LUCKY STRIKE PROJECT

Reconnaissance Flora Vegetation and Basic Fauna Survey

Prepared for BML Ventures/ Lefroy Exploration Limited
May 2025

Prepared by
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Cover Photo: Vegetation within Lucky Strike survey area taken on the 15th of March 2025.

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EXECUTIVE SUMMARY

Botanica Consulting Pty Ltd (Botanica) was commissioned by BML Ventures (BML) and Lefroy Exploration Limited (LEX) to undertake a reconnaissance flora/ vegetation survey and basic fauna survey within their Lucky Strike Project (collectively referred to as the 'survey area'). The area is approximately 245 ha. The survey area is located approximately 64 km south-east of Kalgoorlie, Western Australia. This assessment is intended to support a Native Vegetation Clearing Permit (NVCP) application for the Lucky Strike project.

Botanica conducted a reconnaissance flora and vegetation survey and a basic terrestrial vertebrate fauna survey of the survey area on the 15th of March and the 30th of April 2025. The area was traversed with a four-wheel drive vehicle and walking by Jim Williams (Director/Principal Botanist) and Jen Jackson (Senior Botanist).

The survey area lies within the Eastern Goldfield (COO3) subregion of the Coolgardie Bioregion, as defined by the Interim Biogeographic Regionalisation of Australia (IBRA). The project area is located within the City of Kalgoorlie-Boulder on pastoral lease, exploration and mining tenements.

The vegetation of the Eastern Goldfields subregion consists of Mallees, Acacia thickets and shrub-heaths on sandplains, with diverse *Eucalyptus* woodlands occurring around salt lakes, on ranges, and in valleys. Salt lake support dwarf shrublands of samphire. Woodlands and *Dodonaea* shrubland occur on basic granulite of the Fraser Range, and the area is rich in endemic Acacias.

The dominant land use of the Eastern Goldfield subregion includes Unallocated Crown Land (UCL) and Crown reserves and pastoral grazing, with conservation areas and mining leases also present (Cowan, 2001). The survey area is located on the Mt Monger Pastoral Lease. The three Pre European vegetation associations within the project area retain >99% of their pre-European extent.

Prior to the field survey, desktop assessments were undertaken for flora and fauna to identify any potential significant flora, vegetation and fauna that may occur within the survey area.

The NatureMap species search and EPBC Protected Matters search were conducted with a 40 km buffer from the survey area.

The NatureMap desktop search identified 285 vascular flora species as occurring within 40 km of the survey area. These taxa represent 105 genera, The most dominant genera were *Eucalyptus* (29 species), *Acacia* (20 species) and *Eremophila* (17 species).

The desktop review identified 27 introduced flora (weed) species, representing 14 families, as potentially occurring in the vicinity of the survey area. Of these, three are listed as a Declared Pest on the Western Australian Organism List (WAOL) under the *Biosecurity and Agriculture Management* (BAM) *Act 2007*, with Common Lantana (*Lantana camara*) also listed as a Weed of National Significance

The assessment of the DBCA Priority/ Threatened flora database records (DBCA, 2024a), NatureMap (DBCA, 2025a), Protected Matters searches (DCCEEW, 2025a) and previous relevant literature identified 17 significant flora species recorded within a 40 km radius of the survey area, none of which were within the survey area. These consist of one Threatened, six Priority 1, two Priority 2, six Priority 3 and three Priority 4 taxa.

These taxa were assessed for distribution and known habitat to determine their likelihood of occurrence within the survey area. The assessment identified two taxa as possibly occurring in the survey area.

The Protected Matters search (DCCEEW, 2025a) did not identify any Threatened Ecological Communities recorded within 40 km of the survey area. Analysis of the Priority Ecological Communities within the Goldfields region (DBCA, 2024c) did not identify any significant vegetation assemblages as likely or possibly occurring within the survey area.

According to the results of the NatureMap search (DBCA, 2025a), a total of 226 terrestrial vertebrate fauna taxa have been recorded within 40 km of the survey area, consisting of 125 bird, 19 mammal, 78 reptile and three amphibian taxa. This total is represented across 145 genera.

The desktop review identified 12 terrestrial vertebrate fauna species and one invertebrate species of conservation significance as previously being recorded in the regional area. These consisted of ten Threatened, two Priority 4 species and three migratory species which were also classed as threatened. In addition, six migratory wading/shorebird species were assessed collectively due to their similar habitat requirements.

Habitat and distribution data was used to determine the likelihood of occurrence within the survey area. The assessment identified three significant fauna species as potentially occurring in the survey area, consisting of two Vulnerable and one Critically Endangered taxon.

No Environmentally Sensitive Areas were identified within the survey area.

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

There are no proposed or gazetted conservation reserves within the survey area.

The closest significant environmental feature is the Randell Timber Reserve, which is DBCA-managed land located approximately 11 km east of the survey area. Disturbances within the survey area are unlikely to impact this area.

The field survey identified 75 vascular flora taxa within the survey area. These taxa represented 36 genera across 18 families, with the most diverse families being Chenopodiaceae (19 species), Scrophulariaceae (10 species) and Fabaceae (seven species). Dominant genera include *Eremophila* (nine species), *Maireana* (eight species), *Eucalyptus* (7 species) and *Acacia* (6 species). There were

no weeds recorded and the annuals *Atriplex lindleyi* and *Brachyscome iberidifolia* were observed during the survey.

No Threatened or Priority ecological communities or otherwise significant vegetation were identified within the survey area.

A total of seven broad-scale vegetation communities were identified within the survey area. These vegetation types were located within five different landform types and comprised of six major vegetation groups.

The survey found CLP-COW1 was the most widespread community in the survey area, occupying 87.66 ha (35.8%), while DD-CS1 was the most restricted with 1.8 ha (0.8%). The most diverse vegetation community was CLP-CS1 with 27 species (36%), while the least diverse was CLP-COW1 with 13 species (16%).

Based on vegetation and associated landforms assessed during the flora and vegetation assessment, eight broad scale terrestrial fauna habitats were identified as occurring within the survey area.

No evidence for the presence of Malleefowl, including nesting mounds, tracks or other signs, were recorded within the survey area. No other evidence of significant fauna species were observed during the survey.

Native vegetation condition within the survey area ranged from ‘very good to ‘completely degraded’. Disturbances within the survey area include mining operations, access roads and tracks.

The assessment found that the proposed vegetation clearing activities may be at variance with clearing principles (f) and (i).

1 INTRODUCTION

Botanica Consulting Pty Ltd (Botanica) was commissioned by a joint venture between BML Venture (BML) and Lefroy Exploration Limited (LEX) to undertake a reconnaissance flora/ vegetation survey and basic fauna survey of their Lucky Strike Project (collectively referred to as the 'survey area'). The total area is approximately 245 ha (Figure 1-1) and is located approximately 64 km south-east of Kalgoorlie, Western Australia.

Botanica conducted a reconnaissance flora/vegetation and basic vertebrate fauna survey of the survey area on the 15th of March and 30th of April 2025. The area was traversed with a four-wheel drive and on foot by Jim Williams (Director/ Principal Botanist) and Jen Jackson (Senior Botanist).

The purpose of this survey was to support a Native Vegetation Clearing Permit (NVCP) application for the Lucky Strike project.

The survey area lies within the Great Western Woodlands and the Coolgardie Bioregion as defined by the Interim Biogeographic Regionalisation of Australia (IBRA).

1.1 Objectives

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

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

The fauna assessment was conducted in accordance with the requirements of a basic terrestrial fauna survey as defined in *Technical Guidance - Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020). The objectives of the assessment were to:

- Undertake a literature review, including map-based information searches of all current and relevant literature sources and databases relating to the survey area.
- Undertake a desktop investigation to identify any previously recorded occurrences of or potentially occurring Threatened and Priority listed fauna within the survey area.
- Undertake searches on available databases for details relating to any Threatened and Priority listed fauna previously identified as occurring or potentially occurring within the survey area.
- Conduct fauna habitat mapping and identify habitat types which are suitable for each significant fauna considered likely or possible to occur, or fauna recorded in the survey area.
- Compile an inventory of fauna species occurrences within the survey area.
- Undertake opportunistic, low intensity sampling of fauna; and
- Report on the conservation status of species present using the Western Australian Museum and EPBC Act databases for presence of Threatened and Priority listed fauna species within the survey area.

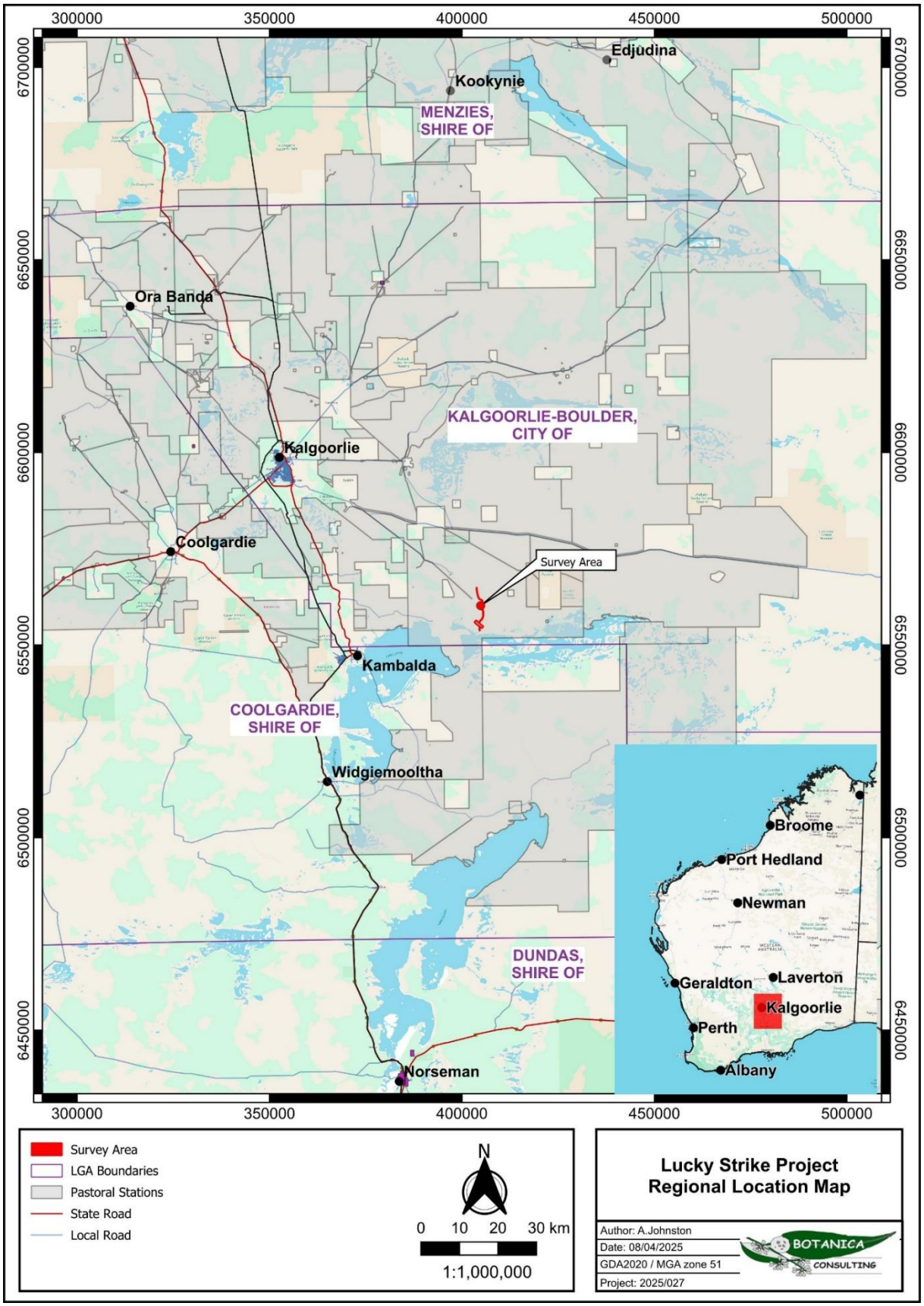

Figure 1-1: Regional location of the survey area

2 BIOPHYSICAL ENVIRONMENT

2.1 Regional Environment

The survey area lies within the Eastern Goldfield (COO3) subregion of the Coolgardie Bioregion, as defined by the Interim Biogeographic Regionalisation of Australia (IBRA) (Figure 2-1).

The Eastern Goldfield subregion (5,102,428 ha) lies on the Yilgarn Craton's Eastern Goldfields Terrain, which is described as gently undulating plains with a subdued relief, 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).

The vegetation consists of Mallees, Acacia thickets and shrub-heaths on sandplains, with diverse *Eucalyptus* woodlands occurring around salt lakes, on ranges, and in valleys. Salt lakes support dwarf shrublands of samphire. Woodlands and *Dodonaea* shrubland occur on basic granulite of the Fraser Range, and the area is rich in endemic Acacias.

In accordance with Beard (1990) the survey area is located in the Coolgardie Botanical District of the Southwestern Interzone Province. The landscape is described as gently undulating with occasional ranges of low hills, with sandplains in the western part and some large playa lakes. Soils are principally brown calcareous earths, which overlays the Proterozoic granite and gneiss of the Fraser Range block and Archaean granite, with infolded volcanics and meta-sediments, of the Yilgarn block. Vegetation is predominately *Eucalyptus* woodlands, with slopes and flats containing *E*. *longicornis* alongside *E. salubris* and *E*. *salmonophloia*. Woodland understories range from tall sclerophyll shrubland dominated by *Melaleuca pauperiflora* to soft-leaved saltbush shrubland of *Atriplex vesicaria* and *A*. *nummularia*. Some hill slopes contain mallees of *E*. *livida* or *E*. *loxophleba*, while ironstone ridges are covered in thickets of *Acacia quadrimarginea*, *Allocasuarina acutivalvis* and *A*. *campestris*. Other vegetation assemblages include species-rich scrub-heaths and *Allocasuarina* thickets on sandplains, merging into *Acacia* thickets and Kwongan vegetation to the north.

