba*	
Fabaceae	*Acacia lasiocalyx*	
Fabaceae	*Acacia longispinea*	
Fabaceae	*Acacia prainii*	
Fabaceae	*Acacia yorkrakinensis subsp. acrita*	
Fabaceae	*Daviesia aphylla*	
Fabaceae	*Daviesia grahamii*	
Fabaceae	*Leptosema aculeatum*	
Fabaceae	*Mirbelia ramulosa*	
Fabaceae	*Mirbelia seorsifolia*	
Fabaceae	*Mirbelia trichocalyx*	
Fabaceae	*Senna artemisioides subsp. filifolia*	
Goodeniaceae	*Scaevola spinescens*	
Haloragaceae	*Glischrocaryon aureum*	
Lamiaceae	*Pityrodia lepidota*	
Lamiaceae	*Hemigenia brachyphylla*	
Lamiaceae	*Cyanostegia microphylla*	
Lamiaceae	*Westringia rigida*	

Family	Scientific Name	Code
Malvaceae	*Hannafordia bissillii subsp. latifolia*	
Malvaceae	*Seringia velutina*	
Myrtaceae	*Aluta aspera subsp. aspera*	
Myrtaceae	*Balaustion pulcherrimum*	
Myrtaceae	*Calothamnus gilesii*	
Myrtaceae	*Calytrix birdii*	
Myrtaceae	*Calytrix creswellii*	P3
Myrtaceae	*Chamelaucium ciliatum*	
Myrtaceae	*Eucalyptus celastroides*	
Myrtaceae	*Eucalyptus incrassata*	
Myrtaceae	*Eucalyptus leptopoda*	
Myrtaceae	*Eucalyptus pileata*	
Myrtaceae	*Eucalyptus platycorys*	
Myrtaceae	*Eucalyptus rigidula*	
Myrtaceae	*Eucalyptus tenera*	
Myrtaceae	*Eucalyptus transcontinentalis*	
Myrtaceae	*Homalocalyx grandiflorus*	P3
Myrtaceae	*Hysterobaeckea ochropetala subsp. reliqua*	
Myrtaceae	*Leptospermum fastigiatum*	
Myrtaceae	*Melaleuca calyptroides*	
Myrtaceae	*Melaleuca cordata*	
Myrtaceae	*Melaleuca eleuterostachya*	
Myrtaceae	*Melaleuca hamata*	
Myrtaceae	*Melaleuca phoidophylla*	
Myrtaceae	*Micromyrtus monotaxis*	
Myrtaceae	*Thryptomene urceolaris*	
Myrtaceae	*Verticordia acerosa var. preissii*	
Myrtaceae	*Verticordia picta*	
Myrtaceae	*Verticordia tumida subsp. tumida*	
Pittosporaceae	*Billardiera coriacea (sterile)*	
Poaceae	*Triodia rigidissima*	
Poaceae	*Triodia scariosa*	
Proteaceae	*Banksia elderiana*	
Proteaceae	*Conospermum stoechadis subsp. stoechadis*	
Proteaceae	*Grevillea acacioides*	
Proteaceae	*Grevillea cagiana*	RE
Proteaceae	*Grevillea didymobotrya subsp. didymobotrya*	
Proteaceae	*Grevillea excelsior*	
Proteaceae	*Grevillea haplantha subsp. haplantha*	
Proteaceae	*Grevillea hookeriana subsp. apiciloba*	

Family	Scientific Name	Code
Proteaceae	*Grevillea juncifolia subsp. temulenta*	
Proteaceae	*Grevillea paradoxa*	
Proteaceae	*Grevillea teretifolia*	
Proteaceae	*Hakea incrassata*	
Proteaceae	*Hakea minyma*	
Proteaceae	*Hakea scoparia subsp. scoparia*	
Proteaceae	*Persoonia coriacea*	
Proteaceae	*Persoonia helix*	
Proteaceae	*Petrophile stricta*	
Restionaceae	*Desmocladus myriocladus*	
Rhamnaceae	*Stenanthemum stipulosum*	
Rhamnaceae	*Cryptandra aridicola*	
Rutaceae	*Boronia ternata var. ternata*	
Rutaceae	*Phebalium tuberculosum*	
Rutaceae	*Phebalium canaliculatum*	
Santalaceae	*Exocarpos aphyllus*	
Santalaceae	*Santalum spicatum*	R
Santalaceae	*Santalum acuminatum*	
Sapindaceae	*Dodonaea adenophora*	
Sapindaceae	*Dodonaea bursariifolia*	
Sapindaceae	*Dodonaea lobulata*	
Sapindaceae	*Dodonaea viscosa subsp. spatulata*	
Scrophulariaceae	*Eremophila drummondii*	
Scrophulariaceae	*Eremophila gibbosa*	RE
Scrophulariaceae	*Eremophila granitica*	
Scrophulariaceae	*Eremophila oppositifolia subsp. angustifolia*	
Stylidiaceae	*Stylidium arenicola*	
Thymelaeaceae	*Pimelea aeruginosa*	

Appendix 2: Conservation codes

Department of **Biodiversity, Conservation and Attractions**

GOVERNMENT OF WESTERN AUSTRALIA

CONSERVATION CODES

For Western Australian Flora and Fauna

Threatened, Extinct and Specially Protected fauna or flora[1] are species[2] which have been adequately searched for and are deemed to be, in the wild, threatened, extinct or in need of special protection, and have been gazetted as such.

The *Wildlife Conservation (Specially Protected Fauna) Notice 2018* and the *Wildlife Conservation (Rare Flora) Notice 2018* have been transitioned under regulations 170, 171 and 172 of the *Biodiversity Conservation Regulations 2018* to be the lists of Threatened, Extinct and Specially Protected species under Part 2 of the *Biodiversity Conservation Act 2016*.

Categories of Threatened, Extinct and Specially Protected fauna and flora are:

T **Threatened species**

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

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

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

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

CR **Critically endangered species**

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

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

EN **Endangered species**

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

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

VU **Vulnerable species**

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

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

Extinct species

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

EX **Extinct species**

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

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

EW **Extinct in the wild species**

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

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

Specially protected species

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

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

MI **Migratory species**

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

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

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

CD **Species of special conservation interest (conservation 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).

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

OS **Other specially protected species**

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

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

P **Priority species**

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

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

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

1 **Priority 1: Poorly-known species**

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

2 **Priority 2: Poorly-known species**

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

3 **Priority 3: Poorly-known species**

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

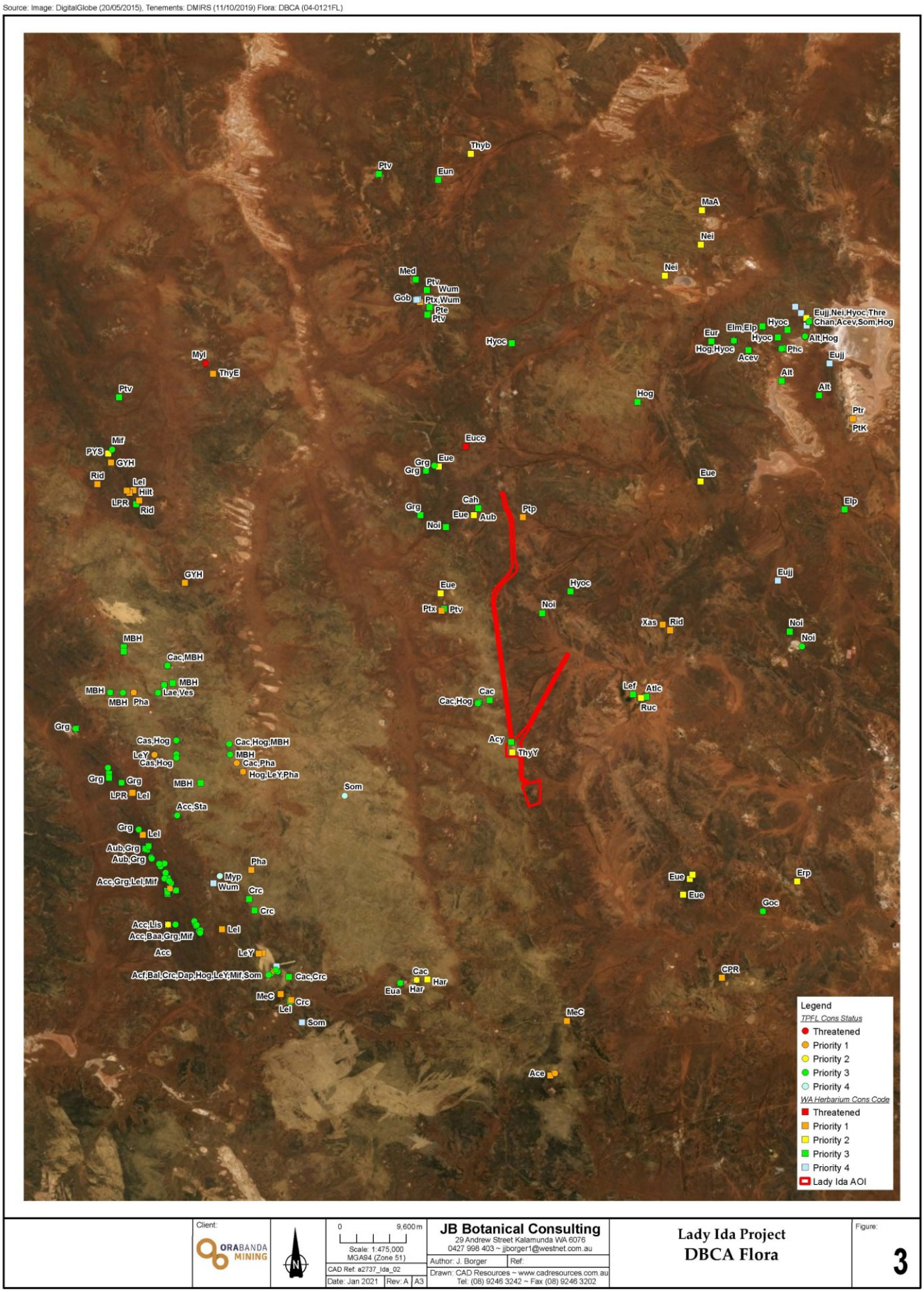
4 **Priority 4: Rare, Near Threatened and other species in need of monitoring**

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.
(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

[1]The definition of flora includes algae, fungi and lichens
[2]Species includes all taxa (plural of taxon - a classificatory group of any taxonomic rank, e.g. a family, genus, species or any infraspecific category i.e. subspecies or variety, or a distinct population).

Last updated 3 January 2019

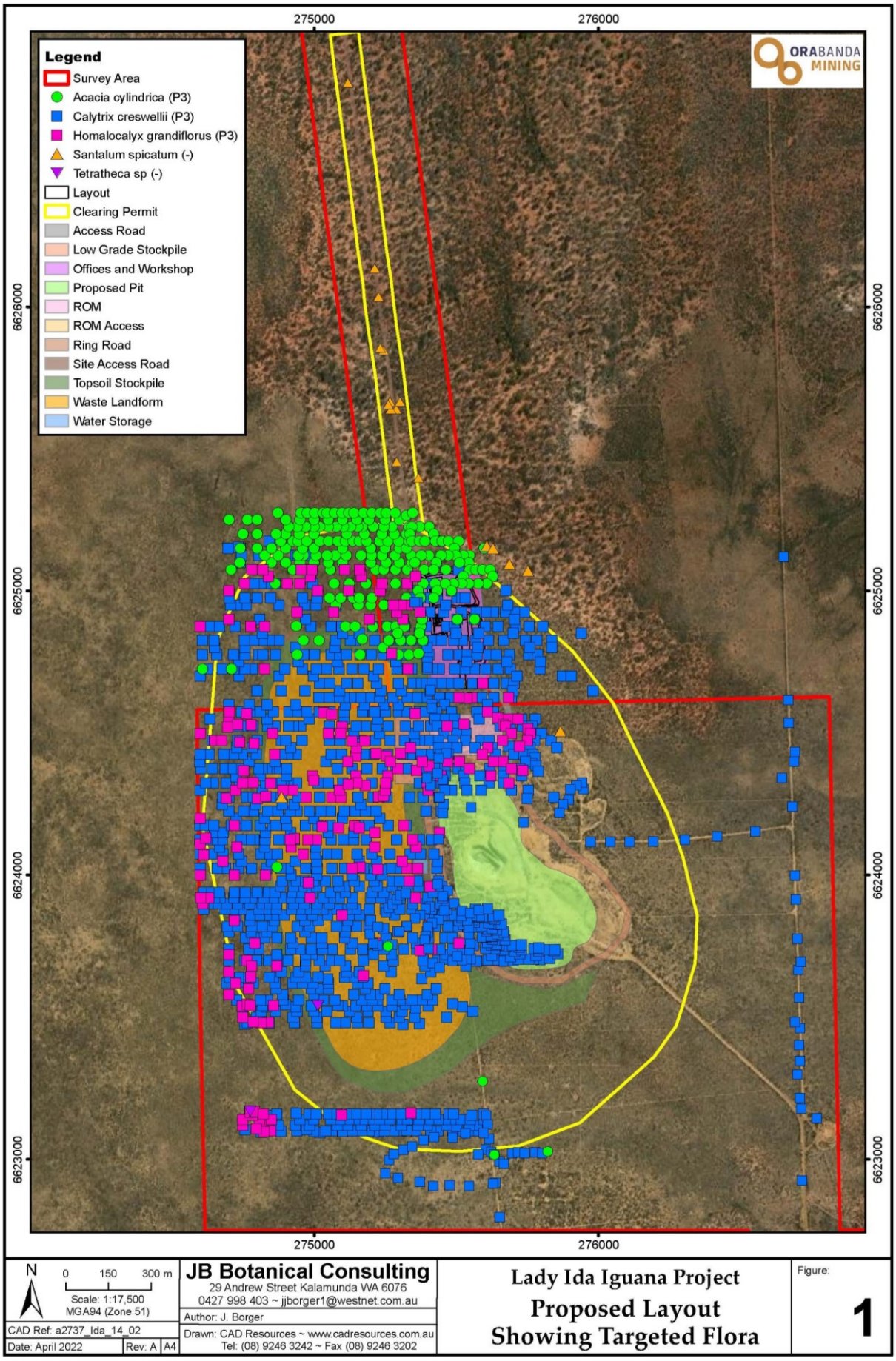
Appendix 3: Mapped locations of conservation significant flora (DBCA database search)



List of abbreviations

Abbrev	Taxon
Acc	Acacia crenulata (3)
Ace	Acacia epedunculata (1)
Acev	Acacia eremophila var. variabilis (3)
Acf	Acacia formidabilis (3)
Acy	Acacia cylindrica (3)
Alt	Alyxia tetanifolia (3)
Atlc	Atriplex lindleyi subsp. conduplicata (3)
Aub	Austrostipa blackii (3)
Baa	Banksia arborea (4)
Bal	Banksia lullfitzii (3)
Cac	Calytrix creswellii (3)
Cah	Calytrix hislopii (3)
Chan	Chrysocephalum apiculatum subsp. norsemanense (3)
CPR	Chamelaucium sp. Parker Range (B.H. Smith 1255) (1)
Crc	Cryptandra crispula (3)
Dap	Dampiera prasiolitica (1)
Elm	Elatine macrocalyx (3)
Elp	Eleocharis papillosa (3)
Erp	Eremophila praecox (2)
Eua	Eutaxia actinophylla (3)
Eucc	Eucalyptus crucis subsp. crucis (T)
Eue	Eucalyptus educta (2)
Eujj	Eucalyptus jutsonii subsp. jutsonii (4)
Eun	Eutaxia nanophylla (3)
Eur	Eutaxia rubricarina (3)
Gob	Goodenia berringbinensis (4)
Goc	Gompholobium cinereum (3)
Grg	Grevillea georgeana (3)
GYH	Grevillea sp. Yerilgee Hills (T. Laslett TL 025) (1)
Har	Hakea rigida (2)
Hilt	Hibbertia lepidocalyx subsp. tuberculata (3)
Hog	Homalocalyx grandiflorus (3)
Hyoc	Hysterobaeckea ochropetala subsp. cometes (3)
Lae	Labichea eremaea (3)
Lef	Lepidium fasciculatum (3)
Lel	Lepidosperma lyonsii (1)
LeY	Leucopogon sp. Yellowdine (M. Hislop & F. Hort MH 3194) (1)
Lis	Lissanthe scabra (2)
LPR	Lepidosperma sp. Parker Range (N. Gibson & M. Lyons 2094) (1)
MaA	Malleostemon sp. Adelong (G.J. Keighery 11825) (2)
MBH	Melichrus sp. Bungalbin Hill (F.H. & M.P. Mollemans 3069) (3)
MeC	Melichrus sp. Coolgardie (K.R. Newbey 8698) (1)
Med	Menkea draboides (3)
Mif	Mirbelia ferricola (3)
Myl	Myriophyllum lapidicola (T)
Myp	Myriophyllum petraeum (4)
Nei	Newcastelia insignis (2)
Noi	Notisia intonsa (3)
Pha	Phebalium appressum (1)
Phc	Philotheca coateana (3)
Pte	Pterostylis elegantissima (1)
PtK	Ptilotus sp. Kalgoorlie (J. Jackson & B. Moyle 260) (1)
Ptp	Ptilotus procumbens (1)
Ptr	Ptilotus rigidus (1)
Ptv	Pterostylis virens (3)
Ptx	Pterostylis xerampelina (1)
PYS	Phebalium sp. Yerilgee Sandplain (J. Jackson 223) (2)
Rid	Ricinocarpos digynus (1)
Ruc	Rumex crystallinus (2)
Som	Sowerbaea multicaulis (4)
Sta	Styphelia saxicola (3)
Thre	Thryptomene eremaea (2)
Thyb	Thysanotus brachyantherus (2)
ThyE	Thysanotus sp. Ennuin (N. Gibson & M. Lyons 2665) (1)
ThyY	Thysanotus sp. Yellowdine (A.S. George 6040) (2)
Ves	Verticordia stenopetala (3)
Wum	Wurmbea murchisoniana (4)
Xas	Xanthoparmelia subbarbatica (1)

Appendix 4: Mapped Locations of Conservation Significant Flora



Appendix 5: GPS locations of Calytrix creswellii (sorted by northing) 13th – 17th August

Scientific Name	Code	Date	Zone	Easting	Northing	No.
Calytrix creswellii	P3	14/08/2021	51J	275022	6623094	1
Calytrix creswellii	P3	14/08/2021	51J	274814	6623095	11
Calytrix creswellii	P3	14/08/2021	51J	275227	6623097	481
Calytrix creswellii	P3	14/08/2021	51J	274999	6623098	14
Calytrix creswellii	P3	14/08/2021	51J	275102	6623099	142
Calytrix creswellii	P3	14/08/2021	51J	274884	6623099	6
Calytrix creswellii	P3	14/08/2021	51J	275573	6623100	150
Calytrix creswellii	P3	14/08/2021	51J	275543	6623100	280
Calytrix creswellii	P3	14/08/2021	51J	275526	6623100	220
Calytrix creswellii	P3	14/08/2021	51J	275508	6623100	310
Calytrix creswellii	P3	14/08/2021	51J	275488	6623100	250
Calytrix creswellii	P3	14/08/2021	51J	275437	6623100	450
Calytrix creswellii	P3	14/08/2021	51J	275412	6623100	580
Calytrix creswellii	P3	14/08/2021	51J	275359	6623100	790
Calytrix creswellii	P3	14/08/2021	51J	275306	6623100	340
Calytrix creswellii	P3	14/08/2021	51J	275281	6623100	400
Calytrix creswellii	P3	14/08/2021	51J	275249	6623100	320
Calytrix creswellii	P3	14/08/2021	51J	275193	6623100	570
Calytrix creswellii	P3	14/08/2021	51J	275168	6623100	550
Calytrix creswellii	P3	14/08/2021	51J	275136	6623100	560
Calytrix creswellii	P3	14/08/2021	51J	275064	6623100	9
Calytrix creswellii	P3	14/08/2021	51J	275042	6623100	3
Calytrix creswellii	P3	14/08/2021	51J	274941	6623100	174
Calytrix creswellii	P3	14/08/2021	51J	274848	6623100	6
Calytrix creswellii	P3	14/08/2021	51J	275327	6623101	320
Calytrix creswellii	P3	14/08/2021	51J	274975	6623104	27
Calytrix creswellii	P3	14/08/2021	51J	274756	6623105	2
Calytrix creswellii	P3	14/08/2021	51J	275503	6623117	150
Calytrix creswellii	P3	14/08/2021	51J	275467	6623119	180
Calytrix creswellii	P3	14/08/2021	51J	273443	6623119	140
Calytrix creswellii	P3	14/08/2021	51J	275215	6623119	300
Calytrix creswellii	P3	14/08/2021	51J	275167	6623119	400
Calytrix creswellii	P3	14/08/2021	51J	274875	6623119	110
Calytrix creswellii	P3	14/08/2021	51J	275574	6623120	150
Calytrix creswellii	P3	14/08/2021	51J	275547	6623120	160
Calytrix creswellii	P3	14/08/2021	51J	273420	6623120	160
Calytrix creswellii	P3	14/08/2021	51J	275398	6623120	160
Calytrix creswellii	P3	14/08/2021	51J	275367	6623120	150
Calytrix creswellii	P3	14/08/2021	51J	275307	6623120	400
Calytrix creswellii	P3	14/08/2021	51J	275250	6623120	300
Calytrix creswellii	P3	14/08/2021	51J	275120	6623120	300
Calytrix creswellii	P3	14/08/2021	51J	275083	6623120	80
Calytrix creswellii	P3	14/08/2021	51J	274985	6623120	140

Calytrix creswellii	P3	14/08/2021	51J	274935	6623120	300
Calytrix creswellii	P3	14/08/2021	51J	274819	6623120	20
Calytrix creswellii	P3	14/08/2021	51J	274750	6623120	30
Calytrix creswellii	P3	14/08/2021	51J	274808	6623140	50
Calytrix creswellii	P3	14/08/2021	51J	274850	6623140	30
Calytrix creswellii	P3	14/08/2021	51J	274950	6623140	130
Calytrix creswellii	P3	14/08/2021	51J	275000	6623140	300
Calytrix creswellii	P3	14/08/2021	51J	275059	6623140	190
Calytrix creswellii	P3	14/08/2021	51J	275094	6623140	130
Calytrix creswellii	P3	14/08/2021	51J	275129	6623140	200
Calytrix creswellii	P3	14/08/2021	51J	275160	6623140	400
Calytrix creswellii	P3	14/08/2021	51J	275180	6623140	400
Calytrix creswellii	P3	14/08/2021	51J	275210	6623140	400
Calytrix creswellii	P3	14/08/2021	51J	275234	6623140	250
Calytrix creswellii	P3	14/08/2021	51J	275267	6623140	300
Calytrix creswellii	P3	14/08/2021	51J	275311	6623140	300
Calytrix creswellii	P3	14/08/2021	51J	275330	6623140	300
Calytrix creswellii	P3	14/08/2021	51J	275370	6623140	300
Calytrix creswellii	P3	14/08/2021	51J	275410	6623140	300
Calytrix creswellii	P3	14/08/2021	51J	275441	6623140	300
Calytrix creswellii	P3	14/08/2021	51J	275473	6623140	300
Calytrix creswellii	P3	14/08/2021	51J	275500	6623140	250
Calytrix creswellii	P3	14/08/2021	51J	275520	6623140	150
Calytrix creswellii	P3	14/08/2021	51J	275550	6623140	200
Calytrix creswellii	P3	14/08/2021	51J	275600	6623140	210
Calytrix creswellii	P3	14/08/2021	51J	274851	6623154	13
Calytrix creswellii	P3	14/08/2021	51J	275556	6623155	180
Calytrix creswellii	P3	14/08/2021	51J	275201	6623159	450
Calytrix creswellii	P3	14/08/2021	51J	274822	6623159	4
Calytrix creswellii	P3	14/08/2021	51J	274806	6623160	52
Calytrix creswellii	P3	14/08/2021	51J	274870	6623160	95
Calytrix creswellii	P3	14/08/2021	51J	274983	6623160	95
Calytrix creswellii	P3	14/08/2021	51J	275009	6623160	35
Calytrix creswellii	P3	14/08/2021	51J	275052	6623160	65
Calytrix creswellii	P3	14/08/2021	51J	275083	6623160	130
Calytrix creswellii	P3	14/08/2021	51J	275127	6623160	140
Calytrix creswellii	P3	14/08/2021	51J	275152	6623160	500
Calytrix creswellii	P3	14/08/2021	51J	275184	6623160	600
Calytrix creswellii	P3	14/08/2021	51J	275233	6623160	500
Calytrix creswellii	P3	14/08/2021	51J	275257	6623160	500
Calytrix creswellii	P3	14/08/2021	51J	275278	6623160	290
Calytrix creswellii	P3	14/08/2021	51J	275307	6623160	270
Calytrix creswellii	P3	14/08/2021	51J	275363	6623160	90
Calytrix creswellii	P3	14/08/2021	51J	275397	6623160	8
Calytrix creswellii	P3	14/08/2021	51J	275428	6623160	270
Calytrix creswellii	P3	14/08/2021	51J	275476	6623160	190

Calytrix creswellii	P3	14/08/2021	51J	275492	6623160	530
Calytrix creswellii	P3	14/08/2021	51J	275598	6623160	115
Calytrix creswellii	P3	14/08/2021	51J	274937	6623163	120
Calytrix creswellii	P3	14/08/2021	51J	274774	6623169	20
Calytrix creswellii	P3	14/08/2021	51J	275314	6623475	9
Calytrix creswellii	P3	14/08/2021	51J	274756	6623476	3
Calytrix creswellii	P3	14/08/2021	51J	275371	6623477	43
Calytrix creswellii	P3	14/08/2021	51J	274842	6623479	6
Calytrix creswellii	P3	14/08/2021	51J	275268	6623480	601
Calytrix creswellii	P3	14/08/2021	51J	275193	6623480	45
Calytrix creswellii	P3	14/08/2021	51J	275153	6623480	3
Calytrix creswellii	P3	14/08/2021	51J	275110	6623480	7
Calytrix creswellii	P3	14/08/2021	51J	275076	6623480	11
Calytrix creswellii	P3	14/08/2021	51J	275012	6623480	232
Calytrix creswellii	P3	14/08/2021	51J	274932	6623480	17
Calytrix creswellii	P3	14/08/2021	51J	274766	6623480	2
Calytrix creswellii	P3	14/08/2021	51J	274799	6623485	241
Calytrix creswellii	P3	14/08/2021	51J	275468	6623500	20
Calytrix creswellii	P3	14/08/2021	51J	275355	6623500	30
Calytrix creswellii	P3	14/08/2021	51J	275300	6623500	50
Calytrix creswellii	P3	14/08/2021	51J	275254	6623500	100
Calytrix creswellii	P3	14/08/2021	51J	275150	6623500	40
Calytrix creswellii	P3	14/08/2021	51J	275010	6623500	30
Calytrix creswellii	P3	14/08/2021	51J	274925	6623500	40
Calytrix creswellii	P3	14/08/2021	51J	274797	6623500	100
Calytrix creswellii	P3	14/08/2021	51J	274750	6623500	90
Calytrix creswellii	P3	14/08/2021	51J	274750	6623520	20
Calytrix creswellii	P3	15/08/2021	51J	274815	6623520	150
Calytrix creswellii	P3	15/08/2021	51J	274865	6623520	130
Calytrix creswellii	P3	15/08/2021	51J	274941	6623520	60
Calytrix creswellii	P3	15/08/2021	51J	275000	6623520	80
Calytrix creswellii	P3	15/08/2021	51J	275046	6623520	40
Calytrix creswellii	P3	15/08/2021	51J	275125	6623520	30
Calytrix creswellii	P3	15/08/2021	51J	275190	6623520	50
Calytrix creswellii	P3	15/08/2021	51J	275255	6623520	110
Calytrix creswellii	P3	15/08/2021	51J	275310	6623520	40
Calytrix creswellii	P3	15/08/2021	51J	275310	6623520	40
Calytrix creswellii	P3	15/08/2021	51J	275560	6623520	45
Calytrix creswellii	P3	15/08/2021	51J	275358	6623533	12
Calytrix creswellii	P3	15/08/2021	51J	274832	6623537	159
Calytrix creswellii	P3	15/08/2021	51J	274934	6623537	30
Calytrix creswellii	P3	15/08/2021	51J	275522	6623537	20
Calytrix creswellii	P3	15/08/2021	51J	274748	6623540	29
Calytrix creswellii	P3	15/08/2021	51J	274991	6623540	22
Calytrix creswellii	P3	15/08/2021	51J	275101	6623540	38
Calytrix creswellii	P3	15/08/2021	51J	275148	6623540	21

Calytrix creswellii	P3	15/08/2021	51J	275186	6623540	32
Calytrix creswellii	P3	15/08/2021	51J	275224	6623540	243
Calytrix creswellii	P3	15/08/2021	51J	275275	6623540	116
Calytrix creswellii	P3	15/08/2021	51J	275403	6623540	2
Calytrix creswellii	P3	15/08/2021	51J	274819	6623542	148
Calytrix creswellii	P3	15/08/2021	51J	275084	6623542	3
Calytrix creswellii	P3	15/08/2021	51J	274900	6623544	3
Calytrix creswellii	P3	15/08/2021	51J	274766	6623546	5
Calytrix creswellii	P3	15/08/2021	51J	275323	6623546	14
Calytrix creswellii	P3	15/08/2021	51J	275488	6623547	11
Calytrix creswellii	P3	15/08/2021	51J	275418	6623560	3
Calytrix creswellii	P3	15/08/2021	51J	275382	6623560	5
Calytrix creswellii	P3	15/08/2021	51J	275346	6623560	11
Calytrix creswellii	P3	15/08/2021	51J	275303	6623560	27
Calytrix creswellii	P3	15/08/2021	51J	275275	6623560	77
Calytrix creswellii	P3	15/08/2021	51J	275224	6623560	300
Calytrix creswellii	P3	15/08/2021	51J	275205	6623560	56
Calytrix creswellii	P3	15/08/2021	51J	275169	6623560	16
Calytrix creswellii	P3	15/08/2021	51J	275074	6623560	6
Calytrix creswellii	P3	15/08/2021	51J	275034	6623560	31
Calytrix creswellii	P3	15/08/2021	51J	274946	6623560	14
Calytrix creswellii	P3	15/08/2021	51J	274891	6623560	24
Calytrix creswellii	P3	15/08/2021	51J	274837	6623560	43
Calytrix creswellii	P3	15/08/2021	51J	274811	6623560	18
Calytrix creswellii	P3	15/08/2021	51J	274729	6623560	50
Calytrix creswellii	P3	15/08/2021	51J	275400	6623580	20
Calytrix creswellii	P3	15/08/2021	51J	275300	6623580	30
Calytrix creswellii	P3	15/08/2021	51J	275227	6623580	30
Calytrix creswellii	P3	15/08/2021	51J	275200	6623580	100
Calytrix creswellii	P3	15/08/2021	51J	275140	6623580	70
Calytrix creswellii	P3	15/08/2021	51J	275000	6623580	50
Calytrix creswellii	P3	15/08/2021	51J	274890	6623580	80
Calytrix creswellii	P3	15/08/2021	51J	274700	6623580	120
Calytrix creswellii	P3	15/08/2021	51J	274770	6623600	60
Calytrix creswellii	P3	15/08/2021	51J	274866	6623600	60
Calytrix creswellii	P3	15/08/2021	51J	274990	6623600	100
Calytrix creswellii	P3	15/08/2021	51J	275025	6623600	100
Calytrix creswellii	P3	15/08/2021	51J	275051	6623600	100
Calytrix creswellii	P3	15/08/2021	51J	275180	6623600	60
Calytrix creswellii	P3	15/08/2021	51J	275250	6623600	5
Calytrix creswellii	P3	15/08/2021	51J	275430	6623600	30
Calytrix creswellii	P3	15/08/2021	51J	274693	6623620	15
Calytrix creswellii	P3	15/08/2021	51J	274712	6623620	151
Calytrix creswellii	P3	15/08/2021	51J	274758	6623624	92
Calytrix creswellii	P3	15/08/2021	51J	274786	6623620	101
Calytrix creswellii	P3	15/08/2021	51J	274864	6623620	95

Calytrix creswellii	P3	15/08/2021	51J	274926	6623620	12
Calytrix creswellii	P3	15/08/2021	51J	274960	6623620	155
Calytrix creswellii	P3	15/08/2021	51J	274996	6623620	305
Calytrix creswellii	P3	15/08/2021	51J	275051	6623620	310
Calytrix creswellii	P3	15/08/2021	51J	275154	6623620	16
Calytrix creswellii	P3	15/08/2021	51J	275190	6623620	185
Calytrix creswellii	P3	15/08/2021	51J	275380	6623636	1
Calytrix creswellii	P3	15/08/2021	51J	275172	6623642	205
Calytrix creswellii	P3	15/08/2021	51J	275139	6623640	136
Calytrix creswellii	P3	15/08/2021	51J	275107	6623640	36
Calytrix creswellii	P3	15/08/2021	51J	275048	6623635	80
Calytrix creswellii	P3	15/08/2021	51J	275015	6623642	42
Calytrix creswellii	P3	15/08/2021	51J	274972	6623640	350
Calytrix creswellii	P3	15/08/2021	51J	274936	6623640	415
Calytrix creswellii	P3	15/08/2021	51J	274857	6623640	58
Calytrix creswellii	P3	15/08/2021	51J	274842	6623640	6
Calytrix creswellii	P3	15/08/2021	51J	274777	6623642	10
Calytrix creswellii	P3	15/08/2021	51J	274760	6623639	6
Calytrix creswellii	P3	15/08/2021	51J	274735	6623640	190
Calytrix creswellii	P3	15/08/2021	51J	274704	6623640	105
Calytrix creswellii	P3	15/08/2021	51J	275411	6623660	10
Calytrix creswellii	P3	15/08/2021	51J	275272	6623660	30
Calytrix creswellii	P3	15/08/2021	51J	275160	6623660	130
Calytrix creswellii	P3	15/08/2021	51J	275115	6623660	15
Calytrix creswellii	P3	15/08/2021	51J	274947	6623660	130
Calytrix creswellii	P3	15/08/2021	51J	274886	6623660	40
Calytrix creswellii	P3	15/08/2021	51J	274700	6623660	115
Calytrix creswellii	P3	15/08/2021	51J	274780	6623680	35
Calytrix creswellii	P3	15/08/2021	51J	274870	6623680	60
Calytrix creswellii	P3	15/08/2021	51J	274970	6623680	50
Calytrix creswellii	P3	15/08/2021	51J	275039	6623680	130
Calytrix creswellii	P3	15/08/2021	51J	275112	6623680	15
Calytrix creswellii	P3	15/08/2021	51J	275246	6623680	30
Calytrix creswellii	P3	15/08/2021	51J	275390	6623680	20
Calytrix creswellii	P3	15/08/2021	51J	275536	6623680	27
Calytrix creswellii	P3	13/08/2021	51J	275671	6623698	65
Calytrix creswellii	P3	13/08/2021	51J	275573	6623699	30
Calytrix creswellii	P3	13/08/2021	51J	275701	6623700	208
Calytrix creswellii	P3	13/08/2021	51J	275634	6623701	10
Calytrix creswellii	P3	13/08/2021	51J	275613	6623701	102
Calytrix creswellii	P3	13/08/2021	51J	275796	6623703	110
Calytrix creswellii	P3	13/08/2021	51J	275773	6623705	200
Calytrix creswellii	P3	13/08/2021	51J	275756	6623705	120
Calytrix creswellii	P3	13/08/2021	51J	275719	6623705	320
Calytrix creswellii	P3	13/08/2021	51J	275550	6623706	70
Calytrix creswellii	P3	13/08/2021	51J	275537	6623706	8

Calytrix creswellii	P3	13/08/2021	51J	275831	6623708	90
Calytrix creswellii	P3	13/08/2021	51J	275693	6623713	61
Calytrix creswellii	P3	13/08/2021	51J	275782	6623718	50
Calytrix creswellii	P3	13/08/2021	51J	275626	6623718	160
Calytrix creswellii	P3	15/08/2021	51J	274701	6623700	49
Calytrix creswellii	P3	15/08/2021	51J	274757	6623700	13
Calytrix creswellii	P3	15/08/2021	51J	274798	6623700	35
Calytrix creswellii	P3	15/08/2021	51J	274840	6623700	2
Calytrix creswellii	P3	15/08/2021	51J	274882	6623700	20
Calytrix creswellii	P3	15/08/2021	51J	274909	6623700	17
Calytrix creswellii	P3	15/08/2021	51J	274972	6623700	160
Calytrix creswellii	P3	15/08/2021	51J	275019	6623700	18
Calytrix creswellii	P3	15/08/2021	51J	275062	6623700	32
Calytrix creswellii	P3	15/08/2021	51J	275091	6623700	10
Calytrix creswellii	P3	15/08/2021	51J	275174	6623700	2
Calytrix creswellii	P3	15/08/2021	51J	275279	6623700	21
Calytrix creswellii	P3	15/08/2021	51J	275384	6623700	1
Calytrix creswellii	P3	15/08/2021	51J	275436	6623700	11
Calytrix creswellii	P3	15/08/2021	51J	275462	6623704	70
Calytrix creswellii	P3	15/08/2021	51J	275492	6623700	20
Calytrix creswellii	P3	15/08/2021	51J	275520	6623703	36
Calytrix creswellii	P3	15/08/2021	51J	275466	6623720	5
Calytrix creswellii	P3	15/08/2021	51J	275273	6623720	30
Calytrix creswellii	P3	15/08/2021	51J	275210	6623720	15
Calytrix creswellii	P3	15/08/2021	51J	274994	6623720	120
Calytrix creswellii	P3	15/08/2021	51J	274970	6623720	120
Calytrix creswellii	P3	15/08/2021	51J	274870	6623720	70
Calytrix creswellii	P3	15/08/2021	51J	274700	6623720	38
Calytrix creswellii	P3	13/08/2021	51J	275726	6623723	130
Calytrix creswellii	P3	13/08/2021	51J	275859	6623724	10
Calytrix creswellii	P3	13/08/2021	51J	275707	6623732	59
Calytrix creswellii	P3	13/08/2021	51J	275792	6623732	205
Calytrix creswellii	P3	13/08/2021	51J	275845	6623734	69
Calytrix creswellii	P3	13/08/2021	51J	275666	6623737	98
Calytrix creswellii	P3	13/08/2021	51J	275820	6623738	19
Calytrix creswellii	P3	13/08/2021	51J	275731	6623739	91
Calytrix creswellii	P3	13/08/2021	51J	275849	6623739	81
Calytrix creswellii	P3	13/08/2021	51J	275637	6623741	80
Calytrix creswellii	P3	13/08/2021	51J	275776	6623742	15
Calytrix creswellii	P3	13/08/2021	51J	275606	6623743	45
Calytrix creswellii	P3	13/08/2021	51J	275792	6623745	52
Calytrix creswellii	P3	13/08/2021	51J	275722	6623748	45
Calytrix creswellii	P3	13/08/2021	51J	275675	6623750	101
Calytrix creswellii	P3	13/08/2021	51J	275561	6623753	179
Calytrix creswellii	P3	13/08/2021	51J	275700	6623753	84
Calytrix creswellii	P3	13/08/2021	51J	275651	6623754	17

Calytrix creswellii	P3	13/08/2021	51J	275625	6623755	210
Calytrix creswellii	P3	13/08/2021	51J	275731	6623755	45
Calytrix creswellii	P3	13/08/2021	51J	275643	6623757	80
Calytrix creswellii	P3	15/08/2002	51J	275518	6623740	2
Calytrix creswellii	P3	15/08/2002	51J	275488	6623740	170
Calytrix creswellii	P3	15/08/2002	51J	275444	6623740	52
Calytrix creswellii	P3	15/08/2002	51J	275396	6623740	25
Calytrix creswellii	P3	15/08/2002	51J	275363	6623740	41
Calytrix creswellii	P3	15/08/2002	51J	275317	6623740	85
Calytrix creswellii	P3	15/08/2002	51J	275245	6623740	54
Calytrix creswellii	P3	15/08/2002	51J	275172	6623740	22
Calytrix creswellii	P3	15/08/2002	51J	275128	6623740	455
Calytrix creswellii	P3	15/08/2002	51J	275065	6623740	7
Calytrix creswellii	P3	15/08/2002	51J	275030	6623740	79
Calytrix creswellii	P3	15/08/2002	51J	274990	6623740	56
Calytrix creswellii	P3	15/08/2002	51J	274950	6623740	7
Calytrix creswellii	P3	15/08/2002	51J	274918	6623740	60
Calytrix creswellii	P3	15/08/2002	51J	274806	6623740	23
Calytrix creswellii	P3	15/08/2002	51J	274771	6623740	75
Calytrix creswellii	P3	15/08/2002	51J	274700	6623740	5
Calytrix creswellii	P3	15/08/2021	51J	274792	6623760	70
Calytrix creswellii	P3	15/08/2021	51J	274925	6623760	30
Calytrix creswellii	P3	15/08/2021	51J	275028	6623760	100
Calytrix creswellii	P3	15/08/2021	51J	275136	6623760	110
Calytrix creswellii	P3	15/08/2021	51J	275217	6623760	15
Calytrix creswellii	P3	15/08/2021	51J	275361	6623760	25
Calytrix creswellii	P3	15/08/2021	51J	275510	6623760	136
Calytrix creswellii	P3	15/08/2021	51J	274759	6623780	225
Calytrix creswellii	P3	15/08/2021	51J	274784	6623780	180
Calytrix creswellii	P3	15/08/2021	51J	274802	6623780	455
Calytrix creswellii	P3	15/08/2021	51J	274827	6623780	15
Calytrix creswellii	P3	15/08/2021	51J	274869	6623780	14
Calytrix creswellii	P3	15/08/2021	51J	274918	6623780	18
Calytrix creswellii	P3	15/08/2021	51J	274991	6623780	8
Calytrix creswellii	P3	15/08/2021	51J	275028	6623780	18
Calytrix creswellii	P3	15/08/2021	51J	275108	6623780	133
Calytrix creswellii	P3	15/08/2021	51J	275255	6623780	1
Calytrix creswellii	P3	15/08/2021	51J	275347	6623780	287
Calytrix creswellii	P3	15/08/2021	51J	275404	6623780	25
Calytrix creswellii	P3	15/08/2021	51J	275462	6623780	194
Calytrix creswellii	P3	15/08/2021	51J	275487	6623780	221
Calytrix creswellii	P3	13/08/2021	51J	275541	6623761	32
Calytrix creswellii	P3	13/08/2021	51J	275611	6623763	45
Calytrix creswellii	P3	13/08/2021	51J	275645	6623771	70
Calytrix creswellii	P3	13/08/2021	51J	275673	6623772	60
Calytrix creswellii	P3	13/08/2021	51J	275627	6623775	75

Calytrix creswellii	P3	13/08/2021	51J	275606	6623782	140
Calytrix creswellii	P3	13/08/2021	51J	275593	6623783	72
Calytrix creswellii	P3	13/08/2021	51J	275524	6623785	68
Calytrix creswellii	P3	13/08/2021	51J	275625	6623786	57
Calytrix creswellii	P3	13/08/2021	51J	275669	6623788	25
Calytrix creswellii	P3	13/08/2021	51J	275647	6623793	99
Calytrix creswellii	P3	13/08/2021	51J	275668	6623800	73
Calytrix creswellii	P3	15/08/2021	51J	275399	6623800	30
Calytrix creswellii	P3	15/08/2021	51J	275296	6623800	30
Calytrix creswellii	P3	15/08/2021	51J	275110	6623800	70
Calytrix creswellii	P3	15/08/2021	51J	274969	6623800	40
Calytrix creswellii	P3	15/08/2021	51J	274833	6623800	80
Calytrix creswellii	P3	15/08/2021	51J	274779	6623800	100
Calytrix creswellii	P3	15/08/2021	51J	274700	6623800	45
Calytrix creswellii	P3	15/08/2021	51J	275504	6623820	35
Calytrix creswellii	P3	15/08/2021	51J	275472	6623820	5
Calytrix creswellii	P3	15/08/2021	51J	275427	6623820	114
Calytrix creswellii	P3	15/08/2021	51J	275327	6623820	9
Calytrix creswellii	P3	15/08/2021	51J	275246	6623813	1
Calytrix creswellii	P3	15/08/2021	51J	275194	6623820	22
Calytrix creswellii	P3	15/08/2021	51J	275150	6623820	150
Calytrix creswellii	P3	15/08/2021	51J	275112	6623820	124
Calytrix creswellii	P3	15/08/2021	51J	275079	6623820	18
Calytrix creswellii	P3	15/08/2021	51J	274985	6623820	15
Calytrix creswellii	P3	15/08/2021	51J	274942	6623820	184
Calytrix creswellii	P3	15/08/2021	51J	274854	6623820	4
Calytrix creswellii	P3	15/08/2021	51J	274817	6623820	6
Calytrix creswellii	P3	15/08/2021	51J	274782	6623820	166
Calytrix creswellii	P3	15/08/2021	51J	274732	6623820	31
Calytrix creswellii	P3	15/08/2021	51J	274695	6623820	1
Calytrix creswellii	P3	13/08/2021	51J	275609	6623804	97
Calytrix creswellii	P3	13/08/2021	51J	275642	6623808	50
Calytrix creswellii	P3	13/08/2021	51J	275611	6623811	8
Calytrix creswellii	P3	13/08/2021	51J	275628	6623812	39
Calytrix creswellii	P3	13/08/2021	51J	275578	6623817	3
Calytrix creswellii	P3	13/08/2021	51J	275543	6623819	17
Calytrix creswellii	P3	13/08/2021	51J	275591	6623822	120
Calytrix creswellii	P3	13/08/2021	51J	275637	6623828	70
Calytrix creswellii	P3	13/08/2021	51J	275527	6623828	36
Calytrix creswellii	P3	13/08/2021	51J	275660	6623829	19
Calytrix creswellii	P3	13/08/2021	51J	275616	6623832	90
Calytrix creswellii	P3	13/08/2021	51J	275565	6623834	102
Calytrix creswellii	P3	13/08/2021	51J	275542	6623838	2
Calytrix creswellii	P3	15/08/2021	51J	274720	6623840	20
Calytrix creswellii	P3	15/08/2021	51J	274775	6623840	30
Calytrix creswellii	P3	15/08/2021	51J	274860	6623840	50

Calytrix creswellii	P3	15/08/2021	51J	274968	6623840	120
Calytrix creswellii	P3	15/08/2021	51J	275016	6623840	75
Calytrix creswellii	P3	15/08/2021	51J	275120	6623840	30
Calytrix creswellii	P3	15/08/2021	51J	275200	6623840	90
Calytrix creswellii	P3	15/08/2021	51J	275510	6623840	71
Calytrix creswellii	P3	13/08/2021	51J	275559	6623843	8
Calytrix creswellii	P3	13/08/2021	51J	275636	6623845	6
Calytrix creswellii	P3	13/08/2021	51J	275626	6623849	71
Calytrix creswellii	P3	13/08/2021	51J	275521	6623851	24
Calytrix creswellii	P3	13/08/2021	51J	275601	6623851	54
Calytrix creswellii	P3	13/08/2021	51J	275558	6623852	70
Calytrix creswellii	P3	13/08/2021	51J	275546	6623853	30
Calytrix creswellii	P3	13/08/2021	51J	275592	6623854	205
Calytrix creswellii	P3	13/08/2021	51J	275632	6623855	90
Calytrix creswellii	P3	13/08/2021	51J	275572	6623855	150
Calytrix creswellii	P3	13/08/2021	51J	275582	6623856	155
Calytrix creswellii	P3	13/08/2021	51J	275555	6623858	35
Calytrix creswellii	P3	13/08/2021	51J	275652	6623860	2
Calytrix creswellii	P3	13/08/2021	51J	275518	6623873	112
Calytrix creswellii	P3	13/08/2021	51J	275569	6623881	85
Calytrix creswellii	P3	13/08/2021	51J	275612	6623882	33
Calytrix creswellii	P3	15/08/2021	51J	274726	6623860	13
Calytrix creswellii	P3	15/08/2021	51J	274778	6623860	44
Calytrix creswellii	P3	15/08/2021	51J	274812	6623860	37
Calytrix creswellii	P3	15/08/2021	51J	274846	6623860	8
Calytrix creswellii	P3	15/08/2021	51J	274869	6623860	16
Calytrix creswellii	P3	15/08/2021	51J	274896	6623860	108
Calytrix creswellii	P3	15/08/2021	51J	274955	6623860	73
Calytrix creswellii	P3	15/08/2021	51J	274995	6623860	14
Calytrix creswellii	P3	15/08/2021	51J	275048	6623860	7
Calytrix creswellii	P3	15/08/2021	51J	275099	6623860	9
Calytrix creswellii	P3	15/08/2021	51J	275127	6623860	100
Calytrix creswellii	P3	15/08/2021	51J	275161	6623860	63
Calytrix creswellii	P3	15/08/2021	51J	275284	6623860	4
Calytrix creswellii	P3	15/08/2021	51J	275405	6623860	14
Calytrix creswellii	P3	15/08/2021	51J	275426	6623860	54
Calytrix creswellii	P3	15/08/2021	51J	275463	6623860	7
Calytrix creswellii	P3	15/08/2021	51J	275496	6623860	145
Calytrix creswellii	P3	15/08/2021	51J	275468	6623880	12
Calytrix creswellii	P3	15/08/2021	51J	275414	6623880	50
Calytrix creswellii	P3	15/08/2021	51J	275344	6623880	65
Calytrix creswellii	P3	15/08/2021	51J	275303	6623880	49
Calytrix creswellii	P3	15/08/2021	51J	275251	6623880	24
Calytrix creswellii	P3	15/08/2021	51J	275195	6623880	74
Calytrix creswellii	P3	15/08/2021	51J	275148	6623880	18
Calytrix creswellii	P3	15/08/2021	51J	275116	6623880	183

Calytrix creswellii	P3	15/08/2021	51J	275083	6623880	382
Calytrix creswellii	P3	15/08/2021	51J	275032	6623880	74
Calytrix creswellii	P3	15/08/2021	51J	275007	6623880	125
Calytrix creswellii	P3	15/08/2021	51J	274973	6623880	173
Calytrix creswellii	P3	15/08/2021	51J	274950	6623880	404
Calytrix creswellii	P3	15/08/2021	51J	274921	6623880	107
Calytrix creswellii	P3	15/08/2021	51J	274867	6623880	99
Calytrix creswellii	P3	15/08/2021	51J	274831	6623880	57
Calytrix creswellii	P3	15/08/2021	51J	274805	6623880	167
Calytrix creswellii	P3	15/08/2021	51J	274745	6623880	37
Calytrix creswellii	P3	15/08/2021	51J	274717	6623880	60
Calytrix creswellii	P3	15/08/2021	51J	274686	6623880	28
Calytrix creswellii	P3	15/08/2021	51J	274611	6623880	9
Calytrix creswellii	P3	15/08/2021	51J	274608	6623900	6
Calytrix creswellii	P3	15/08/2021	51J	274632	6623900	25
Calytrix creswellii	P3	15/08/2021	51J	274663	6623900	101
Calytrix creswellii	P3	15/08/2021	51J	274693	6623900	69
Calytrix creswellii	P3	15/08/2021	51J	274731	6623900	22
Calytrix creswellii	P3	15/08/2021	51J	274775	6623900	118
Calytrix creswellii	P3	15/08/2021	51J	274818	6623900	116
Calytrix creswellii	P3	15/08/2021	51J	274844	6623900	36
Calytrix creswellii	P3	15/08/2021	51J	274870	6623900	55
Calytrix creswellii	P3	15/08/2021	51J	274928	6623900	308
Calytrix creswellii	P3	15/08/2021	51J	274965	6623900	329
Calytrix creswellii	P3	15/08/2021	51J	275012	6623900	73
Calytrix creswellii	P3	15/08/2021	51J	275054	6623900	74
Calytrix creswellii	P3	15/08/2021	51J	275134	6623900	46
Calytrix creswellii	P3	15/08/2021	51J	275272	6623900	28
Calytrix creswellii	P3	15/08/2021	51J	275347	6623900	76
Calytrix creswellii	P3	15/08/2021	51J	275395	6623900	23
Calytrix creswellii	P3	15/08/2021	51J	275445	6623900	6
Calytrix creswellii	P3	15/08/2021	51J	275467	6623900	1
Calytrix creswellii	P3	15/08/2021	51J	275454	6623920	14
Calytrix creswellii	P3	15/08/2021	51J	275401	6623920	24
Calytrix creswellii	P3	15/08/2021	51J	275358	6623920	65
Calytrix creswellii	P3	15/08/2021	51J	275304	6623920	12
Calytrix creswellii	P3	15/08/2021	51J	275258	6623920	64
Calytrix creswellii	P3	15/08/2021	51J	275235	6623920	159
Calytrix creswellii	P3	15/08/2021	51J	275199	6623920	117
Calytrix creswellii	P3	15/08/2021	51J	275136	6623920	51
Calytrix creswellii	P3	15/08/2021	51J	275090	6623920	19
Calytrix creswellii	P3	15/08/2021	51J	275058	6623920	65
Calytrix creswellii	P3	15/08/2021	51J	275034	6623920	36
Calytrix creswellii	P3	15/08/2021	51J	274987	6623920	146
Calytrix creswellii	P3	15/08/2021	51J	274946	6623920	720
Calytrix creswellii	P3	15/08/2021	51J	274916	6623920	48

Calytrix creswellii	P3	15/08/2021	51J	274884	6623920	215
Calytrix creswellii	P3	15/08/2021	51J	274857	6623920	79
Calytrix creswellii	P3	15/08/2021	51J	274824	6623920	96
Calytrix creswellii	P3	15/08/2021	51J	274782	6623920	14
Calytrix creswellii	P3	15/08/2021	51J	274756	6623920	88
Calytrix creswellii	P3	15/08/2021	51J	274718	6623920	25
Calytrix creswellii	P3	15/08/2021	51J	274669	6623920	7
Calytrix creswellii	P3	15/08/2021	51J	274650	6623920	106
Calytrix creswellii	P3	15/08/2021	51J	274601	6623920	5
Calytrix creswellii	P3	16/08/2021	51J	274612	6623940	18
Calytrix creswellii	P3	16/08/2021	51J	274641	6623940	192
Calytrix creswellii	P3	16/08/2021	51J	274666	6623940	94
Calytrix creswellii	P3	16/08/2021	51J	274719	6623940	63
Calytrix creswellii	P3	16/08/2021	51J	274758	6623940	56
Calytrix creswellii	P3	16/08/2021	51J	274800	6623940	178
Calytrix creswellii	P3	16/08/2021	51J	274839	6623940	13
Calytrix creswellii	P3	16/08/2021	51J	274863	6623940	101
Calytrix creswellii	P3	16/08/2021	51J	274925	6623940	56
Calytrix creswellii	P3	16/08/2021	51J	274958	6623940	299
Calytrix creswellii	P3	16/08/2021	51J	274993	6623940	31
Calytrix creswellii	P3	16/08/2021	51J	275059	6623940	52
Calytrix creswellii	P3	16/08/2021	51J	275111	6623940	52
Calytrix creswellii	P3	16/08/2021	51J	275205	6623940	61
Calytrix creswellii	P3	16/08/2021	51J	275246	6623940	39
Calytrix creswellii	P3	16/08/2021	51J	275299	6623940	213
Calytrix creswellii	P3	16/08/2021	51J	275420	6623940	4
Calytrix creswellii	P3	16/08/2021	51J	275457	6623940	100
Calytrix creswellii	P3	16/08/2021	51J	275450	6623960	90
Calytrix creswellii	P3	16/08/2021	51J	275408	6623960	23
Calytrix creswellii	P3	16/08/2021	51J	275369	6623960	18
Calytrix creswellii	P3	16/08/2021	51J	275328	6623960	110
Calytrix creswellii	P3	16/08/2021	51J	275275	6623960	165
Calytrix creswellii	P3	16/08/2021	51J	275223	6623960	21
Calytrix creswellii	P3	16/08/2021	51J	275160	6623960	101
Calytrix creswellii	P3	16/08/2021	51J	275108	6623960	20
Calytrix creswellii	P3	16/08/2021	51J	275088	6623960	155
Calytrix creswellii	P3	16/08/2021	51J	275010	6623960	33
Calytrix creswellii	P3	16/08/2021	51J	274956	6623960	69
Calytrix creswellii	P3	16/08/2021	51J	274928	6623960	89
Calytrix creswellii	P3	16/08/2021	51J	274882	6623960	115
Calytrix creswellii	P3	16/08/2021	51J	274888	6623980	134
Calytrix creswellii	P3	16/08/2021	51J	274939	6623980	131
Calytrix creswellii	P3	16/08/2021	51J	274970	6623980	40
Calytrix creswellii	P3	16/08/2021	51J	274999	6623980	70
Calytrix creswellii	P3	16/08/2021	51J	275041	6623980	57
Calytrix creswellii	P3	16/08/2021	51J	275084	6623980	53

Calytrix creswellii	P3	16/08/2021	51J	275142	6623980	70
Calytrix creswellii	P3	16/08/2021	51J	275211	6623980	45
Calytrix creswellii	P3	16/08/2021	51J	275277	6623980	11
Calytrix creswellii	P3	16/08/2021	51J	275302	6623980	361
Calytrix creswellii	P3	16/08/2021	51J	275336	6623980	100
Calytrix creswellii	P3	16/08/2021	51J	275365	6623980	14
Calytrix creswellii	P3	16/08/2021	51J	275440	6623980	5
Calytrix creswellii	P3	17/08/2021	51J	275199	6624000	10
Calytrix creswellii	P3	17/08/2021	51J	275240	6624000	170
Calytrix creswellii	P3	17/08/2021	51J	275135	6624000	150
Calytrix creswellii	P3	17/08/2021	51J	275010	6624000	150
Calytrix creswellii	P3	17/08/2021	51J	274920	6624000	170
Calytrix creswellii	P3	17/08/2021	51J	274830	6624000	50
Calytrix creswellii	P3	17/08/2021	51J	274720	6624000	60
Calytrix creswellii	P3	17/08/2021	51J	274600	6624000	210
Calytrix creswellii	P3	17/08/2021	51J	275433	6624025	2
Calytrix creswellii	P3	17/08/2021	51J	275302	6624025	51
Calytrix creswellii	P3	17/08/2021	51J	275267	6624025	376
Calytrix creswellii	P3	17/08/2021	51J	275238	6624020	35
Calytrix creswellii	P3	17/08/2021	51J	275214	6624025	136
Calytrix creswellii	P3	17/08/2021	51J	275175	6624025	39
Calytrix creswellii	P3	17/08/2021	51J	275108	6624025	45
Calytrix creswellii	P3	17/08/2021	51J	275063	6624025	291
Calytrix creswellii	P3	17/08/2021	51J	275011	6624025	133
Calytrix creswellii	P3	17/08/2021	51J	274972	6624025	5
Calytrix creswellii	P3	17/08/2021	51J	274911	6624025	120
Calytrix creswellii	P3	17/08/2021	51J	274882	6624025	160
Calytrix creswellii	P3	17/08/2021	51J	274834	6624025	357
Calytrix creswellii	P3	17/08/2021	51J	274781	6624025	25
Calytrix creswellii	P3	17/08/2021	51J	274734	6624025	59
Calytrix creswellii	P3	17/08/2021	51J	274689	6624025	116
Calytrix creswellii	P3	17/08/2021	51J	274659	6624025	461
Calytrix creswellii	P3	17/08/2021	51J	274599	6624025	55
Calytrix creswellii	P3	17/08/2021	51J	274680	6624050	280
Calytrix creswellii	P3	17/08/2021	51J	274745	6624050	170
Calytrix creswellii	P3	17/08/2021	51J	274850	6624050	60
Calytrix creswellii	P3	17/08/2021	51J	274935	6624050	60
Calytrix creswellii	P3	17/08/2021	51J	275010	6624050	100
Calytrix creswellii	P3	17/08/2021	51J	275160	6624050	120
Calytrix creswellii	P3	17/08/2021	51J	275220	6624050	120
Calytrix creswellii	P3	17/08/2021	51J	275310	6624050	100
Calytrix creswellii	P3	17/08/2021	51J	275435	6624050	27
Calytrix creswellii	P3	17/08/2021	51J	274600	6624075	98
Calytrix creswellii	P3	17/08/2021	51J	274640	6624075	85
Calytrix creswellii	P3	17/08/2021	51J	274680	6624075	345
Calytrix creswellii	P3	17/08/2021	51J	274734	6624075	190

Calytrix creswellii	P3	17/08/2021	51J	274813	6624075	450
Calytrix creswellii	P3	17/08/2021	51J	274846	6624075	72
Calytrix creswellii	P3	17/08/2021	51J	274871	6624075	33
Calytrix creswellii	P3	17/08/2021	51J	274963	6624075	8
Calytrix creswellii	P3	17/08/2021	51J	275005	6624075	8
Calytrix creswellii	P3	17/08/2021	51J	275049	6624075	5
Calytrix creswellii	P3	17/08/2021	51J	275081	6624075	25
Calytrix creswellii	P3	17/08/2021	51J	275152	6624075	81
Calytrix creswellii	P3	17/08/2021	51J	275204	6624075	28
Calytrix creswellii	P3	17/08/2021	51J	275267	6624075	3
Calytrix creswellii	P3	17/08/2021	51J	275339	6624075	34
Calytrix creswellii	P3	17/08/2021	51J	275376	6624075	14
Calytrix creswellii	P3	17/08/2021	51J	275423	6624075	18
Calytrix creswellii	P3	15/08/2021	51J	275360	6624100	60
Calytrix creswellii	P3	15/08/2021	51J	275214	6624100	70
Calytrix creswellii	P3	15/08/2021	51J	275007	6624100	200
Calytrix creswellii	P3	15/08/2021	51J	274920	6624100	100
Calytrix creswellii	P3	15/08/2021	51J	274827	6624100	200
Calytrix creswellii	P3	15/08/2021	51J	274728	6624100	160
Calytrix creswellii	P3	15/08/2021	51J	274668	6624100	300
Calytrix creswellii	P3	17/08/2021	51J	274600	6624110	450
Calytrix creswellii	P3	17/08/2021	51J	275414	6624125	3
Calytrix creswellii	P3	17/08/2021	51J	275372	6624125	6
Calytrix creswellii	P3	17/08/2021	51J	275292	6624125	7
Calytrix creswellii	P3	17/08/2021	51J	275185	6624125	14
Calytrix creswellii	P3	17/08/2021	51J	275141	6624125	20
Calytrix creswellii	P3	17/08/2021	51J	275103	6624125	11
Calytrix creswellii	P3	17/08/2021	51J	275060	6624125	66
Calytrix creswellii	P3	17/08/2021	51J	274979	6624125	8
Calytrix creswellii	P3	17/08/2021	51J	274931	6624125	16
Calytrix creswellii	P3	17/08/2021	51J	274892	6624125	107
Calytrix creswellii	P3	17/08/2021	51J	274875	6624125	16
Calytrix creswellii	P3	17/08/2021	51J	274828	6624125	435
Calytrix creswellii	P3	17/08/2021	51J	274790	6624125	190
Calytrix creswellii	P3	17/08/2021	51J	274774	6624125	158
Calytrix creswellii	P3	17/08/2021	51J	274744	6624125	241
Calytrix creswellii	P3	17/08/2021	51J	274677	6624125	510
Calytrix creswellii	P3	17/08/2021	51J	274644	6624125	600
Calytrix creswellii	P3	17/08/2021	51J	274624	6624125	260
Calytrix creswellii	P3	17/08/2021	51J	274598	6624125	135
Calytrix creswellii	P3	15/08/2021	51J	274650	6624150	500
Calytrix creswellii	P3	15/08/2021	51J	274680	6624150	200
Calytrix creswellii	P3	15/08/2021	51J	274830	6624150	200
Calytrix creswellii	P3	15/08/2021	51J	274918	6624150	200
Calytrix creswellii	P3	15/08/2021	51J	275050	6624150	120
Calytrix creswellii	P3	15/08/2021	51J	275140	6624150	120

Calytrix creswellii	P3	15/08/2021	51J	275215	6624150	120
Calytrix creswellii	P3	15/08/2021	51J	275443	6624150	167
Calytrix creswellii	P3	17/08/2021	51J	274598	6624175	75
Calytrix creswellii	P3	17/08/2021	51J	274618	6624175	180
Calytrix creswellii	P3	17/08/2021	51J	274647	6624175	63
Calytrix creswellii	P3	17/08/2021	51J	274710	6624175	38
Calytrix creswellii	P3	17/08/2021	51J	274737	6624175	4
Calytrix creswellii	P3	17/08/2021	51J	274762	6624175	41
Calytrix creswellii	P3	17/08/2021	51J	274812	6624175	60
Calytrix creswellii	P3	17/08/2021	51J	274854	6624175	2
Calytrix creswellii	P3	17/08/2021	51J	274867	6624175	85
Calytrix creswellii	P3	17/08/2021	51J	274905	6624175	186
Calytrix creswellii	P3	17/08/2021	51J	274970	6624175	17
Calytrix creswellii	P3	17/08/2021	51J	275014	6624175	118
Calytrix creswellii	P3	17/08/2021	51J	275058	6624175	37
Calytrix creswellii	P3	17/08/2021	51J	275156	6624175	103
Calytrix creswellii	P3	17/08/2021	51J	275193	6624175	28
Calytrix creswellii	P3	17/08/2021	51J	275262	6624175	147
Calytrix creswellii	P3	17/08/2021	51J	275326	6624175	6
Calytrix creswellii	P3	15/08/2021	51J	275232	6624200	30
Calytrix creswellii	P3	15/08/2021	51J	275100	6624200	120
Calytrix creswellii	P3	15/08/2021	51J	275000	6624200	150
Calytrix creswellii	P3	15/08/2021	51J	274900	6624200	120
Calytrix creswellii	P3	15/08/2021	51J	274827	6624200	100
Calytrix creswellii	P3	15/08/2021	51J	274725	6624200	120
Calytrix creswellii	P3	15/08/2021	51J	274600	6624200	600
Calytrix creswellii	P3	17/08/2021	51J	275448	6624225	2
Calytrix creswellii	P3	17/08/2021	51J	275395	6624225	2
Calytrix creswellii	P3	17/08/2021	51J	275219	6624225	31
Calytrix creswellii	P3	17/08/2021	51J	275182	6624225	33
Calytrix creswellii	P3	17/08/2021	51J	275145	6624225	42
Calytrix creswellii	P3	17/08/2021	51J	275106	6624225	3
Calytrix creswellii	P3	17/08/2021	51J	275059	6624225	19
Calytrix creswellii	P3	17/08/2021	51J	275025	6624225	5
Calytrix creswellii	P3	17/08/2021	51J	274983	6624225	18
Calytrix creswellii	P3	17/08/2021	51J	274941	6624225	13
Calytrix creswellii	P3	17/08/2021	51J	274916	6624225	375
Calytrix creswellii	P3	17/08/2021	51J	274873	6624225	384
Calytrix creswellii	P3	17/08/2021	51J	274836	6624225	101
Calytrix creswellii	P3	17/08/2021	51J	274788	6624225	125
Calytrix creswellii	P3	17/08/2021	51J	274752	6624225	39
Calytrix creswellii	P3	17/08/2021	51J	274701	6624225	190
Calytrix creswellii	P3	15/08/2021	51J	274677	6624250	200
Calytrix creswellii	P3	15/08/2021	51J	274795	6624250	200
Calytrix creswellii	P3	15/08/2021	51J	274889	6624250	200
Calytrix creswellii	P3	15/08/2021	51J	274930	6624250	50

Calytrix creswellii	P3	15/08/2021	51J	275166	6624250	50
Calytrix creswellii	P3	15/08/2021	51J	275456	6624250	93
Calytrix creswellii	P3	17/08/2021	51J	274680	6624275	16
Calytrix creswellii	P3	17/08/2021	51J	274701	6624275	55
Calytrix creswellii	P3	17/08/2021	51J	274762	6624275	170
Calytrix creswellii	P3	17/08/2021	51J	274787	6624275	305
Calytrix creswellii	P3	17/08/2021	51J	274822	6624275	25
Calytrix creswellii	P3	17/08/2021	51J	275845	6624275	26
Calytrix creswellii	P3	17/08/2021	51J	274856	6624275	81
Calytrix creswellii	P3	17/08/2021	51J	274886	6624275	75
Calytrix creswellii	P3	17/08/2021	51J	274944	6624275	113
Calytrix creswellii	P3	17/08/2021	51J	275021	6624275	20
Calytrix creswellii	P3	17/08/2021	51J	275063	6624275	6
Calytrix creswellii	P3	17/08/2021	51J	275096	6624275	24
Calytrix creswellii	P3	17/08/2021	51J	275155	6624275	86
Calytrix creswellii	P3	17/08/2021	51J	275208	6624275	53
Calytrix creswellii	P3	17/08/2021	51J	275258	6624275	17
Calytrix creswellii	P3	17/08/2021	51J	275338	6624275	12
Calytrix creswellii	P3	17/08/2021	51J	275384	6624275	1
Calytrix creswellii	P3	17/08/2021	51J	275441	6624275	19
Calytrix creswellii	P3	18/08/2021	51J	275403	6624300	30
Calytrix creswellii	P3	18/08/2021	51J	275252	6624300	120
Calytrix creswellii	P3	18/08/2021	51J	275090	6624300	120
Calytrix creswellii	P3	18/08/2021	51J	274926	6624300	120
Calytrix creswellii	P3	18/08/2021	51J	274891	6624300	500
Calytrix creswellii	P3	18/08/2021	51J	274819	6624300	300
Calytrix creswellii	P3	18/08/2021	51J	274724	6624300	120
Calytrix creswellii	P3	18/08/2021	51J	274600	6624300	90
Calytrix creswellii	P3	18/08/2021	51J	275449	6624325	25
Calytrix creswellii	P3	18/08/2021	51J	275413	6624325	26
Calytrix creswellii	P3	18/08/2021	51J	275372	6624325	9
Calytrix creswellii	P3	18/08/2021	51J	275258	6624325	15
Calytrix creswellii	P3	18/08/2021	51J	275204	6624325	25
Calytrix creswellii	P3	18/08/2021	51J	275151	6624325	87
Calytrix creswellii	P3	18/08/2021	51J	275102	6624325	50
Calytrix creswellii	P3	18/08/2021	51J	275052	6624325	2
Calytrix creswellii	P3	18/08/2021	51J	275015	6624325	15
Calytrix creswellii	P3	18/08/2021	51J	274939	6624325	47
Calytrix creswellii	P3	18/08/2021	51J	274909	6624325	125
Calytrix creswellii	P3	18/08/2021	51J	274893	6624325	662
Calytrix creswellii	P3	18/08/2021	51J	274884	6624325	8
Calytrix creswellii	P3	18/08/2021	51J	274851	6624325	53
Calytrix creswellii	P3	18/08/2021	51J	274831	6624325	49
Calytrix creswellii	P3	18/08/2021	51J	274737	6624325	248
Calytrix creswellii	P3	18/08/2021	51J	274692	6624325	149
Calytrix creswellii	P3	18/08/2021	51J	274645	6624325	60

Calytrix creswellii	P3	18/08/2021	51J	274619	6624325	85
Calytrix creswellii	P3	18/08/2021	51J	274726	6624347	250
Calytrix creswellii	P3	15/08/2021	51J	274811	6624350	500
Calytrix creswellii	P3	15/08/2021	51J	274903	6624350	400
Calytrix creswellii	P3	15/08/2021	51J	274995	6624350	60
Calytrix creswellii	P3	15/08/2021	51J	275147	6624350	250
Calytrix creswellii	P3	15/08/2021	51J	275260	6624350	200
Calytrix creswellii	P3	15/08/2021	51J	275447	6624350	90
Calytrix creswellii	P3	18/08/2021	51J	274603	6624375	45
Calytrix creswellii	P3	18/08/2021	51J	274643	6624375	259
Calytrix creswellii	P3	18/08/2021	51J	274687	6624375	65
Calytrix creswellii	P3	18/08/2021	51J	274716	6624375	383
Calytrix creswellii	P3	18/08/2021	51J	274746	6624375	250
Calytrix creswellii	P3	18/08/2021	51J	274187	6624375	811
Calytrix creswellii	P3	18/08/2021	51J	274806	6624375	450
Calytrix creswellii	P3	18/08/2021	51J	274841	6624375	530
Calytrix creswellii	P3	18/08/2021	51J	274854	6624375	170
Calytrix creswellii	P3	18/08/2021	51J	274871	6624375	10
Calytrix creswellii	P3	18/08/2021	51J	274879	6624375	60
Calytrix creswellii	P3	18/08/2021	51J	274905	6624375	322
Calytrix creswellii	P3	18/08/2021	51J	275083	6624375	46
Calytrix creswellii	P3	18/08/2021	51J	275134	6624375	15
Calytrix creswellii	P3	18/08/2021	51J	275186	6624375	27
Calytrix creswellii	P3	18/08/2021	51J	275241	6624375	36
Calytrix creswellii	P3	18/08/2021	51J	275287	6624375	76
Calytrix creswellii	P3	18/08/2021	51J	275329	6624375	24
Calytrix creswellii	P3	18/08/2021	51J	275396	6624375	1
Calytrix creswellii	P3	18/08/2021	51J	275416	6624375	25
Calytrix creswellii	P3	18/08/2021	51J	275440	6624375	7
Calytrix creswellii	P3	15/08/2021	51J	275381	6624400	40
Calytrix creswellii	P3	15/08/2021	51J	275269	6624400	60
Calytrix creswellii	P3	15/08/2021	51J	275120	6624400	200
Calytrix creswellii	P3	15/08/2021	51J	275042	6624400	120
Calytrix creswellii	P3	15/08/2021	51J	274863	6624400	300
Calytrix creswellii	P3	15/08/2021	51J	274771	6624400	300
Calytrix creswellii	P3	15/08/2021	51J	274598	6624400	440
Calytrix creswellii	P3	18/08/2021	51J	275434	6624425	256
Calytrix creswellii	P3	18/08/2021	51J	275408	6624425	140
Calytrix creswellii	P3	18/08/2021	51J	275377	6624425	370
Calytrix creswellii	P3	18/08/2021	51J	275339	6624425	95
Calytrix creswellii	P3	18/08/2021	51J	275312	6624425	61
Calytrix creswellii	P3	18/08/2021	51J	275261	6624425	87
Calytrix creswellii	P3	18/08/2021	51J	275212	6624425	81
Calytrix creswellii	P3	18/08/2021	51J	275176	6624425	29
Calytrix creswellii	P3	18/08/2021	51J	275097	6624425	2
Calytrix creswellii	P3	18/08/2021	51J	275060	6624425	72

Calytrix creswellii	P3	18/08/2021	51J	274937	6624425	130
Calytrix creswellii	P3	18/08/2021	51J	274909	6624425	152
Calytrix creswellii	P3	18/08/2021	51J	274886	6624425	1
Calytrix creswellii	P3	18/08/2021	51J	274862	6624425	117
Calytrix creswellii	P3	18/08/2021	51J	274797	6624425	5
Calytrix creswellii	P3	18/08/2021	51J	274748	6624425	28
Calytrix creswellii	P3	18/08/2021	51J	274716	6624425	105
Calytrix creswellii	P3	18/08/2021	51J	274682	6624425	191
Calytrix creswellii	P3	18/08/2021	51J	274631	6624425	300
Calytrix creswellii	P3	18/08/2021	51J	274600	6624425	65
Calytrix creswellii	P3	18/08/2021	51J	274728	6624450	500
Calytrix creswellii	P3	18/08/2021	51J	274784	6624450	250
Calytrix creswellii	P3	18/08/2021	51J	274918	6624450	250
Calytrix creswellii	P3	18/08/2021	51J	275149	6624450	250
Calytrix creswellii	P3	18/08/2021	51J	275340	6624450	250
Calytrix creswellii	P3	18/08/2021	51J	274643	6624475	9
Calytrix creswellii	P3	18/08/2021	51J	274675	6624475	98
Calytrix creswellii	P3	18/08/2021	51J	274732	6624475	35
Calytrix creswellii	P3	18/08/2021	51J	274800	6624475	13
Calytrix creswellii	P3	18/08/2021	51J	275835	6624475	111
Calytrix creswellii	P3	18/08/2021	51J	274885	6624475	6
Calytrix creswellii	P3	18/08/2021	51J	274902	6624475	48
Calytrix creswellii	P3	18/08/2021	51J	274958	6624475	5
Calytrix creswellii	P3	18/08/2021	51J	275055	6624475	7
Calytrix creswellii	P3	18/08/2021	51J	275093	6624475	31
Calytrix creswellii	P3	18/08/2021	51J	275144	6624475	77
Calytrix creswellii	P3	18/08/2021	51J	275166	6624475	70
Calytrix creswellii	P3	18/08/2021	51J	275218	6624475	60
Calytrix creswellii	P3	18/08/2021	51J	275268	6624475	329
Calytrix creswellii	P3	18/08/2021	51J	275319	6624475	234
Calytrix creswellii	P3	18/08/2021	51J	275358	6624475	365
Calytrix creswellii	P3	18/08/2021	51J	275390	6624475	90
Calytrix creswellii	P3	18/08/2021	51J	275409	6624475	119
Calytrix creswellii	P3	18/08/2021	51J	275354	6624500	500
Calytrix creswellii	P3	18/08/2021	51J	275230	6624500	300
Calytrix creswellii	P3	18/08/2021	51J	275140	6624500	500
Calytrix creswellii	P3	18/08/2021	51J	275095	6624500	300
Calytrix creswellii	P3	18/08/2021	51J	275051	6624500	400
Calytrix creswellii	P3	18/08/2021	51J	274855	6624500	400
Calytrix creswellii	P3	18/08/2021	51J	274600	6624500	450
Calytrix creswellii	P3	18/08/2021	51J	275427	6624525	6
Calytrix creswellii	P3	18/08/2021	51J	275412	6624525	54
Calytrix creswellii	P3	18/08/2021	51J	275369	6624525	30
Calytrix creswellii	P3	18/08/2021	51J	275322	6624525	19
Calytrix creswellii	P3	18/08/2021	51J	275262	6624525	175
Calytrix creswellii	P3	18/08/2021	51J	275221	6624525	245

Calytrix creswellii	P3	18/08/2021	51J	275181	6624525	13
Calytrix creswellii	P3	18/08/2021	51J	275149	6624525	288
Calytrix creswellii	P3	18/08/2021	51J	275100	6624525	235
Calytrix creswellii	P3	18/08/2021	51J	275055	6624525	142
Calytrix creswellii	P3	18/08/2021	51J	274954	6624525	57
Calytrix creswellii	P3	18/08/2021	51J	274928	6624525	105
Calytrix creswellii	P3	18/08/2021	51J	274911	6624525	31
Calytrix creswellii	P3	18/08/2021	51J	274863	6624525	175
Calytrix creswellii	P3	18/08/2021	51J	274836	6624525	24
Calytrix creswellii	P3	18/08/2021	51J	274785	6624525	21
Calytrix creswellii	P3	18/08/2021	51J	274750	6624525	9
Calytrix creswellii	P3	18/08/2021	51J	274731	6624525	51
Calytrix creswellii	P3	18/08/2021	51J	274634	6624550	200
Calytrix creswellii	P3	18/08/2021	51J	274700	6624550	120
Calytrix creswellii	P3	18/08/2021	51J	274835	6624550	300
Calytrix creswellii	P3	18/08/2021	51J	274984	6624550	400
Calytrix creswellii	P3	18/08/2021	51J	275106	6624550	400
Calytrix creswellii	P3	18/08/2021	51J	275224	6624550	400
Calytrix creswellii	P3	18/08/2021	51J	275425	6624550	470
Calytrix creswellii	P3	18/08/2021	51J	274700	6624575	51
Calytrix creswellii	P3	18/08/2021	51J	274745	6624575	55
Calytrix creswellii	P3	18/08/2021	51J	274785	6624575	29
Calytrix creswellii	P3	18/08/2021	51J	274812	6624575	443
Calytrix creswellii	P3	18/08/2021	51J	274858	6624575	58
Calytrix creswellii	P3	18/08/2021	51J	274912	6624575	85
Calytrix creswellii	P3	18/08/2021	51J	274944	6624575	25
Calytrix creswellii	P3	18/08/2021	51J	274976	6624575	34
Calytrix creswellii	P3	18/08/2021	51J	275019	6624575	90
Calytrix creswellii	P3	18/08/2021	51J	275058	6624575	180
Calytrix creswellii	P3	18/08/2021	51J	275106	6624575	95
Calytrix creswellii	P3	18/08/2021	51J	275171	6624575	210
Calytrix creswellii	P3	18/08/2021	51J	275210	6624575	210
Calytrix creswellii	P3	18/08/2021	51J	275253	6624575	145
Calytrix creswellii	P3	18/08/2021	51J	275297	6624575	140
Calytrix creswellii	P3	18/08/2021	51J	275329	6624575	64
Calytrix creswellii	P3	18/08/2021	51J	275372	6624575	20
Calytrix creswellii	P3	18/08/2021	51J	275393	6624575	160
Calytrix creswellii	P3	18/08/2021	51J	275298	6624600	400
Calytrix creswellii	P3	18/08/2021	51J	275245	6624600	400
Calytrix creswellii	P3	18/08/2021	51J	275177	6624600	400
Calytrix creswellii	P3	18/08/2021	51J	275110	6624600	400
Calytrix creswellii	P3	18/08/2021	51J	274936	6624600	300
Calytrix creswellii	P3	18/08/2021	51J	274835	6624600	400
Calytrix creswellii	P3	18/08/2021	51J	274773	6624600	400
Calytrix creswellii	P3	18/08/2021	51J	274700	6624600	290
Calytrix creswellii	P3	18/08/2021	51J	275399	6624625	143