2.2 Land Use

The dominant land uses of the Eastern Goldfield subregion includes Unallocated Crown Land (UCL) and Crown reserves and pastoral grazing, with conservation areas and mining leases also present (Cowan, 2001). The survey area is located within the Mt Monger Pastoral Lease.

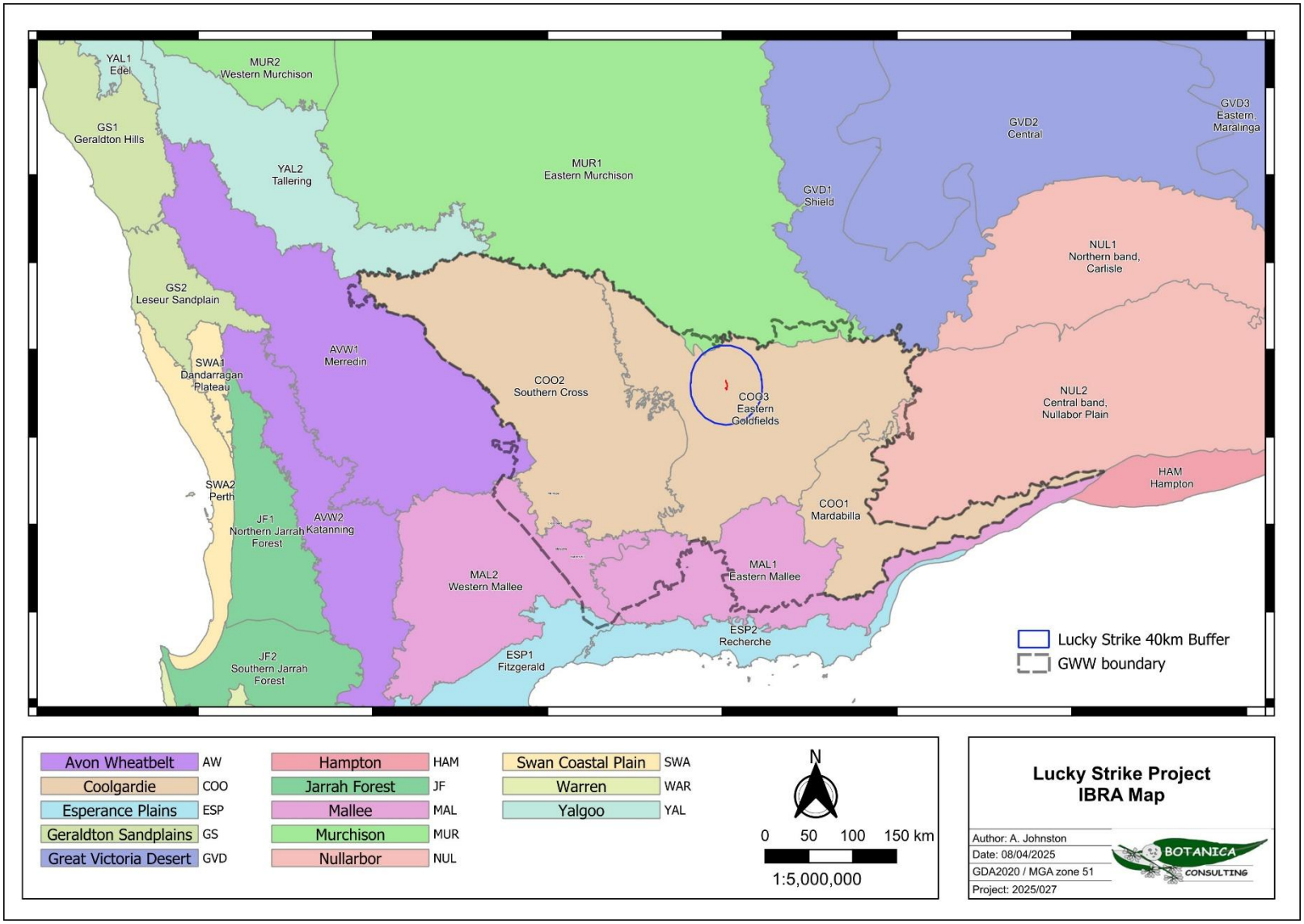

Figure 2-1: Map of the Survey Area in relation to the IBRA Coolgardie bioregion

2.3 Soil Landscape Systems

The survey area lies within the Kalgoorlie Province, located in the southern Goldfields between Paynes Find, Menzies, Southern Cross and Balladonia. The landscape consists of undulating plains (with some sandplains, hills and salt lakes) on the granitic rocks and greenstone of the Yilgarn Craton. Soils range from calcareous loamy earths and red loamy earths with some salt lake soils to red deep sands, yellow sandy earths, shallow loams and loamy duplexes. Vegetation communities are predominately Eucalypt woodlands with some acacia-casuarina thickets, mulga shrublands, halophytic shrublands and spinifex grasslands.

The Kalgoorlie Province is further divided into six soil-landscape zones, with the survey area located in the Kambalda Zone.

The Kambalda zone is located in the south-eastern Goldfields between Menzies, Norseman and the Fraser Range and contains flat to undulating plains (with hills, ranges and some salt lakes and stony plains) on greenstone and granitic rocks of the Yilgarn Craton. Soils consist of 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).

The soil landscape zones are further divided into soil landscape systems, with the survey areas located within four landscape systems, as described in Table 2-1 and shown in **Error! Reference source not found.**, in accordance with soil landscape system mapping data (Government of Western Australia, 2019).

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

Soil Landscape System	Description	Extent within Survey Area
BB5 Atlas System	Rocky ranges and hills of greenstones-basic igneous rocks	10.6 ha (4.3%)
Gumland System	Extensive pediplains supporting eucalypt woodlands with halophytic and non-halophytic shrub understoreys.	15.6 ha (6.4%)
Lefroy System	Salt lakes and fringing saline plains, sandy plains and dunes with chenopod low shrublands.	145.4 ha (59.3%)
Mx43 atlas system	Gently undulating valley plains and pediments; some outcrop of basic rock	73.7 ha (30%)

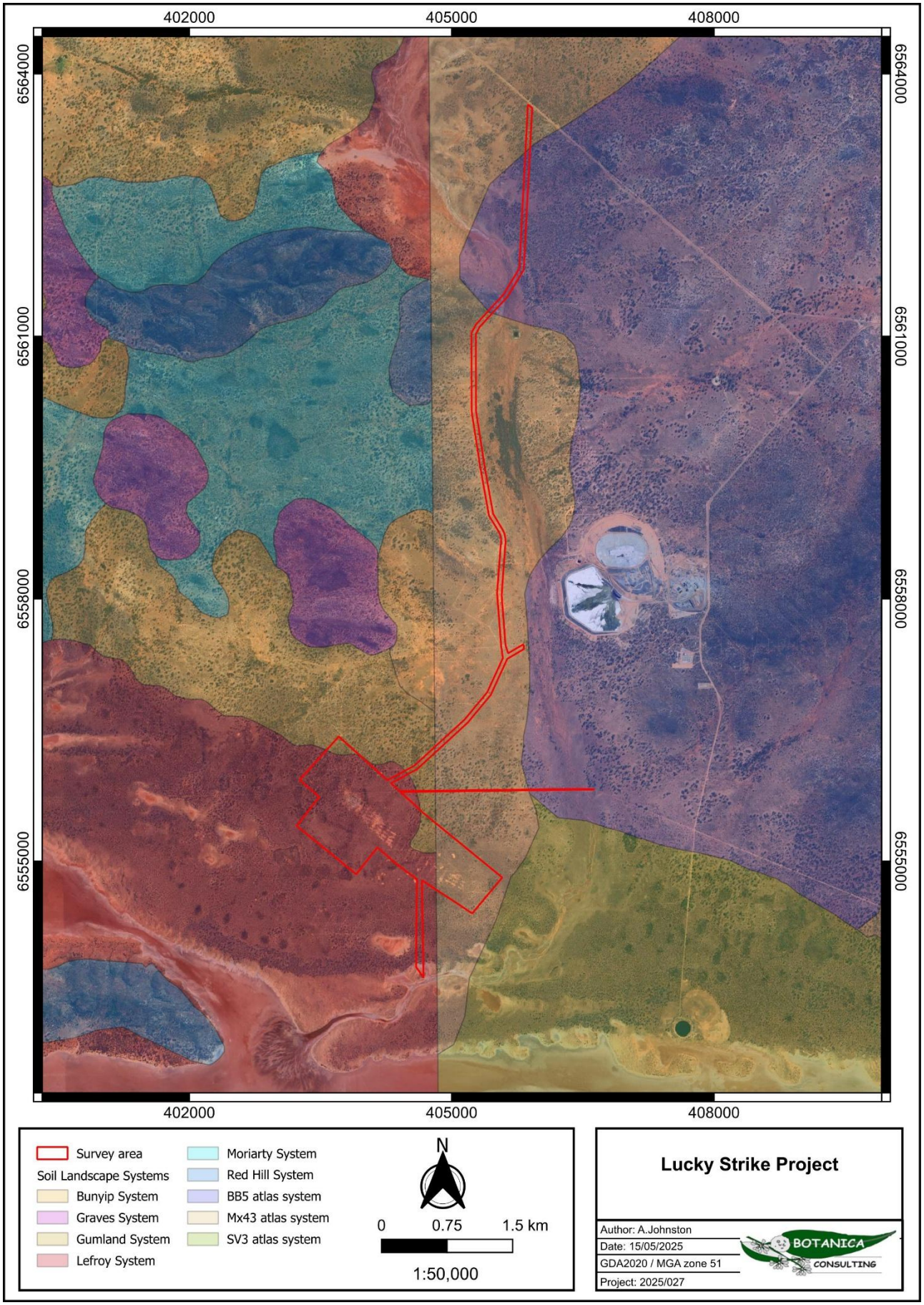

Figure 2-2: Map of soil landscape systems within the survey area

2.4 Pre-European Vegetation

In accordance with Tille (2006), the vegetation of the Kambalda Zone is typified by the preponderance of stony plains with acacia shrublands and halophytic shrublands, low hills with eucalypt or acacia woodlands with halophytic undershrubs, stony plains with acacia shrublands and alluvial plains with eucalypt woodlands and halophytic undershrubs rangeland.

More broadly, the vegetation of the Kalgoorlie Province is described by Tille (2006) as woodlands of redwood (*Eucalyptus transcontinentalis*), red mallee (*E*. *oleosa*), Dundas blackbutt (*E*. *dundasii*), merrit (*E. flocktoniae*) and salmon gum (*E. salmonophloia*), found on undulating plains over granite. There are also some hummock grasslands with red mallee over spinifex (*Triodia scariosa*) and thickets of Acacia, Casuarina and Melaleuca spp. Plains on greenstone have woodlands of York gum (*E*. *loxophleba*), salmon gum and gimlet (*E*. *salubris*). The valley plains have woodlands of salmon gum, red mallee, Goldfields blackbutt (*E*. *lesouefii*), gimlet, York gum and morrel (*E*. *longicornis*). These sometimes have an understorey of saltbush (Atriplex spp.), pearl bluebush (*Maireana sedifolia*), sago bluebush (*M*. *pyramidata*) and *Eremophila* spp. There are areas of spinifex grasslands with red mallee, mallees (e.g. *E. youngiana*) and marble gum (*E*. *gongylocarpa*). Low woodlands of mulga (Acacia aneura) and black sheoak (*Casuarina pauper*) over bluebush and saltbush are also present. Apart from the bare salt lake surfaces, saline valley floors have shrublands of samphire (*Tecticornia* spp.) and *Frankenia* spp. in lower areas, shrublands of saltbush and bluebush on red deep sandy duplexes, and woodlands of salmon gum, merrit, red mallee, gimlet and York gum. *Acacia neurophylla*, *A*. *beauverdiana* and *A*. *resinimarginea* thickets grow on gently sloping uplands on granite, with thickets of acacia, casuarina and melaleuca. There are also scrub-heaths and York gum-salmon gum-gimlet woodlands on these uplands. The hilly terrain on greenstone supports woodlands of salmon gum, Goldfields blackbutt, coral gum (*E*. *torquata*), York gum, gimlet, morrel, Dundas blackbutt and black sheoak. Thickets of granite wattle (*Acacia quadrimarginea*) are also present. The stony plains support scattered woodlands of Goldfields blackbutt, gimlet and salmon gum, along with shrublands of saltbush and bluebush. Sandplains in the west have acacia (*A*. *coolgardiensis*, *A*. *ramulosa*, *A*. *aneura*, *A*. *burkittii* and *A*. *tetragonophylla*) shrublands, commonly with patchy native pine (*Callitris glaucophylla, C*. *preissii*) and mallees (*E*. *leptopoda*, *E*. *longicornis* and *E*. *loxophleba*). Native box (*Bursaria occidentalis*), *Melaleuca uncinata* and Hakea recurva may also be present. Hard spinifex (*T*. *basedowii*) grasslands with mulga, marble gum and mallees (e.g. *E*. *kingsmillii*) are found on sandplains to the east. The sandy-surfaced plains support acacia, casuarina and melaleuca thickets; woodlands of York gum, cypress pine (*Callitris columellaris*), salmon gum, gimlet and mulga; and shrublands of bowgada (*A*. *ramulosa*).

The pre-European vegetation mapping of Western Australia dataset is an output of a joint Western Australian State project. It maps original natural vegetation presumed to have existed prior to European settlement in Western Australia. The Department of Primary Industries and Regional Development GIS file (DPIRD_006) indicates that the project area is located within three pre-

European Beard vegetation associations (

Figure 2-3). The extent of these vegetation associations as specified in the *2018 Statewide Vegetation Statistics* (Government of Western Australia, 2019) is provided in Table 2-2 and depicted in Figure 2-3.