Calytrix creswellii	P3	18/08/2021	51J	275363	6624625	157
Calytrix creswellii	P3	18/08/2021	51J	275329	6624625	357
Calytrix creswellii	P3	18/08/2021	51J	275278	6624625	325
Calytrix creswellii	P3	18/08/2021	51J	275232	6624625	44
Calytrix creswellii	P3	18/08/2021	51J	275195	6624625	70
Calytrix creswellii	P3	18/08/2021	51J	275164	6624625	25
Calytrix creswellii	P3	18/08/2021	51J	275130	6624625	14
Calytrix creswellii	P3	18/08/2021	51J	275106	6624625	28
Calytrix creswellii	P3	18/08/2021	51J	275087	6624625	48
Calytrix creswellii	P3	18/08/2021	51J	275054	6624625	29
Calytrix creswellii	P3	18/08/2021	51J	275018	6624625	18
Calytrix creswellii	P3	15/08/2021	51J	274800	6624650	300
Calytrix creswellii	P3	15/08/2021	51J	274886	6624650	300
Calytrix creswellii	P3	15/08/2021	51J	274969	6624650	300
Calytrix creswellii	P3	15/08/2021	51J	275090	6624650	300
Calytrix creswellii	P3	15/08/2021	51J	275237	6624650	300
Calytrix creswellii	P3	15/08/2021	51J	275307	6624650	300
Calytrix creswellii	P3	15/08/2021	51J	275410	6624650	290
Calytrix creswellii	P3	18/08/2021	51J	275020	6624675	55
Calytrix creswellii	P3	18/08/2021	51J	275056	6624675	180
Calytrix creswellii	P3	18/08/2021	51J	275115	6624675	71
Calytrix creswellii	P3	18/08/2021	51J	275155	6624675	112
Calytrix creswellii	P3	18/08/2021	51J	275221	6624675	135
Calytrix creswellii	P3	18/08/2021	51J	275297	6624675	65
Calytrix creswellii	P3	18/08/2021	51J	275349	6624675	55
Calytrix creswellii	P3	18/08/2021	51J	275379	6624675	75
Calytrix creswellii	P3	18/08/2021	51J	275396	6624675	53

Appendix 6: Locations of Calytrix creswellii recorded 7th September 2021

Scientific Name	Code	Date	Zone	Easting	Northing	No.
Calytrix creswellii	P3	7/09/2021	51J	275210	6624700	150
Calytrix creswellii	P3	7/09/2021	51J	274998	6624700	500
Calytrix creswellii	P3	7/09/2021	51J	274877	6624700	380
Calytrix creswellii	P3	7/09/2021	51J	274736	6624700	80
Calytrix creswellii	P3	7/09/2021	51J	274600	6624700	180
Calytrix creswellii	P3	7/09/2021	51J	275399	6624725	50
Calytrix creswellii	P3	7/09/2021	51J	275345	6624725	148
Calytrix creswellii	P3	7/09/2021	51J	275293	6624725	275
Calytrix creswellii	P3	7/09/2021	51J	275227	6624725	255
Calytrix creswellii	P3	7/09/2021	51J	275176	6624725	14
Calytrix creswellii	P3	7/09/2021	51J	275135	6624725	140
Calytrix creswellii	P3	7/09/2021	51J	275088	6624725	448
Calytrix creswellii	P3	7/09/2021	51J	275046	6624725	470
Calytrix creswellii	P3	7/09/2021	51J	275008	6624725	419
Calytrix creswellii	P3	7/09/2021	51J	274960	6624725	300
Calytrix creswellii	P3	7/09/2021	51J	274898	6624725	350
Calytrix creswellii	P3	7/09/2021	51J	274827	6624725	1
Calytrix creswellii	P3	7/09/2021	51J	274784	6624725	3
Calytrix creswellii	P3	7/09/2021	51J	274756	6624725	147
Calytrix creswellii	P3	7/09/2021	51J	274718	6624725	75
Calytrix creswellii	P3	7/09/2021	51J	274677	6624725	10
Calytrix creswellii	P3	7/09/2021	51J	274625	6624725	1
Calytrix creswellii	P3	7/09/2021	51J	274735	6624750	200
Calytrix creswellii	P3	7/09/2021	51J	274945	6624750	80
Calytrix creswellii	P3	7/09/2021	51J	275082	6624750	240
Calytrix creswellii	P3	7/09/2021	51J	275288	6624750	450
Calytrix creswellii	P3	7/09/2021	51J	275399	6624750	120
Calytrix creswellii	P3	7/09/2021	51J	274607	6624775	11
Calytrix creswellii	P3	7/09/2021	51J	274658	6624775	6
Calytrix creswellii	P3	7/09/2021	51J	274717	6624775	11
Calytrix creswellii	P3	7/09/2021	51J	274756	6624775	18
Calytrix creswellii	P3	7/09/2021	51J	274806	6624775	225
Calytrix creswellii	P3	7/09/2021	51J	274821	6624775	143
Calytrix creswellii	P3	7/09/2021	51J	274865	6624775	54
Calytrix creswellii	P3	7/09/2021	51J	274964	6624775	330
Calytrix creswellii	P3	7/09/2021	51J	275002	6624775	159
Calytrix creswellii	P3	7/09/2021	51J	275061	6624775	106
Calytrix creswellii	P3	7/09/2021	51J	275091	6624775	10
Calytrix creswellii	P3	7/09/2021	51J	275115	6624775	5
Calytrix creswellii	P3	7/09/2021	51J	275162	6624775	32
Calytrix creswellii	P3	7/09/2021	51J	275202	6624775	170
Calytrix creswellii	P3	7/09/2021	51J	275244	6624775	440
Calytrix creswellii	P3	7/09/2021	51J	275273	6624775	370

Calytrix creswellii	P3	7/09/2021	51J	275309	6624775	85
Calytrix creswellii	P3	7/09/2021	51J	275244	6624800	160
Calytrix creswellii	P3	7/09/2021	51J	275073	6624800	450
Calytrix creswellii	P3	7/09/2021	51J	274936	6624800	200
Calytrix creswellii	P3	7/09/2021	51J	274756	6624800	500
Calytrix creswellii	P3	7/09/2021	51J	274650	6624800	280
Calytrix creswellii	P3	7/09/2021	51J	275383	6624825	4
Calytrix creswellii	P3	7/09/2021	51J	275342	6624825	48
Calytrix creswellii	P3	7/09/2021	51J	275305	6624825	34
Calytrix creswellii	P3	7/09/2021	51J	275263	6624825	52
Calytrix creswellii	P3	7/09/2021	51J	275215	6624825	240
Calytrix creswellii	P3	7/09/2021	51J	275145	6624825	5
Calytrix creswellii	P3	7/09/2021	51J	275128	6624825	78
Calytrix creswellii	P3	7/09/2021	51J	275077	6624825	100
Calytrix creswellii	P3	7/09/2021	51J	274876	6624825	134
Calytrix creswellii	P3	7/09/2021	51J	274842	6624825	345
Calytrix creswellii	P3	7/09/2021	51J	274818	6624825	110
Calytrix creswellii	P3	7/09/2021	51J	274788	6624825	285
Calytrix creswellii	P3	7/09/2021	51J	274755	6624825	495
Calytrix creswellii	P3	7/09/2021	51J	274648	6624825	1
Calytrix creswellii	P3	7/09/2021	51J	274607	6624825	3
Calytrix creswellii	P3	7/09/2021	51J	274819	6624850	120
Calytrix creswellii	P3	7/09/2021	51J	275101	6624850	200
Calytrix creswellii	P3	7/09/2021	51J	275160	6624850	180
Calytrix creswellii	P3	7/09/2021	51J	275295	6624850	30
Calytrix creswellii	P3	7/09/2021	51J	275371	6624850	80
Calytrix creswellii	P3	7/09/2021	51J	274631	6624875	2
Calytrix creswellii	P3	7/09/2021	51J	274668	6624875	1
Calytrix creswellii	P3	7/09/2021	51J	274723	6624875	97
Calytrix creswellii	P3	7/09/2021	51J	274777	6624875	85
Calytrix creswellii	P3	7/09/2021	51J	274827	6624875	320
Calytrix creswellii	P3	7/09/2021	51J	274989	6624875	8
Calytrix creswellii	P3	7/09/2021	51J	275060	6624875	445
Calytrix creswellii	P3	7/09/2021	51J	275099	6624875	290
Calytrix creswellii	P3	7/09/2021	51J	275207	6624875	1
Calytrix creswellii	P3	7/09/2021	51J	275257	6624875	65
Calytrix creswellii	P3	7/09/2021	51J	275319	6624875	15
Calytrix creswellii	P3	7/09/2021	51J	275313	6624900	3
Calytrix creswellii	P3	7/09/2021	51J	275195	6624900	25
Calytrix creswellii	P3	7/09/2021	51J	274970	6624900	230
Calytrix creswellii	P3	7/09/2021	51J	274808	6624900	100
Calytrix creswellii	P3	7/09/2021	51J	274700	6624900	70
Calytrix creswellii	P3	7/09/2021	51J	274941	6624925	60
Calytrix creswellii	P3	7/09/2021	51J	275069	6624925	80
Calytrix creswellii	P3	7/09/2021	51J	275291	6624925	60
Calytrix creswellii	P3	7/09/2021	51J	275375	6624925	110

Calytrix creswellii	P3	7/09/2021	51J	275364	6624950	99
Calytrix creswellii	P3	7/09/2021	51J	275007	6624950	23
Calytrix creswellii	P3	7/09/2021	51J	274967	6624950	39
Calytrix creswellii	P3	7/09/2021	51J	274876	6624950	5
Calytrix creswellii	P3	7/09/2021	51J	274761	6624950	15
Calytrix creswellii	P3	7/09/2021	51J	274728	6624950	2
Calytrix creswellii	P3	7/09/2021	51J	274707	6624950	1
Calytrix creswellii	P3	7/09/2021	51J	275077	6624950	29
Calytrix creswellii	P3	7/09/2021	51J	274702	6624975	24
Calytrix creswellii	P3	7/09/2021	51J	274756	6624975	1
Calytrix creswellii	P3	7/09/2021	51J	274800	6624975	1
Calytrix creswellii	P3	7/09/2021	51J	274847	6624975	11
Calytrix creswellii	P3	7/09/2021	51J	274960	6624975	62
Calytrix creswellii	P3	7/09/2021	51J	275011	6624975	13
Calytrix creswellii	P3	7/09/2021	51J	275353	6624975	4
Calytrix creswellii	P3	7/09/2021	51J	275233	6625000	60
Calytrix creswellii	P3	7/09/2021	51J	275122	6625000	50
Calytrix creswellii	P3	7/09/2021	51J	275013	6625000	110
Calytrix creswellii	P3	7/09/2021	51J	274700	6625000	70
Calytrix creswellii	P3	7/09/2021	51J	274995	6625025	51
Calytrix creswellii	P3	7/09/2021	51J	274951	6625025	6
Calytrix creswellii	P3	7/09/2021	51J	274907	6625025	41
Calytrix creswellii	P3	7/09/2021	51J	274863	6625025	1
Calytrix creswellii	P3	7/09/2021	51J	274848	6625025	28
Calytrix creswellii	P3	7/09/2021	51J	274813	6625025	71
Calytrix creswellii	P3	7/09/2021	51J	274789	6625025	79
Calytrix creswellii	P3	7/09/2021	51J	274755	6625025	27
Calytrix creswellii	P3	7/09/2021	51J	274840	6625050	70
Calytrix creswellii	P3	7/09/2021	51J	274988	6625050	60
Calytrix creswellii	P3	7/09/2021	51J	275167	6625050	55
Calytrix creswellii	P3	7/09/2021	51J	275358	6625050	50

Appendix 7: Locations of Calytrix creswellii 8th – 10th September 2021

Scientific Name	Code	Date	Zone	Easting	Northing	No.
Calytrix creswellii	P3	8/09/2021	51J	274740	6625150	10
Calytrix creswellii	P3	8/09/2021	51J	274740	6625100	10
Calytrix creswellii	P3	8/09/2021	51J	274989	6625125	5
Calytrix creswellii	P3	8/09/2021	51J	274936	6625125	1
Calytrix creswellii	P3	8/09/2021	51J	274945	6625125	1
Calytrix creswellii	P3	8/09/2021	51J	274806	6625125	5
Calytrix creswellii	P3	8/09/2021	51J	274745	6625125	1
Calytrix creswellii	P3	8/09/2021	51J	274733	6625154	2
Calytrix creswellii	P3	8/09/2021	51J	274697	6625150	1
Calytrix creswellii	P3	8/09/2021	51J	274843	6625175	11
Calytrix creswellii	P3	8/09/2021	51J	274969	6625275	1
Calytrix creswellii	P3	9/09/2021	51J	275675	6624925	1
Calytrix creswellii	P3	9/09/2021	51J	275632	6624925	49
Calytrix creswellii	P3	9/09/2021	51J	275606	6624925	79
Calytrix creswellii	P3	9/09/2021	51J	275572	6624925	74
Calytrix creswellii	P3	9/09/2021	51J	275520	6624925	436
Calytrix creswellii	P3	9/09/2021	51J	275458	6624925	105
Calytrix creswellii	P3	9/09/2021	51J	275408	6624925	95
Calytrix creswellii	P3	9/09/2021	51J	275396	6624875	223
Calytrix creswellii	P3	9/09/2021	51J	275467	6624875	180
Calytrix creswellii	P3	9/09/2021	51J	275496	6624875	107
Calytrix creswellii	P3	9/09/2021	51J	275604	6624875	46
Calytrix creswellii	P3	9/09/2021	51J	275648	6624875	66
Calytrix creswellii	P3	9/09/2021	51J	275711	6624875	42
Calytrix creswellii	P3	9/09/2021	51J	275758	6624875	405
Calytrix creswellii	P3	9/09/2021	51J	275807	6624875	25
Calytrix creswellii	P3	9/09/2021	51J	275838	6624825	7
Calytrix creswellii	P3	9/09/2021	51J	275785	6624825	51
Calytrix creswellii	P3	9/09/2021	51J	275745	6624825	197
Calytrix creswellii	P3	9/09/2021	51J	275669	6624825	40
Calytrix creswellii	P3	9/09/2021	51J	275614	6624825	40
Calytrix creswellii	P3	9/09/2021	51J	275570	6624825	46
Calytrix creswellii	P3	9/09/2021	51J	275522	6624825	85
Calytrix creswellii	P3	9/09/2021	51J	275493	6624825	110
Calytrix creswellii	P3	9/09/2021	51J	275450	6624825	220
Calytrix creswellii	P3	9/09/2021	51J	275413	6624825	18
Calytrix creswellii	P3	9/09/2021	51J	275405	6624775	49
Calytrix creswellii	P3	9/09/2021	51J	275472	6624775	152
Calytrix creswellii	P3	9/09/2021	51J	275512	6624775	20
Calytrix creswellii	P3	9/09/2021	51J	275540	6624775	23
Calytrix creswellii	P3	9/09/2021	51J	275574	6624775	172
Calytrix creswellii	P3	9/09/2021	51J	275616	6624775	285
Calytrix creswellii	P3	9/09/2021	51J	275643	6624775	123

Calytrix creswellii	P3	9/09/2021	51J	275688	6624775	8
Calytrix creswellii	P3	9/09/2021	51J	275756	6624775	12
Calytrix creswellii	P3	9/09/2021	51J	275787	6624775	25
Calytrix creswellii	P3	9/09/2021	51J	275797	6624725	17
Calytrix creswellii	P3	9/09/2021	51J	275692	6624725	10
Calytrix creswellii	P3	9/09/2021	51J	275648	6624725	2
Calytrix creswellii	P3	9/09/2021	51J	275605	6624725	75
Calytrix creswellii	P3	9/09/2021	51J	275566	6624725	190
Calytrix creswellii	P3	9/09/2021	51J	275532	6624725	347
Calytrix creswellii	P3	9/09/2021	51J	275496	6624725	100
Calytrix creswellii	P3	9/09/2021	51J	275441	6624725	181
Calytrix creswellii	P3	9/09/2021	51J	275418	6624725	51
Calytrix creswellii	P3	9/09/2021	51J	275417	6624675	310
Calytrix creswellii	P3	9/09/2021	51J	275451	6624675	196
Calytrix creswellii	P3	9/09/2021	51J	275486	6624675	303
Calytrix creswellii	P3	9/09/2021	51J	275510	6624675	98
Calytrix creswellii	P3	9/09/2021	51J	275560	6624675	154
Calytrix creswellii	P3	9/09/2021	51J	275593	6624675	130
Calytrix creswellii	P3	9/09/2021	51J	275634	6624675	5
Calytrix creswellii	P3	9/09/2021	51J	275678	6624675	1
Calytrix creswellii	P3	9/09/2021	51J	275705	6624675	38
Calytrix creswellii	P3	9/09/2021	51J	275695	6624625	47
Calytrix creswellii	P3	9/09/2021	51J	275633	6624625	120
Calytrix creswellii	P3	9/09/2021	51J	275591	6624625	197
Calytrix creswellii	P3	9/09/2021	51J	275511	6624625	96
Calytrix creswellii	P3	9/09/2021	51J	275481	6624625	390
Calytrix creswellii	P3	9/09/2021	51J	275443	6624625	87
Calytrix creswellii	P3	9/09/2021	51J	275430	6625100	35
Calytrix creswellii	P3	9/09/2021	51J	275629	6625051	25
Calytrix creswellii	P3	9/09/2021	51J	275676	6625000	20
Calytrix creswellii	P3	9/09/2021	51J	275484	6625000	40
Calytrix creswellii	P3	9/09/2021	51J	275433	6625000	140
Calytrix creswellii	P3	9/09/2021	51J	275367	6625000	40
Calytrix creswellii	P3	9/09/2021	51J	275465	6624950	110
Calytrix creswellii	P3	9/09/2021	51J	275682	6624950	80
Calytrix creswellii	P3	9/09/2021	51J	275706	6624900	60
Calytrix creswellii	P3	9/09/2021	51J	275566	6624900	150
Calytrix creswellii	P3	9/09/2021	51J	275505	6624899	60
Calytrix creswellii	P3	9/09/2021	51J	275380	6624900	220
Calytrix creswellii	P3	9/09/2021	51J	275500	6624850	90
Calytrix creswellii	P3	9/09/2021	51J	275580	6624850	100
Calytrix creswellii	P3	9/09/2021	51J	275702	6624850	50
Calytrix creswellii	P3	9/09/2021	51J	275940	6624850	50
Calytrix creswellii	P3	9/09/2021	51J	275838	6624800	110
Calytrix creswellii	P3	9/09/2021	51J	275760	6624800	40
Calytrix creswellii	P3	9/09/2021	51J	275577	6624800	50

Calytrix creswellii	P3	9/09/2021	51J	275398	6624800	35
Calytrix creswellii	P3	9/09/2021	51J	275539	6624750	150
Calytrix creswellii	P3	9/09/2021	51J	275679	6624750	65
Calytrix creswellii	P3	9/09/2021	51J	275798	6624750	35
Calytrix creswellii	P3	9/09/2021	51J	275715	6624700	30
Calytrix creswellii	P3	9/09/2021	51J	275873	6624700	75
Calytrix creswellii	P3	9/09/2021	51J	275905	6624700	55
Calytrix creswellii	P3	9/09/2021	51J	275981	6624650	80
Calytrix creswellii	P3	9/09/2021	51J	275700	6624650	130
Calytrix creswellii	P3	9/09/2021	51J	275612	6624600	100
Calytrix creswellii	P3	9/09/2021	51J	275460	6624600	120
Calytrix creswellii	P3	9/09/2021	51J	275416	6624600	30
Calytrix creswellii	P3	10/09/2021	51J	275430	6624575	105
Calytrix creswellii	P3	10/09/2021	51J	275484	6624575	110
Calytrix creswellii	P3	10/09/2021	51J	275574	6624575	72
Calytrix creswellii	P3	10/09/2021	51J	275632	6624575	26
Calytrix creswellii	P3	10/09/2021	51J	275214	6624575	20
Calytrix creswellii	P3	10/09/2021	51J	275780	6624550	25
Calytrix creswellii	P3	10/09/2021	51J	275732	6624550	6
Calytrix creswellii	P3	10/09/2021	51J	275648	6624550	19
Calytrix creswellii	P3	10/09/2021	51J	275581	6624550	33
Calytrix creswellii	P3	10/09/2021	51J	275496	6624550	115
Calytrix creswellii	P3	10/09/2021	51J	275459	6624550	140
Calytrix creswellii	P3	10/09/2021	51J	275426	6624550	95
Calytrix creswellii	P3	10/09/2021	51J	275435	6624525	225
Calytrix creswellii	P3	10/09/2021	51J	275469	6624525	160
Calytrix creswellii	P3	10/09/2021	51J	275495	6624525	179
Calytrix creswellii	P3	10/09/2021	51J	275533	6624525	24
Calytrix creswellii	P3	10/09/2021	51J	275655	6624525	4
Calytrix creswellii	P3	10/09/2021	51J	275692	6624525	10
Calytrix creswellii	P3	10/09/2021	51J	275735	6624525	11
Calytrix creswellii	P3	10/09/2021	51J	275768	6624525	18
Calytrix creswellii	P3	10/09/2021	51J	275801	6624500	4
Calytrix creswellii	P3	10/09/2021	51J	275695	6624500	3
Calytrix creswellii	P3	10/09/2021	51J	275536	6624500	129
Calytrix creswellii	P3	10/09/2021	51J	275502	6624500	301
Calytrix creswellii	P3	10/09/2021	51J	275459	6624500	93
Calytrix creswellii	P3	10/09/2021	51J	275440	6624475	104
Calytrix creswellii	P3	10/09/2021	51J	275490	6624475	248
Calytrix creswellii	P3	10/09/2021	51J	275534	6624475	32
Calytrix creswellii	P3	10/09/2021	51J	275589	6624475	30
Calytrix creswellii	P3	10/09/2021	51J	275617	6624475	5
Calytrix creswellii	P3	10/09/2021	51J	275777	6624475	4
Calytrix creswellii	P3	10/09/2021	51J	275856	6624450	4
Calytrix creswellii	P3	10/09/2021	51J	275761	6624450	2
Calytrix creswellii	P3	10/09/2021	51J	275687	6624454	5

Calytrix creswellii	P3	10/09/2021	51J	275628	6624450	2
Calytrix creswellii	P3	10/09/2021	51J	275613	6624450	19
Calytrix creswellii	P3	10/09/2021	51J	275567	6624450	79
Calytrix creswellii	P3	10/09/2021	51J	275503	6624450	240
Calytrix creswellii	P3	10/09/2021	51J	275468	6624450	250
Calytrix creswellii	P3	10/09/2021	51J	275439	6624450	38
Calytrix creswellii	P3	10/09/2021	51J	275446	6624425	135
Calytrix creswellii	P3	10/09/2021	51J	275474	6624425	149
Calytrix creswellii	P3	10/09/2021	51J	275593	6624425	45
Calytrix creswellii	P3	10/09/2021	51J	275640	6624425	23
Calytrix creswellii	P3	10/09/2021	51J	275704	6624425	12
Calytrix creswellii	P3	10/09/2021	51J	275740	6624425	114
Calytrix creswellii	P3	10/09/2021	51J	275771	6624425	1
Calytrix creswellii	P3	10/09/2021	51J	275778	6624414	5
Calytrix creswellii	P3	10/09/2021	51J	275767	6624393	3
Calytrix creswellii	P3	10/09/2021	51J	275781	6624385	4
Calytrix creswellii	P3	10/09/2021	51J	275790	6624367	10
Calytrix creswellii	P3	10/09/2021	51J	275745	6624400	66
Calytrix creswellii	P3	10/09/2021	51J	275666	6624400	24
Calytrix creswellii	P3	10/09/2021	51J	275632	6624400	6
Calytrix creswellii	P3	10/09/2021	51J	275512	6624400	155
Calytrix creswellii	P3	10/09/2021	51J	275471	6624400	239
Calytrix creswellii	P3	10/09/2021	51J	275462	6624375	230
Calytrix creswellii	P3	10/09/2021	51J	275507	6624375	112
Calytrix creswellii	P3	10/09/2021	51J	275535	6624375	28
Calytrix creswellii	P3	10/09/2021	51J	275547	6624375	4
Calytrix creswellii	P3	10/09/2021	51J	275618	6624375	6
Calytrix creswellii	P3	10/09/2021	51J	275668	6624375	1
Calytrix creswellii	P3	10/09/2021	51J	275695	6624375	13
Calytrix creswellii	P3	10/09/2021	51J	275726	6624375	62
Calytrix creswellii	P3	10/09/2021	51J	275736	6624370	32
Calytrix creswellii	P3	10/09/2021	51J	275732	6624350	9
Calytrix creswellii	P3	10/09/2021	51J	275668	6624350	20
Calytrix creswellii	P3	10/09/2021	51J	275623	6624350	1
Calytrix creswellii	P3	10/09/2021	51J	275584	6624350	19
Calytrix creswellii	P3	10/09/2021	51J	275529	6624350	159
Calytrix creswellii	P3	10/09/2021	51J	275463	6624350	93
Calytrix creswellii	P3	10/09/2021	51J	275456	6624325	29
Calytrix creswellii	P3	10/09/2021	51J	275532	6624325	14
Calytrix creswellii	P3	10/09/2021	51J	275617	6624325	8
Calytrix creswellii	P3	10/09/2021	51J	275667	6624325	15
Calytrix creswellii	P3	10/09/2021	51J	275687	6624325	5
Calytrix creswellii	P3	10/09/2021	51J	275755	6624300	3
Calytrix creswellii	P3	10/09/2021	51J	275751	6624270	22
Calytrix creswellii	P3	10/09/2021	51J	275695	6624300	20
Calytrix creswellii	P3	10/09/2021	51J	275589	6624300	6

Calytrix creswellii	P3	10/09/2021	51J	275539	6624300	8
Calytrix creswellii	P3	10/09/2021	51J	275485	6624300	16
Calytrix creswellii	P3	10/09/2021	51J	275460	6624300	15

Appendix 8: Locations of Acacia cylindrica

Scientific Name	Code	Date	Zone	Easting	Northing	No.
Acacia cylindrica	P3	7/09/2021	51J	274709	6624725	1
Acacia cylindrica	P3	7/09/2021	51J	274607	6624725	1
Acacia cylindrica	P3	7/09/2021	51J	274940	6624775	1
Acacia cylindrica	P3	7/09/2021	51J	275162	6624775	12
Acacia cylindrica	P3	7/09/2021	51J	275297	6624775	60
Acacia cylindrica	P3	7/09/2021	51J	275335	6624775	105
Acacia cylindrica	P3	7/09/2021	51J	275244	6624800	400
Acacia cylindrica	P3	7/09/2021	51J	275383	6624825	45
Acacia cylindrica	P3	7/09/2021	51J	275342	6624826	135
Acacia cylindrica	P3	7/09/2021	51J	275305	6624825	125
Acacia cylindrica	P3	7/09/2021	51J	275263	6624825	109
Acacia cylindrica	P3	7/09/2021	51J	275170	6624830	2
Acacia cylindrica	P3	7/09/2021	51J	275017	6624825	22
Acacia cylindrica	P3	7/09/2021	51J	274963	6624825	1
Acacia cylindrica	P3	7/09/2021	51J	274777	6624875	7
Acacia cylindrica	P3	7/09/2021	51J	274938	6624876	1
Acacia cylindrica	P3	7/09/2021	51J	275111	6624875	5
Acacia cylindrica	P3	7/09/2021	51J	275145	6624875	55
Acacia cylindrica	P3	7/09/2021	51J	275207	6624875	50
Acacia cylindrica	P3	7/09/2021	51J	275257	6624875	59
Acacia cylindrica	P3	7/09/2021	51J	275288	6624875	65
Acacia cylindrica	P3	7/09/2021	51J	275319	6624875	62
Acacia cylindrica	P3	7/09/2021	51J	275376	6624875	35
Acacia cylindrica	P3	7/09/2021	51J	275369	6624780	53
Acacia cylindrica	P3	7/09/2021	51J	275295	6624850	100
Acacia cylindrica	P3	7/09/2021	51J	275371	6624850	220
Acacia cylindrica	P3	7/09/2021	51J	275313	6624900	10
Acacia cylindrica	P3	7/09/2021	51J	275195	6624900	70
Acacia cylindrica	P3	7/09/2021	51J	275375	6624925	90
Acacia cylindrica	P3	7/09/2021	51J	275364	6624950	90
Acacia cylindrica	P3	7/09/2021	51J	275308	6624950	15
Acacia cylindrica	P3	7/09/2021	51J	275280	6624950	40
Acacia cylindrica	P3	7/09/2021	51J	275245	6624950	7
Acacia cylindrica	P3	7/09/2021	51J	275199	6624950	27
Acacia cylindrica	P3	7/09/2021	51J	275156	6624950	12
Acacia cylindrica	P3	7/09/2021	51J	275077	6624950	3
Acacia cylindrica	P3	7/09/2021	51J	275055	6624975	22
Acacia cylindrica	P3	7/09/2021	51J	275094	6624975	28
Acacia cylindrica	P3	7/09/2021	51J	275137	6624975	44
Acacia cylindrica	P3	7/09/2021	51J	275159	6624975	25
Acacia cylindrica	P3	7/09/2021	51J	275204	6624975	15
Acacia cylindrica	P3	7/09/2021	51J	275326	6624975	11
Acacia cylindrica	P3	7/09/2021	51J	275233	6625000	80

Acacia cylindrica	P3	7/09/2021	51J	275122	6625000	40
Acacia cylindrica	P3	7/09/2021	51J	275013	6625000	80
Acacia cylindrica	P3	7/09/2021	51J	274700	6625000	60
Acacia cylindrica	P3	7/09/2021	51J	275329	6625025	35
Acacia cylindrica	P3	7/09/2021	51J	275287	6625025	21
Acacia cylindrica	P3	7/09/2021	51J	275239	6625025	5
Acacia cylindrica	P3	7/09/2021	51J	275183	6625025	4
Acacia cylindrica	P3	7/09/2021	51J	275124	6625025	4
Acacia cylindrica	P3	7/09/2021	51J	275070	6625025	15
Acacia cylindrica	P3	7/09/2021	51J	274951	6625025	2
Acacia cylindrica	P3	7/09/2021	51J	274907	6625025	9
Acacia cylindrica	P3	7/09/2021	51J	274863	6625025	3
Acacia cylindrica	P3	7/09/2021	51J	274840	6625050	40
Acacia cylindrica	P3	7/09/2021	51J	274988	6625050	15
Acacia cylindrica	P3	7/09/2021	51J	275167	6625050	10
Acacia cylindrica	P3	7/09/2021	51J	275358	6625050	20
Acacia cylindrica	P3	7/09/2021	51J	274708	6625075	6
Acacia cylindrica	P3	7/09/2021	51J	274925	6625075	1
Acacia cylindrica	P3	7/09/2021	51J	274994	6625075	56
Acacia cylindrica	P3	7/09/2021	51J	275057	6625075	175
Acacia cylindrica	P3	7/09/2021	51J	275108	6625075	28
Acacia cylindrica	P3	7/09/2021	51J	275161	6625075	48
Acacia cylindrica	P3	7/09/2021	51J	275217	6625075	4
Acacia cylindrica	P3	7/09/2021	51J	275245	6625075	15
Acacia cylindrica	P3	7/09/2021	51J	275287	6625075	31
Acacia cylindrica	P3	7/09/2021	51J	275328	6625075	213
Acacia cylindrica	P3	8/09/2021	51J	275345	6625100	81
Acacia cylindrica	P3	8/09/2021	51J	275300	6625100	48
Acacia cylindrica	P3	8/09/2021	51J	275254	6625100	21
Acacia cylindrica	P3	8/09/2021	51J	275200	6625100	124
Acacia cylindrica	P3	8/09/2021	51J	275100	6625100	140
Acacia cylindrica	P3	8/09/2021	51J	275050	6625100	94
Acacia cylindrica	P3	8/09/2021	51J	275000	6625100	137
Acacia cylindrica	P3	8/09/2021	51J	274950	6625100	15
Acacia cylindrica	P3	8/09/2021	51J	274900	6625100	125
Acacia cylindrica	P3	8/09/2021	51J	274850	6625100	23
Acacia cylindrica	P3	8/09/2021	51J	275341	6625125	41
Acacia cylindrica	P3	8/09/2021	51J	275285	6625125	30
Acacia cylindrica	P3	8/09/2021	51J	275240	6625125	33
Acacia cylindrica	P3	8/09/2021	51J	275202	6625125	64
Acacia cylindrica	P3	8/09/2021	51J	275165	6625125	139
Acacia cylindrica	P3	8/09/2021	51J	275113	6625125	113
Acacia cylindrica	P3	8/09/2021	51J	275075	6625125	246
Acacia cylindrica	P3	8/09/2021	51J	275046	6625125	54
Acacia cylindrica	P3	8/09/2021	51J	275007	6625125	81
Acacia cylindrica	P3	8/09/2021	51J	274963	6625125	18

Acacia cylindrica	P3	8/09/2021	51J	274945	6625125	37
Acacia cylindrica	P3	8/09/2021	51J	274874	6625125	22
Acacia cylindrica	P3	8/09/2021	51J	274827	6625125	1
Acacia cylindrica	P3	8/09/2021	51J	274739	6625100	5
Acacia cylindrica	P3	8/09/2021	51J	274740	6625150	7
Acacia cylindrica	P3	8/09/2021	51J	274800	6625150	37
Acacia cylindrica	P3	8/09/2021	51J	274850	6625150	30
Acacia cylindrica	P3	8/09/2021	51J	274900	6625150	14
Acacia cylindrica	P3	8/09/2021	51J	274960	6625150	57
Acacia cylindrica	P3	8/09/2021	51J	275000	6625150	600
Acacia cylindrica	P3	8/09/2021	51J	275100	6625150	325
Acacia cylindrica	P3	8/09/2021	51J	275200	6625150	60
Acacia cylindrica	P3	8/09/2021	51J	275250	6625150	30
Acacia cylindrica	P3	8/09/2021	51J	275300	6625150	40
Acacia cylindrica	P3	8/09/2021	51J	275325	6625150	25
Acacia cylindrica	P3	8/09/2021	51J	274883	6625175	1
Acacia cylindrica	P3	8/09/2021	51J	274925	6625175	10
Acacia cylindrica	P3	8/09/2021	51J	274944	6625175	71
Acacia cylindrica	P3	8/09/2021	51J	274975	6625175	27
Acacia cylindrica	P3	8/09/2021	51J	275020	6625175	310
Acacia cylindrica	P3	8/09/2021	51J	275051	6625175	470
Acacia cylindrica	P3	8/09/2021	51J	275084	6625175	380
Acacia cylindrica	P3	8/09/2021	51J	275110	6625175	225
Acacia cylindrica	P3	8/09/2021	51J	275138	6625175	195
Acacia cylindrica	P3	8/09/2021	51J	275160	6625175	405
Acacia cylindrica	P3	8/09/2021	51J	275185	6625175	190
Acacia cylindrica	P3	8/09/2021	51J	275230	6625175	61
Acacia cylindrica	P3	8/09/2021	51J	275261	6625175	165
Acacia cylindrica	P3	8/09/2021	51J	275298	6625175	75
Acacia cylindrica	P3	8/09/2021	51J	275334	6625175	44
Acacia cylindrica	P3	8/09/2021	51J	275326	6625200	90
Acacia cylindrica	P3	8/09/2021	51J	275283	6625200	140
Acacia cylindrica	P3	8/09/2021	51J	275240	6625200	800
Acacia cylindrica	P3	8/09/2021	51J	275178	6625200	127
Acacia cylindrica	P3	8/09/2021	51J	275115	6625200	600
Acacia cylindrica	P3	8/09/2021	51J	275000	6625200	70
Acacia cylindrica	P3	8/09/2021	51J	274948	6625200	30
Acacia cylindrica	P3	8/09/2021	51J	274901	6625200	400
Acacia cylindrica	P3	8/09/2021	51J	274867	6625200	45
Acacia cylindrica	P3	8/09/2021	51J	274800	6625200	30
Acacia cylindrica	P3	8/09/2021	51J	274750	6625200	40
Acacia cylindrica	P3	8/09/2021	51J	275334	6625225	132
Acacia cylindrica	P3	8/09/2021	51J	275275	6625225	75
Acacia cylindrica	P3	8/09/2021	51J	275246	6625225	55
Acacia cylindrica	P3	8/09/2021	51J	275208	6625225	190
Acacia cylindrica	P3	8/09/2021	51J	275170	6625225	150

Acacia cylindrica	P3	8/09/2021	51J	275154	6625225	330
Acacia cylindrica	P3	8/09/2021	51J	275128	6625225	520
Acacia cylindrica	P3	8/09/2021	51J	275103	6625225	360
Acacia cylindrica	P3	8/09/2021	51J	275078	6625225	825
Acacia cylindrica	P3	8/09/2021	51J	275050	6625225	660
Acacia cylindrica	P3	8/09/2021	51J	275019	6625225	610
Acacia cylindrica	P3	8/09/2021	51J	274999	6625225	321
Acacia cylindrica	P3	8/09/2021	51J	274970	6625225	64
Acacia cylindrica	P3	8/09/2021	51J	274941	6625225	26
Acacia cylindrica	P3	8/09/2021	51J	274911	6625225	45
Acacia cylindrica	P3	8/09/2021	51J	274700	6625250	5
Acacia cylindrica	P3	8/09/2021	51J	274766	6625250	120
Acacia cylindrica	P3	8/09/2021	51J	274800	6625250	300
Acacia cylindrica	P3	8/09/2021	51J	274900	6625250	700
Acacia cylindrica	P3	8/09/2021	51J	274950	6625250	120
Acacia cylindrica	P3	8/09/2021	51J	275000	6625250	150
Acacia cylindrica	P3	8/09/2021	51J	275050	6625250	300
Acacia cylindrica	P3	8/09/2021	51J	275100	6625250	900
Acacia cylindrica	P3	8/09/2021	51J	275150	6625250	100
Acacia cylindrica	P3	8/09/2021	51J	275193	6625250	45
Acacia cylindrica	P3	8/09/2021	51J	275250	6625250	35
Acacia cylindrica	P3	8/09/2021	51J	275300	6625250	39
Acacia cylindrica	P3	8/09/2021	51J	274872	6625275	35
Acacia cylindrica	P3	8/09/2021	51J	274953	6625275	315
Acacia cylindrica	P3	8/09/2021	51J	274976	6625275	410
Acacia cylindrica	P3	8/09/2021	51J	275003	6625275	640
Acacia cylindrica	P3	8/09/2021	51J	275032	6625275	450
Acacia cylindrica	P3	8/09/2021	51J	275045	6625275	480
Acacia cylindrica	P3	8/09/2021	51J	275072	6625275	780
Acacia cylindrica	P3	8/09/2021	51J	275099	6625275	455
Acacia cylindrica	P3	8/09/2021	51J	275123	6625275	310
Acacia cylindrica	P3	8/09/2021	51J	275140	6625275	252
Acacia cylindrica	P3	8/09/2021	51J	275174	6625275	230
Acacia cylindrica	P3	8/09/2021	51J	275204	6625275	88
Acacia cylindrica	P3	8/09/2021	51J	275234	6625275	85
Acacia cylindrica	P3	8/09/2021	51J	275255	6625275	57
Acacia cylindrica	P3	8/09/2021	51J	275285	6625275	7
Acacia cylindrica	P3	8/09/2021	51J	275326	6625265	2
Acacia cylindrica	P3	9/09/2021	51J	275650	6625250	2
Acacia cylindrica	P3	9/09/2021	51J	275348	6625275	1
Acacia cylindrica	P3	9/09/2021	51J	275405	6625225	165
Acacia cylindrica	P3	9/09/2021	51J	275372	6625225	215
Acacia cylindrica	P3	9/09/2021	51J	275344	6625225	63
Acacia cylindrica	P3	9/09/2021	51J	275421	6625200	350
Acacia cylindrica	P3	9/09/2021	51J	275337	6625200	130
Acacia cylindrica	P3	9/09/2021	51J	275345	6625175	130

Acacia cylindrica	P3	9/09/2021	51J	275371	6625175	280
Acacia cylindrica	P3	9/09/2021	51J	275390	6625175	455
Acacia cylindrica	P3	9/09/2021	51J	275427	6625175	230
Acacia cylindrica	P3	9/09/2021	51J	275451	6625175	35
Acacia cylindrica	P3	9/09/2021	51J	275474	6625175	146
Acacia cylindrica	P3	9/09/2021	51J	275509	6625175	49
Acacia cylindrica	P3	9/09/2021	51J	275494	6625150	270
Acacia cylindrica	P3	9/09/2021	51J	275600	6625150	40
Acacia cylindrica	P3	9/09/2021	51J	275547	6625125	15
Acacia cylindrica	P3	9/09/2021	51J	275526	6625125	212
Acacia cylindrica	P3	9/09/2021	51J	275498	6625125	555
Acacia cylindrica	P3	9/09/2021	51J	275472	6625125	260
Acacia cylindrica	P3	9/09/2021	51J	275447	6625125	185
Acacia cylindrica	P3	9/09/2021	51J	275404	6625125	120
Acacia cylindrica	P3	9/09/2021	51J	275378	6625125	200
Acacia cylindrica	P3	9/09/2021	51J	275545	6625100	80
Acacia cylindrica	P3	9/09/2021	51J	275512	6625100	10
Acacia cylindrica	P3	9/09/2021	51J	275430	6625100	5
Acacia cylindrica	P3	9/09/2021	51J	275355	6625100	20
Acacia cylindrica	P3	9/09/2021	51J	275388	6625075	105
Acacia cylindrica	P3	9/09/2021	51J	275422	6625075	105
Acacia cylindrica	P3	9/09/2021	51J	275464	6625075	6
Acacia cylindrica	P3	9/09/2021	51J	275548	6625075	180
Acacia cylindrica	P3	9/09/2021	51J	275570	6625075	80
Acacia cylindrica	P3	9/09/2021	51J	275593	6625075	10
Acacia cylindrica	P3	9/09/2021	51J	275620	6625075	170
Acacia cylindrica	P3	9/09/2021	51J	275526	6625050	80
Acacia cylindrica	P3	9/09/2021	51J	275629	6625050	45
Acacia cylindrica	P3	9/09/2021	51J	275609	6625025	32
Acacia cylindrica	P3	9/09/2021	51J	275577	6625025	1
Acacia cylindrica	P3	9/09/2021	51J	275544	6625025	3
Acacia cylindrica	P3	9/09/2021	51J	275520	6625025	225
Acacia cylindrica	P3	9/09/2021	51J	275491	6625025	230
Acacia cylindrica	P3	9/09/2021	51J	275461	6625025	178
Acacia cylindrica	P3	9/09/2021	51J	275426	6625025	97
Acacia cylindrica	P3	9/09/2021	51J	275384	6625025	21
Acacia cylindrica	P3	9/09/2021	51J	275484	6625000	10
Acacia cylindrica	P3	9/09/2021	51J	275433	6625000	35
Acacia cylindrica	P3	9/09/2021	51J	275367	6625000	15
Acacia cylindrica	P3	9/09/2021	51J	275374	6624975	2
Acacia cylindrica	P3	9/09/2021	51J	275421	6624975	130
Acacia cylindrica	P3	9/09/2021	51J	275566	6624900	10
Acacia cylindrica	P3	9/09/2021	51J	275505	6624899	30
Acacia cylindrica	P3	9/09/2021	51J	275380	6624900	20
Acacia cylindrica	P3	17/08/2021	51J	274869	6624029	2

Appendix 9: Locations of Homalocalyx grandiflorus

Scientific name	Code	Date	Zone	Easting	Northing	No.
Homalocalyx grandiflorus	P3	14/08/2021	51J	274819	6623120	10
Homalocalyx grandiflorus	P3	14/08/2021	51J	274750	6623120	26
Homalocalyx grandiflorus	P3	14/08/2021	51J	274750	6623140	10
Homalocalyx grandiflorus	P3	14/08/2021	51J	274808	6623140	3
Homalocalyx grandiflorus	P3	14/08/2021	51J	274850	6623140	1
Homalocalyx grandiflorus	P3	14/08/2021	51J	274750	6623500	2
Homalocalyx grandiflorus	P3	14/08/2021	51J	274700	6623580	20
Homalocalyx grandiflorus	P3	15/08/2021	51J	274724	6623620	3
Homalocalyx grandiflorus	P3	15/08/2021	51J	275174	6623646	1
Homalocalyx grandiflorus	P3	15/08/2021	51J	274777	6623642	1
Homalocalyx grandiflorus	P3	15/08/2021	51J	274764	6623700	26
Homalocalyx grandiflorus	P3	15/08/2021	51J	275414	6623740	6
Homalocalyx grandiflorus	P3	15/08/2021	51J	275374	6623735	5
Homalocalyx grandiflorus	P3	15/08/2021	51J	275403	6623820	4
Homalocalyx grandiflorus	P3	15/08/2021	51J	275099	6623860	1
Homalocalyx grandiflorus	P3	14/08/2021	51J	274700	6623720	12
Homalocalyx grandiflorus	P3	14/08/2021	51J	274700	6623660	17
Homalocalyx grandiflorus	P3	14/08/2021	51J	274780	6623680	5
Homalocalyx grandiflorus	P3	14/08/2021	51J	274870	6623680	2
Homalocalyx grandiflorus	P3	15/08/2021	51J	274770	6623600	10
Homalocalyx grandiflorus	P3	15/08/2021	51J	274792	6623760	5
Homalocalyx grandiflorus	P3	15/08/2021	51J	275217	6623760	2
Homalocalyx grandiflorus	P3	15/08/2021	51J	275510	6623760	4
Homalocalyx grandiflorus	P3	15/08/2021	51J	274720	6623840	2
Homalocalyx grandiflorus	P3	15/08/2021	51J	274611	6623900	17
Homalocalyx grandiflorus	P3	15/08/2021	51J	274608	6623900	1
Homalocalyx grandiflorus	P3	15/08/2021	51J	275358	6623920	14
Homalocalyx grandiflorus	P3	15/08/2021	51J	274987	6623920	8
Homalocalyx grandiflorus	P3	15/08/2021	51J	274630	6623920	60
Homalocalyx grandiflorus	P3	15/08/2021	51J	274601	6623920	12
Homalocalyx grandiflorus	P3	16/08/2021	51J	275408	6623960	4
Homalocalyx grandiflorus	P3	16/08/2021	51J	274980	6623974	3
Homalocalyx grandiflorus	P3	16/08/2021	51J	275336	6623980	1
Homalocalyx grandiflorus	P3	17/08/2021	51J	274830	6624000	5
Homalocalyx grandiflorus	P3	17/08/2021	51J	274720	6624000	7
Homalocalyx grandiflorus	P3	17/08/2021	51J	274600	6624000	6
Homalocalyx grandiflorus	P3	17/08/2021	51J	275366	6624025	6
Homalocalyx grandiflorus	P3	17/08/2021	51J	275327	6624025	6
Homalocalyx grandiflorus	P3	17/08/2021	51J	275225	6624022	3
Homalocalyx grandiflorus	P3	17/08/2021	51J	275162	6624028	32
Homalocalyx grandiflorus	P3	17/08/2021	51J	275135	6624025	4
Homalocalyx grandiflorus	P3	17/08/2021	51J	274611	6624071	1
Homalocalyx grandiflorus	P3	17/08/2021	51J	274963	6624073	3

Homalocalyx grandiflorus	P3	15/08/2021	51J	274680	6624050	5
Homalocalyx grandiflorus	P3	15/08/2021	51J	275310	6624050	1
Homalocalyx grandiflorus	P3	15/08/2021	51J	275360	6624100	2
Homalocalyx grandiflorus	P3	15/08/2021	51J	275214	6624100	3
Homalocalyx grandiflorus	P3	15/08/2021	51J	274920	6624100	5
Homalocalyx grandiflorus	P3	15/08/2021	51J	274728	6624100	8
Homalocalyx grandiflorus	P3	15/08/2021	51J	274600	6624110	7
Homalocalyx grandiflorus	P3	15/08/2021	51J	275215	6624150	3
Homalocalyx grandiflorus	P3	17/08/2021	51J	275347	6624125	4
Homalocalyx grandiflorus	P3	17/08/2021	51J	275009	6624125	5
Homalocalyx grandiflorus	P3	17/08/2021	51J	274979	6624125	9
Homalocalyx grandiflorus	P3	17/08/2021	51J	274931	6624130	2
Homalocalyx grandiflorus	P3	17/08/2021	51J	274917	6624125	1
Homalocalyx grandiflorus	P3	17/08/2021	51J	274619	6624131	1
Homalocalyx grandiflorus	P3	15/08/2021	51J	275443	6624150	2
Homalocalyx grandiflorus	P3	15/08/2021	51J	274719	6624175	1
Homalocalyx grandiflorus	P3	15/08/2021	51J	275029	6624171	2
Homalocalyx grandiflorus	P3	17/08/2021	51J	275087	6624166	1
Homalocalyx grandiflorus	P3	17/08/2021	51J	275143	6624174	1
Homalocalyx grandiflorus	P3	17/08/2021	51J	275160	6624166	3
Homalocalyx grandiflorus	P3	17/08/2021	51J	275317	6624175	1
Homalocalyx grandiflorus	P3	17/08/2021	51J	274692	6624272	1
Homalocalyx grandiflorus	P3	17/08/2021	51J	274801	6624270	2
Homalocalyx grandiflorus	P3	17/08/2021	51J	274831	6624277	7
Homalocalyx grandiflorus	P3	17/08/2021	51J	274973	6624275	9
Homalocalyx grandiflorus	P3	17/08/2021	51J	275063	6624275	3
Homalocalyx grandiflorus	P3	17/08/2021	51J	275096	6624275	22
Homalocalyx grandiflorus	P3	17/08/2021	51J	275227	6624276	6
Homalocalyx grandiflorus	P3	17/08/2021	51J	275246	6624279	2
Homalocalyx grandiflorus	P3	15/08/2021	51J	274600	6624200	4
Homalocalyx grandiflorus	P3	15/08/2021	51J	275403	6624300	5
Homalocalyx grandiflorus	P3	15/08/2021	51J	275252	6624300	6
Homalocalyx grandiflorus	P3	15/08/2021	51J	275090	6624300	5
Homalocalyx grandiflorus	P3	15/08/2021	51J	274926	6624300	3
Homalocalyx grandiflorus	P3	15/08/2021	51J	274891	6624300	3
Homalocalyx grandiflorus	P3	15/08/2021	51J	274724	6624300	1
Homalocalyx grandiflorus	P3	15/08/2021	51J	274995	6624350	3
Homalocalyx grandiflorus	P3	15/08/2021	51J	275147	6624350	5
Homalocalyx grandiflorus	P3	15/08/2021	51J	275260	6624350	11
Homalocalyx grandiflorus	P3	15/08/2021	51J	275447	6624350	6
Homalocalyx grandiflorus	P3	18/08/2021	51J	275398	6624328	3
Homalocalyx grandiflorus	P3	18/08/2021	51J	275253	6624325	2
Homalocalyx grandiflorus	P3	18/08/2021	51J	275181	6624316	4
Homalocalyx grandiflorus	P3	18/08/2021	51J	275151	6624325	5
Homalocalyx grandiflorus	P3	18/08/2021	51J	275121	6624321	6
Homalocalyx grandiflorus	P3	18/08/2021	51J	275000	6624334	7

Homalocalyx grandiflorus	P3	18/08/2021	51J	274847	6624324	12
Homalocalyx grandiflorus	P3	18/08/2021	51J	274787	6624326	1
Homalocalyx grandiflorus	P3	18/08/2021	51J	274749	6624325	1
Homalocalyx grandiflorus	P3	18/08/2021	51J	274752	6624368	1
Homalocalyx grandiflorus	P3	18/08/2021	51J	275296	6624375	1
Homalocalyx grandiflorus	P3	18/08/2021	51J	275361	6624370	20
Homalocalyx grandiflorus	P3	18/08/2021	51J	275405	6624384	1
Homalocalyx grandiflorus	P3	18/08/2021	51J	275304	6624428	5
Homalocalyx grandiflorus	P3	18/08/2021	51J	275256	6624420	2
Homalocalyx grandiflorus	P3	18/08/2021	51J	275219	6624428	7
Homalocalyx grandiflorus	P3	18/08/2021	51J	275147	6624420	17
Homalocalyx grandiflorus	P3	15/08/2021	51J	275381	6624400	2
Homalocalyx grandiflorus	P3	15/08/2021	51J	275269	6624400	3
Homalocalyx grandiflorus	P3	15/08/2021	51J	275120	6624400	5
Homalocalyx grandiflorus	P3	15/08/2021	51J	275149	6624450	14
Homalocalyx grandiflorus	P3	15/08/2021	51J	275340	6624450	7
Homalocalyx grandiflorus	P3	18/08/2021	51J	274862	6624425	19
Homalocalyx grandiflorus	P3	18/08/2021	51J	274650	6624475	9
Homalocalyx grandiflorus	P3	18/08/2021	51J	274675	6624475	9
Homalocalyx grandiflorus	P3	18/08/2021	51J	274739	6624469	1
Homalocalyx grandiflorus	P3	18/08/2021	51J	274790	6624464	3
Homalocalyx grandiflorus	P3	18/08/2021	51J	275135	6624473	10
Homalocalyx grandiflorus	P3	18/08/2021	51J	275179	6624473	11
Homalocalyx grandiflorus	P3	18/08/2021	51J	275099	6624523	2
Homalocalyx grandiflorus	P3	15/08/2021	51J	275095	6624500	4
Homalocalyx grandiflorus	P3	15/08/2021	51J	275051	6624500	2
Homalocalyx grandiflorus	P3	15/08/2021	51J	274855	6624500	3
Homalocalyx grandiflorus	P3	15/08/2021	51J	274600	6624500	7
Homalocalyx grandiflorus	P3	15/08/2021	51J	274700	6624550	5
Homalocalyx grandiflorus	P3	18/08/2021	51J	274779	6624530	4
Homalocalyx grandiflorus	P3	18/08/2021	51J	274731	6624531	7
Homalocalyx grandiflorus	P3	18/08/2021	51J	274696	6624522	4
Homalocalyx grandiflorus	P3	18/08/2021	51J	274702	6624575	22
Homalocalyx grandiflorus	P3	18/08/2021	51J	274763	6624569	1
Homalocalyx grandiflorus	P3	18/08/2021	51J	275034	6624573	3
Homalocalyx grandiflorus	P3	18/08/2021	51J	275064	6624567	6
Homalocalyx grandiflorus	P3	18/08/2021	51J	275356	6624570	2
Homalocalyx grandiflorus	P3	14/08/2021	51J	274848	6623100	6
Homalocalyx grandiflorus	P3	14/08/2021	51J	274823	6623097	1
Homalocalyx grandiflorus	P3	14/08/2021	51J	274796	6623108	23
Homalocalyx grandiflorus	P3	14/08/2021	51J	274784	6623155	8
Homalocalyx grandiflorus	P3	14/08/2021	51J	274776	6623165	6
Homalocalyx grandiflorus	P3	14/08/2021	51J	275097	6623157	7
Homalocalyx grandiflorus	P3	14/08/2021	51J	274791	6623168	9
Homalocalyx grandiflorus	P3	14/08/2021	51J	274822	6623159	2
Homalocalyx grandiflorus	P3	14/08/2021	51J	275341	6623163	1

Homalocalyx grandiflorus	P3	14/08/2021	51J	274840	6623482	1
Homalocalyx grandiflorus	P3	14/08/2021	51J	274815	6623480	1
Homalocalyx grandiflorus	P3	14/08/2021	51J	274787	6623484	2
Homalocalyx grandiflorus	P3	14/08/2021	51J	274748	6623540	5
Homalocalyx grandiflorus	P3	14/08/2021	51J	274766	6623546	9
Homalocalyx grandiflorus	P3	14/08/2021	51J	274776	6623542	10
Homalocalyx grandiflorus	P3	14/08/2021	51J	274858	6623541	6
Homalocalyx grandiflorus	P3	7/09/2021	51J	275332	6624725	2
Homalocalyx grandiflorus	P3	7/09/2021	51J	274827	6624725	1
Homalocalyx grandiflorus	P3	7/09/2021	51J	275273	6624779	10
Homalocalyx grandiflorus	P3	7/09/2021	51J	274600	6624875	4
Homalocalyx grandiflorus	P3	7/09/2021	51J	274777	6624875	15
Homalocalyx grandiflorus	P3	7/09/2021	51J	274827	6624875	3
Homalocalyx grandiflorus	P3	7/09/2021	51J	275313	6624900	8
Homalocalyx grandiflorus	P3	7/09/2021	51J	275195	6624900	6
Homalocalyx grandiflorus	P3	7/09/2021	51J	274700	6624900	3
Homalocalyx grandiflorus	P3	7/09/2021	51J	274941	6624925	2
Homalocalyx grandiflorus	P3	7/09/2021	51J	275069	6624925	15
Homalocalyx grandiflorus	P3	7/09/2021	51J	275291	6624925	7
Homalocalyx grandiflorus	P3	7/09/2021	51J	275375	6624925	16
Homalocalyx grandiflorus	P3	7/09/2021	51J	275333	6624950	15
Homalocalyx grandiflorus	P3	7/09/2021	51J	275308	6624950	35
Homalocalyx grandiflorus	P3	7/09/2021	51J	275280	6624950	5
Homalocalyx grandiflorus	P3	7/09/2021	51J	275233	6625000	7
Homalocalyx grandiflorus	P3	7/09/2021	51J	275122	6625000	5
Homalocalyx grandiflorus	P3	7/09/2021	51J	275013	6625000	25
Homalocalyx grandiflorus	P3	7/09/2021	51J	274700	6625000	35
Homalocalyx grandiflorus	P3	7/09/2021	51J	275329	6625025	4
Homalocalyx grandiflorus	P3	7/09/2021	51J	275239	6625025	4
Homalocalyx grandiflorus	P3	7/09/2021	51J	274951	6625025	1
Homalocalyx grandiflorus	P3	7/09/2021	51J	274907	6625025	20
Homalocalyx grandiflorus	P3	7/09/2021	51J	274755	6625025	15
Homalocalyx grandiflorus	P3	7/09/2021	51J	274840	6625050	20
Homalocalyx grandiflorus	P3	7/09/2021	51J	274988	6625050	30
Homalocalyx grandiflorus	P3	7/09/2021	51J	275167	6625050	20
Homalocalyx grandiflorus	P3	7/09/2021	51J	275358	6625050	25
Homalocalyx grandiflorus	P3	7/09/2021	51J	274782	6625075	1
Homalocalyx grandiflorus	P3	7/09/2021	51J	274820	6625075	2
Homalocalyx grandiflorus	P3	7/09/2021	51J	274955	6625075	12
Homalocalyx grandiflorus	P3	7/09/2021	51J	274994	6625075	42
Homalocalyx grandiflorus	P3	7/09/2021	51J	275108	6625075	20
Homalocalyx grandiflorus	P3	7/09/2021	51J	275161	6625075	33
Homalocalyx grandiflorus	P3	9/09/2021	51J	275595	6624675	4
Homalocalyx grandiflorus	P3	9/09/2021	51J	275686	6624625	9
Homalocalyx grandiflorus	P3	9/09/2021	51J	275556	6624625	4
Homalocalyx grandiflorus	P3	9/09/2021	51J	275538	6624624	2

Homalocalyx grandiflorus	P3	9/09/2021	51J	275511	6624625	1
Homalocalyx grandiflorus	P3	10/09/2021	51J	275612	6624575	13
Homalocalyx grandiflorus	P3	10/09/2021	51J	275719	6624550	2
Homalocalyx grandiflorus	P3	10/09/2021	51J	275683	6624550	1
Homalocalyx grandiflorus	P3	10/09/2021	51J	275647	6624554	6
Homalocalyx grandiflorus	P3	10/09/2021	51J	275469	6624525	1
Homalocalyx grandiflorus	P3	10/09/2021	51J	275529	6624532	2
Homalocalyx grandiflorus	P3	10/09/2021	51J	275667	6624531	1
Homalocalyx grandiflorus	P3	10/09/2021	51J	275675	6624525	8
Homalocalyx grandiflorus	P3	10/09/2021	51J	275754	6624516	4
Homalocalyx grandiflorus	P3	10/09/2021	51J	275763	6624500	3
Homalocalyx grandiflorus	P3	10/09/2021	51J	275695	6624500	38
Homalocalyx grandiflorus	P3	10/09/2021	51J	275664	6624475	2
Homalocalyx grandiflorus	P3	10/09/2021	51J	275752	6624475	1
Homalocalyx grandiflorus	P3	10/09/2021	51J	275724	6624454	3
Homalocalyx grandiflorus	P3	10/09/2021	51J	275613	6624450	9
Homalocalyx grandiflorus	P3	10/09/2021	51J	275593	6624425	5
Homalocalyx grandiflorus	P3	10/09/2021	51J	275666	6624400	1
Homalocalyx grandiflorus	P3	10/09/2021	51J	275632	6624400	2
Homalocalyx grandiflorus	P3	10/09/2021	51J	275512	6624400	5
Homalocalyx grandiflorus	P3	10/09/2021	51J	275471	6624400	1
Homalocalyx grandiflorus	P3	10/09/2021	51J	275547	6624375	2
Homalocalyx grandiflorus	P3	10/09/2021	51J	275695	6624375	1
Homalocalyx grandiflorus	P3	10/09/2021	51J	275736	6624370	3
Homalocalyx grandiflorus	P3	10/09/2021	51J	275623	6624350	1
Homalocalyx grandiflorus	P3	10/09/2021	51J	275687	6624325	2

Appendix 10: Locations of Santalum spicatum

Scientific Name	Date	Zone	Easting	Northing	No.
Santalum spicatum	9/09/2021	51J	275608	6625158	1
Santalum spicatum	9/09/2021	51J	275630	6625148	2
Santalum spicatum	9/09/2021	51J	275688	6625093	1
Santalum spicatum	9/09/2021	51J	275753	6625070	2
Santalum spicatum	10/09/2021	51J	275867	6624507	1
Santalum spicatum	17/08/2021	51J	274886	6624275	1

Appendix 2: Fauna Survey Report

Lady Ida Area and Proposed Haul Road Route

Fauna and Habitat Assessment

January 2021

Revision 0. 7-9-2021

Prepared by
Ecotec (WA) Pty Ltd

on behalf of Jenny Borger Botanical Consulting
for Ora Banda Mining.

Environmental solutions for MINING OIL & GAS CONSTRUCTION

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1.0 INTRODUCTION

1.1 Overview

Ecotec (WA) Pty Ltd (Ecotec) was engaged to undertake a basic fauna and habitat survey of the Lady Ida Project area and proposed haul road route. The survey was undertaken in conjunction with a flora and vegetation survey in January 2021.

The purpose of the fauna and habitat survey was to:

- review available information for prior records of conservation-significant fauna in and around the study area;
- conduct a field assessment to determine the likelihood of conservation-significant fauna being present;
- assess the fauna habitat present and identify any that may be suitable for conservation-significant species;
- provide a broad description of the fauna habitats present; and
- prepare a report outlining the findings of the survey.

1.2 Location

OBM own and operate the Davyhurst Project, located approximately 120 km north-west of Kalgoorlie. The Lady Ida mining area, consisting of the Lizard and Iguana deposits, is located 50-55 km south of Davyhurst. A proposed haul road route, predominately utilising a series of existing tracks, links the Lady Ida area to the Davyhurst operations.

Figure 1.1 shows the regional location of the project.

The study area for the survey comprised the haul road route and the two mining areas. Figure 1.2 shows the areas surveyed within the Riverina Project area.

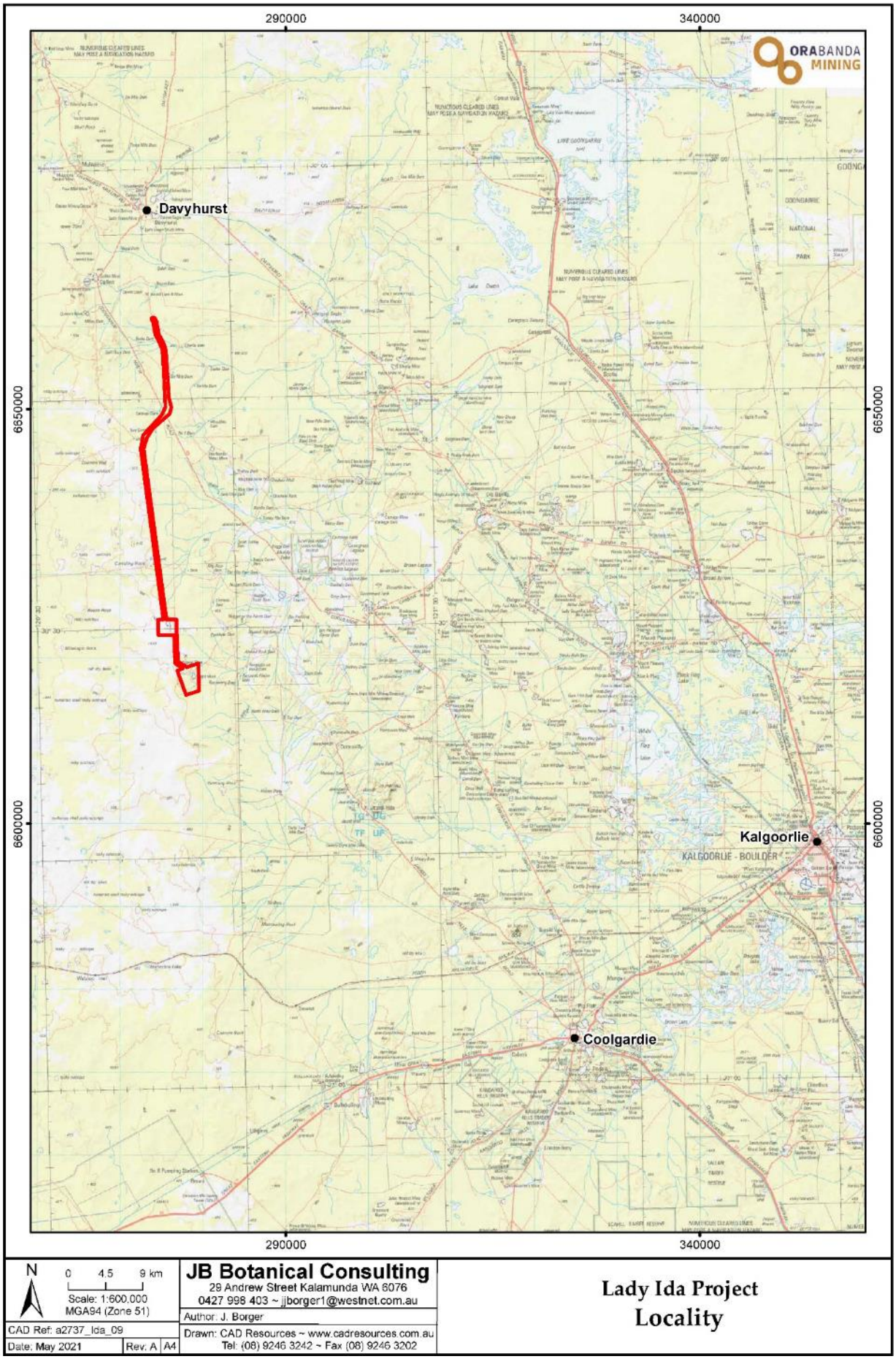

Figure 1.1: Project location.

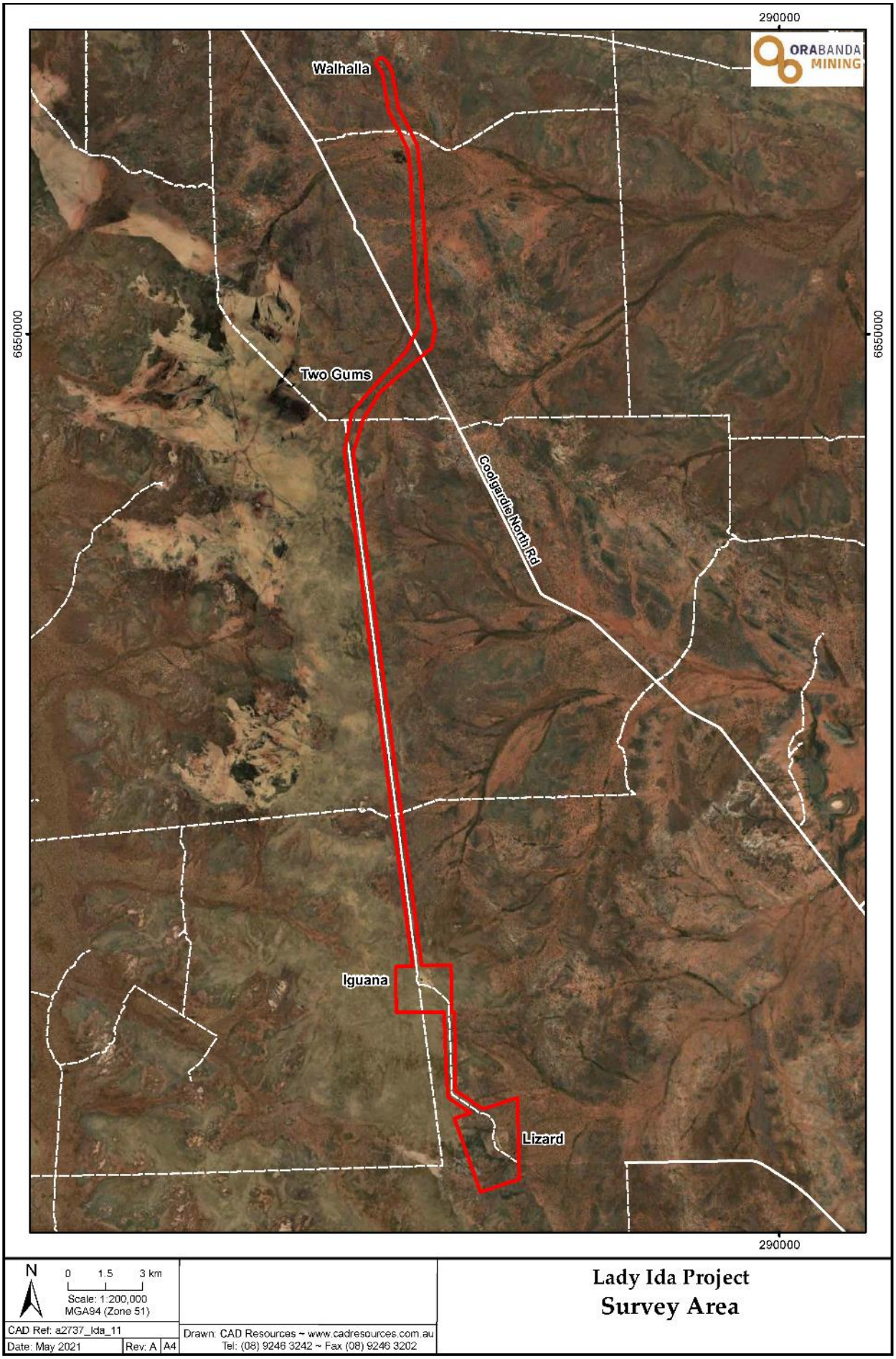

Figure 1.2: The Lady Ida Project survey area.

2.0 EXISTING ENVIRONMENT

2.1.1 Climate

The survey area is located in the Coolgardie bioregion of Western Australia, which experiences an arid to semi-arid climate with four distinct seasons: a hot summer from December to February, a mild autumn from March to May, a cool winter from June to August in which the highest rainfall is recorded, and a mild spring from September to November. (McKenzie et al. 2002).

Climate data from the nearest long-term Bureau of Meteorology weather station was obtained from Kalgoorlie-Boulder Airport (Station No. 12038), approximately 80 km southeast of the survey area. The mean annual rainfall is 264.9 mm. Mean temperatures range from maxima in the mid- to high 30's in summer, to minima of around 5°C in winter (Bureau of Meteorology 2021).

The survey followed rainfall of just 4.4 mm in December 2020, well below the long-term monthly mean for December of 16.3 mm. Kalgoorlie-Boulder received 170.2 mm of rainfall for the full year of 2020 and just 143.2 mm in 2019, well below the long-term annual mean of 264.9 mm (Bureau of Meteorology 2021). The low rainfall conditions have been experienced across the Goldfields region.

Figure 2.1 provides long-term mean monthly rainfall, and monthly maximum and minimum temperatures for Kalgoorlie-Boulder.

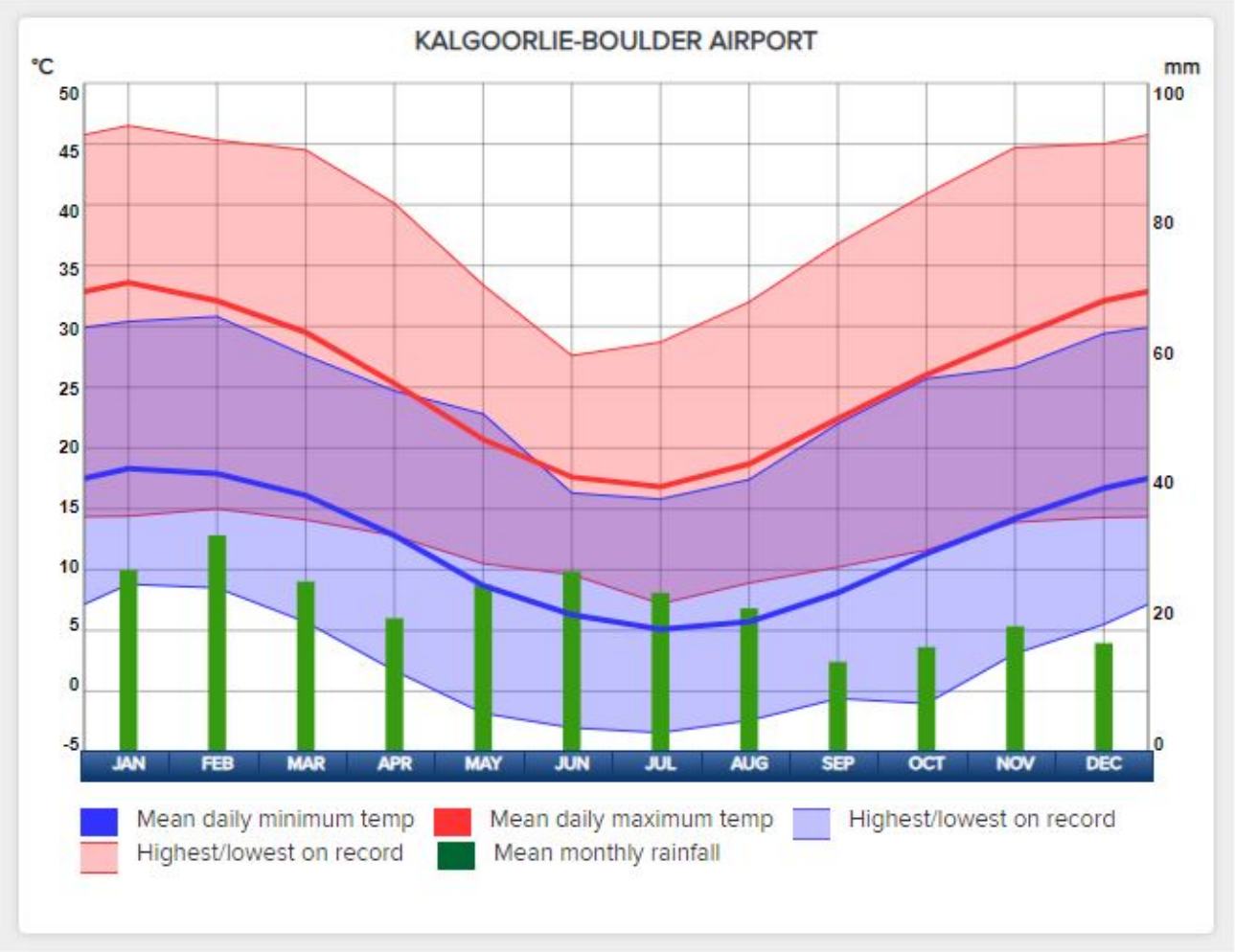

Figure 2.1: Climate data for Kalgoorlie (Weatherzone 2020).

2.1.2 Interim Biogeographic Regionalisation for Australia

The survey area is situated within the Coolgardie bioregion according to IBRA 7 (Department of Sustainability Environment Water Population and Communities 2012), which occupies an area of 129,117 km^2 (Bastin 2008),

and is divided into three subregions: Mardabilla (COO01), Southern Cross (COO02), and Eastern Goldfields (COO03). The Coolgardie bioregion is located in the southern rangelands of Western Australia and is characterised by sand and alluvial plains, low ranges and lakes, with mulga (*Acacia aneura* and close relatives) and bowgada (*Acacia ramulosa*) shrublands dominant in the east; and sand plains, heathlands and eucalypt shrublands in the west (Bastin 2008). The survey area is situated on the boundary of the Southern Cross and Eastern Goldfields subregions.

According to Cowan (2001) the Eastern Goldfields subregion is characterised by "vegetation of Mallees, Acacia thickets and shrub-heaths on sandplains. Diverse *Eucalyptus* woodlands occur around salt lakes, on ranges, and in valleys. Salt lake support dwarf shrublands of samphire. Woodlands and *Dodonaea* shrubland occur on basic graninulites of the Fraser Range. The area is rich in endemic Acacias. The climate is Arid to Semi-arid with 200-300 mm of rainfall, sometimes in summer but usually in winter. The subregional area is 5,102,428 ha".

Cowan (2001) states the Southern Cross subregion is characterised by "diverse *Eucalyptus* woodlands (*Eucalyptus salmonophloia*, *E. salubris*, *E. transcontinentalis*, *E. longicornis*) rich in endemic eucalypts occur around salt lakes, on the low greenstone hills, valley alluvials and broad plains of calcareous earths. Salt lake surfaces support dwarf shrublands of samphire. The granite basement outcrops at mid-levels in the landscape and supports swards of *Borya constricta*, with stands of *Acacia acuminata* and *Eucalyptus loxophleba*. Upper levels in the landscape are the eroded remnants of a lateritic duricrust yielding yellow sandplains, gravelly sandplains and laterite breakaways. Mallees (*Eucalyptus leptopoda*, *E. platycorys* and *E. scyphocalyx*) and scrub-heaths (*Allocasuarina corniculata*, *Callitris preissii*, *Melaleuca uncinata* and *Acacia beauverdiana*) occur on these uplands, as well as on sand lunettes associated with playas along the broad valley floors, and sand sheets around the granite outcrops. The scrubs are rich in endemic acacias and Myrtaceae. The subregional area is 7,041,232 ha."

2.1.3 Land systems

The study area is located close to the boundary of the Kalgoorlie Province and the Murchison Province of the soil-landscape zones of the Western Australian Rangelands and Interior (Tille 2006). As such, the geology and land systems of the study area share characteristics of a number of the defined soil-landscape zones within these provinces. The two most relevant are as follows:

Kambalda Zone - Flat to undulating plains (with hills, ranges and some salt lakes and stony plains) on greenstone and granitic rocks of the Yilgarn Craton. Calcareous loamy earths and Red loamy earths with salt lakes soils and some Redbrown hardpan shallow loams and Red sandy duplexes. Red mallee-blackbutt-salmon gum-gimlet woodlands with mulga and halophytic shrublands (and some spinifex grasslands). Located in the south-eastern Goldfields between Menzies, Norseman and the Fraser Range.

Norseman Zone - Undulating plains and uplands (with some sandplains and salt lakes) on granitic rocks of the Yilgarn Craton. Calcareous loamy earths, Yellow sandy and loamy earths, Red loamy earths, Red deep sands and Salt lake soils. Salmon gum-redwood-merrit-red mallee-gimlet woodland with acacia/casuarina thickets (and some mulga shrublands and spinifex grasslands). Located in the southern Goldfields between Koolyanobbing, Menzies, Zanthus (Trans-Australian Railway), Norseman and Lake Hope.

2.1.4 Surface hydrology

There are no permanent surface water bodies within the Lady Ida survey area. The surface runoff and creek lines drain generally to the east via ephemeral streams and tributaries toward a series of lake systems, including Rowles Lagoon and Clear and Muddy lakes, the largest freshwater systems in the region.

2.1.5 Existing land uses and disturbance

The survey area and surrounding region has been subject to pastoral activity, timber harvesting, small and large-scale mining, mineral exploration and prospecting since the late 1800's. At the northern end of the survey area there is significant historic disturbance associated with mining around the former Callion town site.