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). The three vegetation associations within the project area retain more than 99% of their pre-European extent.

Table 2-2: Pre-European vegetation associations within the Project Area

IBRA Subregion	Pre-European Vegetation	Description	Pre-European Extent Remaining (%)	Current Extent Reserved for Conservation (%)
BINNERINGE	BINNERINGE_468	Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba*, *E. salmonophloia.* Goldfields; gimlet, redwood etc. *E. salubris*, *E. oleosa*. Riverine; rivergum *E. camaldulensis*. Tropical; messmate, woolyb	99.85	0
	BINNERINGE_508	Mulga, other wattle Atriplex spp, Maireana spp. with *Acacia aneura* & other Acacia spp.	100	0
RANDELL	RANDELL_529	Mulga, other wattle, casuarina Atriplex spp. Maireana spp. with *Acacia aneura*, *A. papyrocarpa*, *Allocasuarina cristata*	100	0

Figure 2-3: Pre-European Vegetation Associations within the Survey Area

2.5 Climate

The climate of the Eastern Goldfield subregion is characterised as arid to semi-arid with 200-300 mm of rainfall, sometimes in summer but usually in winter (Cowan 2001). The nearest Bureau of Meteorology (BoM) weather station is the Kalgoorlie-Boulder Airport (#012038) which is approximately 66 km northwest of the survey area. The average maximum daily temperature ranges from 33.7°C in January to 16.9°C in July. The minimum daily temperature ranges from 5.1°C in July to 18°C in February.

Rainfall is highly variable and occurs in summer and winter with peak rainfall periods in January and February (Figure 2-4). Summer rains are typically short duration events resulting from thunderstorm activity. In winter, light falls are associated with cold fronts originating to the south of WA. The area receives a mean annual rainfall of about 265 mm (Figure 2-5). Four (4) out of the past 6 years (2019-2024) have recorded below average annual rainfall (Figure 2-5). The annual rainfall in 2024 (371 mm) was more than 100 mm above the annual mean. The months of February and March in 2025 received above average rainfall, while January rainfall was below average (Figure 2-4).

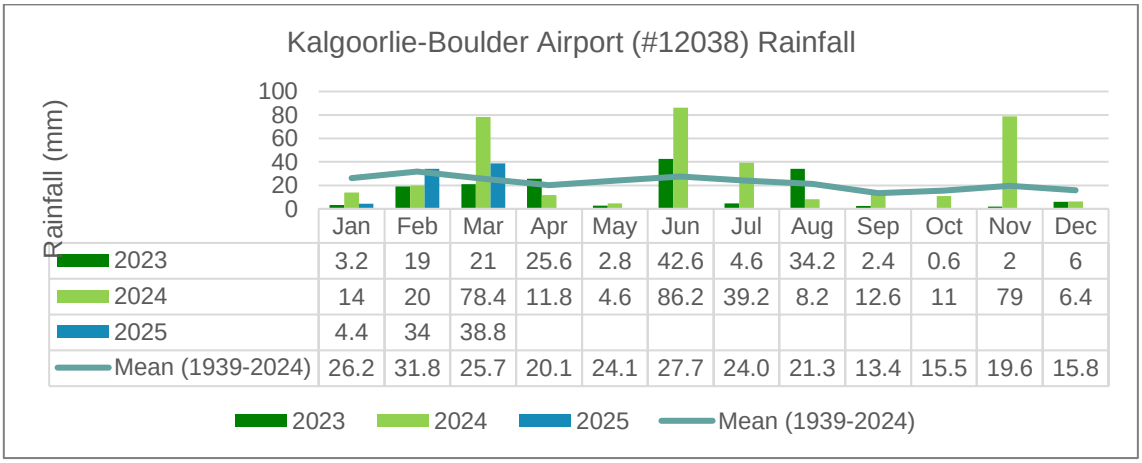

Figure 2-4: Monthly rainfall data (2024) compared to the mean monthly rainfall data (1939-2025) – Kalgoorlie-Boulder Airport Station (BoM, 2025)

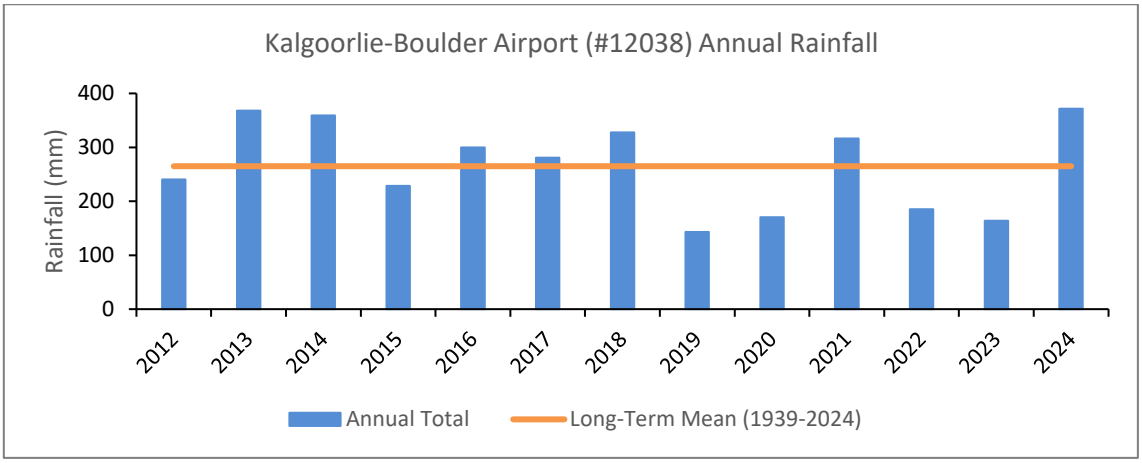

Figure 2-5: Annual rainfall data (2012 to 2024) compared to the mean annual rainfall data – Kalgoorlie-Boulder Airport Station (BoM, 2025)

2.6 Conservation Values

The Eastern Goldfield subregion contains 16 vegetation associations, predominately open *Eucalyptus* woodlands, that have at least 85 per cent of their total extent in the bioregion (Cowan 2001). The subregion is considered a centre of endemism for Eucalypts in the Goldfields Woodlands region and is also noted for the diversity of *Acacia* spp. and ephemeral flora communities of the tertiary sandplain shrublands and the valley floors of woodland areas.

The subregion contains one wetland of national importance: Rowles Lagoon System, located approximately 130 km north-west of the survey area. In addition, there are seven wetlands of subregional importance (Cowan, 2001). Other significant assemblages in the region include plant assemblages of the Fraser Range and the Woodline Hills.

No ecosystems are listed as threatened under WA State legislation occur within the subregion, but 18 communities and vegetation associations are thought to be at risk for a variety of reasons. Grazing from livestock, goats and rabbits and impacts from mining are the main threatening processes in the region, with changed fire regimes, erosion and sedimentation also causing significant impacts.

The survey area does not occur within a gazetted conservation reserve (Figure 2-6). The Protected Matters search (DCCEEW, 2025) did not identify any Threatened Ecological Communities recorded within 40 km of the survey area. Analysis of the Priority Ecological Communities (DBCA, 2024c) did not identify any significant vegetation assemblages as likely or possibly occurring within the survey area. One Priority Ecological Community (PEC) occurs approximately 13.7 km east of the survey area. This is the Mount Belches *Acacia quadrimarginea*/ *Ptilotus obovatus* (banded ironstone formation) which is listed under the DBCA as a Priority 3 (P3) community. There are several timber reserves located within 40 km of the survey area, the closest of which is the Randell Time Reserve (11.5 km northeast).

2.6.1 Great Western Woodlands

The survey area lies within the Great Western Woodlands, considered by The Wilderness Society of WA to be of global biological and conservation importance as one of the largest and healthiest temperate woodlands on Earth, containing many endemic taxa. The region covers almost 16 million hectares (160,000 square kilometres), from the southern edge of the Western Australian Wheatbelt to the pastoral lands of the Mulga country in the north, the inland deserts to the northeast, and the treeless Nullarbor Plain to the east.

The Great Western Woodlands provides a connection between southwest forests and inland deserts (Gondwana Link) as well as linking the north-west passage to Shark Bay. The majority of the Great Western Woodlands is unallocated crown land (61.1%) with other interests including pastoral leases (20.4%), conservation reserves (15.4%) unallocated crown land, ex pastoral (2%) managed by the Department of Biodiversity, Conservation and Attractions (DBCA) and private land (approximately

1%). No specific management strategy or formal conservation status applies to the Great Western Woodlands. The Great Western Woodlands currently includes towns, highways, roads, railways, private property, Crown Reserves, agricultural activities and mining tenements.

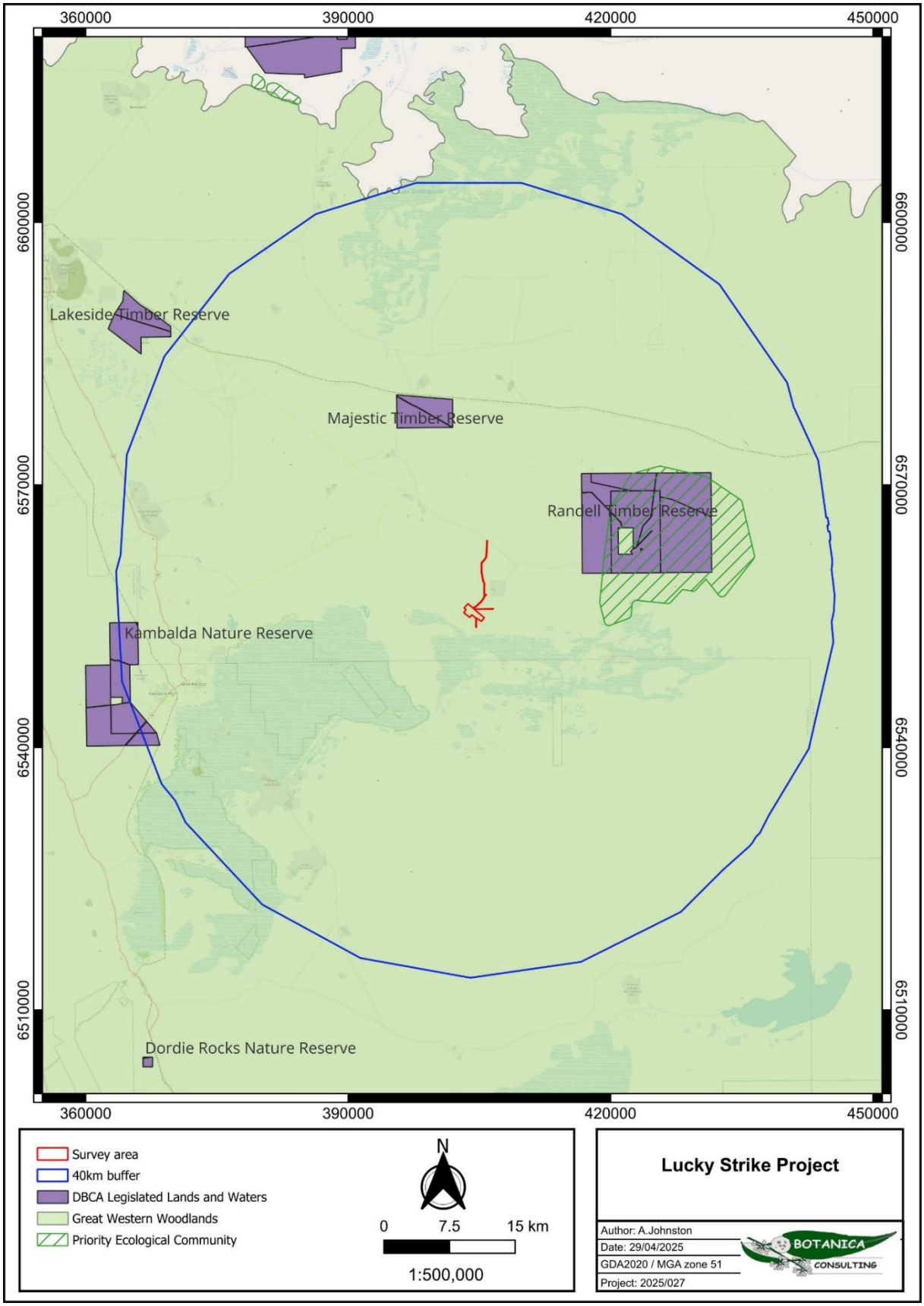

Figure 2-6: Conservation values in relation to the survey area

2.7 Hydrology

According to the Geoscience Australia database (2015), there are no permanent or ephemeral inland waters within the survey area. There is one minor ephemeral drainage line within the survey area (Figure 2-7).

Groundwater Dependent Ecosystems (GDE) includes biological assemblages of species such as wetlands or woodlands that use groundwater either opportunistically or as their primary water source. For the purposes of this report, a GDE is defined as any vegetation community that derives part of its water budget from groundwater and must be assumed to have some degree of groundwater dependency. In accordance with the BoM *Atlas of Groundwater Dependent Ecosystems* (BoM, 2020b) database, there are no terrestrial GDEs within the survey area, however there is one high-potential GDE occurring 800 m south of the survey area (Figure 2-7).There are no potential aquatic GDE's within the survey area.

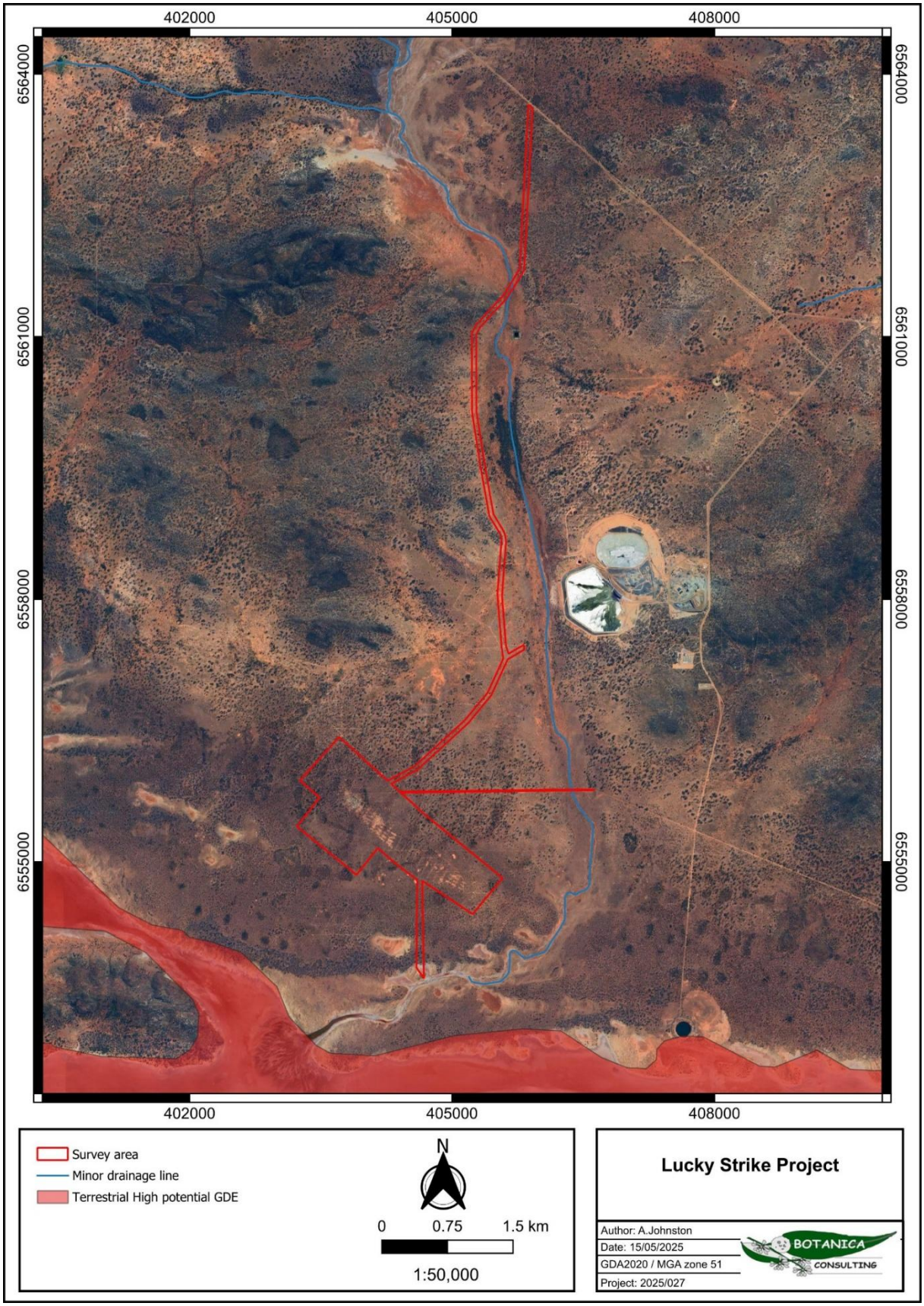

Figure 2-7: Regional hydrology of the survey area

3 SURVEY METHODOLOGY

3.1 Desktop Assessment

3.1.1 Literature Review

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

- Botanica Consulting Pty Ltd. (2016). *Flora and Fauna Assessment Widgiemooltha Project.* Unpublished report prepared on behalf of Mincor Resources N.L., December 2016.
- Botanica Consulting Pty Ltd. (2020). *Detailed Flora/ Vegetation Survey, Salt Creek Project.* Unpublished report prepared on behalf of Silverlake Resources., March 2020.
- Botanica Consulting Pty Ltd (2021). *Reconnaissance Flora/ Vegetation Survey and Basic Fauna Assessment Lucky Strike.* Unpublished report prepared on behalf of Widgie Nickel., December 2021.
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3.1.2 Database Searches

In addition to the literature review, searches of the following databases were undertaken to aid in the compilation of a list of significant flora within the survey area:

- Department of Biodiversity, Conservation and Attractions (DBCA) Threatened/ Priority Flora Database Search-Reference ID 08-0224Fl (DBCA, 2024a);
- DBCA Threatened/ Priority Fauna Database Search-Reference ID 8141 (DBCA, 2024b);
- DBCA Priority/ Threatened Ecological Communities Database Search-Reference ID 39-0124EC (DBCA, 2024c);
- DBCA NatureMap Search-Reference ID 11-0425NM (DBCA, 2025a);
- DBCA Dandjoo Search (DBCA, 2025b); and

- Department of Climate Change, Energy, the Environment and Water Protected Matters search tool (DCCEEW, 2025).

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

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

- *Environment Protection and Biodiversity Conservation* (EPBC) *Act 1999*. administered by the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW)
- *Biodiversity Conservation* (BC) *Act 2016*. Administered by the WA Government (DBCA);
- Red List produced by the Species Survival Commission (SSC) of the World Conservation Union (also known as the IUCN Red List – the acronym derived from its former name of the International Union for Conservation of Nature and Natural Resources). The Red List has no legislative power in Australia but is used as a framework for State and Commonwealth categories and criteria; and
- Priority Flora and Fauna list. A non-legislative list maintained by DBCA for management purposes (updated February 2025).

The EPBC Act also requires the compilation of a list of migratory species that are recognised under international treaties including the:

- Japan Australia Migratory Bird Agreement 1981 (JAMBA)1;
- China Australia Migratory Bird Agreement 1998 (CAMBA);
- Republic of Korea-Australia Migratory Bird Agreement 2007 (ROKAMBA); and
- Bonn Convention 1979 (The Convention on the Conservation of Migratory Species of Wild Animals).

Most but not all migratory bird species listed in the annexes to these bilateral agreements are protected in Australia as Matters of National Environmental Significance (MNES) under the EPBC Act. Descriptions of conservation significant species and communities are provided in Appendix A.

3.1.3 Likelihood of Occurrence

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

- **Unlikely**: Suitable habitat is not expected to occur and/or the survey area is outside the known range of the species.
- **Possible**: Suitable habitat may be present, and the area is within the known range of the species. This option is also used when there is insufficient information to determine the preferred habitat of a species.
- **Likely**: Suitable habitat is expected to occur and there are records within 10 km of the survey area.
- **Previously Recorded**: A record for this species is located within the survey area. Field survey will ground truth currently occurring individuals and populations.

Significant fauna species identified by the desktop review were assessed with regards to their distribution and preferred habitat to determine their likelihood of occurrence within the survey area. The assessment categorised fauna species as follows: The conservation significance of flora taxa was assessed using data from the following sources:

- **Would Not Occur**: There is no suitable habitat for the species in the survey area and/or there is no documented record of the species in the general area since records have been kept and/or the species is generally accepted as being locally/regionally extinct (supported by a lack of recent records).
- **Unlikely to Occur**: The survey area is outside of the currently documented distribution for the species in question, or no suitable habitat (type, quality and extent) was identified as being present during the field assessment. Individuals of some species may occur occasionally as vagrants/transients especially if suitable habitat is located nearby but the site itself would not support a population or part population of the species.
- **Possibly Occurs**: Survey area is within the known distribution of the species in question and habitat of at least marginal quality was identified as likely to be present during the field survey and literature review, supported in some cases by recent records being documented in literature from within or near the survey area. In some cases, while a species may be classified as possibly being present at times, habitat may be marginal (*e.g.*, poor quality, fragmented, limited in extent) and therefore the frequency of occurrence and/or population levels may be low.
- **Known to Occur**: The species in question has been positively identified as being present (for sedentary species) or as using the survey area as habitat for some other purpose (for non-

sedentary/mobile species) during field surveys within or near the survey area. This information may have been obtained by direct observation of individuals or by way of secondary evidence (*e.g.*, tracks, foraging debris, scats). In some cases, while a species may be classified as known to occur, habitat may be marginal (e.g., poor quality, fragmented, limited in extent) and therefore the frequency of occurrence and/or population levels may be low.

3.2 Field Assessment

3.2.1 Flora and Vegetation Field Assessment

Botanica conducted a reconnaissance flora/ vegetation and basic fauna survey on the 15th of March 2025. The survey area was traversed on foot and with 4WD by Jim Williams (Director/ Principal Botanist). The GPS track log od survey effort is shown below in Figure 3-1.

Prior to the commencement of field work, aerial photography was inspected and obvious differences in the vegetation assemblages were identified. The different vegetation communities identified were then inspected during the field survey to assess their validity. A handheld GPS unit was used to record the coordinates of the boundaries between existing vegetation communities. The survey was conducted using a series of survey sites (relevés) as shown in Figure 3-1. At each relevé site, the area was walked on foot to observe and record all flora species. The distance surveyed at each relevé varied dependent on the diversity/ variability of species and landforms/ vegetation types. At each relevé, the following information was recorded:

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

Unknown specimens collected during the survey were identified with the aid of samples housed at the Botanica Herbarium and Western Australian Herbarium. A complete species list was generated from the relevé data for each of the vegetation types identified within the survey area (**Error! R eference source not found.**).

Structural vegetation classification was used to characterise the different vegetation types. Vegetation types were described in accordance with NVIS classifications-Vegetation Types (Level V).

The vegetation condition rating scale adapted from Keighery (1994) and Trudgen (1988), as specified in the Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016a), for the Southwest and Interzone botanical provinces was used to rate the condition of vegetation within the survey area. Vegetation condition rating descriptions are listed in **Error! Reference source not found.**.

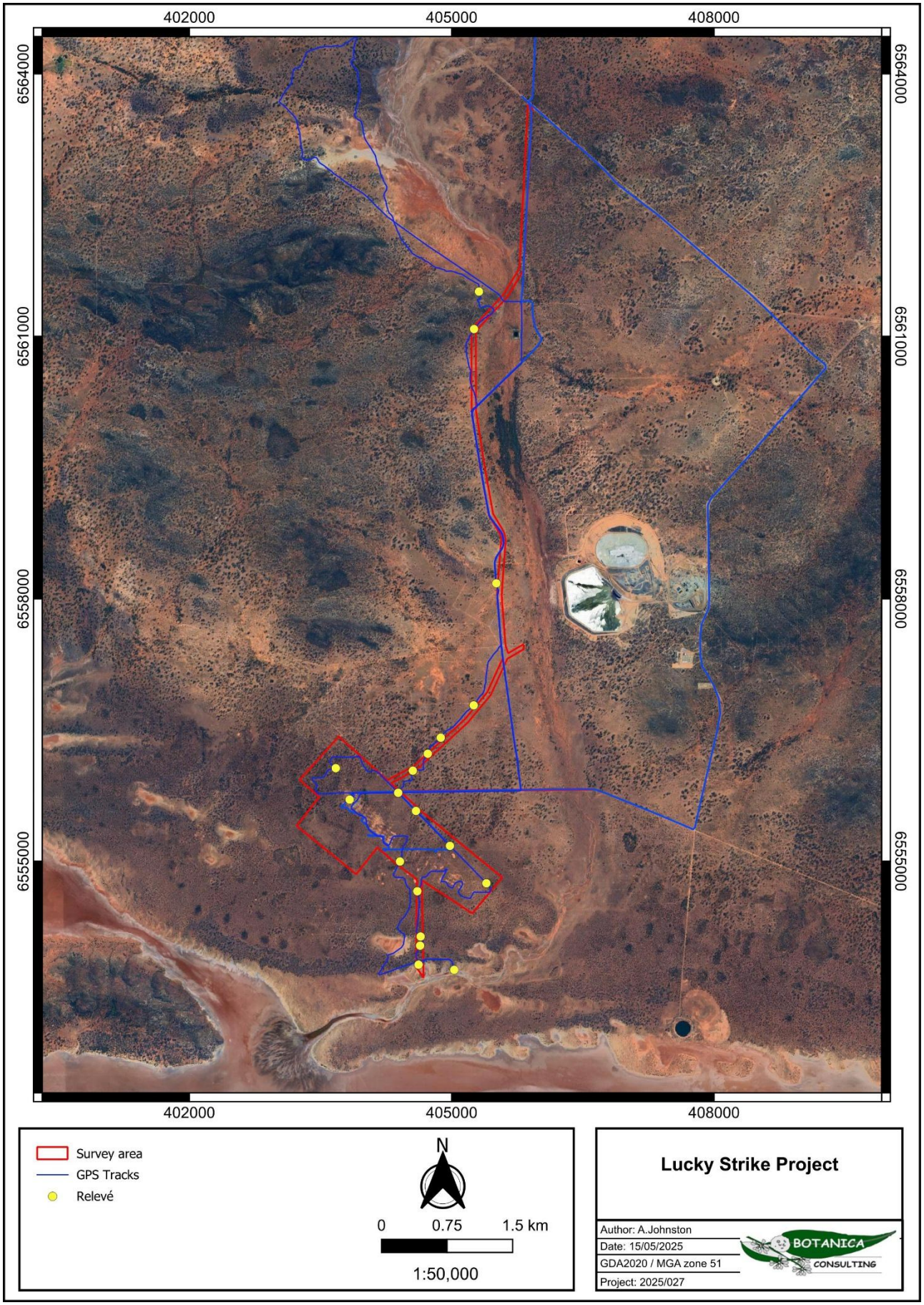

Figure 3-1: GPS track log of the survey effort and locations of the relevés

3.2.2 Terrestrial Vertebrate Fauna Field Assessment

Botanica conducted a basic terrestrial vertebrate fauna survey of the survey area in conjunction with the reconnaissance flora/ vegetation survey on the 15th of March 2025.

Fauna habitat types were identified across the survey area based on broad major vegetation groups and associated landform. A handheld GPS unit was used to record the coordinates of the boundaries between fauna habitats and each habitat was photographed.

The main aim of the fauna habitat assessment was to determine the likelihood of a species of conservation significance utilising habitat within the survey area. The habitat information obtained was also used to aid in finalising the overall potential fauna list.