The survey area is located on ex-Credo Pastoral Station, now a Conservation Park managed by the Department of Biodiversity, Conservation and Attractions (DBCA). Credo has been destocked for more than 10 years, although there is still cattle present, mainly at the northern end of the survey area.

The Clear and Muddy Lakes Nature Reserve and Rowles Lagoon Conservation Park are located approximately 18 km north-east of the Lizard and Iguana mine sites. Wallaroo Rock Conservation Park is approximately 35 km south-west of the mining areas.

3.0 METHODOLOGY

3.1 Desktop assessment

A desktop review of the survey area was undertaken prior to the field work and involved:

- searches of the NatureMap (DBCA 2020a), Protected Matters Search Tool databases (DAWE 2021) and Atlas of Living Australia
- a search of the DBCA Threatened and Priority Fauna Database of an area within a 90km radius from Davyhurst, undertaken by the Species and Communities branch of DBCA
- review of recent fauna, flora and vegetation assessments undertaken in the surrounding area (JBBC 2019, Biostat 2020)

3.2 Field work

The field work was undertaken from 15-20 January 2021.

A basic fauna and habitat assessment was conducted to verify the information gained from the desktop assessment. This survey included description and broad mapping of fauna habitat and opportunistic observations.

The survey was undertaken as a series of vehicle and foot traverses of the survey area. The survey points were generally located in association with the flora and vegetation survey points. The points were selected from aerial imagery to provide coverage of the dominant vegetation/habitat types, as well as a number of areas displaying obvious differences to the surroundings.

Broad habitat descriptions were recorded at each point as well as opportunistic sightings of fauna and potential for conservation-significant fauna species to be present.

3.3 Personnel

The survey was undertaken by Jeremy Shepherdson, a Biologist and Environmental Consultant with more than 20 years experience in biological surveys and environmental consulting in the Goldfields. He has an extensive knowledge of flora and fauna of the region.

3.4 Limitations

The survey was undertaken in January, which is typically not ideal for biological surveys in the Goldfields Region. Daily temperatures during the survey period were mild and rainfall had occurred in the weeks prior to the field work. Timing of the survey is not a limiting factor to assessment of habitat.

The region has been subject to drought conditions for a number of years. In general, habitat at the time of the survey was not in optimum condition as a result of lower than average rainfall, with drought impacted vegetation observed mainly on higher ground with shallow soils.

4.0 RESULTS

4.1 Desktop assessment

The Department of Biodiversity, Conservation and Attractions (DBCA) NatureMap database search returned 162 vertebrate fauna species previously recorded within 20 km of the survey area, including 109 species of bird, 42 reptiles, eight mammals and two amphibians. No conservation-significant fauna species were included in the list.

The Department of Agriculture, Water and the Environment (DAWE) EPBC Act Protected Matters Search Tool (PMST) was also interrogated to provide information on Matters of National Environmental Significance (MNES). This database search returned five listed threatened fauna species listed as Endangered or Vulnerable under the EPBC Act as potentially occurring within 50 km of the survey area. The PMST results include 12 bird species listed as Migratory and/or Marine. The salt lakes in the surrounding region potentially provide habitat for these Migratory and Marine species, but likely only opportunistically following significant rainfall events.

The Atlas of Living Australia database search returned 640 records of fauna from 102 taxa, including 1 mammal, 22 reptile and 73 bird species.

The DBCA Threatened and Priority Fauna Database search was conducted over an area within a 90 km radius centred on Davyhurst. This includes many habitat types that are not found in the Lady Ida survey area and returned 21 species of fauna listed as Threatened - Vulnerable, Priority or Specially Protected under the BC Act. Five invertebrate species (two species of trapdoor spider, a butterfly and two species of freshwater shrimp) and nine Migratory bird species were included in the DBCA database search results. Figure 4.1 shows the previous records of conservation significant fauna.

Although there are no prior records in the 90 km search radius, the DBCA database search report states that the search area is within the potential range of the host ant of the critically endangered arid bronze azure butterfly (*Ogyris subterrestris petrina*). There are only two known populations of the butterfly, with one being more than 200 km south-west of Davyhurst and the other at an undisclosed location within 100 km of the first (DBCA, 2020).

Table 4.1 lists the conservation significant fauna species returned in the database searches. The presence of suitable habitat for each species and likelihood of presence within the study area is included.

The database search reports are included as Appendix 1. Definitions of the conservation codes used in the tables are included as Appendix 2.

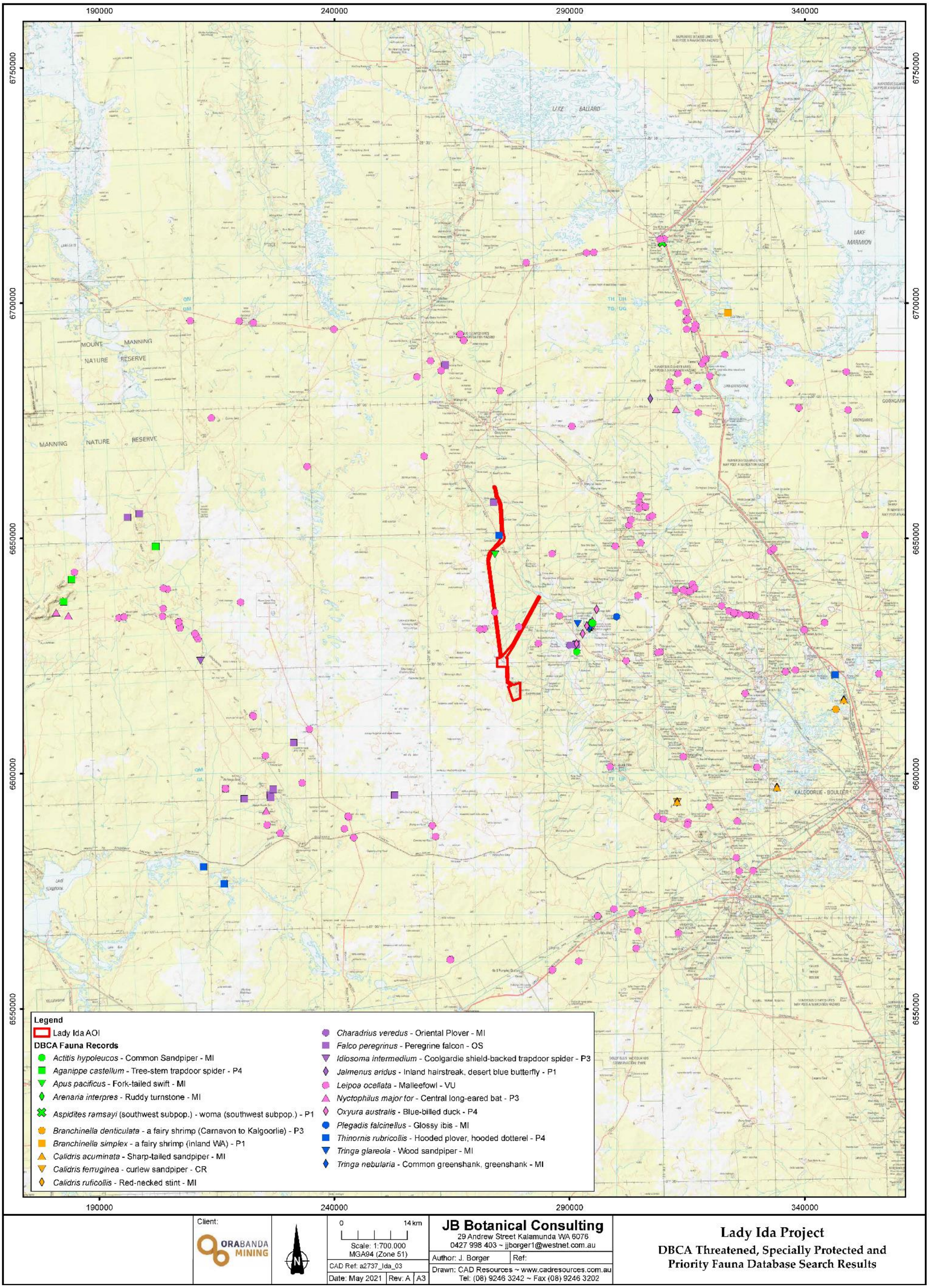

Figure 4.1: Prior records of conservation significant fauna.

Table 4.1: Conservation significant fauna returned from database searches.

Common Name	Species	WA Status	EPBC Act Status	Preferred habitat	Likelihood of occurrence	Source
Mammals						
Western quoll, chuditch	*Dasyurus geoffroii*	VU	VU	Woodland and mallee. Previously occurred throughout arid and semi-arid Australia but is now restricted to forests of south-west Western Australia.	Unlikely. No prior records within the survey area. Believed to be extinct from the region. PMST database states "Species or species habitat may occur in the area".	PMST
Central long-eared bat	*Nyctophilus major tor*	P3		Dry open woodlands; large eucalypts lining water courses and lakes on open inland plains.	Possible. Some potentially suitable habitat exists, mainly in the northern extent of the survey area along the proposed haul road route.	DBCA
Reptiles						
Woma (southwest subpop.)	*Aspidites ramsayi*	P1		Woodlands, heaths and shrublands, often with spinifex. Shelters mainly in abandoned monitor and mammal burrows.	Possible. Suitable habitat exists however only one record from 1966 near Menzies.	DBCA
Birds						
Night parrot	*Pezoporus occidentalis*	CR	EN	Requires dense, low vegetation, under or in which they hide during the day. Most commonly they have been found in hummock grasslands of porcupine grass or spinifex (*Triodia* and *Plectrachne* species) or 'samphire assemblages'.	Unlikely. No prior records and no suitable habitat within the survey area. PMST database states "Species or species habitat may occur in the area".	PMST

Common Name	Species	WA Status	EPBC Act Status	Preferred habitat	Likelihood of occurrence	Source
Curlew Sandpiper	*Calidris ferruginea*	CR & IA	CR & MI	Inland wetlands and sheltered coastal areas, utilises permanent and ephemeral wetlands.	Unlikely. One record from 2006 approximately 50 km from the survey area. No suitable natural habitat present, may utilise pastoral dams intermittently.	
Grey falcon	*Falco hypoleucos*	VU	VU	Acacia shrublands crossed by tree-lined water courses, tussock grasslands and open woodlands in winter.	Unlikely. No prior records. Appears to be absent in WA south of latitude 26°S. PMST database states "Species or species habitat may occur in the area".	PMST
Malleefowl	*Leipoa ocellata*	VU	VU	Scrubland and woodland dominated by mallee and *Acacia* species.	Likely. More than 150 prior records around the wider project area. Potentially suitable habitat exists, mainly in the southern portion of the surveyed area.	DBCA, PMST, Biostat
Hooded plover	*Thinornis rubricollis*	P4	MA	Beaches and salt lakes.	Unlikely. No suitable habitat within the survey area. Potential vagrant visitor to salt lake systems in the region.	DBCA
Peregrine falcon	*Falco peregrinus*	OS S6	-	Most habitats; prefers coastal and inland cliffs or open woodlands near water.	Likely. Sightings recorded in the wider project area. May overfly the areas. No suitable nesting habitat present.	
Rainbow bee-eater	*Merops ornatus*	-	IA	Common and widespread species in WA, except the drier interior of the State and the far south-west. Occurs in lightly wooded sandy country, preferring areas near water. It nests in burrows excavated in sandy	Likely. Have been observed in the wider project area.	PMST

Common Name	Species	WA Status	EPBC Act Status	Preferred habitat	Likelihood of occurrence	Source
				ground or banks, often at the margins of roads and tracks.		
Blue-billed duck	*Oxyura australis*	P4		Breeds on/around deep, permanent densely vegetated freshwater lakes, swamps and dams. Utilises more open waters during the non-breeding season.	Unlikely. No suitable habitat exists within the surveyed area. Prior records from Credo and Rowles Lagoon area.	DBCA
Eight bird species listed as Marine or Migratory species.		Refer to Appendix 1		Migratory and marine species predominately associated with coastal habitats but occasional visitors to inland salt lakes and other water bodies. Numerous records of a number of these species from the Rowles Lagoon area.	Unlikely. No suitable habitat exists within the surveyed area. Possible short-term visitors to lakes in the surrounding region.	PMST
Invertebrates						
Arid bronze azure butterfly	*Ogyris subterrestris petrina*	CR	CR	Mixed *Eucalyptus salubris* / *E. salmonophloia* woodlands on red-brown loam soils with an open understorey.	Possible. Some areas of potentially suitable habitat exist although a high degree of prior mining and pastoral activity is likely to impact the quality of the habitat.	DBCA
Tree-stem trapdoor spider	*Agnippe castellum*	P4		Flood-prone depressions and flats that support myrtaceous shrub communities.	Possible. Acacia Woodland habitat around LI03 and LI11 may provide suitable conditions.	DBCA

Common Name	Species	WA Status	EPBC Act Status	Preferred habitat	Likelihood of occurrence	Source
Coolgardie shield-backed trapdoor spider	*Idiosoma intermedium*	P3		Unknown - assume similar to *A. castellum*	Possible. Assuming habitat requirements are similar, as per *A. castellum.*	DBCA
Desert blue butterfly	*Jalmenus aridus*	P1		Inland desert areas of Western Australia. Generally associated with *Acacia tetragonophylla* and *Senna nemophila*. One prior record from 1997 at Lake Douglas south of Kalgoorlie.	Unlikely. While some potentially suitable habitat may exist, the survey area appears to be outside the known, very localised distribution.	
Fairy shrimp (Carnavon to Kalgoorlie)	Branchinella denticulata	P3		Inland saline aquatic ecosystems	Unlikely. No suitable habitat within the surveyed area.	
Fairy shrimp (inland WA)	Branchinella simplex	P1		Inland saline aquatic ecosystems	Unlikely. No suitable habitat within the surveyed area.	

4.2 Fauna habitat

The field survey of the Lady Ida project area was conducted from 15 - 20 January 2021 in conjunction with the flora and vegetation survey. The points predominantly coincided with the flora survey points, and aimed to provide coverage of the main vegetation/habitat present in the area.

Fauna habitat was identified and assessed in the study area to assist in determining the likelihood of presence of conservation significant species identified during the desktop review.

Nine broad habitat types were identified in the surveyed area as described in tab.

Table 4.2: Broad habitat types observed in the surveyed area.

Habitat Type	Description
Eucalypt Woodland 1	Eucalypt tall open woodland over Eremophila/Chenopod understorey, red clay-loam soils.
Eucalypt Woodland 2	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils.
Eucalypt Woodland 3	Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Eucalypt Woodland 4	Eucalypt open woodland over typically dense Acacia shrubland in broad drainage channels
Acacia/Allocasuarina Shrubland 1	Low to medium Acacia and Allocasuarina shrubland on yellow sandplain
Acacia Tall Shrubland	Long unburnt dense Acacia tall shrubland over mixed understorey shrubs
Acacia Woodland	“Mulga” woodland on red clay-loam soils, typically subject to periodic surface water flows
Melaleuca Woodland/Shrubland	Patches of Melaleuca shrubland or low woodland over mixed shrub understorey
Granite Outcrop	Broad expanses of outcropping granite and immediate surrounds

Large sections of the project are had been burnt by a bush fire approximately 12 months prior to the survey. Additional habitat types Eucalypt Woodland 2b, Eucalypt Woodland 3b and Acacia/Allocasuarina Shrubland 1b have been included as burnt areas which temporarily lack the resources of the equivalent unburnt habitat.

Figure 4.2 to Figure 4.4 show the distribution and extent of each habitat type within the survey area. The location of each survey point is also shown. Appendix 3 provides a description of each of the survey points.

The following sections provide a summary of each of the habitats identified within the survey area.

4.2.1 Eucalypt Woodland 1

Eucalypt Woodland 1 is typical of the Goldfields region, supporting large trees such as *Eucalyptus salmonophloia*, *E. transcontinentalis* and *E. salubris* over a variety of *Eremophila, Maireana* and *Atriplex* shrubs. These areas typically displayed evidence of historic timber harvesting and current cattle grazing activity.

Photograph 4.1: Eucalypt Woodland 1 typical of the northern parts of the survey area.

4.2.2 Eucalypt Woodland 2 and 2b

Eucalypt Woodland 2 habitat is characterised by smaller Eucalypt trees and larger mallees, including *Eucalyptus griffithsii, E. clelandiorum, E. oleosa subsp. oleosa* and *E. campaspe*. The understorey typically comprises a variety of Acacia and Eremophila species (Photograph 4.2). Parts of this habitat with denser understorey may provide suitable nesting sites for malleefowl (*Leipoa ocellata*).

Eucalypt Woodland 2b is areas of this habitat that had been burnt approximately 12 months prior to the survey (Photograph 4.3). This habitat is lacking resources for the normal fauna inhabitants, however the open expanses provide raptors with an easy view of prey moving across the ground. Brown falcons (*Falco berigora*) and whistling kites (*Haliastur sphenurus*) were observed utilising the bare trees as perches or circling overhead in these areas.

Photograph 4.2: Eucalypt Woodland 2

Photograph 4.3: Eucalypt Woodland 2b, burnt approximately 12 months prior to the survey.

4.2.3 Eucalypt Woodland 3 and 3b

Eucalypt Woodland 3 comprises small mallee Eucalypts such as *E. leptopoda*, *E. rigidula* and *E. incrassata* over a mid- to low shrubland consisting of a variety of Acacia, Allocasuarina, Melaleuca and other species. Ground cover is typically *Triodia* hummock grassland (Photograph 4.4). Denser areas of this habitat may provide suitable nesting sites for malleefowl. Scats and tracks of the bush stone-curlew (*Burhinnus grallarius*) were observed at several locations within this habitat.

Eucalypt Woodland 3b is areas of this habitat that had been burnt approximately 12 months prior to the survey (Photograph 4.5). This habitat also currently provides limited resources for the normal inhabitants, however increased hunting opportunities for raptors with the reduced cover. A variety of skinks and small dragons were abundant in both the burnt and unburnt areas.

Photograph 4.4: Eucalypt Woodland 3, typical of the southern portion of the survey area.

Photograph 4.5: Eucalypt Woodland 3b, burnt approximately 12 months prior to the survey.

4.2.4 Eucalypt Woodland 4

Eucalypt Woodland 4 habitat is similar in composition to Eucalypt Woodland 2, however occurs in broad, poorly defined drainage channels and has a much denser understorey of predominately Acacia shrubs. These areas provide refuge during the heat of the day for a variety of larger animals such as kangaroos, as well as foraging and nesting habitat for a wide range of bird species.

4.2.5 Acacia/Allocasuarina Shrubland 1 and 1b

Occurring in the central and southern portions of the survey area, this habitat consists of low to medium height Allocasuarina and Acacia species over mixed low shrubs (Photograph 4.6). These areas have been burnt within the last 10 years and now recovered. These areas have some potential to provide suitable nesting habitat for malleefowl, particularly in the denser vegetation far from human disturbance.

As with other burnt habitat within the survey area, Acacia/Allocasuarina Shrubland 1b provides limited resources for most of the usual fauna inhabitants (Photograph 4.7). At the time of the survey there was re-emerging vegetation which may provide a food source for a variety of ground-dwelling fauna. Insects, particularly beetles, were abundant in this habitat.

Photograph 4.6: Acacia/Allocasuarina Shrubland 1 habitat typical of the sandplain areas in the southern portion of the survey area.

Photograph 4.7: Acacia/Allocasuarina Shrubland 1b habitat, burnt approximately 12 months prior to the survey.

4.2.6 Acacia Tall Shrubland

Acacia Tall Shrubland consists predominately of tall (+3 m) *Acacia acuminata* shrubs over a variety of smaller shrubs. These areas are long-unburnt (+10 years). In the surveyed area it occurs around the perimeter of the granite outcrop at the southern end of the survey area, where it receives rainfall runoff and grows in a dense thicket. Birds were abundant in this habitat as it provides nesting, refuge and foraging habitat. There was also evidence of increased kangaroo activity throughout this area as they are attracted to the granite outcrop for water and grazing.

Photograph 4.8: Acacia Tall Shrubland habitat.

4.2.7 Acacia Woodland

Acacia Woodland habitat comprises *Acacia fuscaneura* and *A. caesaneura* ("mulga") trees and large shrubs over *Acacia*, *Eremophila* and *Grevillea* shrubs. The habitat occurs on clay-loam soils in lower lying areas which receive surface runoff as broad sheet flows from the surrounds.

These areas may provide suitable habitat for the tree-stem trapdoor spider (*Agnippe castellum*, P1) and the Coolgardie shield-backed trapdoor spider (*Idiosoma intermedium*, P3), although within the surveyed area, this habitat had considerable prior disturbance resulting from wood harvesting (presumably for fence posts), cattle grazing and exploration, which reduces the quality of the habitat.

4.2.8 Melaleuca Woodland/Shrubland

Melaleuca woodland/shrubland habitat exists as relatively small patches within more common vegetation. Due to the small areas, it is not likely to provide habitat specifically suitable for any of the conservation significant fauna potentially inhabiting the region.

4.2.9 Granite Outcrop

An isolated, relatively small, granite outcrop occurs at the southern end of the surveyed area. Rainfall collecting in depressions on these outcrops provides a periodic short-term source of water for a variety of fauna. The increased infiltration of surface water runoff around the margins of the outcrop result in periodic growth of grasses and herbs, providing grazing for a variety of mammals, kangaroos in particular. Sheets of exfoliated rock, boulders and cracks in the rock provide refuge for a variety of reptiles and small mammals.

Photograph 4.9: Granite Outcrop habitat at the southern end of the surveyed area.

Figure 4.2 to Figure 4.4 shows the broad habitat types and survey points within the Lady Ida survey area.

Appendix 3 provides the detailed descriptions and observations of each of the survey points.

Figure 4.2: Broad fauna habitat of the northern portion of the survey area.

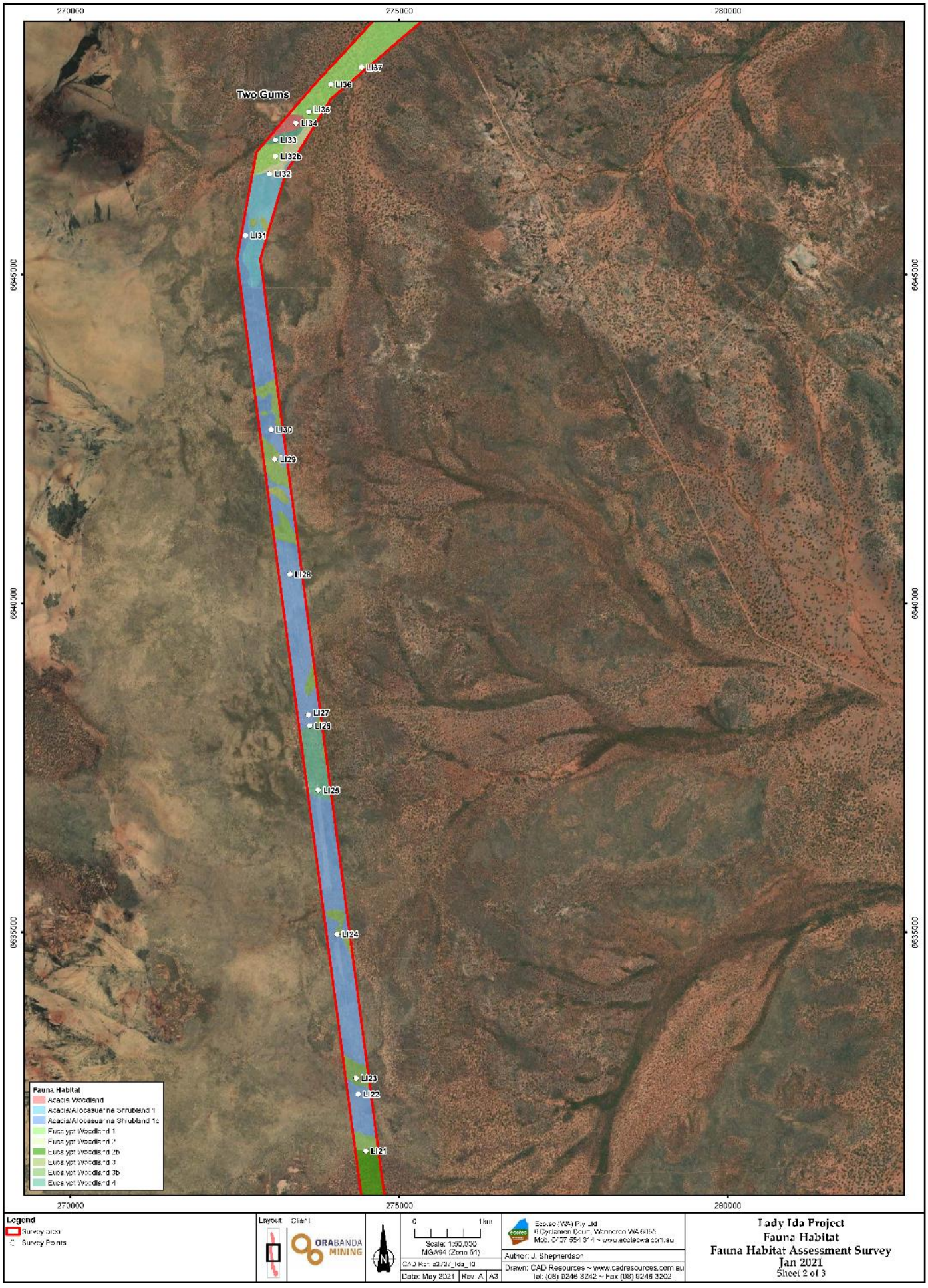

Figure 4.3: Broad fauna habitat of the central portion of the survey area.

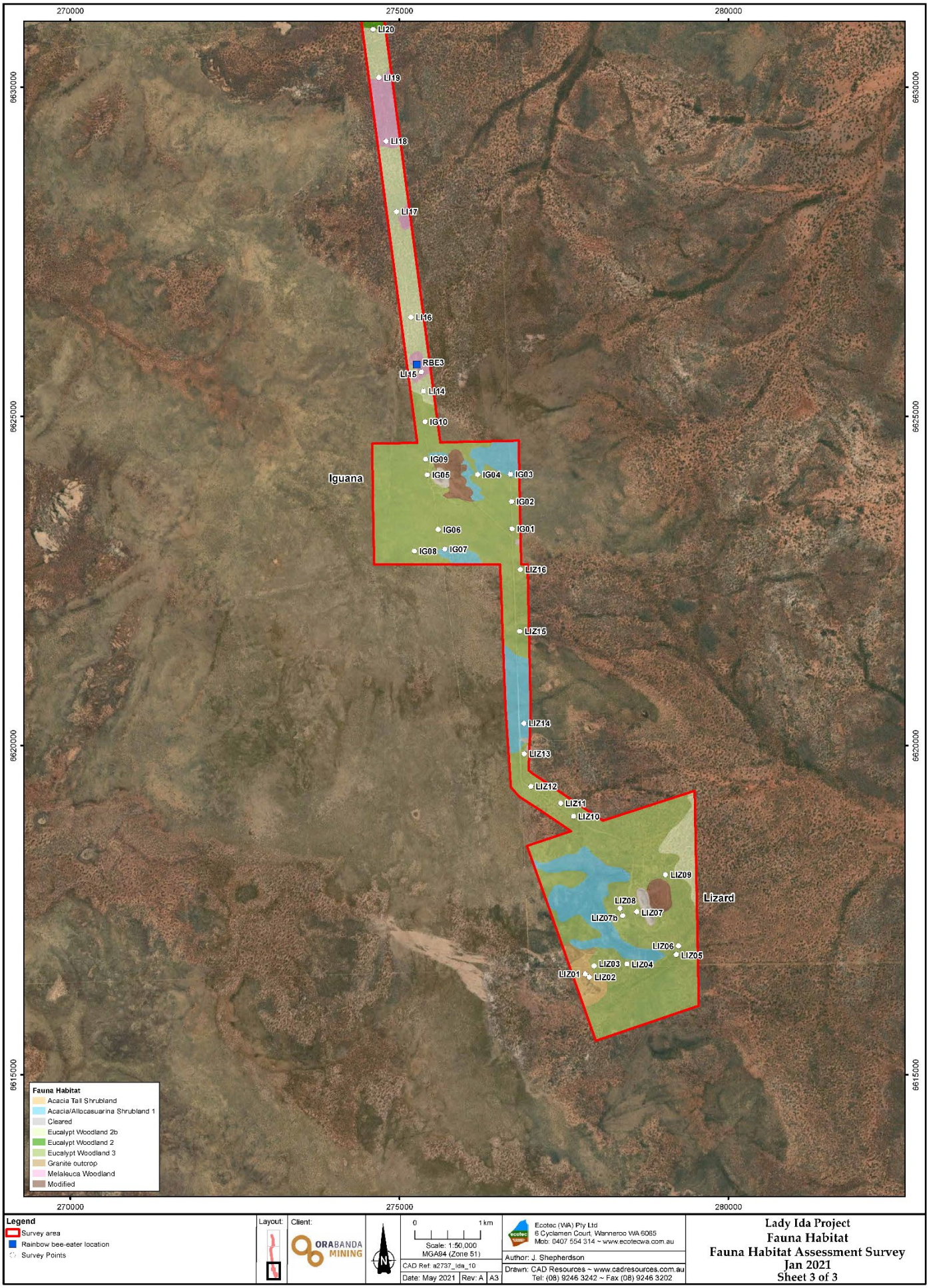

Figure 4.4: Broad fauna habitat of the southern portion of the survey area.

5.0 DISCUSSION

The Lady Ida project area is located within the former Credo pastoral station that has been largely destocked for approximately 10 years. Cattle, donkeys and, to a lesser extent, camels, are common in the area. As a result there is a moderate to high degree of grazing impact evident, mainly in the northern portion of the surveyed area.

Drought conditions currently being experienced across the Goldfields region are apparent mainly on gravelly rises in the sandplain area in the south of the survey area, where areas of very dry vegetation can be observed (Photograph 5.1).

Photograph 5.1: Dry vegetation on a gravel rise in the southern portion of the survey area.

The alignment of the proposed haul road route coincides with the existing tracks throughout the majority of the route (Photograph 5.2 to Photograph 5.4). Utilisation of the existing disturbance will minimise the amount of clearing required.

Photograph 5.2: An existing track near survey point LI04 at the northern end of the survey area.

Photograph 5.3: The existing track through the central part of the survey area.

Photograph 5.4: An existing track in the vicinity of the Iguana mining area.

While habitat potentially suitable for the chuditch (*Dasyurus geoffroii*, VU) exists, mainly in the northern portion of the survey area, the species' presence in the project area is considered unlikely due to widespread prior disturbance (mining and exploration), feral predators (cats and foxes) and pastoral activity. It is now largely restricted to the south-west of Western Australia, with small numbers in the Midwest, Wheatbelt and South Coast Regions. Historically, chuditch inhabited a wide range of habitats, but today it survives mostly in Jarrah forests and woodlands, mallee shrublands and heathlands (DBCA 2019).

There is no habitat considered suitable for the night parrot (*Pezoporus occidentalis*, CR) in the survey area. While hummock grassland exists throughout the yellow sandplain in the central and southern portion of the surveyed area, it has been burnt frequently and subsequently exists predominately in small, compact hummocks. The species is thought to favour long-unburnt vegetation.

Potentially suitable malleefowl (*Leipoa ocellata*, VU) nesting habitat is found in Eucalypt Woodland 2, Eucalypt Woodland 3 and denser areas of Acacia/Allocasuarina Shrubland 1 habitats. Drought conditions appear to have reduced malleefowl activity across the region (personal observation and communication with environmental practitioners at a number of mine sites in the region), however there are numerous records nearby the survey area and in the surrounding region. It is quite likely that malleefowl will be present in the general area when conditions are suitable for breeding.

The rainbow bee-eater (*Merops ornatus*, MI) was observed in three locations within the survey area, in Eucalypt Woodland 1 and 4 and Melaleuca Woodland habitat. They can be expected to be present throughout the survey area during the Spring and Summer months when they construct nesting burrows in creek banks, sandy hillsides, dam walls and roadside windrows. There is an abundance of suitable habitat throughout the surrounding area and additional disturbance is unlikely to have any impact on the species at all.

There are records in the surrounding region of number of other bird species listed as Migratory, including the curlew sandpiper (*Calidris ferruginea*), which is also considered to be Critically Endangered. These records are associated with salt lake systems and the Rowles Lagoon/Clear and Muddy Lakes freshwater systems, which are distant from the survey area and will not be impacted by any development in the area.

The central long-eared bat (*Nyctophilus major tor*, P3) has been recorded at several locations more than 50 km from the survey area. Suitable areas of habitat, being large eucalypts along creek lines and lakes, exists in the vicinity of the haul road route but are unlikely to be significantly impacted by construction of the road.

Only one record exists for the woma (*Aspidites ramsayi* ,P1) in the surrounding region, dating back to 1966. While potentially suitable habitat is present throughout much of the surveyed area, it is considered unlikely that the species exists in the area.

The peregrine falcon (*Falco peregrinus*, OS) is considered likely to be observed in the general area. Abandoned open pits and natural breakaways may provide suitable nesting sites and, if in the vicinity, are quite likely to overfly parts of the surveyed area while hunting. Any future development is considered unlikely to adversely impact the species.

The blue-billed duck (*Oxyura australis* ,P4) has previously been recorded in the vicinity of Rowles Lagoon. No suitable habitat exists within the surveyed area.

Acacia Woodland habitat may provide suitable conditions for the tree-stem trapdoor spider (*Agnippe castellum* ,P4) and possibly the Coolgardie shield-backed trapdoor spider (*Idiosoma intermedium*, P3), although there is little information available regarding the preferred habitat of the second species. A trapdoor burrow of unknown species was opportunistically found at survey site LI03 (Photograph 5.5). Both *Agnippe* and *Idiosoma* species are known to camouflage their burrows with leaves and sticks in characteristic manners, so the burrow found is considered unlikely to belong to either. A brief search of each survey area considered to be suitable habitat (LI03, LI09, LI12 and LI39) did not locate any burrows of the Priority listed species.

Photograph 5.5: Trapdoor spider burrow at survey site LI03

The arid bronze azure butterfly (*Ogyris subterrestris petrina*) (ABAB) has an obligate association with a sugar ant *Camponotus* sp. nr. *terebrans*. The ABAB's larvae live entirely within the ant's nest during their development. The ants protect the larvae from predators and are thought to be rewarded with secretions produced by the larvae. The most critical factor for habitat occupancy by the butterfly is the presence of large colonies of the host ant as only large colonies can support the ABAB because, being a parasitic species, it

requires large numbers of hosts. The potential distribution is extensive and encompasses much of the semi-arid zone (rainfall < 325mm) south of approximately 26° S latitude. At the two known extant sites where the arid bronze azure butterfly occurs, the vegetation is mature mixed gimlet (*Eucalyptus salubris*) and salmon gum (*E. salmonophloia*) woodlands on red-brown loam soils, with an open understorey. In addition to gimlet and salmon gum, other smooth-barked eucalyptus at these sites which have basal ant colonies include wandoo (*E. capilosa* subsp. *wandoo*), smooth-barked York gum (*E. loxophleba* subsp. *lissophloia*) and ribbon-barked mallee (*E. sheathiana*) (DBCA 2020). Survey site LI08, located in Eucalypt Woodland 4 habitat, was the only site considered to provide potentially suitable habitat for the ABAB, with vegetation being dominated by *Eucalyptus loxophleba* subsp. *lissophloia*. The survey was only conducted at reconnaissance level, however no ant colonies were noted at the base of any trees inspected. Further investigation may be required if the habitat is to be significantly impacted, but it is probably possible for the haul road to avoid the majority of this habitat.

Photograph 5.6: Survey site LI08, potentially providing habitat suitable for the ABAB.

Literature states that the desert blue butterfly (*Jalmenus aridus*, P1) has only been recorded near Lake Douglas, 12 km south of Kalgoorlie. The coordinates provided in the DBCA database search place a sighting approximately 40 km east of Davyhurst, which may be an error. Given the rarity of the species and the apparent very localised distribution, it is considered unlikely the species will be located within the survey area.

Although there is potentially suitable habitat for a number of species of conservation-significant fauna in the Lady Ida project area, the area is not considered to provide habitat necessary for the ongoing survival of any these species. All fauna habitat in the surveyed area has been subject to some degree of mining or pastoral disturbance, and is widespread and well represented in the surrounding region. Clearing of native vegetation within the Lady Ida project area is therefore not considered to pose a significant threat to the survival of any fauna species of conservation significance.