As part of the desktop assessment, available information on the habitat requirements of the species of conservation significance listed as possibly occurring in the area was researched. During the field survey, the habitats within the survey area were assessed and specific elements identified, if present, to determine the likelihood of listed Threatened and Priority fauna species utilising the area and its importance to them.

Opportunistic observations of fauna species were made during all field survey work. Secondary evidence of fauna such as tracks, diggings and scats were also noted.

3.2.3 Data Analysis

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

3.2.4 Scientific Licences

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

Licensed Staff	Permit Number	Date of Expiry
Jim Williams	FB62000457 – Flora Taking (Biological Assessment) Licence	04/08/2025

3.2.5 Survey Limitations and Constraints

The flora and vegetation assessment was designed and carried out to conform to a reconnaissance survey as defined in Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016a). The assessment included a desktop assessment aimed at providing a list of expected species, and targeted and opportunistic flora collections via relevé sites and traverses.

Similarly, the fauna assessment included a desktop assessment aimed at providing a list of expected species and opportunistic fauna observations.

It is important to note that flora surveys will entail limitations notwithstanding careful planning and design. Potential limitations of the survey, as stipulated within the Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016a), are listed in Table 3-2.

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

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

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

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

Variable	Potential Impact on Survey	Details
Access problems	Not a constraint	The survey was conducted using a four-wheel drive vehicle and walking. There were no access problems.
Competency/ Experience	Not a constraint	The Botanica personnel that conducted the survey were regarded as suitably qualified and experienced. **Coordinating Staff**: Jim Williams (Director/ Principal Botanist) **Data Interpretation**: Amy Johnston (BSc Environmental Science and Management)
Timing of survey, weather & season	Possible constraint	Fieldwork was undertaken in March outside of the EPA's recommended primary survey period for the Interzone (i.e., Spring, September to November). This is a possible constraint for the survey.
Area disturbance	Not a constraint	The area has been disturbed from previous mining and exploration, cattle grazing and other human impacts; however, vegetation was mostly intact and comprised of native vegetation.
Survey Effort/ Extent	Not a constraint	Survey intensity was appropriate for the size/significance of the area with a detailed flora survey and basic fauna survey completed to identify vegetation types/ fauna habitats and significant flora, fauna and vegetation.

Variable	Potential Impact on Survey	Details
Availability of contextual information at a regional and local scale	Not a constraint	Conservation significant flora database searches provided by the DBCA were used to identify any potential locations of Threatened/Priority flora species. BoM, DWER, DPIRD, DBCA and DCCEEW databases were reviewed to obtain appropriate regional desktop information on the biophysical environment of the local region. Botanica has conducted numerous surveys within the Coolgardie bioregion and was also able to obtain information about the area from previous research conducted within the area. Results of previous assessments in the local area were reviewed to provide context on the local environment.
Completeness	Not a constraint	In the opinion of Botanica, the survey area was covered sufficiently to identify vegetation assemblages. Fieldwork was undertaken in March, outside of the EPA's recommended primary survey time period for the Interzone (i.e., Spring). Majority of the taxa was identified within the survey area; however some annuals may be absent due to timing. The vegetation associations for this study were based on visual descriptions of locations in the field. The distribution of these vegetation associations outside the study area is not known, however vegetation associations identified were categorised via comparison to vegetation distributions throughout WA given on NVIS (DotEE, 2017).

4 RESULTS

4.1 Desktop Assessment

4.1.1 Flora

The NatureMap desktop search identified 285 vascular flora species as occurring within 40 km of the survey area, representing 105 genera. The most dominant genera were *Eucalyptus* (29 species), *Acacia* (20 species) and *Eremophila* (17 species).

4.1.1.1 Introduced Flora

The desktop review identified 27 introduced flora (weed) species, representing 14 families, as potentially occurring in the vicinity of the survey area (DBCA, 2025b). Of these, three are listed as a Declared Pest on the Western Australian Organism List (WAOL) under the *Biosecurity and Agriculture Management* (BAM) *Act 2007*, with Common Lantana (*Lantana camara*) also listed as a Weed of National Significance (Table 4-1).

The full list of potential weed species is contained in Appendix B.

Table 4-1: Significant introduced flora potentially occurring within 40 km of the survey area

Family	Taxon	Common Name	WAOL Status	Control Category	WoNS
Boraginaceae	*Echium plantagineum*	Patersons Curse	Declared Pest - s22(2)		No
Martyniaceae	*Proboscidea louisianica*	Purple Flower Devil's Claw	Declared Pest, Prohibited - s12	C1 Management	No
Verbenaceae	*Lantana camara*	Common Lantana	Declared Pest - s22(2)	C3 Management	Yes

4.1.1.2 Significant Flora

The assessment of the DBCA Priority/ Threatened flora database records (DBCA, 2024a), NatureMap (DBCA, 2025a), Protected Matters searches (DCCEEW, 2025a) and previous relevant literature identified 17 significant flora species recorded within a 40 km radius of the survey area, none of which were within the survey area. These consist of one Threatened, six Priority 1, two Priority 2, six Priority 3 and three Priority 4 taxa (Appendix C).

These taxa were assessed for distribution and known habitat to determine their likelihood of occurrence within the survey area. The assessment identified two taxa as possibly occurring in the survey area (Table 4-1). The full flora likelihood assessment is listed in Appendix C. The locations of the DBCA database records are illustrated spatially in Figure 4-1

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

Taxon	Conservation Status			Habitat Description (WA Herbarium, 1998-)	Likelihood of Occurrence
	EPBC Act	BC Act	Priority		
Calandrinia lefroyensis			1	Undulating plain. Red-brown sand, sandy loam.	Possible
Eremophila arachnoides subsp. *tenera*			3	Flat plain with small drainage depressions.	Possible

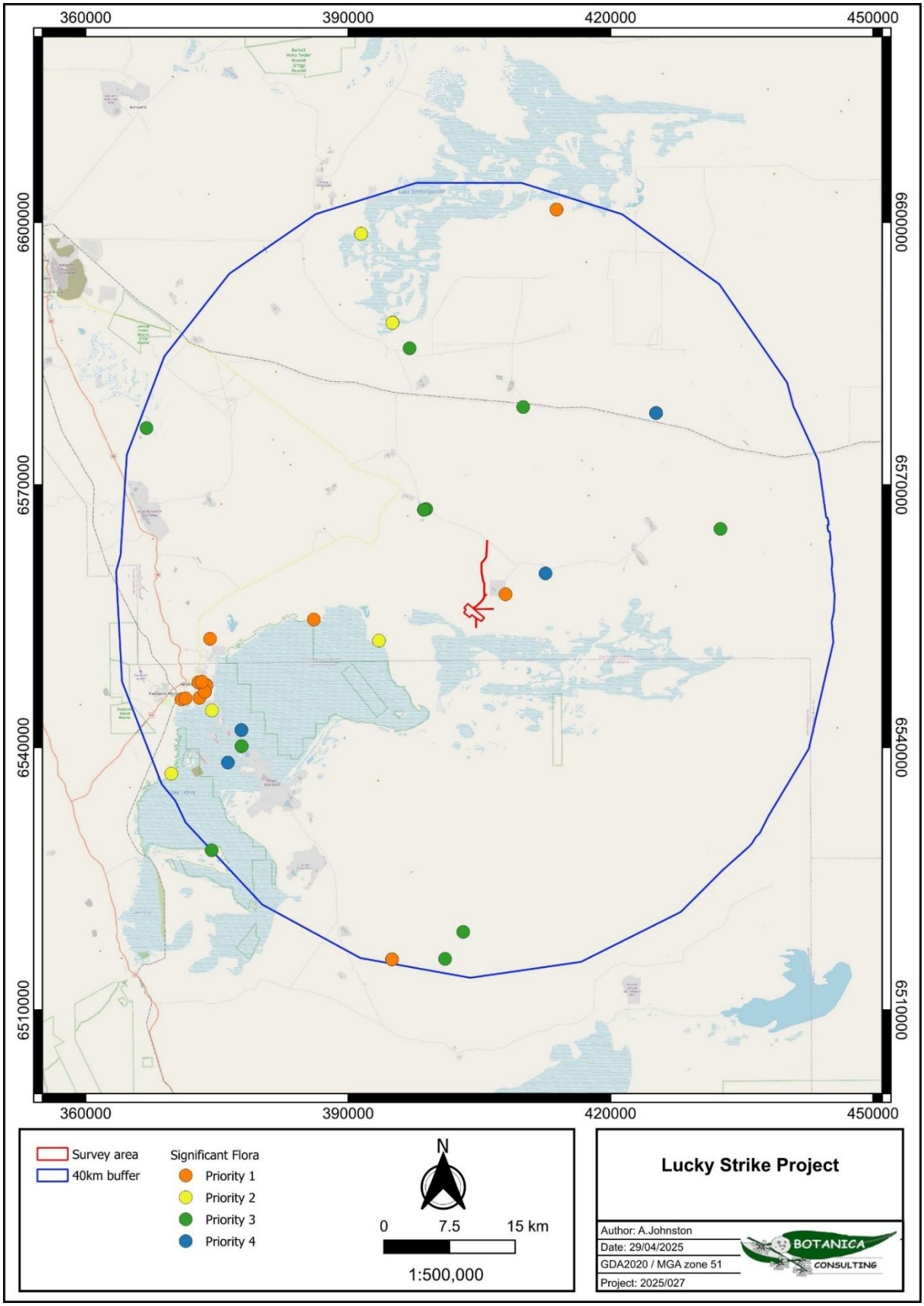

Figure 4-1:Significant flora results in relation to the survey area

4.1.2 Fauna

According to the results of the NatureMap search (DBCA, 2025a), a total of 226 terrestrial vertebrate fauna taxa have been recorded within 40 km of the survey area, consisting of 125 bird, 19 mammal, 78 reptile and three amphibian taxa. This total is represented across 145 genera.

4.1.2.1 Introduced (Feral) Fauna

The desktop review identified four feral fauna species, representing four families, as potentially occurring in the survey area(DBCA, 2025b) (Table 4-3).

Table 4-3: Potentially occurring introduced fauna

Family	Taxon	Common Name
Canidae	*Canis familiaris*	Dingo
Felidae	*Felis catus*	Domestic Cat
Leporidae	*Oryctolagus cuniculus*	Rabbit
Muridae	*Mus musculus*	House Mouse

4.1.2.2 Conservation Significant Fauna

The desktop review identified 12 terrestrial vertebrate fauna species and one invertebrate species of conservation significance as previously being recorded in the regional area. These consisted of ten Threatened, two Priority 4 species and three migratory species which were also classed as threatened. In addition, six migratory wading/shorebird species were assessed collectively due to their similar habitat requirements. The full fauna likelihood assessment is listed in Table 4-4.

Habitat and distribution data was used to determine the likelihood of occurrence within the survey area. The assessment identified three significant fauna species as potentially occurring in the survey area, consisting of two Vulnerable and one Critically Endangered taxon.

Table 4-4: Potentially occurring significant fauna

Taxon	Conservation Status			Habitat Description	Assessment and Likelihood
	EPBC Act	BC Act	DBCA		
BIRD					
Amytornis textilis textilis Western Grasswren			P4	Low, often *Acacia* dominated, semiarid shrubland, no more than a metre in height, that forms densely foliaged clumps and thickets. Has contracted westwards to the Shark Bay region since 1910 (DCCEEW, 2025b).	Would not occur. Considered to be regionally extinct.
Aphelocephala leucopsis Southern Whiteface	VU			Occur across most of mainland Australia south of the tropics, Southern Whitefaces live in a wide range of open woodlands and shrublands where there is an understorey of grasses or shrubs, or both (DCCEEW, 2025b).	Unlikely to occur. PMST records state that the species or species habitat may be in the area however no previous records in this area.
Calidris acuminata Sharp-tailed Sandpiper	VU & MI	MI		In Australasia, the Sharp-tailed Sandpiper prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation (DCCEEW, 2025b).	Unlikely to occur. No suitable habitat in the survey area.
Calidris ferruginea Curlew Sandpiper	CR & MI	CR		Inland, where they are rarely seen, around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand (DCCEEW, 2025b).	Would not occur in the area. No habitat in the survey area.
Falco hypoleucos Grey Falcon	VU	VU		Occurs at low densities across inland Australia. The species frequents timbered lowland plains, particularly *Acacia* shrublands that are crossed by tree-lined water courses. Observed hunting in treeless areas and frequents tussock grassland and open woodland, especially in winter (DCCEEW, 2025b).	Possibly Occurs. Survey area may form part of larger home range however suitable breeding habitat unlikely to be present.
Leipoa ocellata Malleefowl	VU	VU		Scrublands and woodlands dominated by mallee and wattle species (DCCEEW, 2025b).	Possibly occurs. Numerous records within 40 km of survey area.
Migratory Shorebirds*	MI	MI		Inhabit muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, saltpans and hypersaline salt lakes inland (DCCEEW, 2025b).	Unlikely to occur. No suitable habitat in the survey area.
Pezoporus occidentalis Night Parrot	EN	CR		Broad habitat requirements include areas of old growth spinifex (*Triodia*) for roosting and nesting, together with foraging habitats that are likely to include various native grasses and herbs, that may or may not contain shrubs or low trees. (DCCEEW, 2025b).	Would not occur in the area. PMST records state that the species or species habitat may be in the area. Considered to be

Taxon	Conservation Status			Habitat Description	Assessment and Likelihood
	EPBC Act	BC Act	DBCA		
					locally extinct. Suitable habitat not present.
Platycercus icterotis xanthogenys Western Rosella (inland)			P4	Heathland, woodland, forest of the Wheatbelt of WA (Birdlife, 2025).	Would not occur. Known to occur further west in the Wheatbelt.
Polytelis alexandrae Princess Parrot, Alexandra's Parrot	VU		P4	Inhabits sand dunes and sand flats in the arid zone of western and central Australia. It occurs in open savanna woodlands and shrublands that usually consist of scattered stands of *Eucalyptus* (including *E. gongylocarpa*, *E. chippendalei* and mallee species), Casuarina or Allocasuarina trees; an understorey of shrubs such as *Acacia* (especially *A. aneura*), *Cassia, Eremophila, Grevillea, Hakea* and *Senna*; and a ground cover dominated by Triodia species (DCCEEW, 2025b)	Would not occur. Known to occur further east in the Great Victoria Desert.
Tringa nebularia Common Greenshank, Greenshank	EN & MI	MI		Found in a wide variety of inland wetlands (e.g. claypans and saltflats) and sheltered coastal habitats of varying salinity. It will also use artificial wetlands (e.g., sewage farms). The edges of the wetlands used are generally of mud or clay.	Unlikely to Occur. No suitable habitat in the survey area.
MAMMAL					
Dasyurus geoffroii Chuditch, Western Quoll	VU	VU		Deserts, woodlands, eucalypt shrubland, open forests and coastal areas. It is now found only in the southwest corner of Western Australia (ALA, 2025).	Unlikely to occur. Considered to be regionally extinct.
INSECT					
Ogyris petrina Arid Bronze Azure	CR	CR		Known to occur within Mature smooth barked *Eucalypt* woodlands in the Goldfields and Wheatbelt region of WA (DBCA, 2025c).	Possibly Occurs. Suitable habitat present.