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Appendix 1
Desktop Survey Results

NatureMap
Mapping Western Australia's biodiversity

NatureMap Species Report

Created By Guest user on 24/05/2021

Kingdom	Animalia
Current Names Only	Yes
Core Datasets Only	Yes
Method	'By Circle'
Centre	120° 40' 12" E,30° 31' 12" S
Buffer	20km
Group By	Species Group

Species Group	Species	Records
Amphibian	2	12
Bird	109	1770
Invertebrate	7	11
Mammal	8	23
Reptile	43	188
TOTAL	**169**	**2004**

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
Amphibian					
1.	25425	*Neobatrachus kunapalari (Kunapalari Frog)*			
2.	25434	*Pseudophryne occidentalis (Western Toadlet)*			
Bird					
3.	24559	*Acanthagenys rufogularis (Spiny-cheeked Honeyeater)*			
4.	24260	*Acanthiza apicalis (Broad-tailed Thornbill, Inland Thornbill)*			
5.	24261	*Acanthiza chrysorrhoa (Yellow-rumped Thornbill)*			
6.	24265	*Acanthiza uropygialis (Chestnut-rumped Thornbill)*			
7.	25535	*Accipiter cirrocephalus (Collared Sparrowhawk)*			
8.	25536	*Accipiter fasciatus (Brown Goshawk)*			
9.	41323	*Actitis hypoleucos (Common Sandpiper)*		IA	
10.	25544	*Aegotheles cristatus (Australian Owlet-nightjar)*			
11.	24312	*Anas gracilis (Grey Teal)*			
12.	24315	*Anas rhynchotis (Australasian Shoveler)*			
13.	24316	*Anas superciliosa (Pacific Black Duck)*			
14.	24561	*Anthochaera carunculata (Red Wattlebird)*			
15.	25528	*Aphelocephala leucopsis (Southern Whiteface)*			
16.	24285	*Aquila audax (Wedge-tailed Eagle)*			
17.	24341	*Ardea pacifica (White-necked Heron)*			
18.	24610	*Ardeotis australis (Australian Bustard)*			
19.	25566	*Artamus cinereus (Black-faced Woodswallow)*			
20.	24353	*Artamus cyanopterus (Dusky Woodswallow)*			
21.	24356	*Artamus personatus (Masked Woodswallow)*			
22.	24318	*Aythya australis (Hardhead)*			
23.		*Barnardius zonarius*			
24.	24319	*Biziura lobata (Musk Duck)*			
25.	25598	*Cacomantis flabelliformis (Fan-tailed Cuckoo)*			
26.	42307	*Cacomantis pallidus (Pallid Cuckoo)*			
27.	24564	*Certhionyx variegatus (Pied Honeyeater)*			
28.	24377	*Charadrius ruficapillus (Red-capped Plover)*			
29.	24378	*Charadrius veredus (Oriental Plover)*		IA	
30.	24321	*Chenonetta jubata (Australian Wood Duck, Wood Duck)*			
31.	47909	*Cheramoeca leucosterna (White-backed Swallow)*			
32.	25580	*Cinclosoma castaneothorax (Chestnut-breasted Quail-thrush)*			
33.	24288	*Circus approximans (Swamp Harrier)*			
34.	24289	*Circus assimilis (Spotted Harrier)*			
35.	25675	*Colluricincla harmonica (Grey Shrike-thrush)*			
36.	25568	*Coracina novaehollandiae (Black-faced Cuckoo-shrike)*			
37.	24416	*Corvus bennetti (Little Crow)*			
38.	25592	*Corvus coronoides (Australian Raven)*			
39.	24420	*Cracticus nigrogularis (Pied Butcherbird)*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
40.	25595	*Cracticus tibicen (Australian Magpie)*			
41.	25596	*Cracticus torquatus (Grey Butcherbird)*			
42.	24322	*Cygnus atratus (Black Swan)*			
43.	25673	*Daphoenositta chrysoptera (Varied Sittella)*			
44.	25607	*Dicaeum hirundinaceum (Mistletoebird)*			
45.	24470	*Dromaius novaehollandiae (Emu)*			
46.	24650	*Drymodes brunneopygia (Southern Scrub-robin)*			
47.		*Egretta novaehollandiae*			
48.	47937	*Elseyornis melanops (Black-fronted Dotterel)*			
49.		*Eolophus roseicapillus*			
50.	24567	*Epthianura albifrons (White-fronted Chat)*			
51.	24379	*Erythrogonys cinctus (Red-kneed Dotterel)*			
52.	24368	*Eurostopodus argus (Spotted Nightjar)*			
53.	25621	*Falco berigora (Brown Falcon)*			
54.	25622	*Falco cenchroides (Australian Kestrel, Nankeen Kestrel)*			
55.	25623	*Falco longipennis (Australian Hobby)*			
56.	25624	*Falco peregrinus (Peregrine Falcon)*		S	
57.	25727	*Fulica atra (Eurasian Coot)*			
58.	24761	*Fulica atra subsp. australis (Eurasian Coot)*			
59.	42314	*Gavicalis virescens (Singing Honeyeater)*			
60.	25530	*Gerygone fusca (Western Gerygone)*			
61.	24443	*Grallina cyanoleuca (Magpie-lark)*			
62.	24295	*Haliastur sphenurus (Whistling Kite)*			
63.	47965	*Hieraaetus morphnoides (Little Eagle)*			
64.	25734	*Himantopus himantopus (Black-winged Stilt)*			
65.	24491	*Hirundo neoxena (Welcome Swallow)*			
66.	24557	*Leipoa ocellata (Malleefowl)*		T	
67.	25659	*Lichenostomus leucotis (White-eared Honeyeater)*			
68.	25661	*Lichmera indistincta (Brown Honeyeater)*			
69.	24326	*Malacorhynchus membranaceus (Pink-eared Duck)*			
70.	25652	*Malurus leucopterus (White-winged Fairy-wren)*			
71.	24551	*Malurus pulcherrimus (Blue-breasted Fairy-wren)*			
72.	25654	*Malurus splendens (Splendid Fairy-wren)*			
73.	24583	*Manorina flavigula (Yellow-throated Miner)*			
74.	25663	*Melithreptus brevirostris (Brown-headed Honeyeater)*			
75.	24736	*Melopsittacus undulatus (Budgerigar)*			
76.	24598	*Merops ornatus (Rainbow Bee-eater)*			
77.		*Microcarbo melanoleucos*			
78.	25693	*Microeca fascinans (Jacky Winter)*			
79.	24742	*Nymphicus hollandicus (Cockatiel)*			
80.	24407	*Ocyphaps lophotes (Crested Pigeon)*			
81.	24618	*Oreoica gutturalis (Crested Bellbird)*			
82.	24328	*Oxyura australis (Blue-billed Duck)*		P4	
83.	24619	*Pachycephala inornata (Gilbert's Whistler)*			
84.	25680	*Pachycephala rufiventris (Rufous Whistler)*			
85.	25682	*Pardalotus striatus (Striated Pardalote)*			
86.	48060	*Petrochelidon ariel (Fairy Martin)*			
87.	48061	*Petrochelidon nigricans (Tree Martin)*			
88.	24659	*Petroica goodenovii (Red-capped Robin)*			
89.	24409	*Phaps chalcoptera (Common Bronzewing)*			
90.	24841	*Platalea flavipes (Yellow-billed Spoonbill)*			
91.	25703	*Podargus strigoides (Tawny Frogmouth)*			
92.	24681	*Poliocephalus poliocephalus (Hoary-headed Grebe)*			
93.	24683	*Pomatostomus superciliosus (White-browed Babbler)*			
94.	42344	*Purnella albifrons (White-fronted Honeyeater)*			
95.	24278	*Pyrrholaemus brunneus (Redthroat)*			
96.	24776	*Recurvirostra novaehollandiae (Red-necked Avocet)*			
97.	48096	*Rhipidura albiscapa (Grey Fantail)*			
98.	25614	*Rhipidura leucophrys (Willie Wagtail)*			
99.	30948	*Smicrornis brevirostris (Weebill)*			
100.	24329	*Stictonetta naevosa (Freckled Duck)*			
101.	25597	*Strepera versicolor (Grey Currawong)*			
102.	25705	*Tachybaptus novaehollandiae (Australasian Grebe, Black-throated Grebe)*			
103.	24331	*Tadorna tadornoides (Australian Shelduck, Mountain Duck)*			
104.	30870	*Taeniopygia guttata (Zebra Finch)*			
105.	24845	*Threskiornis spinicollis (Straw-necked Ibis)*			
106.	42351	*Todiramphus pyrrhopygius (Red-backed Kingfisher)*			
107.	25549	*Todiramphus sanctus (Sacred Kingfisher)*			
108.	48141	*Tribonyx ventralis (Black-tailed Native-hen)*			
109.	24806	*Tringa glareola (Wood Sandpiper)*		IA	

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
110.	24808	*Tringa nebularia (Common Greenshank, greenshank)*		IA	
111.	24386	*Vanellus tricolor (Banded Lapwing)*			
Invertebrate					
112.		*Antichiropus sp.*			
113.		*Austracantha minax*			
114.		*Hoggicosa castanea*			
115.		*Hoggicosa forresti*			
116.		*Hoggicosa storri*			
117.		*Nephila edulis*			
118.		*Phryssonotus novaehollandiae*			
Mammal					
119.	24254	*Camelus dromedarius (Dromedary, Camel)*	Y		
120.	24223	*Mus musculus (House Mouse)*	Y		
121.	24096	*Ningaui yvonneae (Southern Ningaui)*			
122.	24229	*Notomys mitchellii (Mitchell's Hopping-mouse)*			
123.	24085	*Oryctolagus cuniculus (Rabbit)*	Y		
124.	24232	*Pseudomys bolami (Bolam's Mouse)*			
125.	24108	*Sminthopsis crassicaudata (Fat-tailed Dunnart)*			
126.	24109	*Sminthopsis dolichura (Little long-tailed Dunnart)*			
Reptile					
127.	30886	*Cryptoblepharus australis*			
128.	30893	*Cryptoblepharus buchananii*			
129.	25020	*Cryptoblepharus plagiocephalus*			
130.	24871	*Ctenophorus cristatus (Bicycle Dragon)*			
131.	25459	*Ctenophorus isolepis (Crested Dragon, Military Dragon)*			
132.	24874	*Ctenophorus isolepis subsp. citrinus (Yellowy Military Dragon)*			
133.	24883	*Ctenophorus ornatus (Ornate Crevice-Dragon)*			
134.	24886	*Ctenophorus reticulatus (Western Netted Dragon)*			
135.	24889	*Ctenophorus scutulatus (Lozenge-marked Dragon)*			
136.	25052	*Ctenotus leonhardii*			
137.	25074	*Ctenotus schomburgkii*			
138.	25465	*Ctenotus uber (Spotted Ctenotus)*			
139.	25080	*Ctenotus uber subsp. uber (Spotted Ctenotus)*			
140.	25082	*Ctenotus xenopleura*			
141.	24995	*Delma australis*			
142.	25469	*Diplodactylus granariensis*			
143.	24929	*Diplodactylus granariensis subsp. granariensis*			
144.	24940	*Diplodactylus pulcher*			
145.	30909	*Diporiphora amphiboluroides (Mulga Dragon)*			
146.	25092	*Egernia depressa (Southern Pygmy Spiny-tailed Skink)*			
147.	25094	*Egernia formosa*			
148.	25301	*Furina ornata (Moon Snake)*			
149.	24957	*Gehyra purpurascens*			
150.	24959	*Gehyra variegata*			
151.	24961	*Heteronotia binoei (Bynoe's Gecko)*			
152.	25162	*Lerista picturata*			
153.	42411	*Lerista timida*			
154.	41411	*Liopholis inornata (Desert Skink)*			
155.	25184	*Menetia greyii*			
156.	25188	*Morethia adelaidensis*			
157.	25190	*Morethia butleri*			
158.	25510	*Pogona minor (Dwarf Bearded Dragon)*			
159.	24907	*Pogona minor subsp. minor (Dwarf Bearded Dragon)*			
160.	25261	*Pseudechis australis (Mulga Snake)*			
161.	25264	*Pseudonaja nuchalis (Gwardar, Northern Brown Snake)*			
162.	24982	*Rhynchoedura ornata (Western Beaked Gecko)*			
163.	25266	*Simoselaps bertholdi (Jan's Banded Snake)*			
164.	24949	*Strophurus wellingtonae*			
165.	25203	*Tiliqua occipitalis (Western Bluetongue)*			
166.	25207	*Tiliqua rugosa subsp. rugosa*			
167.	30814	*Tympanocryptis cephalus (Pebble Dragon)*			
168.	24983	*Underwoodisaurus milii (Barking Gecko)*			
169.	25218	*Varanus gouldii (Bungarra or Sand Monitor)*			

Conservation Codes
T - Rare or likely to become extinct
X - Presumed extinct
IA - Protected under international agreement
S - Other specially protected fauna
1 - Priority 1
2 - Priority 2

Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area

3 - Priority 3
4 - Priority 4
5 - Priority 5

[1] For NatureMap's purposes, species flagged as endemic are those whose records are wholely contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.

Atlas of Living Australia Database Search - Lady Ida Project Area

year	month	day	habitat	locality	decimalLatitude	decimalLongitude	kingdom	phylum	class	order	vernacularName	species
2011	8	31		Ullaring Rock	-30.4325	120.6375	Animalia	Chordata	Amphibia	Anura	Western Toadlet	Pseudophryne occidentalis
1995	11	28		24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Amphibia	Anura	Kunapalari Frog	Neobatrachus kunapalari
2011	8	30	under granite rocks		-30.430278	120.638889	Animalia	Arthropoda	Arachnida	Araneae		
2011	8	30			-30.436667	120.648611	Animalia	Arthropoda	Arachnida	Araneae		
2011	8	30	eucalypt woodland		-30.435278	120.649722	Animalia	Arthropoda	Arachnida	Pseudoscorpiones		
2011	8	30	eucalypt woodland		-30.435278	120.649722	Animalia	Arthropoda	Arachnida	Araneae	Ant Spiders	
2011	8	30	under granite rocks		-30.430278	120.638889	Animalia	Arthropoda	Arachnida	Araneae		
2011	8	30			-30.436111	120.649167	Animalia	Arthropoda	Arachnida	Araneae		
2011	8	30	eucalypt woodland		-30.435278	120.649722	Animalia	Arthropoda	Arachnida	Araneae		
2011	8	30	eucalypt woodland		-30.435278	120.649722	Animalia	Arthropoda	Arachnida	Araneae		
2011	8	30	under granite rocks		-30.430278	120.638889	Animalia	Arthropoda	Arachnida	Trombidiformes		
2011	8	30	eucalypt woodland		-30.435278	120.649722	Animalia	Arthropoda	Arachnida	Pseudoscorpiones		
2011	8	30	under granite rocks		-30.430278	120.638889	Animalia	Arthropoda	Arachnida	Pseudoscorpiones		
2011	8	30	under granite rocks		-30.430278	120.638889	Animalia	Arthropoda	Arachnida	Pseudoscorpiones		
2011	8	30	under granite rocks		-30.430278	120.638889	Animalia	Arthropoda	Arachnida	Pseudoscorpiones		
2011	8	30	under granite rocks		-30.430278	120.638889	Animalia	Arthropoda	Arachnida	Araneae		
2011	8	30	eucalypt woodland		-30.435278	120.649722	Animalia	Arthropoda	Arachnida	Araneae		
2011	8	30	eucalypt woodland		-30.435278	120.649722	Animalia	Arthropoda	Arachnida	Araneae		
2011	8	30	under granite rocks		-30.430278	120.638889	Animalia	Arthropoda	Arachnida	Araneae		
2011	8	30			-30.430833	120.636389	Animalia	Arthropoda	Arachnida	Araneae		
2011	8	30	under granite rocks		-30.430278	120.638889	Animalia	Arthropoda	Arachnida	Araneae		
2011	8	30	under granite rocks		-30.430278	120.638889	Animalia	Arthropoda	Arachnida	Pseudoscorpiones		
2011	9	6	yellow sandplain heath		-30.494444	120.673333	Animalia	Arthropoda	Arachnida	Araneae		Austracantha minax
2011	9	6	eucalypt woodland under bark. E. clellandii		-30.436944	120.672222	Animalia	Arthropoda	Arachnida	Araneae		
2011	9	2	under eucalypt		-30.5	120.74	Animalia	Arthropoda	Arachnida	Araneae		
2011	9	2	from open burrow		-30.500556	120.74	Animalia	Arthropoda	Arachnida	Araneae		Hoggicosa storri
2011	9	2	under rock		-30.500556	120.74	Animalia	Arthropoda	Arachnida	Araneae		
2011	9	6	eucalypt woodland under bark. E. clellandii		-30.436944	120.672222	Animalia	Arthropoda	Arachnida	Araneae		
2011	9	6	eucalypt woodland under bark E. clellandii		-30.436944	120.672222	Animalia	Arthropoda	Arachnida	Araneae	Jumping Spiders	
2011	9	2	from open burrow		-30.500556	120.74	Animalia	Arthropoda	Arachnida	Araneae		Hoggicosa storri
2011	9	6	at night		-30.478056	120.673056	Animalia	Arthropoda	Arachnida	Araneae		
2011	9	2			-30.500556	120.74	Animalia	Arthropoda	Arachnida	Scorpiones		
2011	9	6	eucalypt woodland under bark E. clellandii		-30.436944	120.672222	Animalia	Arthropoda	Arachnida	Araneae		
2019	5	11		Corriding Rock	-30.4323	120.639	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2019	5	11		Corriding Rock	-30.4323	120.639	Animalia	Chordata	Aves	Passeriformes	Mistletoebird	Dicaeum hirundinaceum
2019	5	11		Corriding Rock	-30.4323	120.639	Animalia	Chordata	Aves	Falconiformes	Brown Falcon	Falco berigora
2019	5	11		Corriding Rock	-30.4323	120.639	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2019	5	11		Corriding Rock	-30.4323	120.639	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2019	5	11		Corriding Rock	-30.4323	120.639	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2019	5	11		Corriding Rock	-30.4323	120.639	Animalia	Chordata	Aves	Passeriformes	Southern Scrub-robin	Drymodes brunneopygia
2019	5	11		Corriding Rock	-30.4323	120.639	Animalia	Chordata	Aves	Passeriformes	Grey Currawong	Strepera versicolor
2019	5	11		Corriding Rock	-30.4323	120.639	Animalia	Chordata	Aves	Passeriformes	White-browed Babbler	Pomatostomus superciliosus
2019	5	11		Corriding Rock	-30.4323	120.639	Animalia	Chordata	Aves	Passeriformes	Rufous Whistler	Pachycephala rufiventris
2019	5	11		Corriding Rock	-30.4323	120.639	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2019	5	11		Corriding Rock	-30.4323	120.639	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2019	5	11		Corriding Rock	-30.4323	120.639	Animalia	Chordata	Aves	Psittaciformes	Purple-crowned Lorikeet	Parvipsitta porphyrocephala
2019	5	11		Corriding Rock	-30.4323	120.639	Animalia	Chordata	Aves	Columbiformes	Common Bronzewing	Phaps chalcoptera
2014	7	15		Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Grey Fantail	Rhipidura albiscapa
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	Western Yellow Robin	Eopsaltria griseogularis
2014	7	15		Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Pied Butcherbird	Cracticus nigrogularis
2017	7	20	Salmon gum woodland, shrubby u	18 Km west from Credo homestead	-30.433	120.657	Animalia	Chordata	Aves	Psittaciformes	Regent Parrot	Polytelis anthopeplus
2014	7	17		Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2014	7	15		Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2014	7	17		Credo 8	-30.43056	120.7069	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2014	7	17		Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Anseriformes	Grunter	Tadorna tadornoides
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	Western Yellow Robin	Eopsaltria griseogularis
2014	7	15		Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2014	7	17		Credo 8	-30.43056	120.7069	Animalia	Chordata	Aves	Passeriformes	Blue-breasted Fairy-wren	Malurus pulcherrimus
2014	7	17		Credo 8	-30.43056	120.7069	Animalia	Chordata	Aves	Passeriformes	Little Crow	Corvus bennetti
2014	7	17		Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Australian Raven	Corvus coronoides
2017	7	20	Salmon gum woodland, shrubby u	18 Km west from Credo homestead	-30.433	120.657	Animalia	Chordata	Aves	Psittaciformes	Regent Parrot	Polytelis anthopeplus
2014	7	17		Credo 8	-30.43056	120.7069	Animalia	Chordata	Aves	Passeriformes	Brown Honeyeater	Lichmera indistincta
2014	7	17		Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Australian Magpie	Gymnorhina tibicen
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	Western Yellow Robin	Eopsaltria griseogularis

2014	7	17	Credo extra 8	-30.46028	120.7494	Animalia	Chordata	Aves	Passeriformes	Pied Butcherbird	Cracticus nigrogularis
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	White-eared Honeyeater	Nesoptilotis leucotis
2014	7	15	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2014	7	17	Credo extra 8	-30.46028	120.7494	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	Western Yellow Robin	Eopsaltria griseogularis
2017	7	20	Salmon gum woodland, shrubby u	18 Km west from Credo homestead	-30.433	120.657	Animalia	Chordata	Aves	Psittaciformes	Regent Parrot	Polytelis anthopeplus
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	White-eared Honeyeater	Nesoptilotis leucotis
2017	7	20	Salmon gum woodland, shrubby u	18 Km west from Credo homestead	-30.433	120.657	Animalia	Chordata	Aves	Psittaciformes	Regent Parrot	Polytelis anthopeplus
2017	7	20	Salmon gum woodland, shrubby u	18 Km west from Credo homestead	-30.433	120.657	Animalia	Chordata	Aves	Psittaciformes	Regent Parrot	Polytelis anthopeplus
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	Western Yellow Robin	Eopsaltria griseogularis
2014	7	17	Credo 8	-30.43056	120.7069	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2014	7	17	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2014	7	17	Credo extra 8	-30.46028	120.7494	Animalia	Chordata	Aves	Passeriformes	Chestnut-rumped Thornbill	Acanthiza uropygialis
2014	7	17	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Anseriformes	Musk Duck	Biziura lobata
2014	7	17	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Columbiformes	Common Bronzewing	Phaps chalcoptera
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	Western Yellow Robin	Eopsaltria griseogularis
2014	7	17	Credo 8	-30.43056	120.7069	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	Redthroat	Pyrrholaemus brunneus
2017	7	20	Salmon gum woodland, shrubby u	18 Km west from Credo homestead	-30.433	120.657	Animalia	Chordata	Aves	Psittaciformes	Regent Parrot	Polytelis anthopeplus
2014	7	17	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Black-faced cuckoo-shrike	Coracina novaehollandiae
2014	7	15	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	Western Yellow Robin	Eopsaltria griseogularis
2017	7	20	Salmon gum woodland, shrubby u	18 Km west from Credo homestead	-30.433	120.657	Animalia	Chordata	Aves	Psittaciformes	Regent Parrot	Polytelis anthopeplus
2014	7	17	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2014	7	15	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2014	7	17	Credo 8	-30.43056	120.7069	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2014	7	17	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Gruiformes	Eurasian Coot	Fulica atra
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	White-eared Honeyeater	Nesoptilotis leucotis
2014	7	17	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Grey Fantail	Rhipidura albiscapa
2014	7	17	Credo extra 8	-30.46028	120.7494	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2014	7	15	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	White-browed Babbler	Pomatostomus superciliosus
2014	7	17	Credo 8	-30.43056	120.7069	Animalia	Chordata	Aves	Passeriformes	Brown-headed Honeyeater	Melithreptus brevirostris
2017	7	20	Salmon gum woodland, shrubby u	18 Km west from Credo homestead	-30.433	120.657	Animalia	Chordata	Aves	Psittaciformes	Regent Parrot	Polytelis anthopeplus
2014	7	17	Credo extra 8	-30.46028	120.7494	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2017	7	20	Salmon gum woodland, shrubby u	18 Km west from Credo homestead	-30.433	120.657	Animalia	Chordata	Aves	Psittaciformes	Regent Parrot	Polytelis anthopeplus
2014	7	17	Credo 8	-30.43056	120.7069	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2017	7	20	Salmon gum woodland, shrubby u	18 Km west from Credo homestead	-30.433	120.657	Animalia	Chordata	Aves	Psittaciformes	Regent Parrot	Polytelis anthopeplus
2014	7	17	Credo 8	-30.43056	120.7069	Animalia	Chordata	Aves	Passeriformes	Golden Whistler	Pachycephala pectoralis
2014	7	17	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Willie Wagtail	Rhipidura leucophrys
2014	7	15	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Gilbert's Whistler	Pachycephala inornata
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	Western Yellow Robin	Eopsaltria griseogularis
2014	7	17	Credo extra 8	-30.46028	120.7494	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2017	7	20	Salmon gum woodland, shrubby u	18 Km west from Credo homestead	-30.433	120.657	Animalia	Chordata	Aves	Psittaciformes	Regent Parrot	Polytelis anthopeplus
2014	7	17	Credo extra 8	-30.46028	120.7494	Animalia	Chordata	Aves	Passeriformes	Brown Honeyeater	Lichmera indistincta
2014	7	15	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Zebra Finch	Taeniopygia guttata
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	Redthroat	Pyrrholaemus brunneus
2014	7	17	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Brown Honeyeater	Lichmera indistincta
2014	7	17	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Grey Shrike-thrush	Colluricincla harmonica
2014	7	17	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	White-eared Honeyeater	Nesoptilotis leucotis
2017	7	20	Salmon gum woodland, shrubby u	18 Km west from Credo homestead	-30.433	120.657	Animalia	Chordata	Aves	Psittaciformes	Regent Parrot	Polytelis anthopeplus
2014	7	17	Credo extra 8	-30.46028	120.7494	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	Redthroat	Pyrrholaemus brunneus
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	White-eared Honeyeater	Nesoptilotis leucotis
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	Western Yellow Robin	Eopsaltria griseogularis
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	Western Yellow Robin	Eopsaltria griseogularis
2014	7	15	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Columbiformes	Crested Pigeon	Ocyphaps lophotes
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	Western Yellow Robin	Eopsaltria griseogularis
2014	7	17	Credo extra 8	-30.46028	120.7494	Animalia	Chordata	Aves	Columbiformes	Common Bronzewing	Phaps chalcoptera
2014	7	15	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	Western Yellow Robin	Eopsaltria griseogularis
2014	7	15	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Willie Wagtail	Rhipidura leucophrys
2014	7	17	Credo extra 8	-30.46028	120.7494	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2014	7	17	Credo 8	-30.43056	120.7069	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2017	7	20	Dense acacia shrubland, scatterec	54 Dam, Credo Station	-30.429	120.708	Animalia	Chordata	Aves	Passeriformes	Redthroat	Pyrrholaemus brunneus
2014	7	17	Credo 8	-30.43056	120.7069	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris

2013	6	20	Credo	-30.49639	120.7575	Animalia	Chordata	Aves	Psittaciformes	Mulga Parrot	Psephotus varius
2013	6	17	Creedo site 9	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013	6	20	Credo	-30.49944	120.7406	Animalia	Chordata	Aves	Passeriformes	Chestnut-rumped Thornbill	Acanthiza uropygialis
2013	6	20	Credo	-30.49639	120.7575	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2014	6	1	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2013	6	20	Credo	-30.49944	120.7406	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2013	6	20	Credo	-30.49639	120.7575	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2014	6	1	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Brown Honeyeater	Lichmera indistincta
2013	6	20	Credo	-30.49944	120.7406	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2013	6	20	Credo	-30.49639	120.7575	Animalia	Chordata	Aves	Columbiformes	Crested Pigeon	Ocyphaps lophotes
2013	6	20	Credo	-30.49639	120.7575	Animalia	Chordata	Aves	Ciconiiformes	White-necked Heron	Ardea pacifica
2013	6	19	Creedo ADHOC 3	-30.43056	120.6381	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2013	6	19	Creedo ADHOC 3	-30.43056	120.6381	Animalia	Chordata	Aves	Passeriformes	Yellow-tail	Acanthiza chrysorrhoa
2013	6	20	Credo	-30.49639	120.7575	Animalia	Chordata	Aves	Passeriformes	White-browed Babbler	Pomatostomus superciliosus
2013	6	20	Credo	-30.50083	120.765	Animalia	Chordata	Aves	Passeriformes	Chestnut-rumped Thornbill	Acanthiza uropygialis
2013	6	20	Credo	-30.49639	120.7575	Animalia	Chordata	Aves	Passeriformes	Splendid Fairy-wren	Malurus splendens
2013	6	20	Credo	-30.50083	120.765	Animalia	Chordata	Aves	Passeriformes	Splendid Fairy-wren	Malurus splendens
2013	6	20	Credo	-30.49639	120.7575	Animalia	Chordata	Aves	Passeriformes	Willie Wagtail	Rhipidura leucophrys
2013	6	17	Creedo site 9	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2014	6	1	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	White-eared Honeyeater	Nesoptilotis leucotis
2013	6	17	Creedo site 9	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2013	6	19	Creedo ADHOC 3	-30.43056	120.6381	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2013	6	20	Credo	-30.49639	120.7575	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2014	6	1	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Chestnut-rumped Thornbill	Acanthiza uropygialis
2013	6	20	Credo	-30.50083	120.765	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013	6	20	Credo	-30.50083	120.765	Animalia	Chordata	Aves	Falconiformes	Brown Falcon	Falco berigora
2014	6	1	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2013	6	17	Creedo site 9	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Splendid Fairy-wren	Malurus splendens
2013	6	17	Creedo site 9	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Chestnut-rumped Thornbill	Acanthiza uropygialis
2013	6	20	Credo	-30.49639	120.7575	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2013	6	17	Creedo site 9	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Inland Thornbill	Acanthiza apicalis
2013	6	20	Credo	-30.49944	120.7406	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2013	6	20	Credo	-30.49639	120.7575	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2013	6	20	Credo	-30.50083	120.765	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2014	6	1	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2013	6	17	Creedo site 8	-30.42972	120.7064	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2013	6	19	Creedo ADHOC2	-30.42972	120.7133	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2013	6	19	Creedo ADHOC 3	-30.43056	120.6381	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2013	6	20	Credo	-30.49944	120.7406	Animalia	Chordata	Aves	Passeriformes	Splendid Fairy-wren	Malurus splendens
2014	6	1	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013	6	19	Creedo ADHOC 3	-30.43056	120.6381	Animalia	Chordata	Aves	Ciconiiformes	White-necked Heron	Ardea pacifica
2013	6	21	Credo	-30.46944	120.7644	Animalia	Chordata	Aves	Falconiformes	Nankeen Kestrel	Falco cenchroides
2013	6	17	Creedo site 9	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Southern Scrub-robin	Drymodes brunneopygia
2013	6	19	Creedo ADHOC2	-30.42972	120.7133	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2013	6	20	Credo	-30.50083	120.765	Animalia	Chordata	Aves	Passeriformes	Inland Thornbill	Acanthiza apicalis
2013	6	17	Creedo site 8	-30.42972	120.7064	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2013	6	19	Creedo ADHOC 3	-30.43056	120.6381	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013	6	19	Creedo ADHOC 3	-30.43056	120.6381	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2013	6	17	Creedo site 8	-30.42972	120.7064	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2014	6	1	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Inland Thornbill	Acanthiza apicalis
2013	6	20	Credo	-30.49639	120.7575	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013	6	20	Credo	-30.49639	120.7575	Animalia	Chordata	Aves	Gruiformes	Black-tailed Native-hen	Tribonyx ventralis
2013	6	17	Creedo site 9	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Grey Currawong	Strepera versicolor
2013	6	20	Credo	-30.49944	120.7406	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2013	6	17	Creedo site 8	-30.42972	120.7064	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2013	6	20	Credo	-30.49639	120.7575	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2013	6	19	Creedo ADHOC2	-30.42972	120.7133	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013	6	21	Credo	-30.46944	120.7644	Animalia	Chordata	Aves	Falconiformes	Wedge-tailed Eagle	Aquila audax
2013	6	20	Credo	-30.49972	120.7664	Animalia	Chordata	Aves	Falconiformes	Nankeen Kestrel	Falco cenchroides
2013	6	20	Credo	-30.49639	120.7575	Animalia	Chordata	Aves	Anseriformes	Grey duck	Anas superciliosa
2013	6	19	Creedo ADHOC 3	-30.43056	120.6381	Animalia	Chordata	Aves	Columbiformes	Crested Pigeon	Ocyphaps lophotes
2013	6	17	Creedo site 9	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	White-browed Babbler	Pomatostomus superciliosus
2013	6	19	Creedo ADHOC 3	-30.43056	120.6381	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2013			credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Pied Butcherbird	Cracticus nigrogularis
			Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Inland Thornbill	Acanthiza apicalis
			Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Columbiformes	Crested Pigeon	Ocyphaps lophotes

	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	White-browed Babbler	Pomatostomus superciliosus
	Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Grey Currawong	Strepera versicolor
	Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Chestnut-rumped Thornbill	Acanthiza uropygialis
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Rufous Treecreeper	Climacteris rufa
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Black-faced cuckoo-shrike	Coracina novaehollandiae
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Chestnut-rumped Thornbill	Acanthiza uropygialis
	Corriding Rock	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Brown Honeyeater	Lichmera indistincta
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
	Corriding Rock	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Splendid Fairy-wren	Malurus splendens
	Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
	Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Australian Raven	Corvus coronoides
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
	Corriding Rock	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Willie Wagtail	Rhipidura leucophrys
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
	Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
	Corriding Rock	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	White-browed Babbler	Pomatostomus superciliosus
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Splendid Fairy-wren	Malurus splendens
	credo	-30.44055939	120.726387	Animalia	Chordata	Aves	Passeriformes	Brown-headed Honeyeater	Melithreptus brevirostris
	credo	-30.44055939	120.726387	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
	credo	-30.44055939	120.726387	Animalia	Chordata	Aves	Passeriformes	Rufous Treecreeper	Climacteris rufa
	Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
	credo	-30.44055939	120.726387	Animalia	Chordata	Aves	Psittaciformes	Purple-crowned Lorikeet	Parvipsitta porphyrocephala
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	White-eared Honeyeater	Nesoptilotis leucotis
	credo	-30.44055939	120.726387	Animalia	Chordata	Aves	Passeriformes	Gilbert's Whistler	Pachycephala inornata
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Psittaciformes	Galah	Eolophus roseicapilla
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	White-eared Honeyeater	Nesoptilotis leucotis
	Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Grey Shrike-thrush	Colluricincla harmonica
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Yellow-throated Miner	Manorina flavigula
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Struthioniformes	Emu	Dromaius novaehollandiae
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Australian Pipit	Anthus novaeseelandiae
	Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	White-eared Honeyeater	Nesoptilotis leucotis
	Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Inland Thornbill	Acanthiza apicalis
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Strigiformes	Southern Boobook	Ninox novaeseelandiae
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Chestnut-rumped Thornbill	Acanthiza uropygialis
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
	Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	White-eared Honeyeater	Nesoptilotis leucotis
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	White-eared Honeyeater	Nesoptilotis leucotis
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Yellow-tail	Acanthiza chrysorrhoa
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	White-backed Swallow	Cheramoeca leucosterna
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
	Corriding Rock	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Red-capped Robin	Petroica goodenovii
	Corriding Rock	-30.433	120.64117	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
	credo	-30.44055939	120.726387	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
	Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Inland Thornbill	Acanthiza apicalis
	Corriding Rock	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	White-eared Honeyeater	Nesoptilotis leucotis
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Yellow-throated Miner	Manorina flavigula
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Brown Honeyeater	Lichmera indistincta
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Apodiformes	Australian Owlet-nightjar	Aegotheles cristatus
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Rufous Whistler	Pachycephala rufiventris
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Inland Thornbill	Acanthiza apicalis
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Cuculiformes	Horsfield's Bronze-cuckoo	Chalcites basalis
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Gilbert's Whistler	Pachycephala inornata
	credo	-30.44055939	120.726387	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
	Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	White-browed Babbler	Pomatostomus superciliosus
	Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Willie Wagtail	Rhipidura leucophrys
	credo	-30.44055939	120.726387	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2013	credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Black-faced cuckoo-shrike	Coracina novaehollandiae

2013			credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Columbiformes	Crested Pigeon	Ocyphaps lophotes
			Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013			credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Psittaciformes	Purple-crowned Lorikeet	Parvipsitta porphyrocephala
			credo	-30.44055939	120.726387	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013			credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2013			credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
			Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
			Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2013			credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Dusky Woodswallow	Artamus cyanopterus
			Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Red-capped Robin	Petroica goodenovii
			Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Yellow-tail	Acanthiza chrysorrhoa
			Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Brown Honeyeater	Lichmera indistincta
2013			credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Little Crow	Corvus bennetti
			Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Black-faced cuckoo-shrike	Coracina novaehollandiae
			Corriding Rock	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013			credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Grey Butcherbird	Cracticus torquatus
			Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
			Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
			credo	-30.44055939	120.726387	Animalia	Chordata	Aves	Passeriformes	Chestnut-rumped Thornbill	Acanthiza uropygialis
2013			credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Willie Wagtail	Rhipidura leucophrys
			Corriding Rock	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Redthroat	Pyrrholaemus brunneus
2013			credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Grey Shrike-thrush	Colluricincla harmonica
			Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
			Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Grey Shrike-thrush	Colluricincla harmonica
			Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Grey Butcherbird	Cracticus torquatus
			Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2013			credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Brown-headed Honeyeater	Melithreptus brevirostris
			Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Willie Wagtail	Rhipidura leucophrys
2013			credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2013			credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Australian Raven	Corvus coronoides
			Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
			Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Jacky Winter	Microeca fascinans
			Corriding Rock	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Yellow-throated Miner	Manorina flavigula
			Corriding Rock	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Australian Pipit	Anthus novaeseelandiae
			Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Black-faced cuckoo-shrike	Coracina novaehollandiae
			Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
			Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Australian Raven	Corvus coronoides
			Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
			Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Chestnut-rumped Thornbill	Acanthiza uropygialis
2013			credo	-30.44166946	120.7305603	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
			Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Falconiformes	Nankeen Kestrel	Falco cenchroides
			Credo Station. Site 18	-30.42972	120.71389	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
			Corriding Rock	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
			Credo Station. Site 3	-30.4425	120.73	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2013	10	10	Credo 13F extra 2ha search	-30.49722	120.7572	Animalia	Chordata	Aves	Columbiformes	Crested Pigeon	Ocyphaps lophotes
2014	4	17	54 Dam Credo	-30.44077	120.73116	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2014	4	17	54 Dam Credo	-30.44077	120.73116	Animalia	Chordata	Aves	Passeriformes	Brown Honeyeater	Lichmera indistincta
2013	10	7	Credo area search WP15	-30.43361	120.6394	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2014	4	17	54 Dam Credo	-30.44077	120.73116	Animalia	Chordata	Aves	Passeriformes	Varied Sittella	Daphoenositta chrysoptera
2013	10	10	Credo 13E extra 2ha search	-30.49889	120.7383	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2014	4	18	Emu Rock Credo	-30.43244	120.64007	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2014	4	18	Emu Rock Credo	-30.43244	120.64007	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2014	4	17	54 Dam Credo	-30.44077	120.73116	Animalia	Chordata	Aves	Passeriformes	Splendid Fairy-wren	Malurus splendens
2014	4	20	Credo 8	-30.42939	120.70806	Animalia	Chordata	Aves	Passeriformes	Inland Thornbill	Acanthiza apicalis
2012	10	10	C4, Credo Station	-30.43417	120.6344	Animalia	Chordata	Aves	Passeriformes	Black Honeyeater	Sugomel niger
2014	4	18	Emu Rock Credo	-30.43244	120.64007	Animalia	Chordata	Aves	Passeriformes	White-browed Babbler	Pomatostomus superciliosus
2013	10	10	Credo 13D extra area search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Brown Honeyeater	Lichmera indistincta
2014	4	18	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Brown Honeyeater	Lichmera indistincta
2013	10	10	Credo 13D extra area search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Rufous Whistler	Pachycephala rufiventris
2014	4	18	Emu Rock Credo	-30.43244	120.64007	Animalia	Chordata	Aves	Passeriformes	Willie Wagtail	Rhipidura leucophrys
2014	4	18	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013	10	10	Credo 13E extra 2ha search	-30.49889	120.7383	Animalia	Chordata	Aves	Passeriformes	Grey Shrike-thrush	Colluricincla harmonica
2014	4	19	Poison Crossroad Credo	-30.43444	120.6531	Animalia	Chordata	Aves	Passeriformes	Dusky Woodswallow	Artamus cyanopterus
2014	4	18	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Cuculiformes	Black-eared Cuckoo	Chalcites osculans
2013	10	7	Credo area search WP15	-30.43361	120.6394	Animalia	Chordata	Aves	Passeriformes	Willie Wagtail	Rhipidura leucophrys
2014	4	18	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Redthroat	Pyrrholaemus brunneus

2014	4	18	Emu Rock Credo	-30.43244	120.64007	Animalia	Chordata	Aves	Cuculiformes	Black-eared Cuckoo	Chalcites osculans
2013	10	10	Credo 13D extra area search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2014	4	20	Credo 8	-30.42939	120.70806	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2013	10	10	Credo 13D extra 2ha search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Rufous Whistler	Pachycephala rufiventris
2014	4	19	Poison Crossroad Credo	-30.43444	120.6531	Animalia	Chordata	Aves	Psittaciformes	Purple-crowned Lorikeet	Parvipsitta porphyrocephala
2014	4	18	Emu Rock Credo	-30.43244	120.64007	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2013	10	7	Credo area search WP15	-30.43361	120.6394	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2014	4	18	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	Mistletoebird	Dicaeum hirundinaceum
2013	10	10	Credo 13E extra 2ha search	-30.49889	120.7383	Animalia	Chordata	Aves	Passeriformes	Rufous Whistler	Pachycephala rufiventris
2014	4	19	Poison Crossroad Credo	-30.43444	120.6531	Animalia	Chordata	Aves	Passeriformes	Rufous Treecreeper	Climacteris rufa
2013	10	10	Credo 13E extra 2ha search	-30.49889	120.7383	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2014	4	18	Emu Rock Credo	-30.43244	120.64007	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2014	4	17	54 Dam Credo	-30.44077	120.73116	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2014	4	19	Poison Crossroad Credo	-30.43444	120.6531	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2013	10	7	Credo area search WP15	-30.43361	120.6394	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2014	4	17	54 Dam Credo	-30.44077	120.73116	Animalia	Chordata	Aves	Passeriformes	Yellow-tail	Acanthiza chrysorrhoa
2014	4	19	Poison Crossroad Credo	-30.43444	120.6531	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2013	10	10	Credo 13D extra area search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2014	4	19	Poison Crossroad Credo	-30.43444	120.6531	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2014	4	20	Credo 8	-30.42939	120.70806	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2014	4	17	54 Dam Credo	-30.44077	120.73116	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013	10	7	Credo 9 GWW	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2013	10	10	Credo 13F extra 2ha search	-30.49722	120.7572	Animalia	Chordata	Aves	Passeriformes	White-browed Babbler	Pomatostomus superciliosus
2013	10	7	Credo area search WP15	-30.43361	120.6394	Animalia	Chordata	Aves	Passeriformes	Australian Magpie	Gymnorhina tibicen
2012	10	10	C4, Credo Station	-30.43417	120.6344	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2013	10	7	Credo 9 GWW	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2014	4	18	Emu Rock Credo	-30.43244	120.64007	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2014	4	19	Poison Crossroad Credo	-30.43444	120.6531	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2014	4	18	Emu Rock Credo	-30.43244	120.64007	Animalia	Chordata	Aves	Passeriformes	Mistletoebird	Dicaeum hirundinaceum
2012	10	10	C4, Credo Station	-30.43417	120.6344	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2014	4	20	Credo 8	-30.42939	120.70806	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2014	4	17	54 Dam Credo	-30.44077	120.73116	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2013	10	7	Credo area search WP15	-30.43361	120.6394	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2014	4	19	Poison Crossroad Credo	-30.43444	120.6531	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2014	4	19	Poison Crossroad Credo	-30.43444	120.6531	Animalia	Chordata	Aves	Passeriformes	Black-faced cuckoo-shrike	Coracina novaehollandiae
2013	10	10	Credo 13F extra 2ha search	-30.49722	120.7572	Animalia	Chordata	Aves	Passeriformes	Welcome Swallow	Hirundo neoxena
2014	4	18	Emu Rock Credo	-30.43244	120.64007	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2014	4	18	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	White-browed Babbler	Pomatostomus superciliosus
2013	10	10	Credo 13E extra 2ha search	-30.49889	120.7383	Animalia	Chordata	Aves	Ciconiiformes	White-necked Heron	Ardea pacifica
2014	4	18	Emu Rock Credo	-30.43244	120.64007	Animalia	Chordata	Aves	Passeriformes	Brown Honeyeater	Lichmera indistincta
2014	4	18	Credo 9	-30.433	120.64117	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2013	10	10	Credo 13F extra 2ha search	-30.49722	120.7572	Animalia	Chordata	Aves	Passeriformes	Zebra Finch	Taeniopygia guttata
2014	4	20	Credo 8	-30.42939	120.70806	Animalia	Chordata	Aves	Passeriformes	Brown Honeyeater	Lichmera indistincta
2013	10	10	Credo 13D extra area search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Zebra Finch	Taeniopygia guttata
2014	4	18	Emu Rock Credo	-30.43244	120.64007	Animalia	Chordata	Aves	Passeriformes	Black-faced cuckoo-shrike	Coracina novaehollandiae
2014	4	19	Credo west1	-30.42972	120.6772	Animalia	Chordata	Aves	Passeriformes	Gilbert's Whistler	Pachycephala inornata
2013	10	10	Credo 13E extra 2ha search	-30.49889	120.7383	Animalia	Chordata	Aves	Falconiformes	Brown Goshawk	Accipiter fasciatus
2013	10	10	Credo 13D extra area search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Yellow-tail	Acanthiza chrysorrhoa
2014	4	18	Emu Rock Credo	-30.43244	120.64007	Animalia	Chordata	Aves	Passeriformes	Grey Shrike-thrush	Colluricincla harmonica
2014	4	20	Credo 8	-30.42939	120.70806	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2014	4	18	Emu Rock Credo	-30.43244	120.64007	Animalia	Chordata	Aves	Passeriformes	Redthroat	Pyrrholaemus brunneus
2013	10	7	Credo area search WP15	-30.43361	120.6394	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2014	4	18	Emu Rock Credo	-30.43244	120.64007	Animalia	Chordata	Aves	Passeriformes	Southern Scrub-robin	Drymodes brunneopygia
2013	10	7	Credo 9 GWW	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Red-capped Robin	Petroica goodenovii
2014	4	18	Emu Rock Credo	-30.43244	120.64007	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2013	10	10	Credo 13D extra area search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2013	10	10	Credo 13D extra area search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Inland Thornbill	Acanthiza apicalis
2013	10	10	Credo 13F extra 2ha search	-30.49722	120.7572	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2013	10	10	Credo 13E extra 2ha search	-30.49889	120.7383	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2012	10	10	C4, Credo Station	-30.43417	120.6344	Animalia	Chordata	Aves	Passeriformes	White-eared Honeyeater	Nesoptilotis leucotis
2013	10	10	Credo 13D extra 2ha search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Willie Wagtail	Rhipidura leucophrys
2013	10	7	Credo 8 GWW	-30.43	120.7069	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2012	10	10	C3, Credo Station	-30.43	120.7069	Animalia	Chordata	Aves	Passeriformes	Grey Shrike-thrush	Colluricincla harmonica
2012	10	10	C4, Credo Station	-30.43417	120.6344	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2013	10	7	Credo area search WP15	-30.43361	120.6394	Animalia	Chordata	Aves	Passeriformes	White-browed Babbler	Pomatostomus superciliosus
2013	10	7	Credo 8 GWW	-30.43	120.7069	Animalia	Chordata	Aves	Passeriformes	Red-capped Robin	Petroica goodenovii

2013	10	7	Credo 8 GWW	-30.43	120.7069	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2013	10	7	Credo area search WP15	-30.43361	120.6394	Animalia	Chordata	Aves	Passeriformes	Gilbert's Whistler	Pachycephala inornata
2013	10	11	Credo GWW incidental	-30.55167	120.75	Animalia	Chordata	Aves	Gruiformes	Wild Turkey	Ardeotis australis
2013	10	10	Credo 13D extra 2ha search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Brown Honeyeater	Lichmera indistincta
2012	10	10	C4, Credo Station	-30.43417	120.6344	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2012	10	10	C3, Credo Station	-30.43	120.7069	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2013	10	7	Credo area search WP15	-30.43361	120.6394	Animalia	Chordata	Aves	Passeriformes	Rufous Whistler	Pachycephala rufiventris
2013	10	7	Credo 8 GWW	-30.43	120.7069	Animalia	Chordata	Aves	Passeriformes	Western Gerygone	Gerygone fusca
2013	10	7	Credo 9 GWW	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Zebra Finch	Taeniopygia guttata
2012	10	10	C4, Credo Station	-30.43417	120.6344	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2013	10	10	Credo 13E extra 2ha search	-30.49889	120.7383	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2013	10	7	Credo 8 GWW	-30.43	120.7069	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2013	10	10	Credo 13F extra 2ha search	-30.49722	120.7572	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2013	10	7	Credo area search WP15	-30.43361	120.6394	Animalia	Chordata	Aves	Falconiformes	Brown Goshawk	Accipiter fasciatus
2012	10	10	C3, Credo Station	-30.43	120.7069	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2013	10	10	Credo 13D extra area search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Rufous Treecreeper	Climacteris rufa
2013	10	10	Credo 13E extra 2ha search	-30.49889	120.7383	Animalia	Chordata	Aves	Passeriformes	Brown Honeyeater	Lichmera indistincta
2013	10	7	Credo area search WP15	-30.43361	120.6394	Animalia	Chordata	Aves	Passeriformes	Red-capped Robin	Petroica goodenovii
2013	10	10	Credo 13D extra area search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Australian Pipit	Anthus novaeseelandiae
2013	10	7	Credo 9 GWW	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2013	10	10	Credo 13D extra 2ha search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Yellow-tail	Acanthiza chrysorrhoa
2013	10	7	Credo 9 GWW	-30.43417	120.64	Animalia	Chordata	Aves	Falconiformes	Collared Sparrowhawk	Accipiter cirrocephalus
2012	10	10	C4, Credo Station	-30.43417	120.6344	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2012	10	10	C3, Credo Station	-30.43	120.7069	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013	10	10	Credo 13F extra 2ha search	-30.49722	120.7572	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2013	10	10	Credo 13E extra 2ha search	-30.49889	120.7383	Animalia	Chordata	Aves	Passeriformes	Grey Currawong	Strepera versicolor
2013	10	7	Credo 9 GWW	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Inland Thornbill	Acanthiza apicalis
2013	10	10	Credo 13E extra 2ha search	-30.49889	120.7383	Animalia	Chordata	Aves	Passeriformes	Willie Wagtail	Rhipidura leucophrys
2013	10	10	Credo 13D extra 2ha search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013	10	10	Credo 13D extra area search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2012	10	10	C3, Credo Station	-30.43	120.7069	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2013	10	7	Credo area search WP15	-30.43361	120.6394	Animalia	Chordata	Aves	Falconiformes	Collared Sparrowhawk	Accipiter cirrocephalus
2012	10	10	C3, Credo Station	-30.43	120.7069	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2013	10	10	Credo 13D extra 2ha search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2013	10	7	Credo 9 GWW	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Rufous Whistler	Pachycephala rufiventris
2013	10	10	Credo 13D extra area search	-30.44222	120.7294	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2013	10	7	Credo 8 GWW	-30.43	120.7069	Animalia	Chordata	Aves	Passeriformes	Rufous Whistler	Pachycephala rufiventris
2013	10	10	Credo 13E extra 2ha search	-30.49889	120.7383	Animalia	Chordata	Aves	Psittaciformes	Purple-crowned Lorikeet	Parvipsitta porphyrocephala
2013	10	10	Credo 13F extra 2ha search	-30.49722	120.7572	Animalia	Chordata	Aves	Passeriformes	Brown Honeyeater	Lichmera indistincta
2013	10	7	Credo 9 GWW	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Australian Magpie	Gymnorhina tibicen
2013	10	10	Credo 13D extra 2ha search	-30.44222	120.7294	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2012	10	10	C3, Credo Station	-30.43	120.7069	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2013	10	7	Credo 9 GWW	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Willie Wagtail	Rhipidura leucophrys
2013	10	7	Credo 8 GWW	-30.43	120.7069	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2013	10	10	Credo 13D extra area search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Grey Shrike-thrush	Colluricincla harmonica
2013	10	10	Credo 13D extra 2ha search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Inland Thornbill	Acanthiza apicalis
2013	10	10	Credo 13D extra 2ha search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Zebra Finch	Taeniopygia guttata
2013	10	7	Credo area search WP15	-30.43361	120.6394	Animalia	Chordata	Aves	Passeriformes	Zebra Finch	Taeniopygia guttata
2013	10	7	Credo 9 GWW	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Gilbert's Whistler	Pachycephala inornata
2012	10	10	C4, Credo Station	-30.43417	120.6344	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013	10	10	Credo 13D extra area search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2013	10	10	Credo 13F extra 2ha search	-30.49722	120.7572	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2013	10	10	Credo 13E extra 2ha search	-30.49889	120.7383	Animalia	Chordata	Aves	Passeriformes	Yellow-throated Miner	Manorina flavigula
2013	10	10	Credo 13E extra 2ha search	-30.49889	120.7383	Animalia	Chordata	Aves	Passeriformes	Little Crow	Corvus bennetti
2013	10	10	Credo 13D extra 2ha search	-30.44222	120.7294	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2013	10	7	Credo area search WP15	-30.43361	120.6394	Animalia	Chordata	Aves	Passeriformes	Inland Thornbill	Acanthiza apicalis
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Passeriformes	Western Gerygone	Gerygone fusca
2018	9	15	Credo	-30.43475	120.64666	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Falconiformes	Brown Falcon	Falco berigora
2018	9	15	Cs 09	-30.43424	120.64004	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Passeriformes	Pied Butcherbird	Cracticus nigrogularis
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Passeriformes	Blue-breasted Fairy-wren	Malurus pulcherrimus
2018	9	15	CS08	-30.43062	120.707	Animalia	Chordata	Aves	Passeriformes	Jacky Winter	Microeca fascinans
2018	9	15	Credo	-30.43475	120.64666	Animalia	Chordata	Aves	Passeriformes	Gilbert's Whistler	Pachycephala inornata
2018	9	15	CS08	-30.43062	120.707	Animalia	Chordata	Aves	Passeriformes	Yellow-tail	Acanthiza chrysorrhoa
2018	9	15	Credo	-30.43364	120.63878	Animalia	Chordata	Aves	Columbiformes	Common Bronzewing	Phaps chalcoptera

2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Columbiformes	Common Bronzewing	Phaps chalcoptera
2018	9	15	CS08	-30.43062	120.707	Animalia	Chordata	Aves	Passeriformes	Rufous Whistler	Pachycephala rufiventris
2018	9	15	Credo	-30.43364	120.63878	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Strigiformes		Ninox novaeseelandiae
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2018	9	15	Near granite	-30.43498	120.64716	Animalia	Chordata	Aves	Passeriformes	Gilbert's Whistler	Pachycephala inornata
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2018	9	15	Credo	-30.43364	120.63878	Animalia	Chordata	Aves	Passeriformes	Chestnut-rumped Thornbill	Acanthiza uropygialis
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Passeriformes	Blue-breasted Fairy-wren	Malurus pulcherrimus
2018	9	15	CS08	-30.43062	120.707	Animalia	Chordata	Aves	Passeriformes	Grey Currawong	Strepera versicolor
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Passeriformes	Redthroat	Pyrrholaemus brunneus
2017	9	10	Credo Station 9 60106	-30.43426	120.63984	Animalia	Chordata	Aves	Passeriformes	White-browed Babbler	Pomatostomus superciliosus
2018	9	15	CS08	-30.43062	120.707	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2018	9	15	Cs 09	-30.43424	120.64004	Animalia	Chordata	Aves	Passeriformes	Grey Shrike-thrush	Colluricincla harmonica
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Passeriformes	Grey Currawong	Strepera versicolor
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Falconiformes	Brown Falcon	Falco berigora
2018	9	15	Credo	-30.43364	120.63878	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Passeriformes	White-browed Babbler	Pomatostomus superciliosus
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Passeriformes	White-cheeked Honeyeater	Phylidonyris niger
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Passeriformes	White-eared Honeyeater	Nesoptilotis leucotis
2017	9	10	Credo Station 9 60106	-30.43426	120.63984	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2018	9	15	Cs 09	-30.43424	120.64004	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2018	9	15	Credo	-30.43352	120.65788	Animalia	Chordata	Aves	Passeriformes	Rufous Treecreeper	Climacteris rufa
2018	9	15	Cs 09	-30.43424	120.64004	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2018	9	15	Cs 09	-30.43424	120.64004	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2018	9	15	Credo	-30.43364	120.63878	Animalia	Chordata	Aves	Passeriformes	Redthroat	Pyrrholaemus brunneus
2018	9	15	CS08	-30.43062	120.707	Animalia	Chordata	Aves	Passeriformes	Yellow-tail	Acanthiza chrysorrhoa
2018	9	15	Cs 09	-30.43424	120.64004	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2018	9	15	Cs 09	-30.43424	120.64004	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2018	9	15	Credo	-30.43364	120.63878	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2017	9	10	Credo Station 8 60105	-30.43049	120.70676	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Passeriformes	White-browed Babbler	Pomatostomus superciliosus
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Cuculiformes	Horsfield's Bronze-cuckoo	Chalcites basalis
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Passeriformes	Southern Scrub-robin	Drymodes brunneopygia
2017	9	10	Credo Station 8 60105	-30.43049	120.70676	Animalia	Chordata	Aves	Passeriformes	Brown-headed Honeyeater	Melithreptus brevirostris
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Strigiformes	Southern Boobook	Ninox novaeseelandiae
2017	9	10	Credo Station 8 60105	-30.43049	120.70676	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2018	9	15	Credo	-30.42987	120.68432	Animalia	Chordata	Aves	Passeriformes		Cinclosoma castanotum
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Passeriformes	Grey Shrike-thrush	Colluricincla harmonica
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Passeriformes	Southern Scrub-robin	Drymodes brunneopygia
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Passeriformes	Redthroat	Pyrrholaemus brunneus
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Passeriformes	Western Gerygone	Gerygone fusca
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2017	9	10	Credo Station 9 60106	-30.43426	120.63984	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2017	9	10	Credo Station 9 60106	-30.43426	120.63984	Animalia	Chordata	Aves	Passeriformes	Southern Scrub-robin	Drymodes brunneopygia
2018	9	15	Cs 09	-30.43424	120.64004	Animalia	Chordata	Aves	Passeriformes	Redthroat	Pyrrholaemus brunneus
2018	9	15	Credo	-30.43475	120.64666	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Passeriformes	Grey Currawong	Strepera versicolor
2017	9	10	Credo Station 8 60105	-30.43049	120.70676	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2017	9	10	OB13	-30.43233	120.63761	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Cuculiformes		
2018	9	15	CS08	-30.43062	120.707	Animalia	Chordata	Aves	Passeriformes	Jacky Winter	Microeca fascinans
2018	9	15	Cs 09	-30.43424	120.64004	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Passeriformes	Grey Shrike-thrush	Colluricincla harmonica
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Passeriformes	Pied Butcherbird	Cracticus nigrogularis
2018	9	15	CS08	-30.43062	120.707	Animalia	Chordata	Aves	Passeriformes	Rufous Whistler	Pachycephala rufiventris
2018	9	15	Cs 09	-30.43424	120.64004	Animalia	Chordata	Aves	Passeriformes	Redthroat	Pyrrholaemus brunneus
2017	9	11	Corriding Rock Camp	-30.4323	120.638	Animalia	Chordata	Aves	Columbiformes	Common Bronzewing	Phaps chalcoptera
2018	9	15	Credo	-30.43445	120.65463	Animalia	Chordata	Aves	Passeriformes	White-eared Honeyeater	Nesoptilotis leucotis
2018	9	15	Cs 09	-30.43424	120.64004	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus

2013	3	31		credo	-30.43527985	120.6483307	Animalia	Chordata	Aves	Passeriformes	Willie Wagtail	Rhipidura leucophrys
2013	3	31		credo	-30.43361092	120.6530609	Animalia	Chordata	Aves	Psittaciformes	Purple-crowned Lorikeet	Parvipsitta porphyrocephala
2016	3	6		Credo Station 8 60105	-30.43056	120.7069	Animalia	Chordata	Aves	Passeriformes	Chestnut-rumped Thornbill	Acanthiza uropygialis
2013	3	31		credo	-30.42971992	120.7130585	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2013	3	31		credo	-30.43139076	120.6655579	Animalia	Chordata	Aves	Passeriformes	White-eared Honeyeater	Nesoptilotis leucotis
2013	3	31		credo	-30.43527985	120.6483307	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2013	3	31		credo	-30.43527985	120.6483307	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2013	3	30		credo	-30.44333076	120.7297211	Animalia	Chordata	Aves	Psittaciformes	Galah	Eolophus roseicapilla
2013	3	31		credo	-30.43139076	120.6655579	Animalia	Chordata	Aves	Passeriformes	Redthroat	Pyrrholaemus brunneus
2016	3	6		Credo Station 8 60105	-30.43056	120.7069	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2013	3	31		credo	-30.43527985	120.6483307	Animalia	Chordata	Aves	Passeriformes	Redthroat	Pyrrholaemus brunneus
2016	3	6		Credo Station 9 60106	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Mistletoebird	Dicaeum hirundinaceum
2016	3	6		Credo Station 8 60105	-30.43056	120.7069	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2013	3	30		credo	-30.44333076	120.7297211	Animalia	Chordata	Aves	Passeriformes	Black-faced cuckoo-shrike	Coracina novaehollandiae
2013	3	30		credo	-30.44333076	120.7297211	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013	3	31		credo	-30.43527985	120.6483307	Animalia	Chordata	Aves	Passeriformes	Chestnut-rumped Thornbill	Acanthiza uropygialis
2016	3	6		Credo Station 9 60106	-30.43417	120.64	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2013	3	31		credo	-30.43277931	120.6422195	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2016	3	6		Credo Station 9 60106	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2013	3	31		credo	-30.43139076	120.6655579	Animalia	Chordata	Aves	Passeriformes	Red-capped Robin	Petroica goodenovii
2013	3	31		credo	-30.43139076	120.6655579	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2016	3	6		Credo Station 9 60106	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Brown Honeyeater	Lichmera indistincta
2013	3	31		credo	-30.43527985	120.6483307	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2013	3	31		credo	-30.43361092	120.6530609	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2013	3	31		credo	-30.43139076	120.6655579	Animalia	Chordata	Aves	Psittaciformes	Purple-crowned Lorikeet	Parvipsitta porphyrocephala
2013	3	31		credo	-30.42971992	120.7130585	Animalia	Chordata	Aves	Passeriformes	Chestnut-rumped Thornbill	Acanthiza uropygialis
2013	3	31		credo	-30.43277931	120.6422195	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2016	3	6		Credo Station 9 60106	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013	3	31		credo	-30.42971992	120.7130585	Animalia	Chordata	Aves	Falconiformes	Brown Falcon	Falco berigora
2013	3	31		credo	-30.43361092	120.6530609	Animalia	Chordata	Aves	Passeriformes	Willie Wagtail	Rhipidura leucophrys
2013	3	31		credo	-30.43527985	120.6483307	Animalia	Chordata	Aves	Passeriformes	Grey Shrike-thrush	Colluricincla harmonica
2013	3	31		credo	-30.42971992	120.7130585	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2013	3	30		credo	-30.44333076	120.7297211	Animalia	Chordata	Aves	Passeriformes	Chestnut-rumped Thornbill	Acanthiza uropygialis
2013	3	31		credo	-30.43361092	120.6530609	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2013	3	30		credo	-30.44333076	120.7297211	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2013	3	31		credo	-30.43527985	120.6483307	Animalia	Chordata	Aves	Psittaciformes	Purple-crowned Lorikeet	Parvipsitta porphyrocephala
2016	3	6		Credo Station 8 60105	-30.43056	120.7069	Animalia	Chordata	Aves	Passeriformes	Redthroat	Pyrrholaemus brunneus
2016	3	6		Credo Station 9 60106	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2013	3	30		credo	-30.44333076	120.7297211	Animalia	Chordata	Aves	Passeriformes	Splendid Fairy-wren	Malurus splendens
2016	3	6		Credo Station 9 60106	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Grey Butcherbird	Cracticus torquatus
2013	3	31		credo	-30.43527985	120.6483307	Animalia	Chordata	Aves	Passeriformes	Red wattlebird	Anthochaera carunculata
2013	3	31		credo	-30.43277931	120.6422195	Animalia	Chordata	Aves	Passeriformes	Singing Honeyeater	Gavicalis virescens
2013	3	31		credo	-30.43277931	120.6422195	Animalia	Chordata	Aves	Passeriformes	Grey Shrike-thrush	Colluricincla harmonica
2013	3	31		credo	-30.43139076	120.6655579	Animalia	Chordata	Aves	Passeriformes	Spiny-cheeked Honeyeater	Acanthagenys rufogularis
2013	3	31		credo	-30.43361092	120.6530609	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2016	3	6		Credo Station 8 60105	-30.43056	120.7069	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2013	3	31		credo	-30.43527985	120.6483307	Animalia	Chordata	Aves	Passeriformes	White-browed Babbler	Pomatostomus superciliosus
2013	3	31		credo	-30.43139076	120.6655579	Animalia	Chordata	Aves	Passeriformes	Chestnut-rumped Thornbill	Acanthiza uropygialis
2013	3	31		credo	-30.43139076	120.6655579	Animalia	Chordata	Aves	Passeriformes	Splendid Fairy-wren	Malurus splendens
2013	3	31		credo	-30.43527985	120.6483307	Animalia	Chordata	Aves	Psittaciformes	Australian Ringneck	Barnardius zonarius
2013	3	31		credo	-30.43361092	120.6530609	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2013	3	31		credo	-30.43527985	120.6483307	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2013	3	31		credo	-30.43139076	120.6655579	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2013	3	31		credo	-30.43361092	120.6530609	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2013	3	31		credo	-30.43361092	120.6530609	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2013	3	31		credo	-30.42971992	120.7130585	Animalia	Chordata	Aves	Passeriformes	White-fronted Honeyeater	Purnella albifrons
2016	3	6		Credo Station 9 60106	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Yellow-plumed Honeyeater	Ptilotula ornata
2013	3	31		credo	-30.43361092	120.6530609	Animalia	Chordata	Aves	Passeriformes	Dusky Woodswallow	Artamus cyanopterus
2013	3	30		credo	-30.44333076	120.7297211	Animalia	Chordata	Aves	Passeriformes	Australian Magpie	Gymnorhina tibicen
2013	3	30		credo	-30.44333076	120.7297211	Animalia	Chordata	Aves	Passeriformes	Weebill	Smicrornis brevirostris
2013	3	31		credo	-30.43527985	120.6483307	Animalia	Chordata	Aves	Passeriformes	Black-faced cuckoo-shrike	Coracina novaehollandiae
2016	3	6		Credo Station 9 60106	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Crested Bellbird	Oreoica gutturalis
2013	3	31		credo	-30.43527985	120.6483307	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2016	3	6		Credo Station 9 60106	-30.43417	120.64	Animalia	Chordata	Aves	Passeriformes	Striated Pardalote	Pardalotus striatus
2013	3	31		credo	-30.43277931	120.6422195	Animalia	Chordata	Aves	Passeriformes	White-browed Babbler	Pomatostomus superciliosus
2011	9	6	yellow sandplain heath		-30.494444	120.673333	Animalia	Arthropoda	Diplopoda	Polyxenida		Phryssonotus novaehollandiae

2011			Terrestrial		-30.5007	120.7406	Animalia	Mollusca	Gastropoda	Stylommatophora	Pupasnails	
2011			Terrestrial		-30.4329	120.6599	Animalia	Mollusca	Gastropoda	Stylommatophora		
2011			Terrestrial		-30.5007	120.7406	Animalia	Mollusca	Gastropoda	Stylommatophora		
2011			Terrestrial		-30.5007	120.7406	Animalia	Mollusca	Gastropoda	Stylommatophora	Pupasnails	
2011			Terrestrial		-30.4355	120.6505	Animalia	Mollusca	Gastropoda	Stylommatophora		Westralaoma expicta
2011			Terrestrial		-30.4355	120.6505	Animalia	Mollusca	Gastropoda	Stylommatophora	Pupasnails	
2011			Terrestrial		-30.5261	120.7194	Animalia	Mollusca	Gastropoda	Stylommatophora	Pupasnails	
2011			Terrestrial		-30.5261	120.7194	Animalia	Mollusca	Gastropoda	Stylommatophora	Pupasnails	
2011			Terrestrial		-30.4718	120.752	Animalia	Mollusca	Gastropoda	Stylommatophora	Pupasnails	
2011			Terrestrial		-30.4718	120.752	Animalia	Mollusca	Gastropoda	Stylommatophora	Pupasnails	
2011			Terrestrial		-30.4355	120.6505	Animalia	Mollusca	Gastropoda	Stylommatophora	Pupasnails	
2011			Terrestrial		-30.4718	120.752	Animalia	Mollusca	Gastropoda	Stylommatophora	Pupasnails	
2011			Terrestrial		-30.4718	120.752	Animalia	Mollusca	Gastropoda	Stylommatophora	Pupasnails	
2011			Terrestrial		-30.4323	120.6371	Animalia	Mollusca	Gastropoda	Stylommatophora	Pupasnails	
2011			Terrestrial		-30.5007	120.7406	Animalia	Mollusca	Gastropoda	Stylommatophora	Pupasnails	
2011			Terrestrial		-30.5007	120.7406	Animalia	Mollusca	Gastropoda	Stylommatophora	Pupasnails	
2011			Terrestrial		-30.4323	120.6371	Animalia	Mollusca	Gastropoda	Stylommatophora	Pupasnails	
2011			Terrestrial		-30.5261	120.7194	Animalia	Mollusca	Gastropoda	Stylommatophora	Pupasnails	
2011			Terrestrial		-30.4298	120.6803	Animalia	Mollusca	Gastropoda	Stylommatophora		
2011	9	5		Credo Station	-30.4325	120.637778	Animalia	Chordata	Mammalia	Rodentia	Mitchell's Hopping Mouse	Notomys mitchellii
				24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Inland Snake-eyed Skink	Cryptoblepharus australis
				Credo Station	-30.4325	120.6375	Animalia	Chordata	Reptilia	Squamata	Barred Wedgesnout Ctenotus	Ctenotus schomburgkii
				Credo Station	-30.432778	120.659722	Animalia	Chordata	Reptilia	Squamata	Buchananâ€™s Snake-eyed Skink	Cryptoblepharus buchananii
2011	1	8		Credo Station	-30.494167	120.673056	Animalia	Chordata	Reptilia	Squamata	Wide-striped Ctenotus	Ctenotus xenopleura
2011	8	31	Collected in abandoned pitfall line	Credo Station	-30.4325	120.6375	Animalia	Chordata	Reptilia	Squamata	Tree Dtella	Gehyra variegata
2011	8	31		Credo Station	-30.4325	120.6375	Animalia	Chordata	Reptilia	Squamata	Common Dwarf Skink	Menetia greyii
2011	8	31		Credo Station	-30.4325	120.6375	Animalia	Chordata	Reptilia	Squamata	Orange-naped Snake	Furina ornata
2011	8	31		Credo Station	-30.4325	120.6375	Animalia	Chordata	Reptilia	Squamata	Ornate Dragon	Ctenophorus ornatus
1995	11	28	UNDER LOG	24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Goldfields Crevice-skink	Egernia formosa
1995	11	28		24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Inland Snake-eyed Skink	Cryptoblepharus australis
1995	11	29		24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Southern Robust Slider	Lerista picturata
1995	11	28	UNDER LOG	24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Bynoe's Gecko	Heteronotia binoei
1995	11	29	UNDER BARK	24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Tree Dtella	Gehyra variegata
1995	11	29		24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Saltbush Morethia Skink	Morethia adelaidensis
1995	11	29	UNDER BARK	24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Purplish Dtella	Gehyra purpurascens
1996	11	30	IN HOLLLOW LOG	24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Goldfields Crevice-skink	Egernia formosa
1996	11	28	UNDER LOG	24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Timid Slider	Lerista timida
1995	11	30	UNDER BARK	24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Tree Dtella	Gehyra variegata
1995	11	30		24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Woodland Morethia Skink	Morethia butleri
1995	11	30		24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Saltbush Morethia Skink	Morethia adelaidensis
1995	11	28	IN BURROW	24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Leonhardi's Ctenotus	Ctenotus leonhardii
1995	11	30	UNDER BARK	24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Tree Dtella	Gehyra variegata
1995	11	29		24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Common Dwarf Skink	Menetia greyii
1996	11	30		24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Desert Skink	Liopholis inornata
1995	11	30	UNDER LOG	24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Timid Slider	Lerista timida
1995	11	29		24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Saltbush Morethia Skink	Morethia adelaidensis
1995	11	29		24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Woodland Morethia Skink	Morethia butleri
1995	11	29	UNDER BARK	24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Tree Dtella	Gehyra variegata
1995	12	2	UNDER LOG	24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Timid Slider	Lerista timida
1995	12	2		24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Southern Robust Slider	Lerista picturata
1995	12	1		24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Western Beaked Gecko	Rhynchoedura ornata
1995	12	1		24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Western Shield Spiny-tailed Gecko	Strophurus wellingtonae
1995	12	2	UNDER LOG	24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Timid Slider	Lerista timida
1995	12	2	UNDER BARK AND LEAF LITTER	24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Marble-faced Delma	Delma australis
1995	12	1		24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Common Dwarf Skink	Menetia greyii
1995	12	1	UNDER BUSH	24km W Rowles Lagoon, Ora Banda	-30.45	120.683333	Animalia	Chordata	Reptilia	Squamata	Common Dwarf Skink	Menetia greyii
2011	9	6		Credo Station	-30.494167	120.673056	Animalia	Chordata	Reptilia	Squamata		Ctenophorus isolepis
2011	9	1		Credo Station	-30.4325	120.6375	Animalia	Chordata	Reptilia	Squamata	Fine-faced Gecko	Diplodactylus pulcher
2011	9	8		Credo Station	-30.494167	120.673056	Animalia	Chordata	Reptilia	Squamata		Ctenophorus isolepis

Australian Government
Department of the Environment and Energy

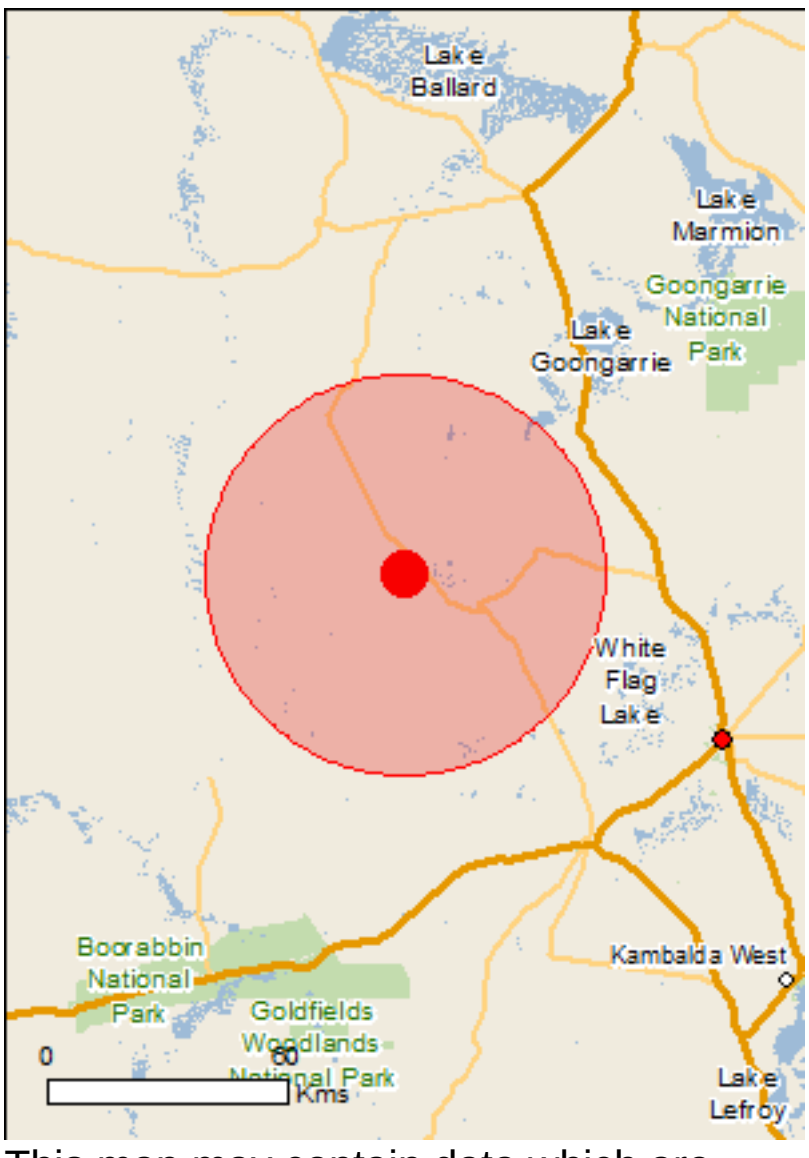
EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 21/09/20 15:28:13



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

Coordinates

Buffer: 50.0Km

Summary

Matters of National Environmental Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	7
Listed Migratory Species:	7

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	12
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

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

State and Territory Reserves:	4
Regional Forest Agreements:	None
Invasive Species:	14
Nationally Important Wetlands:	1
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Falco hypoleucos		
Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area
Leipoa ocellata		
Malleefowl [934]	Vulnerable	Species or species habitat known to occur within area
Pezoporus occidentalis		
Night Parrot [59350]	Endangered	Species or species habitat may occur within area
Mammals		
Dasyurus geoffroii		
Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area
Plants		
Gastrolobium graniticum		
Granite Poison [14872]	Endangered	Species or species habitat may occur within area
Ricinocarpos brevis		
[82879]	Endangered	Species or species habitat may occur within area

Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Motacilla cinerea		
Grey Wagtail [642]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Tringa nebularia		
Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat known to occur within area
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba		
Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis		
Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Chrysococcyx osculans		
Black-eared Cuckoo [705]		Species or species habitat known to occur within area
Merops ornatus		
Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea		
Grey Wagtail [642]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Thinornis rubricollis		
Hooded Plover [59510]		Species or species habitat may occur within area
Tringa nebularia		
Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

State and Territory Reserves [Resource Information]

Name	State
Clear And Muddy Lakes	WA
Credo	WA
Rowles Lagoon	WA
Wallaroo Rock	WA

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Columba livia		
Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Streptopelia chinensis		
Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Streptopelia senegalensis		
Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
Mammals		
Canis lupus familiaris		
Domestic Dog [82654]		Species or species habitat likely to occur within area
Capra hircus		
Goat [2]		Species or species habitat likely to occur within area
Equus asinus		
Donkey, Ass [4]		Species or species habitat likely to occur within area
Equus caballus		
Horse [5]		Species or species habitat likely to occur within area
Felis catus		
Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Mus musculus		
House Mouse [120]		Species or species habitat likely to occur

Name	Status	Type of Presence
		within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Carrichtera annua Ward's Weed [9511]		Species or species habitat likely to occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Reptiles		
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area

Nationally Important Wetlands	[Resource Information]
Name	State
Rowles Lagoon System	WA

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

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

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

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

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

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

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

Coordinates

-30.43111 120.75889

Acknowledgements

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

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

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

Please feel free to provide feedback via the Contact Us page.

Department of the Environment
GPO Box 787
Canberra ACT 2601 Australia
+61 2 6274 1111

Appendix 2
Conservation Codes and Definitions

Conservation codes for Western Australian flora and fauna (BC Regulations 2018).

Code	Definition
T	**Threatened species** Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the Biodiversity Conservation Act 2016 (BC Act). Threatened fauna is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3 of the Wildlife Conservation (Specially Protected Fauna) Notice 2018 for Threatened Fauna. Threatened flora is that subset of 'Rare Flora' listed under schedules 1 to 3 of the Wildlife Conservation (Rare Flora) Notice 2018 for Threatened Flora. The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.
CR	**Critically endangered species** Threatened species considered to be "facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines". Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice 2018 for critically endangered fauna or the Wildlife Conservation (Rare Flora) Notice 2018 for critically endangered flora.
EN	**Endangered species** Threatened species considered to be "facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines". Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice 2018 for endangered fauna or the Wildlife Conservation (Rare Flora) Notice 2018 for endangered flora.
VU	**Vulnerable species** Threatened species considered to be "facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines". Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice 2018 for vulnerable fauna or the Wildlife Conservation (Rare Flora) Notice 2018 for vulnerable flora.
	Extinct species Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild.
EX	**Extinct species** Species where "there is no reasonable doubt that the last member of the species has died", and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act). Published as presumed extinct under schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice 2018 for extinct fauna or the Wildlife Conservation (Rare Flora) Notice 2018 for extinct flora.
EW	**Extinct in the wild species** Species that "is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form", and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

	Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.
	Specially protected species Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection. Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.
MI	**Migratory species** Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act). Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species. Published as migratory birds protected under an international agreement under schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice 2018.
CD	**Species of special conservation interest (conservation 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). Published as conservation dependent fauna under schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice 2018.
OS	**Other specially protected species** Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act). Published as other specially protected fauna under schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice 2018.
	Priority species Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora. Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring. Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.
P1	**Priority 1: Poorly-known species** Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands,

	urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.
P2	**Priority 2: Poorly-known species** Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.
P3	**Priority 3: Poorly-known species** Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.
P4	**Priority 4: Rare, Near Threatened and other species in need of monitoring** (a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands. (b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent. (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.
	Specially protected fauna as defined by the *Wildlife Conservation (Specially Protected Fauna) Notice 2018.*
S1	Schedule 1—Fauna that is rare or is likely to become extinct as critically endangered fauna.
S2	Schedule 2—Fauna that is rare or is likely to become extinct as endangered fauna.
S3	Schedule 3—Fauna that is rare or is likely to become extinct as vulnerable fauna.
S4	Schedule 4—Fauna presumed to be extinct.
S5	Schedule 5—Migratory birds protected under an international agreement.
S6	Schedule 6—Fauna that is of special conservation need as conservation dependent fauna.

Conservation codes for species listed under the Environmental Protection and Biodiversity Conservation Act 1999

Status	Definition
Extinct	There is no reasonable doubt that the last member of the species has died.
Extinct in the wild	It is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range, or It has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
Critically Endangered	It is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
Endangered	It is not critically endangered; and It is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
Vulnerable	It is not critically endangered or endangered; and It is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
Conservation dependant	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; or 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.

Appendix 3
Survey Point Descriptions

Habitat Assessment		
Site ref: LI01	**Location:** Haul road route - north end	**Date** 15/1/2021

Corresponding flora survey site	R15-1
Vegetation description	*Eucalyptus loxophleba* subsp. *lissophloia*, *E. concinna*, *E. flocktoniae* mallee woodland/ mixed shrubland on low rises/ greenstone
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils.
Habitat condition	Good to Excellent

Comments and observations

High level of previous disturbance in some areas - existing tracks and evidence of historic mining/prospecting activity. Habitat is intact and in excellent condition away from the disturbance.

Site ref: LI02	**Location:** Haul road route - north end	**Date:** 15/1/2021

Corresponding flora survey site	Q1
Vegetation description	*Eucalyptus salmonophloia, E. transcontinentalis, E. salubris woodland over Eremophila interstans subsp. interstans, Eremophila scoparia, Exocarpos aphyllus* tall open shrubland over *Eremophila scoparia, Cratystylis subspinescens, Eremophila interstans subsp. interstans shrubland* over *Eremophila scoparia, Atriplex vesicaria, A. nummularia low open shrubland*
Habitat description	Eucalypt tall open woodland over Eremophila/Chenopod understorey, red clay-loam soils.
Habitat condition	Good to Excellent

Comments and observations

As per previous. More evidence of grazing activity.

Site ref: LI03	**Location:** Haul road route - north end	**Date:** 15/1/2021

Corresponding flora survey site	Q2
Vegetation description	*Acacia fuscaneura*, *A. caesaneura* woodlands or tall shrublands over *Acacia, Eremophila, Grevillea oligomera* and *Prostanthera* shrubland on low rises with ironstone gravel
Habitat description	"Mulga" woodland on red clay-loam soils, typically subject to periodic surface water flows
Habitat condition	Very Good
Comments and observations	
High bird activity. Evidence of cattle, donkeys and rabbits. Historic exploration and wood cutting activity. High levels of fallen timber providing habitat for a variety of reptiles.	

Site ref: LI04	**Location:** Haul road route - north end	**Date:** 15/1/2021

Corresponding flora survey site	R15-6
Vegetation description	*Eucalyptus salmonophloia, E. salubris* woodland over *Casuarina pauper* low isolated trees over *Eremophila scoparia, Acacia burkittii* sparse shrubland over *Maireana pyramidata, Eremophila scoparia, E. sp. Mt Jackson, Santalum acuminatum* low shrubland over *Atriplex vesicaria, Maireana triptera, M. pyramidata, M. thesioides* low open chenopod shrubland
Habitat description	Eucalypt open woodland over typically dense Acacia shrubland in broad drainage channels
Habitat condition	Good to Very Good

Comments and observations

Very large salmon gums. High level of previous pastoral disturbance. High surface water flow - tracks have eroded as a result.