* Migratory Shorebirds include: *Actitis hypoleucos* (Common Sandpiper), *Motacilla cinerea* (Grey Wagtail), *Apus pacificus* (Fork-tailed Swift), *Calidris melanotos* (Pectoral Sandpiper), *Actitis hypoleucos* (Common Sandpiper), *Calidris ruficollis* (Red-necked Stint)

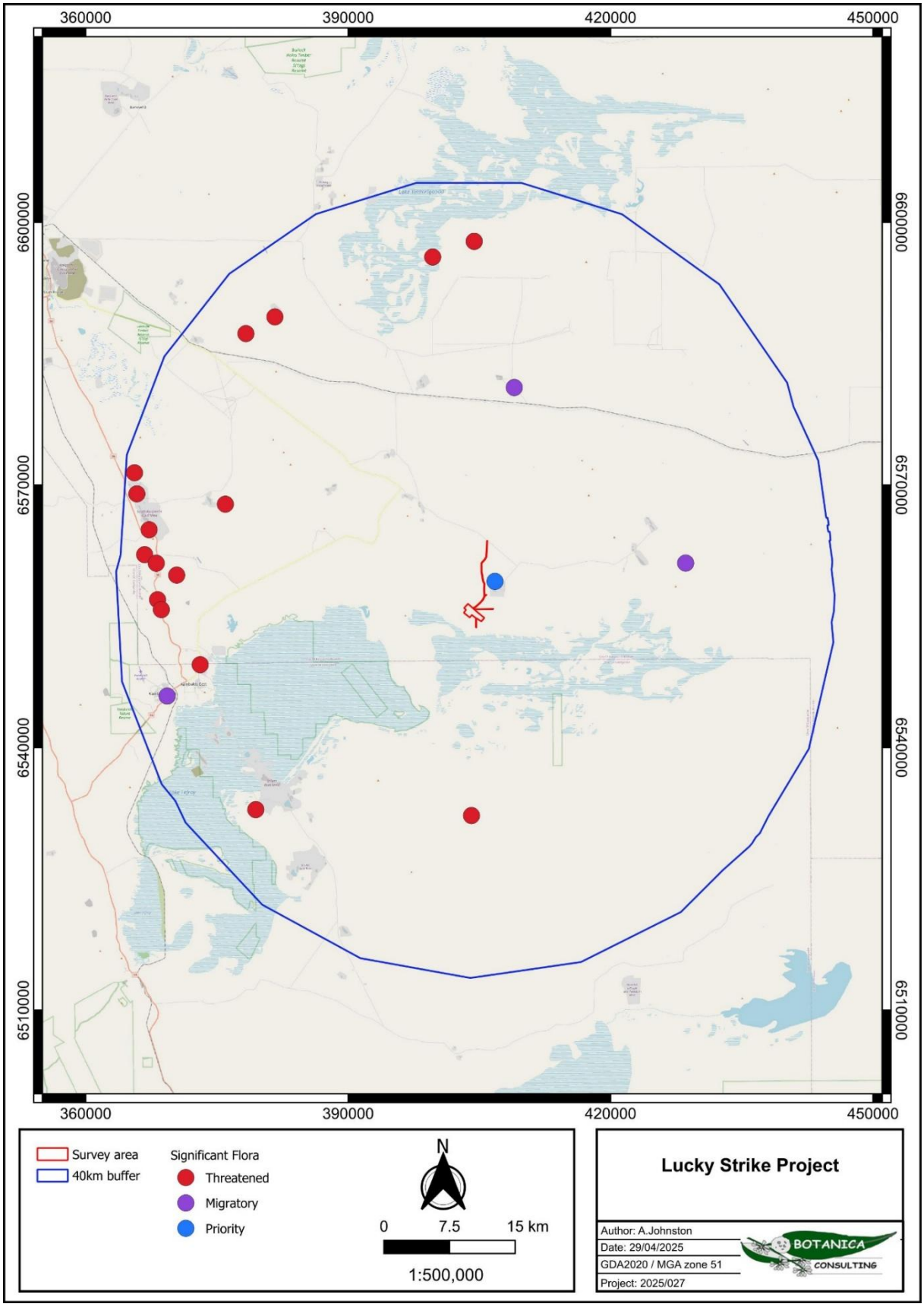

Figure 4-2:Significant fauna results in relation to the survey area

4.2 Field Assessment

4.2.1 Flora

The field survey identified 75 vascular flora taxa within the survey area. These taxa represented 36 genera across 18 families, with the most diverse families being Chenopodiaceae (19 species), Scrophulariaceae (10 species) and Fabaceae (seven species). Dominant genera include *Eremophila* (nine species), *Maireana* (eight species), *Eucalyptus* (7 species) and *Acacia* (6 species). There were no weeds recorded and the annuals *Atriplex lindleyi* and *Brachyscome iberidifolia* were observed during the survey. The full field species inventory is listed in Appendix E.

4.2.1.1 Introduced Flora

No weeds were found during the survey.

4.2.1.2 Significant Flora

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

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

No Threatened or Priority flora species were recorded within the survey area.

4.2.2 Vegetation Communities

A total of seven broad-scale vegetation communities were identified within the survey area. Vegetation community descriptions and extent are listed below in Table 4-5 and illustrated spatially in Figure 4-3. Vegetation community descriptions and extents were determined from field survey results, aerial imagery interpretation and extrapolation of the communities. Areas cleared of vegetation, significantly degraded and/or rehabilitated were not included in the vegetation community calculations.

The survey found CLP-COW1 was the most widespread community in the survey area, occupying 87.66 ha (35.8%), while DD-CS1 was the most restricted with 1.8 ha (0.8%). The most diverse

vegetation community was CLP-CS1 with 27 species (36%), while the least diverse was CLP-COW1 with 13 species (16%).

Table 4-5: Summary of vegetation communities within the survey area

Landform	NVIS Vegetation Group	Code	Vegetation Type	Area (ha)	Area (%)	Photo
Clay-loam plain	Eucalypt Open Woodlands (MVG 11)	CLP-EW1	Low open woodland of *Eucalyptus salmonophloia/ E. lesouefii* over tall shrubland of *Senna artemisioides* subsp. *filifolia/ Acacia colletioides* and sparse low mixed shrubland on clay-loam plain	70.3	28.7	
	Eucalypt Woodlands (MVG 5)	CLP-EW4	Low woodland of *Eucalyptus longicornis* over low open woodland of *Casuarina pauper* and low to mid shrubland of *Templetonia egena, Acacia donaldsonii, Alyxia buxifolia, Cratystylis conocephala, Olearia muelleri, Scaevola spinescens* on clay-loam plain	18.8	7.7	

Landform	NVIS Vegetation Group	Code	Vegetation Type	Area (ha)	Area (%)	Photo
	Eucalypt Woodlands (MVG 5)	CLP-MW1	*Eucalyptus griffithsii* over mid shrubland of *Acacia colletioides* and *A. hemiteles* and a low shrubland of *Ptilotus obovatus*, *Maireana georgei, Cratystylis conocephala* and *Scaevola spinescens* on a clay loam plain.	26.3	10.7	
	Other Shrublands (MVG 17)	CLP-CS1	Mid shrubland of *Dodonaea viscosa* subsp. *angustissima/ Senna artemisioides* subsp. *filifolia* over low chenopod/ samphire shrubland of *Tecticornia disarticulata/ Maireana sedifolia* on clay-loam plain	6.2	2.5	

Landform	NVIS Vegetation Group	Code	Vegetation Type	Area (ha)	Area (%)	Photo
	Other Shrublands (MVG 17)	CLP-COW1	Low woodland of *Casuarina pauper* over mid open chenopod shrubland of *Atriplex nummularia* subsp. *spathulata/ Maireana sedifolia* on clay-loam plain	87.7	35.8	
Drainage Depression	Chenopod Shrublands, Samphire Shrublands and Forblands (MVG 22)	DD-CS1	Low forbland/ chenopod shrubland of *Frankenia georgei, F. pauciflora*, *Cratystylis subspinescens, Maireana amoena, M. pyramidata, Roycea divaricata* and *Tecticornia* spp. in drainage depression	1.8	0.8	

Landform	NVIS Vegetation Group	Code	Vegetation Type	Area (ha)	Area (%)	Photo
Hillslope	Eucalypt Low Open Forests (MVG 4)	RH-CFW1	Low open forest of *Casuarina pauper* over tall shrubland of *Eremophila* spp. and mid to low shrubland of *Senna artemisioides* subsp. *filifolia, Scaevola spinescens, Olearia muelleri* on hillslope	2.3	0.9	
Sand-loam plain	Eucalypt Woodlands (MVG 5)	SLP-MW1	Low woodland of *Eucalyptus griffithsii* over mid to low shrubland of *Senna artemisioides* subsp. *filifolia, Eremophila decipiens* subsp. *decipiens* on clay-loam plain	3.0	1.2	

Landform	NVIS Vegetation Group	Code	Vegetation Type	Area (ha)	Area (%)	Photo
			Playa	0.5	0.2	
			Disturbed	18.7	8.9	
			Total	**245.0**	**100**	

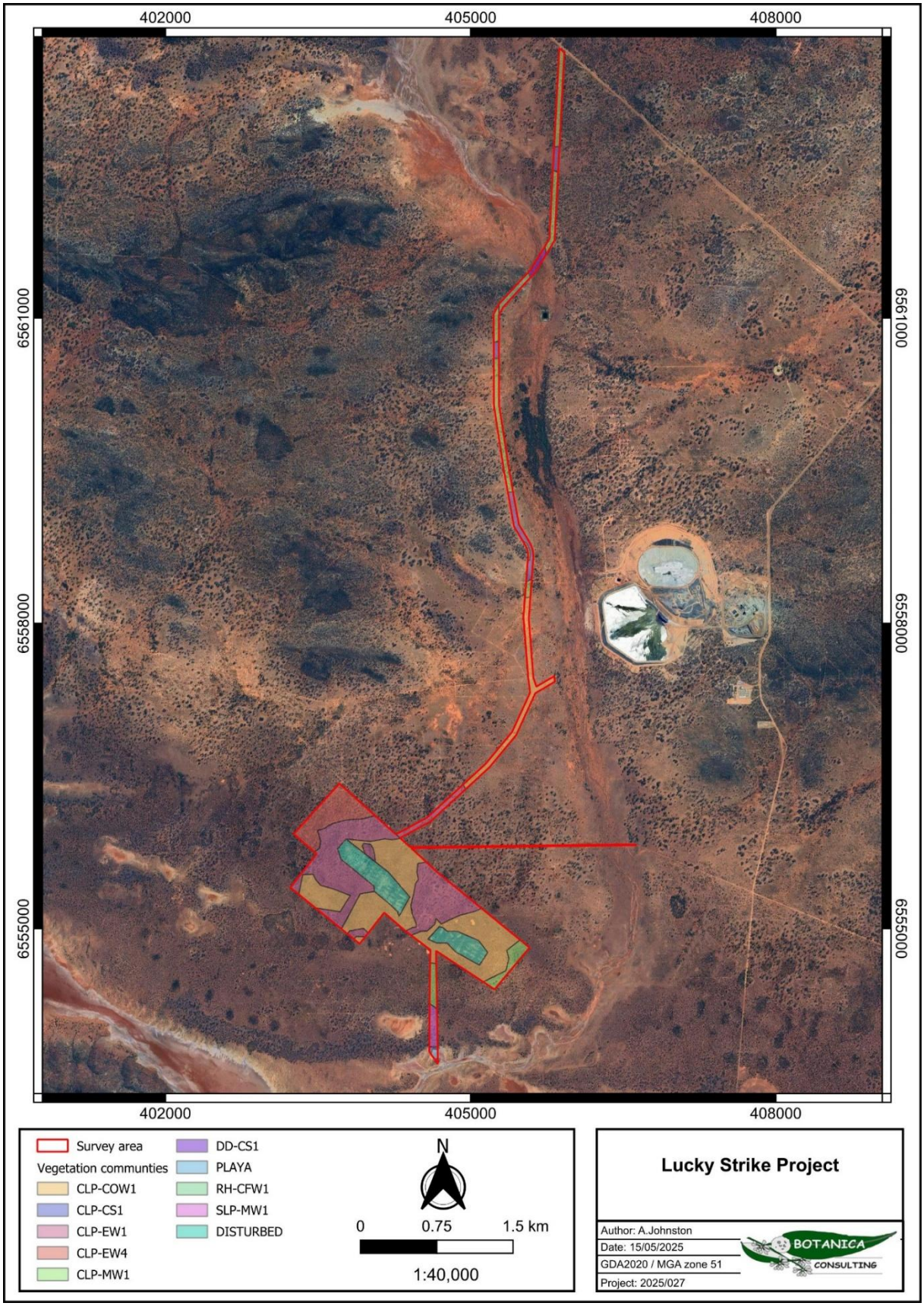

Figure 4-3: Vegetation communities within the survey area

4.2.3 Vegetation Condition

Based on the vegetation condition rating scale adapted from Keighery (1994) and Trudgen, (1988), native vegetation within the survey area ranged from 'very good to 'degraded'. (Table 4-6, Figure 4-4). Vegetation condition rating descriptions are listed in Appendix F. Disturbances within the survey area include mining operations, access roads and cumulative historical impacts.

Table 4-6: Vegetation condition rating within the survey area

Condition rating	Description	Area (ha)	Area (%)
Very Good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.	29.9	12.2
Good	Obvious signs of damage caused by human activity since European settlement, such as historical clearing, numerous vehicle tracks, changed fire regimes and low levels of grazing by feral animals	187.1	76.2
Degraded	High density of exploration activity, historical clearing and/ or rehabilitation	28.5	11.6
	Total	**245.5**	**100.0**

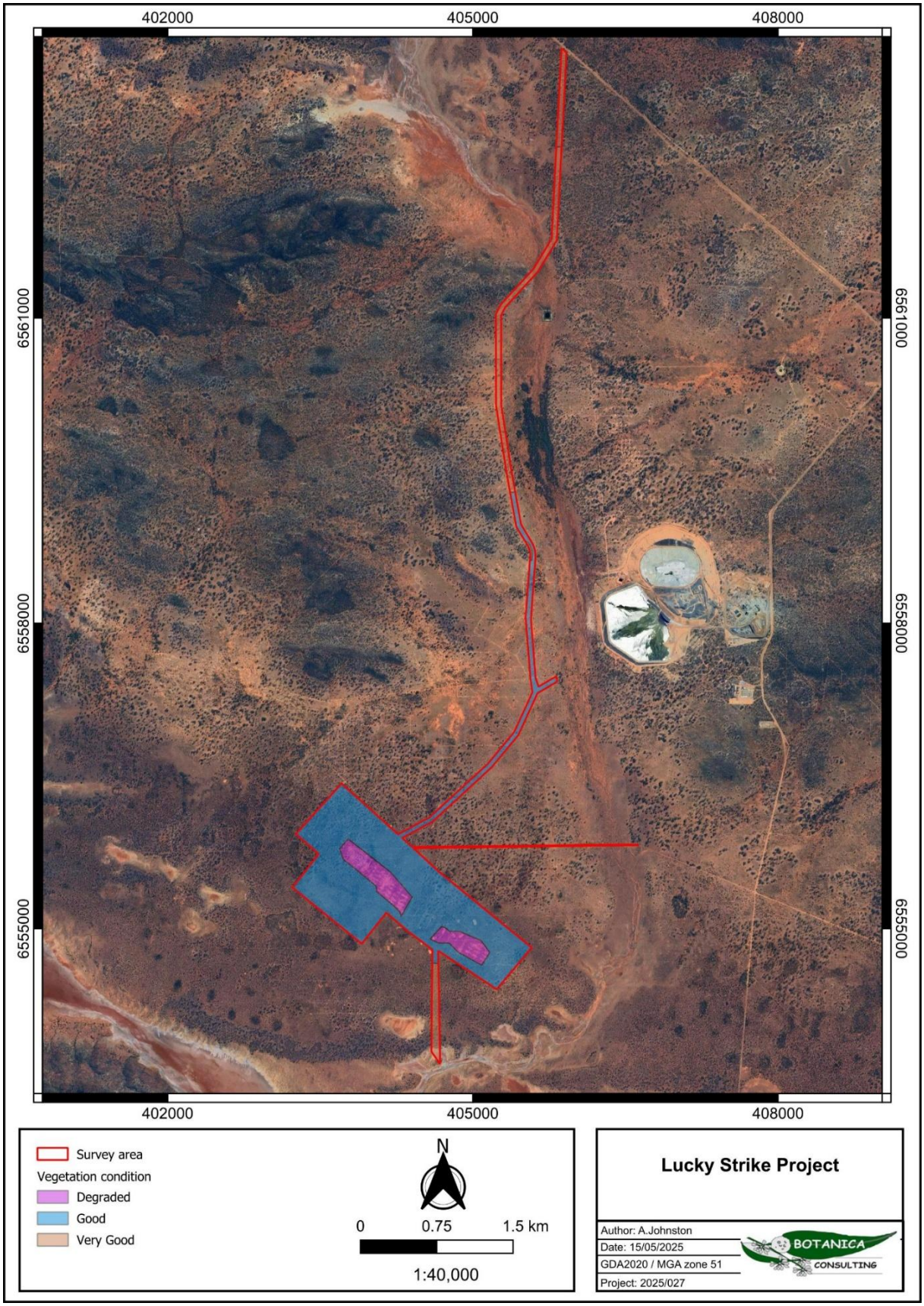

Figure 4-4: Vegetation condition within the survey area

4.2.4 Significant Vegetation

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

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

No Threatened, Priority or otherwise significant ecological communities were identified within the survey area.

4.2.5 Fauna Habitat

Based on vegetation and associated landforms assessed during the flora and vegetation assessment, eight broad scale terrestrial fauna habitats were identified as occurring within the survey area. Table 4-7 provides the area and a visual representation of fauna habitat types, and the extent of fauna habitats is shown spatially in Figure 4-5.

Table 4-7: Main terrestrial fauna habitats within the survey area

Fauna Habitat	Description	Representative fauna attributes	Area (ha)	Area (%)	Photo
Eucalypt Woodland on a Clay-loam plain	Low open woodland of *Eucalyptus salmonophloia/ E. lesouefii/ E. longicornis* over *Casuarina pauper* and shrubland of *Senna artemisioides* subsp. *filifolia/ Acacia colletioides* and sparse low mixed shrubland on clay-loam plain	• Ground has low to moderate suitability to burrowing species, • Low diversity vegetation strata and low vegetation density, • Low to moderate levels of leaf litter. • Some taller trees may support hollow nesting avifauna.	115.22	46.9	
Chenopod shrubland on a Clay-loam plain	Mid shrubland of *Dodonaea viscosa* subsp. *angustissima/ Senna artemisioides* subsp. *filifolia* over low chenopod/ samphire shrubland of *Tecticornia disarticulata/ Maireana sedifolia* on clay-loam plain	• Ground has low to moderate suitability to burrowing species, • Low diversity vegetation strata and low vegetation density, • Low to moderate levels of leaf litter.	6.24	2.5	

Fauna Habitat	Description	Representative fauna attributes	Area (ha)	Area (%)	Photo
Casuarina open woodland on a Clay-loam plain	Tall shrubland of *Casuarina pauper* over mid open chenopod shrubland of *Atriplex nummularia* subsp. *spathulata/ Maireana sedifolia* on clay-loam plain	• Ground has low to moderate suitability to burrowing species, • Low diversity vegetation strata and low vegetation density, • Low to moderate levels of leaf litter. • Some taller trees may support hollow nesting avifauna.	87.81	35.8	
Chenopod shrubland on a Drainage Depression	Low forbland/ chenopod shrubland of *Frankenia georgei, F. pauciflora*, *Cratystylis subspinescens, Maireana amoena, M. pyramidata, Roycea divaricata* and *Tecticornia* spp. in drainage depression	• Ground moderately suited to burrowing species. • Low diversity vegetation strata supporting avifauna assemblage. • Low to moderate vegetation density and leaf litter, providing good refuge for reptiles.	1.85	0.8	

Fauna Habitat	Description	Representative fauna attributes	Area (ha)	Area (%)	Photo
Casuarina forest woodland on a Hillslope	Low open forest of *Casuarina pauper* over tall shrubland of *Eremophila* spp. and mid to low shrubland of *Senna artemisioides* subsp. *filifolia, Scaevola spinescens, Olearia muelleri* on hillslope	• Ground not suited to burrowing species. • Moderate diversity vegetation strata. • Low vegetation density and leaf litter. • Potential refuge for small fauna under rocks.	2.27	0.9	
Eucalypt woodland on a Sand-loam plain	Low woodland of *Eucalyptus griffithsii* over mid to low shrubland of *Senna artemisioides* subsp. *filifolia, Eremophila decipiens* subsp. *decipiens* on clay-loam plain	• Ground suited to burrowing species. • Moderate diversity vegetation strata supporting avifauna. • Moderate vegetation density and leaf litter providing good refuge for reptiles and mammals.	3.03	1.2	

Fauna Habitat	Description	Representative fauna attributes	Area (ha)	Area (%)	Photo
Playa	Dry, flat floored depression that is vegetation free	• Ground not well suited to burrowing species. • Lack of vegetation, thus low suitability as foraging habitat and low provision of refuge for reptiles or mammals. • Occasionally suitable for migratory shorebirds following significant rainfall and inundation of salt lake areas. • Fauna more likely to occur within adjacent habitats	0.52	0.2	
Disturbed	Area cleared for tracks	• Ground not well suited to burrowing species. • Low value foraging habitat for mammals and avifauna due to lack of native vegetation. • Man made structures (e.g., buildings) and remnant materials (e.g., old tin sheets) provide good refuge for reptiles.	28.47	11.6	

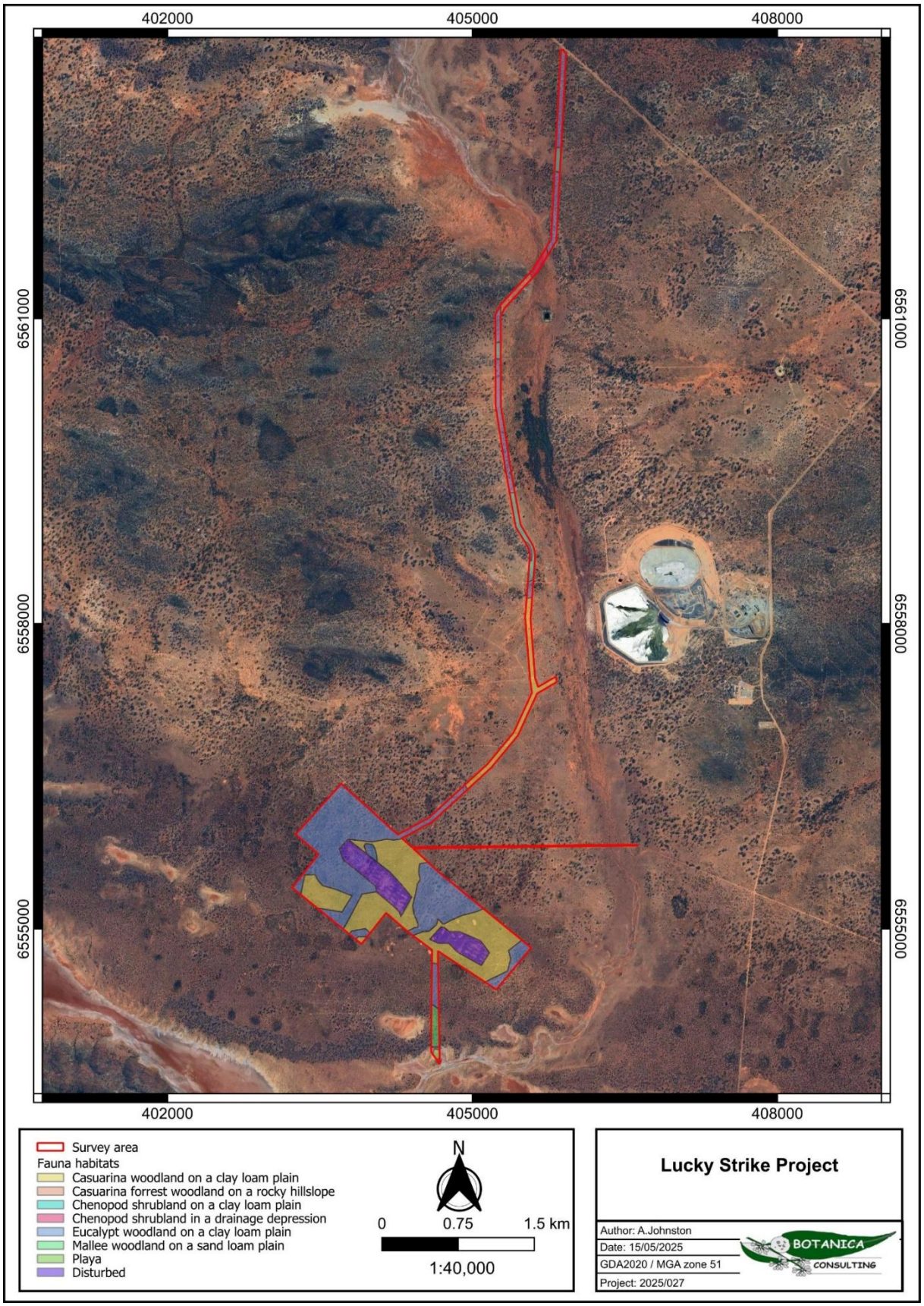

Figure 4-5: Fauna habitats within the survey area

4.2.6 Significant Fauna

According to the EPA *Environmental Factor Guideline for Terrestrial Fauna* (EPA, 2016c) significant fauna includes:

- Fauna being identified as a Threatened or Priority species;
- Fauna species with restricted distribution;
- Fauna subject to a high degree of historical impact from threatening processes; and
- Fauna providing an important function required to maintain the ecological integrity of a significant ecosystem.

No evidence of significant fauna species were observed during the field survey.