Site ref: LI05	**Location:** Haul road route - north end	**Date:** 15/1/2021

Corresponding flora survey site	Q3
Vegetation description	*Eucalyptus salmonophloia, E. transcontinentalis, E. salubris woodland over Eremophila interstans subsp. interstans, Eremophila scoparia, Exocarpos aphyllus* tall open shrubland over *Eremophila scoparia, Cratystylis subspinescens, Eremophila interstans subsp. interstans shrubland* over *Eremophila scoparia, Atriplex vesicaria, A. nummularia low open shrubland*
Habitat description	Eucalypt tall open woodland over Eremophila/Chenopod understorey, red clay-loam soils.
Habitat condition	Very Good

Comments and observations

Historic wood line (timber harvesting) camp in the vicinity. High level of historic wood harvesting and pastoral activity.

Site ref: LI06	**Location:** Haul road route - north end	**Date:**

Corresponding flora survey site	R15-7
Vegetation description	*Casuarina pauper, Eucalyptus clelandiorum, E. salubris isolated low trees over Maireana sedifolia, Acacia hemiteles, Senna and Eremophila open shrubland*
Habitat description	Eucalypt tall open woodland over Eremophila/Chenopod understorey, red clay-loam soils.
Habitat condition	Good to Very Good
Comments and observations	
Historic wood harvesting. High level of grazing, evidence of donkeys. Tracks prone to erosion.	

Site ref: LI07	**Location:** Haul road route - north end	**Date:** 15/1/2021

Corresponding flora survey site	R15-8
Vegetation description	*Eucalyptus clelandiorum* woodland to open forest
Habitat description	Eucalypt tall open woodland over Eremophila/Chenopod understorey, red clay-loam soils.
Habitat condition	Good to Very Good
Comments and observations	
Historic wood harvesting. High level of grazing, evidence of donkeys.	

Site ref: LI08	**Location:** Haul road route - north end	**Date:** 15/1/2021

Corresponding flora survey site	R15-9
Vegetation description	*Eucalyptus loxophleba subsp. lissophloia mallee woodland over Eremophila ionantha, Senna artemisioides subsp. filifolia, Eremophila pustulata open shrubland over Ptilotus obovatus, Eremophila ionantha, Senna artemisioides subsp. filifolia, Maireana triptera, Olearia muelleri low open shrubland,*
Habitat description	Eucalypt open woodland over typically dense Acacia shrubland in broad drainage channels
Habitat condition	Good to Very Good
Comments and observations	
Evidence of cattle and donkeys, water source nearby. Rainbow bee-eaters present.	

Site ref: LI09	**Location:** Haul road route - north end	**Date:** 15/1/2021

Corresponding flora survey site	R15-10
Vegetation description	*Acacia caesaneura low open forest over Acacia burkittii, Santalum spicatum, Hakea recurva* tall open shrubland over *Prostanthera grylloana, Eremophila granitica, Acacia caesaneura, Olearia sp. Eremicola* low open shrubland
Habitat description	"Mulga" woodland on red clay-loam soils, typically subject to periodic surface water flows
Habitat condition	Very Good to Excellent
Comments and observations	
Periodic high surface water flow. Trap-door spider burrow found (not thought to be priority species).	

Site ref: LI10	**Location:** Haul road route - north end	**Date:** 15/1/2021

Corresponding flora survey site	R15-11
Vegetation description	*Eucalyptus clelandiorum* woodland to open forest
Habitat description	Eucalypt tall open woodland over Eremophila/Chenopod understorey, red clay-loam soils.
Habitat condition	Very Good to Excellent

Comments and observations

Very open, generally little understorey. Denser areas of shrub cover beneath the Eucalypts may provide suitable habitat for malleefowl foraging.

Site ref: LI11	**Location:** Haul road route - north end	**Date:** 15/1/2021

Corresponding flora survey site	R18-28
Vegetation description	*Eucalyptus loxophleba subsp. lissophloia mallee woodland to Eucalyptus clelandiorum, E. griffithsii, E. loxophleba subsp. lissophloia woodland over Acacia, Eremophila, Senna shrublands in drainage lines*
Habitat description	Eucalypt Woodland/Acacia Shrubland
Habitat condition	Very Good to Excellent
Comments and observations	
Some potential as malleefowl habitat.	

Site ref: LI12	**Location:** Haul road route - north end	**Date:** 15/1/2021

Corresponding flora survey site	
Vegetation description	*Eucalyptus clelandiorum* woodland to open forest
Habitat description	Eucalypt tall open woodland over Eremophila/Chenopod understorey, red clay-loam soils.
Habitat condition	Very Good to Excellent
Comments and observations	
High level of historic disturbance - wood harvesting, prospecting	

Site ref: LI13	**Location:** Haul road route - north end	**Date:** 15/1/2021

Corresponding flora survey site	
Vegetation description	*Eucalyptus griffithsii* isolated mallee over *Grevillea oligomera, Allocasuarina acutivalvis subsp. acutivalvis, Phebalium filifolium, Alyxia buxifolia, Acacia burkittii* shrubland over *Prostanthera althoferi subsp. althoferi* low open shrubland
Habitat description	Eucalypt Woodland/Acacia Shrubland
Habitat condition	Very Good to Excellent
Comments and observations	
Historic disturbance - exploration and pastoral	

Site ref: LI14	**Location:** Haul road route - south end	**Date:** 18/1/2021

Corresponding flora survey site	R18-3
Vegetation description	*Eucalyptus celastroides, E. clelandiorum, E. rigidula, E. salubris woodland/ Eremophila, Acacia, Grevillea, Scaevola, Santalum*
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils.
Habitat condition	Very Good to Excellent

Comments and observations

High bird activity

Site ref: LI15	**Location:** Haul road route - south end	**Date:** 18/1/2021

Corresponding flora survey site	R18-4
Vegetation description	*Melaleuca hamata low woodland patches over Allocasuarina eriochlamys subsp. eriochlamys, Halgania andromedifolia, Melaleuca hamata, Leptospermum fastigiatum, Acacia burkittii* shrubland
Habitat description	Patches of Melaleuca shrubland or low woodland over mixed shrub understorey
Habitat condition	Very Good to Excellent
Comments and observations	

Site ref: LI16	**Location:** Haul road - southern area	**Date:** 18/1/2021

Corresponding flora survey site	
Vegetation description	*Eucalyptus rigidula, E. incrassata* low open mallee shrubland over mixed *Dodonaea viscosa subsp. mucronata, Codonocarpus cotinifolius, Triodia rigidissima, Acacia hemiteles, Solanum plicatile* low sparse shrubland
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils.
Habitat condition	Very Good to Excellent
Comments and observations	

Site ref: LI17	**Location:** Haul road - southern area	**Date:** 18/1/2021

Corresponding flora survey site	R18-6/R18-7
Vegetation description	*Eucalyptus rigidula, E. incrassata* low open mallee shrubland over mixed *Dodonaea viscosa* subsp*. mucronata, Codonocarpus cotinifolius, Triodia rigidissima, Acacia hemiteles, Solanum plicatile,* low sparse shrubland *Melaleuca hamata* low woodland patches over *Allocasuarina eriochlamys* subsp*. eriochlamys, Halgania andromedifolia, Melaleuca hamata, Leptospermum fastigiatum, Acacia burkittii* shrubland
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils.
Habitat condition	Very Good to Excellent
Comments and observations	

Site ref: LI18	**Location:** Haul road - southern area	**Date:** 18/1/2021

Corresponding flora survey site	R18-6/R18-7
Vegetation description	*Eucalyptus rigidula, E. incrassata* low open mallee shrubland over mixed *Dodonaea viscosa* subsp*. mucronata, Codonocarpus cotinifolius, Triodia rigidissima, Acacia hemiteles, Solanum plicatile,* low sparse shrubland *Melaleuca hamata* low woodland patches over *Allocasuarina eriochlamys* subsp*. eriochlamys, Halgania andromedifolia, Melaleuca hamata, Leptospermum fastigiatum, Acacia burkittii* shrubland
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils.
Habitat condition	Very Good to Excellent
Comments and observations	
Some potential for malleefowl in this habitat.	

Site ref: LI19	**Location:** Haul road - southern area	**Date:** 18/1/2021

Corresponding flora survey site	R18-9/R18-10
Vegetation description	*Eucalyptus griffithsii, E. salmonophloia sparse isolated crowns over Acacia hemiteles, Eremophila interstans subsp. interstans tall isolated shrubs over Senna artemisioides subsp. filifolia, Ptilotus obovatus, Solanum plicatile, Austrostipa scabra, Codonocarpus cotinifolius*
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils.
Habitat condition	Very Good to Excellent
Comments and observations	

Site ref: LI20	**Location:** Haul road - central area	**Date:** 18/1/2021

Corresponding flora survey site	R18-10
Vegetation description	*Eucalyptus griffithsii, E. salmonophloia sparse isolated crowns over Acacia hemiteles, Eremophila interstans subsp. interstans* tall isolated shrubs over *Senna artemisioides subsp. filifolia, Ptilotus obovatus, Solanum plicatile, Austrostipa scabra, Codonocarpus cotinifolius, Austrostipa platychaeta*
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils - recently burnt.
Habitat condition	Poor to Good (As a result of fire. Will recover)

Comments and observations

Burnt approx. 12 months prior. Open ground provides hunting opportunities for raptors.

Site ref: LI21	**Location:** Haul road - central area	**Date:** 18/1/2021

Corresponding flora survey site	R18-10
Vegetation description	*Eucalyptus griffithsii, E. salmonophloia sparse isolated crowns over Acacia hemiteles, Eremophila interstans subsp. interstans* tall isolated shrubs over *Senna artemisioides subsp. filifolia, Ptilotus obovatus, Solanum plicatile, Austrostipa scabra, Codonocarpus cotinifolius, Austrostipa platychaeta*
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils - recently burnt.
Habitat condition	Poor to Good (As a result of fire. Will recover)

Comments and observations

Burnt approx. 12 months prior. Open ground provides hunting opportunities for raptors.

Site ref: LI22	**Location:** Haul road - central area	**Date:** 18/1/2021

Corresponding flora survey site	R18-11
Vegetation description	*Persoonia helix. Solanum plicatile, Eucalyptus* seedlings*, Acacia sp., Melaleuca hamata, Hannafordia bissillii subsp. latifolia, Euphorbia tannensis subsp. eremophila, Seringia velutina, Dasymalla terminalis* low open shrubland
Habitat description	Low to medium Acacia and Allocasuarina shrubland on yellow sandplain
Habitat condition	Poor (Due to recent fire. Will recover)
Comments and observations	
Burnt approx. 12 months prior. High reptile and insect activity. Open ground provides hunting opportunities for raptors and other birds.	

Site ref: LI23	**Location:** Haul road - central area	**Date:** 18/1/2021

Corresponding flora survey site	R18-14
Vegetation description	*Eucalyptus griffithsii* low sparse shrubland over *Halgania andromedifolia, Codonocarpus cotinifolius, Austrostipa sp., Amphipogon sp., Goodenia discophora, Hakea francisiana, Triodia rigidissima, Hannafordia bissillii subsp. latifolia, Solanum plicatile, Monachather paradoxus, Alyxia buxifolia, Acacia burkittii, Santalum spicatum, Eucalyptus oleosa subsp. oleosa*
Habitat description	Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Poor (Due to recent fire. Will recover)

Comments and observations

Burnt approx. 12 months prior. High reptile and insect activity. Open ground provides hunting opportunities for raptors and other birds.

Site ref: LI24	**Location:** Haul road - central area	**Date:** 18/1/2021

Corresponding flora survey site	R18-16
Vegetation description	*Eucalyptus griffithsii* low sparse shrubland over *Halgania andromedifolia, Codonocarpus cotinifolius, Austrostipa sp., Amphipogon sp., Goodenia discophora, Hakea francisiana, Triodia rigidissima, Hannafordia bissillii subsp. latifolia, Solanum plicatile, Monachather paradoxus, Alyxia buxifolia, Acacia burkittii, Santalum spicatum, Eucalyptus oleosa subsp. oleosa*
Habitat description	Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Poor (Due to recent fire. Will recover) to Very Good (remnant patches).

Comments and observations

Burnt approx. 12 months prior. High reptile and insect activity. Open ground provides hunting opportunities for raptors and other birds.

Site ref: LI25	**Location:** Haul road - central area	**Date:** 18/1/2021

Corresponding flora survey site	R18-18
Vegetation description	*Eucalyptus loxophleba subsp. lissophloia, E. clelandiorum* open mallee forest over *Hakea recurva subsp. recurva, Santalum spicatum, Alyxia buxifolia, Eremophila oppositifolia subsp. angustifolia, Acacia burkittii* open shrubland.
Habitat description	Eucalypt open woodland over typically dense Acacia shrubland in broad drainage channels
Habitat condition	Very Good to Excellent

Comments and observations

Unburnt section of vegetation surrounded by burnt areas. Important as refuge for many species. Ill-defined drainage.

Site ref: LI26	**Location:** Haul road - central area	**Date:** 18/1/2021

Corresponding flora survey site	R18-21
Vegetation description	*Eucalyptus incrassata, E. rigidula, Halgania andromedifolia, Triodia rigidissima, Hakea francisiana, Dasymalla terminalis, Gyrostemon racemiger, Hannafordia bissillii subsp. latifolia, Seringia velutina* low open shrubland
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils.
Habitat condition	Poor (Due to recent fire. Will recover) to Very Good (remnant patches).
Comments and observations	
Large trees over burnt areas being utilised by raptors.	

Site ref: LI27	**Location:** Haul road - central area	**Date:** 18/1/2021

Corresponding flora survey site	R18-21
Vegetation description	*Eucalyptus griffithsii* low sparse shrubland over *Halgania andromedifolia, Codonocarpus cotinifolius, Austrostipa sp., Amphipogon sp., Goodenia discophora, Hakea francisiana, Triodia rigidissima, Hannafordia bissillii subsp. latifolia, Solanum plicatile, Monachather paradoxus, Alyxia buxifolia, Acacia burkittii, Santalum spicatum, Eucalyptus oleosa subsp. oleosa*
Habitat description	Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Poor (Due to recent fire. Will recover).

Comments and observations

Burnt approx. 12 months prior. High reptile and insect activity. Open ground provides hunting opportunities for raptors and other birds.

Site ref: LI28	**Location:** Haul road - central area	**Date:** 18/1/2021

Corresponding flora survey site	
Vegetation description	*Eucalyptus incrassata, E. rigidula, Halgania andromedifolia, Triodia rigidissima, Hakea francisiana, Dasymalla terminalis, Gyrostemon racemiger, Hannafordia bissillii subsp. latifolia, Seringia* velutina low open shrubland
Habitat description	Low to medium Acacia and Allocasuarina shrubland on yellow sandplain
Habitat condition	Poor (Due to being burnt. Will recover)
Comments and observations	
High numbers of insects at the time of the survey - numerous flower species.	

Site ref: LI29	**Location:** Haul road - central area	**Date:** 18/1/2021

Corresponding flora survey site	R18-23
Vegetation description	*Eucalyptus loxophleba subsp. lissophloia* open mallee woodland over *Allocasuarina acutivalvis subsp. acutivalvis, Eremophila pustulata, E. decipiens subsp. decipiens, Halgania andromedifolia, Alyxia buxifolia, Grevillea paniculata* shrubland over *Eremophila pustulata, Alyxia buxifolia, Acacia erinacea, Triodia rigidissima* low sparse shrubland
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils.
Habitat condition	Good
Comments and observations	
Laterite rise. Burnt 5-10 yrs. Drought impact evident.	

Site ref: LI30	**Location:** Haul road - central area	**Date:** 18/1/2021

Corresponding flora survey site	
Vegetation description	*Seringia velutina, Codonocarpus cotinifolius, Acacia seedlings, Solanum cleistogamum, Euphorbia tannensis subsp. eremophila low isolated shrubs and forbs*
Habitat description	Low to medium Acacia and Allocasuarina shrubland on yellow sandplain
Habitat condition	Poor (Due to being burnt. Will recover)
Comments and observations	
Limited opportunities for fauna at the time of the survey due to recent fire.	

Site ref: LI31	**Location:** Haul road - central area	**Date:** 18/1/2021

Corresponding flora survey site	R18-25
Vegetation description	*Allocasuarina corniculata, A. acutivalvis (tent), Acacia sp., Philotheca brucei subsp. brucei shrubland over Philotheca brucei subsp. brucei, Aluta aspera subsp. aspera, Prostanthera althoferi subsp. althoferi low open shrubland*
Habitat description	Low to medium Acacia and Allocasuarina shrubland on yellow sandplain
Habitat condition	Very Good
Comments and observations	
Regrowth from fire 5-10 years prior.	

Site ref:	LI32 and LI32b	**Location:**	Haul road - northern central area	**Date:**	18/1/2021

Corresponding flora survey site	R18-26/R18-27
Vegetation description	*Eucalyptus loxophleba subsp. lissophloia, E. longissima, E. oleosa subsp. oleosa* open mallee woodland over *Acacia burkittii, Halgania andromedifolia, Allocasuarina acutivalvis, Eremophila ionantha, Santalum acuminatum, Acacia tetragonophylla, Eremophila interstans* open shrubland over *Scaevola spinescens, Acacia burkittii, Eremophila ionantha, Exocarpos aphyllus, Olearia muelleri, Westringia rigida, Triodia rigidissima* low open shrubland *Eucalyptus salubris, E. virella, E. salmonophloia* open woodland over *Eremophila ionantha, Acacia hemiteles, Westringia rigida* sparse shrubland over *Sclerolaena diacantha, S. fusiformis* low isolated forbs
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils.
Habitat condition	Very Good to Excellent
Comments and observations	

Site ref: LI33	**Location:** Haul road - northern central area	**Date:** 18/1/2021

Corresponding flora survey site	
Vegetation description	*Eucalyptus loxophleba subsp. lissophloia* mallee woodland *to Eucalyptus clelandiorum, E. griffithsii, E. loxophleba subsp. lissophloia* woodland over *Acacia, Eremophila, Senna shrublands* in drainage lines
Habitat description	Eucalypt open woodland over typically dense Acacia shrubland in broad drainage channels
Habitat condition	Very Good to Excellent

Comments and observations

Rainbow bee-eater. Thick understorey suitable for a wide variety of bird species.

Site ref: LI34	**Location:** Haul road - northern central area	**Date:** 18/1/2021

Corresponding flora survey site	R19-1
Vegetation description	*Acacia fuscaneura, A. caesaneura* woodlands or tall shrublands over *Acacia, Eremophila, Grevillea oligomera* and *Prostanthera* shrubland on low rises with ironstone gravel
Habitat description	"Mulga" woodland on red clay-loam soils, typically subject to periodic surface water flows
Habitat condition	Very Good to Excellent
Comments and observations	
Dam nearby. Cattle tracks but minimal grazing damage evident.	

Site ref: LI35	**Location:** Haul road - northern central area	**Date:** 19/1/2021

Corresponding flora survey site	R19-4
Vegetation description	*Eucalyptus salmonophloia, E. transcontinentalis* woodland over *Eremophila interstans subsp. interstans, Eremophila scoparia, Exocarpos aphyllus* tall open shrubland over *Eremophila scoparia, Cratystylis subspinescens, Eremophila interstans subsp. interstans* shrubland over *Eremophila scoparia, Atriplex vesicaria, A. nummularia, Eremophila interstans subsp. interstans, Senna artemisioides subsp. filifolia* low open shrubland.
Habitat description	Eucalypt tall open woodland over Eremophila/Chenopod understorey, red clay-loam soils.
Habitat condition	Very Good to Excellent
Comments and observations	
As per LI34	

Site ref: LI36	**Location:** Haul road - northern central area	**Date:** 19/1/2021

Corresponding flora survey site	R19-5
Vegetation description	*Eucalyptus salmonophloia, E. transcontinentalis* woodland over *Eremophila interstans subsp. interstans, Eremophila scoparia, Exocarpos aphyllus* tall open shrubland over *Eremophila scoparia, Cratystylis subspinescens, Eremophila interstans subsp. interstans* shrubland over *Eremophila scoparia, Atriplex vesicaria, A. nummularia, Eremophila interstans subsp. interstans, Senna artemisioides subsp. filifolia* low open shrubland.
Habitat description	Eucalypt tall open woodland over Eremophila/Chenopod understorey, red clay-loam soils.
Habitat condition	Good
Comments and observations	
High level of prior disturbance - close to Two Gums mine site.	

Site ref: LI37	**Location:** Haul road - northern central area	**Date:** 19/1/2021

Corresponding flora survey site	R19-5
Vegetation description	*Eucalyptus salmonophloia woodland over Eremophila scoparia, Maireana sedifolia, Scaevola spinescens, Exocarpos aphyllus, Senna artemisioides subsp. filifolia shrubland over Eremophila scoparia, Maireana sedifolia, Scaevola spinescens, Exocarpos aphyllus, Senna artemisioides subsp. filifolia low open shrubland*
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils.
Habitat condition	Good to Very Good
Comments and observations	
Prior disturbance throughout	

Site ref: LI38	**Location:** Haul road - northern area	**Date:** 19/1/2021

Corresponding flora survey site	R19-7
Vegetation description	*Eucalyptus clelandiorum, E. virella, E. oleosa subsp. oleosa, E. salmonophloia, E. transcontinentalis* open woodland over *Eremophila scoparia, E. ionantha, Senna artemisioides subsp. filifolia, Eremophila decipiens subsp. decipiens* open shrubland over *Olearia muelleri, Eremophila ionantha* low sparse shrubland
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils.
Habitat condition	Good to Very Good
Comments and observations	
Prior disturbance throughout	

Site ref: LI39	**Location:** Haul road - northern area	**Date:** 19/1/2021

Corresponding flora survey site	R15-10
Vegetation description	*Acacia caesaneura low open forest over Acacia burkittii, Santalum spicatum, Hakea recurva* tall open shrubland over *Prostanthera grylloana, Eremophila granitica, Acacia caesaneura, Olearia sp. Eremicola* low open shrubland
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils tending to "Mulga" woodland on red clay-loam soils, typically subject to periodic surface water flows
Habitat condition	
Comments and observations	
Prior disturbance throughout	

Site ref: LIZ01	**Location:** Lizard deposit area	**Date:** 16/1/2021

Corresponding flora survey site	R16-1
Vegetation description	*Cheilanthes sieberi subsp. sieberi, Amphipogon caricinus, lichens low fernland; isolated patches of shrubs (Philotheca brucei subsp. brucei)*
Habitat description	Broad expanses of outcropping granite and immediate surrounds
Habitat condition	Excellent

Comments and observations

Pools of water present. High kangaroo activity

Site ref: LIZ02	**Location:** Lizard deposit area	**Date:** 16/1/2021

Corresponding flora survey site	Liz1/Liz2
Vegetation description	*Acacia acuminata, Philotheca brucei subsp. brucei, Eremophila clarkei, Dodonaea lobulata, Alyxia buxifolia shrubland over Prostanthera grylloana, Dodonaea lobulata, Eremophila clarkei low open shrubland*
Habitat description	Acacia shrubland surrounding granite outcrop
Habitat condition	Excellent

Comments and observations

High bird and kangaroo activity. Refuge for animals accessing water from the granite outcrop.

Site ref: LIZ03	**Location:** Lizard deposit area	**Date:** 16/1/2021

Corresponding flora survey site	R16-2
Vegetation description	*Eucalyptus loxophleba subsp. lissophloia, E. virella open mallee woodland over Acacia acuminata, Hakea recurva, Acacia murrayana, Santalum spicatum tall shrubland over Senna artemisioides subsp. filifolia, Eremophila clarkei, Santalum spicatum, Pittosporum angustifolium open shrubland*
Habitat description	Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good
Comments and observations	
Considerable vehicle activity - probably exploration and recreational	

Site ref: LIZ04	**Location:** Lizard deposit area	**Date:** 16/1/2021

Corresponding flora survey site	Q5
Vegetation description	*Allocasurina acutivalvis subsp. acutivalvis, Acacia burkittii, Hakea preissii* tall sparse shrubland over *Allocasurina corniculata, Phebalium filifolium, Hysterobaeckea ochropetala, Allocasurina acutivalvis subsp. acutivalvis open shrubland over Hysterobaeckea ochropetala, Phebalium filifolium, Prostanthera grylloana, Allocasurina acutivalvis subsp. acutivalvis, Acacia burkittii* low open shrubland
Habitat description	Low to medium Acacia and Allocasuarina shrubland on yellow sandplain
Habitat condition	Good
Comments and observations	
Some potential for malleefowl in this habitat. Impacts of drought are evident.	

Site ref: LIZ05	**Location:** Lizard deposit area	**Date:** 16/1/2021

Corresponding flora survey site	R16-5
Vegetation description	*Eucalyptus loxophleba subsp. lissophloia open mallee woodland over Acacia burkittii tall shrubland*
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils.
Habitat condition	Very Good to Excellent
Comments and observations	
Broad drainage	

Site ref: LIZ06	**Location:** Lizard deposit area	**Date:** 16/1/2021

Corresponding flora survey site	R16-6
Vegetation description	*Eucalyptus loxophleba subsp. supralaevis, E. celastroides* open mallee forest over *Eremophila sp. Mt Jackson, Scaevola spinescens, Acacia hemiteles* sparse shrubland over *Olearia muelleri, Scaevola spinescens, Eremophila oppositifolia subsp. angustifolia, Rhagodia drummondii, Exocarpos aphyllus* low open shrubland
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils tending to Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent

Comments and observations

Minimal prior disturbance. Very sparse understorey.

Site ref: LIZ07	**Location:** Lizard deposit area	**Date:** 16/1/2021

Corresponding flora survey site	R16-8
Vegetation description	*Eucalyptus clelandiorum* woodland over *Acacia burkittii, Scaevola spinescens, Acacia erinacea, Eremophila oppositifolia subsp. angustifolia, Allocasuarina acutivalvis subsp. acutivalvis, Acacia hemiteles* sparse shrubland
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils
Habitat condition	Good

Comments and observations

Undisturbed vegetation immediately adjacent to the old mine workings. Extensive disturbance throughout.

Site ref: LIZ08	**Location:** Lizard deposit area	**Date:** 16/1/2021

Corresponding flora survey site	Q6
Vegetation description	*Eucalyptus rigidula, E. ravida open mallee woodland over Melaleuca hamata tall shrubland over Westringia rigida, Acacia erinacea, Olearia muelleri isolated low shrubs*
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils tending to Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent
Comments and observations	

Site ref: LIZ09	**Location:** Lizard deposit area	**Date:** 16/1/2021

Corresponding flora survey site	R16-10
Vegetation description	*Eucalyptus clelandiorum* woodland over *Acacia burkittii, Scaevola spinescens, Acacia erinacea, Eremophila oppositifolia subsp. angustifolia, Allocasuarina acutivalvis subsp. acutivalvis, Acacia hemiteles* sparse shrubland
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils.
Habitat condition	Very Good to Excellent
Comments and observations	

Site ref: LIZ10	**Location:** Lizard deposit area	**Date:** 16/1/2021

Corresponding flora survey site	R17-1
Vegetation description	*Eucalyptus virella low open mallee woodland over Chrysitrix distigmatosa, Acacia hemiteles, Olearia sp. Eremicola, Scaevola spinescens sparse sedgeland*
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils tending to Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent
Comments and observations	

Site ref: LIZ11	**Location:** Lizard deposit area	**Date:** 17/1/2021

Corresponding flora survey site	R17-2
Vegetation description	*Eucalyptus virella, E. eremophila mallee stands over Alyxia buxifolia, Scaevola spinescens, Acacia hemiteles, Eremophila sp. Mt Jackson, Acacia tetragonophylla, Exocarpos aphyllus (with mistletoe) shrubland*
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils tending to Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent
Comments and observations	

Site ref: LIZ12	**Location:** Lizard deposit area	**Date:** 17/1/2021

Corresponding flora survey site	R17-2
Vegetation description	*Eucalyptus virella, E. eremophila mallee stands over Alyxia buxifolia, Scaevola spinescens, Acacia hemiteles, Eremophila sp. Mt Jackson, Acacia tetragonophylla, Exocarpos aphyllus (with mistletoe) shrubland*
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils tending to Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent
Comments and observations	

Site ref: LIZ13	**Location:** Lizard deposit area	**Date:** 17/1/2021

Corresponding flora survey site	R17-3
Vegetation description	*Eucalyptus virella low open mallee woodland over Chrysitrix distigmatosa, Acacia hemiteles, Olearia sp. Eremicola, Scaevola spinescens sparse sedgeland*
Habitat description	Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent
Comments and observations	

Site ref: LIZ14	**Location:** Lizard deposit area	**Date:** 17/1/2021

Corresponding flora survey site	R-17-4
Vegetation description	*Allocasuarina corniculata, Acacia eremophila subsp. eremophila, Eucalyptus leptopoda subsp. subluta, Eucalyptus eremophila* tall open shrubland
Habitat description	Low to medium Acacia and Allocasuarina shrubland on yellow sandplain tending to Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent
Comments and observations	

Site ref: LIZ15	**Location:** Lizard-Iguana deposit area	**Date:** 17/1/2021

Corresponding flora survey site	R-17-7
Vegetation description	*Eucalyptus clelandiorum woodland over Acacia burkittii, Scaevola spinescens, Acacia erinacea, Eremophila oppositifolia subsp. angustifolia, Allocasuarina acutivalvis subsp. acutivalvis, Acacia hemiteles sparse shrubland*
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils tending to Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent
Comments and observations	

Site ref: LIZ16	**Location:** Lizard-Iguana deposit area	**Date:** 17/1/2021

Corresponding flora survey site	R-17-8
Vegetation description	*Eucalyptus clelandiorum woodland over Acacia burkittii, Scaevola spinescens, Acacia erinacea, Eremophila oppositifolia subsp. angustifolia, Allocasuarina acutivalvis subsp. acutivalvis, Acacia hemiteles sparse shrubland*
Habitat description	Eucalypt open woodland over Acacia/Allocasuarina shrubland, red clay-loam soils tending to Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent
Comments and observations	

Site ref: IG01	**Location:** Iguana deposit area	**Date:** 17/1/2021

Corresponding flora survey site	R17-11
Vegetation description	*Eucalyptus incrassata, E. rigidula, Banksia elderiana, Acacia lasiocalyx* low open mallee shrubland over *Conospermum stoechadis, Melaleuca cordata, Acacia cylindrica, Leptospermum fastigiatum, Melaleuca calyptroides* open shrubland over *Triodia rigidissima, Calytrix creswellii, Melaleuca cordata, Myrtaceae sp.* low hummock grassland/ shrubland
Habitat description	Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent

Comments and observations

Long-unburnt (+20 years). Some potential for malleefowl to be present in long unburnt vegetation such as this. Some drought impact evident.

Site ref: IG02	**Location:** Iguana deposit area	**Date:** 17/1/2021

Corresponding flora survey site	R17-12
Vegetation description	*Eucalyptus incrassata, E. rigidula, Banksia elderiana, Acacia lasiocalyx* low open mallee shrubland over *Conospermum stoechadis, Melaleuca cordata, Acacia cylindrica, Leptospermum fastigiatum, Melaleuca calyptroides* open shrubland over *Triodia rigidissima, Calytrix creswellii, Melaleuca cordata, Myrtaceae sp.* low hummock grassland/ shrubland
Habitat description	Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent

Comments and observations

Long-unburnt (+20 years). Some potential for malleefowl to be present in long unburnt vegetation such as this. Some drought impact evident.

Site ref: IG03	**Location:** Iguana deposit area	**Date:** 17/1/2021

Corresponding flora survey site	R17-13
Vegetation description	*Allocasuarina corniculata, Acacia eremophila subsp. eremophila, Eucalyptus leptopoda subsp. subluta, Eucalyptus eremophila tall open shrubland*
Habitat description	Low to medium Acacia and Allocasuarina shrubland on yellow sandplain
Habitat condition	Very Good to Excellent

Comments and observations

Long-unburnt (+20 years). Some potential for malleefowl to be present in long unburnt vegetation such as this. Some drought impact evident.

Site ref: IG04	**Location:** Iguana deposit area	**Date:** 17/1/2021

Corresponding flora survey site	R17-15/R17-16
Vegetation description	*Eucalyptus incrassata, E. rigidula, Banksia elderiana, Acacia lasiocalyx* low open mallee shrubland over *Conospermum stoechadis, Melaleuca cordata, Acacia cylindrica, Leptospermum fastigiatum, Melaleuca calyptroides* open shrubland over *Triodia rigidissima, Calytrix creswellii, Melaleuca cordata, Myrtaceae sp.* low hummock grassland/ shrubland
Habitat description	Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent
Comments and observations	
Long unburnt. Old exploration disturbance throughout.	

Site ref: IG05	**Location:** Iguana deposit area	**Date:** 17/1/2021

Corresponding flora survey site	R17-14
Vegetation description	*Eucalyptus incrassata, E. rigidula, Banksia elderiana, Acacia lasiocalyx* low open mallee shrubland over *Conospermum stoechadis, Melaleuca cordata, Acacia cylindrica, Leptospermum fastigiatum, Melaleuca calyptroides* open shrubland over *Triodia rigidissima, Calytrix creswellii, Melaleuca cordata, Myrtaceae sp.* low hummock grassland/ shrubland
Habitat description	Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent
Comments and observations	
Long unburnt. Old exploration disturbance throughout.	

Site ref: IG06	**Location:** Iguana deposit area	**Date:** 17/1/2021

Corresponding flora survey site	R17-15
Vegetation description	*Eucalyptus incrassata, E. rigidula, Banksia elderiana, Acacia lasiocalyx* low open mallee shrubland over *Conospermum stoechadis, Melaleuca cordata, Acacia cylindrica, Leptospermum fastigiatum, Melaleuca calyptroides* open shrubland over *Triodia rigidissima, Calytrix creswellii, Melaleuca cordata, Myrtaceae sp.* low hummock grassland/ shrubland
Habitat description	Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent
Comments and observations	
Long unburnt. Old exploration disturbance throughout.	

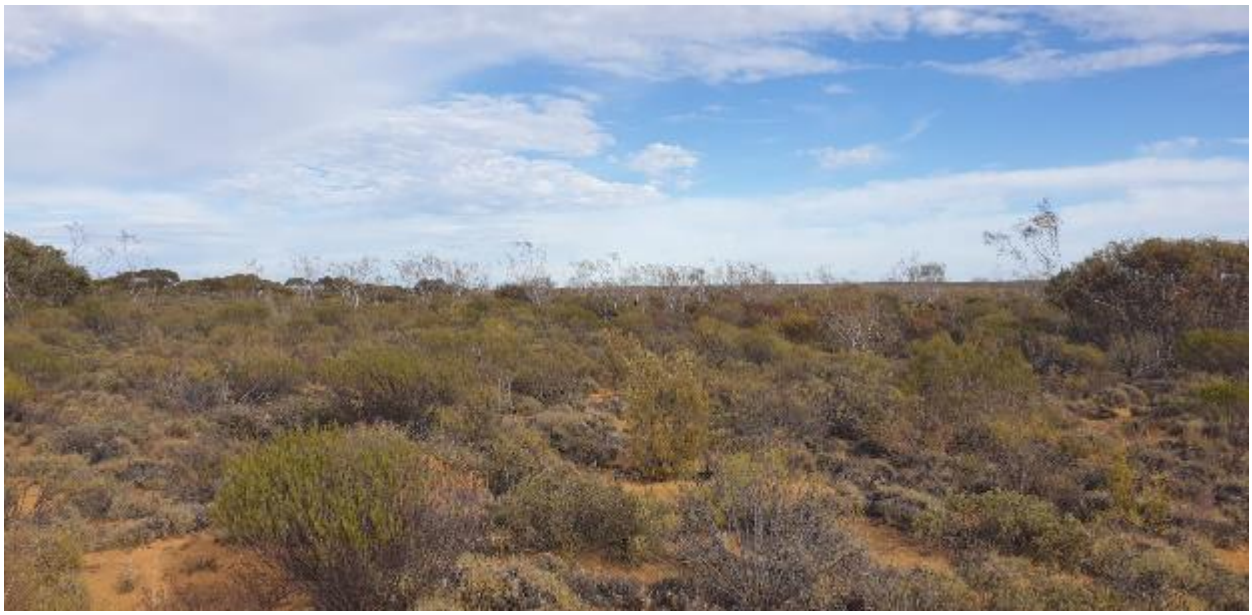
Site ref: IG07	**Location:** Iguana deposit area	**Date:** 17/1/2021

Corresponding flora survey site	R17-17
Vegetation description	*Allocasuarina corniculata, Banksia elderiana, Eucalyptus incrassata, Leptospermum fastigiatum tall open shrubland over Calytrix creswellii, Melaleuca cordata, M. calyptrata, Chrysitrix distigmatosa, Triodia low shrubland*
Habitat description	Low to medium Acacia and Allocasuarina shrubland on yellow sandplain
Habitat condition	Very Good to Excellent
Comments and observations	
Long-unburnt.	

Site ref: IG08	**Location:** Iguana deposit area	**Date:** 17/1/2021

Corresponding flora survey site	R17-16
Vegetation description	*Eucalyptus incrassata, E. rigidula, Banksia elderiana, Acacia lasiocalyx* low open mallee shrubland over *Conospermum stoechadis, Melaleuca cordata, Acacia cylindrica, Leptospermum fastigiatum, Melaleuca calyptroides* open shrubland over *Triodia rigidissima, Calytrix creswellii, Melaleuca cordata, Myrtaceae sp.* low hummock grassland/ shrubland
Habitat description	Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent
Comments and observations	
Old exploration disturbance throughout. Regrowth from fire 10+ years ago.	

Site ref: IG09	**Location:** Iguana deposit area	**Date:** 18/1/2021



Corresponding flora survey site	R17-14
Vegetation description	*Eucalyptus incrassata, E. rigidula, Banksia elderiana, Acacia lasiocalyx* low open mallee shrubland over *Conospermum stoechadis, Melaleuca cordata, Acacia cylindrica, Leptospermum fastigiatum, Melaleuca calyptroides* open shrubland over *Triodia rigidissima, Calytrix creswellii, Melaleuca cordata, Myrtaceae sp.* low hummock grassland/ shrubland
Habitat description	Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent
Comments and observations	
Old exploration disturbance throughout. Regrowth from fire 10+ years ago.	

Site ref: IG10	**Location:** Iguana deposit area	**Date:** 18/1/2021

Corresponding flora survey site	R18-1/R18-2
Vegetation description	*Eucalyptus incrassata, E. rigidula, Banksia elderiana, Acacia lasiocalyx* low open mallee shrubland over *Conospermum stoechadis, Melaleuca cordata, Acacia cylindrica, Leptospermum fastigiatum, Melaleuca calyptroides* open shrubland over *Triodia rigidissima, Calytrix creswellii, Melaleuca cordata, Myrtaceae sp.* low hummock grassland/ shrubland
Habitat description	Eucalypt low mallee woodland over Acacia shrubland, yellow sandplain.
Habitat condition	Very Good to Excellent
Comments and observations	
Old exploration disturbance throughout. Regrowth from fire 10+ years ago.	

Appendix 4
Fauna Species Observed

Scientific name	Common name
Birds	
Acanthagenys rufogularis	Spiny-cheeked honeyeater
Accipiter fasciatus	Brown Goshawk
Aquila audax	Wedge-tailed eagle
Artamus cinereus	Black-faced woodswallow
Barnardius zonarius	Australian Ringneck/28 parrot
Climacteris rufus	Rufus tree-creeper
Coracina novaehollandiae	Black-faced cuckoo shrike
Corvus coronoides	Australian raven
Cracticus nigrogularis	Pied butcher bird
Cracticus tibicen	Magpie
*Dromaius novaehollandiae**	Emu
Falco berigora	Brown falcon
Falco longipennis	Australian hobby
Gavicalis virescens	Singing honeyeater
Haliastur sphenurus	Whistling kite
Manorina flavigula	Yellow throated miner
Merops ornatus	Rainbow bee-eater
Ocyphaps lophotes	Crested Pigeon
Phaps chalcoptera	Common Bronzewing
Pomatostomus superciliosus	White-browed babbler
Rhipidura leucophrys	Willie wagtail
Smicrornis brevirostris	Weebill
Strepera versicolor	Grey Currawong
Mammals	
Macropus fuliginosus	Western grey kangaroo*
Bos taurus	Cattle*
Equus asinus	Donkey*
Oryctolagus cuniculus	Rabbit*
Reptiles	
Ctenophorus cristatus	Crested dragon

* evidence (scats, tracks)