The current status of some species on site and/or in the general area is difficult to determine, however, based on the habitats present and, in some cases, direct observations or recent nearby records, the following species of conservation significance can be regarded as possibly utilising the survey area for some purpose at times, these being:

- **Malleefowl (*Leipoa ocellata)* - Vulnerable (EPBC Act and BC Act)**

  This species is occasionally recorded in the Eastern Goldfields subregion. Habitat appears marginal/or unsuitable for breeding due to the open nature of the vegetation. No evidence of current or recent Malleefowl activity (inactive or active mounds, tracks, feathers or bird observations etc.) were observed within the survey area. Significant impact unlikely.

- **Grey Falcon (Falco hypoleucos) - Vulnerable (EPBC Act and BC Act)**

  This species is sparsely recorded throughout inland Australia. Suitable habitat may be present but in unlikely to represent critical habitat. Significant impact unlikely.

- **Arid bronze Azure (*Ogyris petrina)* – Critically Endangered (EPBC Act and BC Act)**

  This species has not previously been recorded within the survey area and suitable habitat may be present but is unlikely to represent critical habitat. Significant impact unlikely.

It should be noted that while habitats onsite for one or more of the species listed above are considered possibly suitable, some or all may be marginal in extent/quality and therefore the fauna species considered as possibly occurring may in fact only visit the area for short periods as infrequent vagrants.

4.3 Matters of National Environmental Significance

4.3.1 Environment Protection and Biodiversity Conservation Act 1999

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

The EPBC Act covers 9 protected matters:

- World heritage areas
- National heritage places
- Wetlands of international importance (listed under the Ramsar Convention)
- Listed threatened species and ecological communities
- Listed migratory species (protected under international agreements)
- Commonwealth marine areas
- Great Barrier Reef Marine Park
- Nuclear actions (including uranium mines)
- Water resources (that relate to unconventional gas development and large coal mining development).

No MNES as defined by the EPBC Act were identified within the survey area.

4.4 Matters of State Environmental Significance

4.4.1 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 2004 (Clearing Regulations) any clearing of native vegetation in Western Australia that is not eligible for exemption under Schedule 6 of the EP Act or under the Clearing Regulations requires a clearing permit from the DWER or the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS). Under Section 51A of the EP Act native vegetation includes aquatic and terrestrial vegetation indigenous to Western Australia, and intentionally planted vegetation declared by regulation to be native vegetation, but not vegetation planted in a plantation or planted with commercial intent. Section 51A of the EP Act defines clearing as "the killing or destruction of; the

removal of; the severing or ringbarking of trunks or stems of; or the doing of substantial damage to some or all of the native vegetation in an area, including the flooding of land, the burning of vegetation, the grazing of stock or an act or activity that results in the above".

Environmentally sensitive areas (ESAs) are classes or areas of native vegetation as declared in the Environmental Protection (Environmentally Sensitive Areas) Notice 2005 for the purposes of Part V Division 2 of the EP Act, where the exemptions for clearing vegetation under the Clearing Regulations do not apply.

The following areas are declared to be ESAs:

- a declared World Heritage property as defined in section 13 of the EPBC Act;
- an area that is included on the Register of the National Estate, because of its natural heritage value, under the Australian Heritage Council Act 2003 of the Commonwealth;
- a defined wetland and the area within 50 m of the wetland. Defined wetlands include Ramsar wetlands, conservation category wetlands and nationally important wetlands;
- the area covered by vegetation within 50 m of rare flora, to the extent to which the vegetation is continuous with the vegetation in which the rare flora is located;
- the area covered by a TEC;
- a Bush Forever site listed in "Bush Forever" Volumes 1 and 2 (2000), published by the Western Australia Planning Commission, except to the extent to which the site is approved to be developed by the Western Australia Planning Commission;
- the areas covered by the following policies – o Environmental Protection (Gnangara Mound Crown Land) Policy 1992; o Environmental Protection (Western Swamp Tortoise Habitat) Policy 2002;
- the areas covered by the lakes to which the Environmental Protection (Swan Coastal Plain Lakes) Policy 1992 applies; and
- protected wetlands as defined in the Environmental Protection (Southwest Agricultural Zone Wetlands) Policy 1998.

No ESAs declared under the EP Act were identified within the survey area.

4.4.2 *Biodiversity Conservation Act 2016*

The BC Act is administered by the DBCA to conserve and protect biodiversity and to promote the ecologically sustainable use of biodiversity components in the State of Western Australia. Under the BC Act, native species are listed as Threatened when they face a high to very high risk of extinction in the wild, and ecological communities are listed as Threatened when they face a high to very high risk of collapse. Whilst all native flora and fauna are protected throughout the State, special

protection is afforded to threatened flora and ecological communities, with the authorisation of the Minister being required before such flora can be taken or communities modified.

Furthermore, The Minister may list vegetation as a 'critical habitat' if it is critical to the survival of a threatened species or ecological community. Under Section 54(1) of the BC Act, habitat is eligible for listing as critical habitat if:

- It is critical to the survival of a threatened species or a threatened ecological community; and
- Its listing is otherwise in accordance with the ministerial guidelines.

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

4.5 Other areas of Conservation Significance

The DBCA lists 'Priority' species and communities which are under consideration for declaration as 'Threatened' under the BC Act. These Priority species and communities have no formal legal protection until they are endorsed by the Minister as being Threatened.

There are no Priority species or communities within the survey area.

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

There are no proposed or gazetted conservation reserves within the survey area. Both proposed and gazetted conservation reserves are managed by DBCA with gazetted conservation reserves vested with the Conservation and Parks Commission of Western Australia. The Conservation and Parks Commission is an independent statutory authority that was established under the Conservation and Land Management (CALM) Act 1984 in November 2000 and is the controlling body in which the State's conservation estate, including national parks, conservation parks, nature reserves, state forests and timber reserves, are vested. The Conservation and Parks Commission develops policies and provides independent advice to the Minister for Environment with respect to conservation, the management of ecological biodiversity and the application of ecologically sustainable forest management. The DBCA manages land on behalf of the Conservation and Parks Commission.

The closest significant environmental feature is the Randell Timber Reserve, which is DBCA-managed land located approximately 11 km east of the survey area. Disturbances within the survey area are unlikely to impact this area.

4.6 Native Vegetation Clearing Principles

Based on the outcomes from the survey undertaken, Botanica assessed the results of the desktop and field survey with regards to the native vegetation clearing principles listed under Schedule 5 of

the EP Act (Table 4-8). The assessment found that the proposed vegetation clearing activities may be at variance with clearing principles (f) and (i).

Table 4-8: Assessment against native vegetation clearing principles

Letter	Principle Native vegetation should not be cleared if it:	Assessment	Outcome
(a)	comprises a high level of biological diversity.	Vegetation within the survey area is considered to be of low biological diversity and is well represented outside of the survey area. There are no Threatened or Priority Ecological Communities within the survey area.	Clearing is unlikely to be at variance with this principle
(b)	comprises the whole or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to WA.	The basic fauna search did not record any evidence for the presence of significant fauna or habitat within the survey area.	Clearing is unlikely to be at variance with 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 survey area.	Clearing is unlikely to be at variance with 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 survey area or the Eastern Goldfields subregion.	Clearing is not at variance with this principle
(e)	is significant as a remnant of native vegetation in an area that has been extensively cleared	All vegetation associations retain >99% of their original pre-European vegetation extent.	Clearing is unlikely to be at variance with this principle
(f)	is growing, in, or in association with, an environment associated with a watercourse or wetland	One minor ephemeral drainage line was identified within the survey area.	Clearing may be at variance with this principle
(g)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	The survey area and surrounding region has not been extensively cleared. Clearing within the survey area is not considered likely to lead to land degradation issues such as salinity, water logging or acidic soils.	Clearing is unlikely to be at variance with this principle
(h)	Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.	The survey area is not located within or adjacent to conservation areas, Environmentally Sensitive Areas or Nationally Important Wetlands.	Clearing is unlikely to be at variance with 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 is one minor ephemeral drainage line within the survey area, and a high potential terrestrial GDE occurs 800m south of the survey area.	Clearing may be at variance with this principle
(j)	Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding	Rainfall in the Eastern Goldfields subregion has an average rainfall of 200-300 mm. Rainfall data for Kalgoorlie-Boulder indicates that rainfall is spread throughout the year and rainfall events are unlikely to result in localised flooding. Clearing within the survey area is not likely to increase the incidence or intensity of flooding within the survey area or surrounds.	Clearing is unlikely to be at variance with this principle

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APPENDIX A:
CONSERVATION RATINGS BC ACT AND EPBC ACT

Definitions of Conservation Significant Species

Code	Category
State categories of Threatened and Priority species	
Threatened Species (T) Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as Threatened species under section 26(2) of the Biodiversity Conservation Act 2016 (BC Act).	
CR	**Critically Endangered** Threatened species considered to be "facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines". Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under Schedule 2, Division 1 of the *Biodiversity Conservation (Listing of Native species) (Fauna) Order 2024* for critically endangered fauna or Schedule 1 Division 1 of the Bi*odiversity Conservation (Listing of Native Species) (Flora) Order 2024* for critically endangered flora.
EN	**Endangered** Threatened species considered to be "facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines". Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under Schedule 2, Division 2 of the *Biodiversity Conservation (Listing of Native species) (Fauna) Order 2024* for endangered fauna or Schedule 1 Division 2 of the Bi*odiversity Conservation (Listing of Native Species) (Flora) Order 2024* for endangered flora.
VU	**Vulnerable** Threatened species considered to be "facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines". Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under Schedule 2, Division 3 of the *Biodiversity Conservation (Listing of Native species) (Fauna) Order 2024* for vulnerable fauna or Schedule 1 Division 3 of the Bi*odiversity Conservation (Listing of Native Species) (Flora) Order 2024* 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 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 3 of the *Biodiversity Conservation (Listing of Native species) (Fauna) Order 2024* for extinct fauna or Schedule 2 of the Bi*odiversity Conservation (Listing of Native Species) (Flora) Order 2024* for extinct flora.
EW	**Extinct in the Wild** Species that *"is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*", and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act). Currently there are no Threatened fauna or Threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.
Specially protected species Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection. Species that are listed as Threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.	

Code	Category
IA	**International Agreement/ Migratory** Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory 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 1 Division 2 of the *Biodiversity Conservation (Listing of Native species) (Fauna) Order 2024.*
CD	**Species of special conservation interest** Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as Threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act). Published as conservation dependent fauna under Schedule 1 Division 1 of the *Biodiversity Conservation (Listing of Native species) (Fauna) Order 2024.*
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 1 Division 3 of the *Biodiversity Conservation (Listing of Native species) (Fauna) Order 2024.*
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.

Code	Category
Commonwealth categories of Threatened species	
EX	**Extinct** Taxa where there is no reasonable doubt that the last member of the species has died.
EW	**Extinct in the Wild** Taxa where it is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
CR	**Critically Endangered** Taxa that are facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
EN	**Endangered** Taxa which are not critically endangered and is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
VU	**Vulnerable** Taxa which are not critically endangered or endangered and is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
CD	**Conservation Dependent** Taxa which are the focus of a specific conservation program the cessation of which would result in the species becoming vulnerable, endangered or critically endangered; or (b) the following subparagraphs are satisfied: (i) the species is a species of fish; (ii) the species is the focus of a plan of management that provides for actions necessary to stop the decline of, and support the recovery of, the species so that its chances of long-term survival in nature are maximised; (iii) the plan of management is in force under a law of the Commonwealth or of a State or Territory; (iv) cessation of the plan of management would adversely affect the conservation status of the species.

Definitions of conservation significant communities

Category Code	Category
State categories of Threatened Ecological Communities (TEC)	
PD	**Presumed Totally Destroyed**
	An ecological community will be listed as Presumed Totally Destroyed if there are no recent records of the community being extant and either of the following applies:
	• records within the last 50 years have not been confirmed despite thorough searches or known likely habitats or;
	• all occurrences recorded within the last 50 years have since been destroyed.
CR	**Critically Endangered**
	An ecological community will be listed as Critically Endangered when it has been adequately surveyed and is found to be facing an extremely high risk of total destruction in the immediate future, meeting any one of the following criteria:
	The estimated geographic range and distribution has been reduced by at least 90% and is either continuing to decline with total destruction imminent, or is unlikely to be substantially rehabilitated in the immediate future due to modification;
	The current distribution is limited i.e. highly restricted, having very few small or isolated occurrences, or covering a small area;
	The ecological community is highly modified with potential of being rehabilitated in the immediate future.
EN	**Endangered**
	An ecological community will be listed as Endangered when it has been adequately surveyed and is not Critically Endangered but is facing a very high risk of total destruction in the near future. The ecological community must meet any one of the following criteria:
	The estimated geographic range and distribution has been reduced by at least 70% and is either continuing to decline with total destruction imminent in the short-term future, or is unlikely to be substantially rehabilitated in the short-term future due to modification;
	The current distribution is limited i.e. highly restricted, having very few small or isolated occurrences, or covering a small area;

Category Code	Category
	The ecological community is highly modified with potential of being rehabilitated in the short-term future.
VU	**Vulnerable**
	An ecological community will be listed as Vulnerable when it has been adequately surveyed and is not Critically Endangered or Endangered but is facing high risk of total destruction in the medium to long term future. The ecological community must meet any one of the following criteria:
	The ecological community exists largely as modified occurrences that are likely to be able to be substantially restored or rehabilitated;
	The ecological community may already be modified and would be vulnerable to threatening process, and restricted in range or distribution;
	The ecological community may be widespread but has potential to move to a higher threat category due to existing or impending threatening processes.
Commonwealth categories of Threatened Ecological Communities (TEC)	
CE	**Critically Endangered** If, at that time, an ecological community is facing an extremely high risk of extinction in the wild in the immediate future (indicative timeframe being the next 10 years).
EN	**Endangered** If, at that time, an ecological community is not critically endangered but is facing a very high risk of extinction in the wild in the near future (indicative timeframe being the next 20 years).
VU	**Vulnerable** If, at that time, an ecological community is not critically endangered or endangered but is facing a high risk of extinction in the wild in the medium–term future (indicative timeframe being the next 50 years).
Priority Ecological Communities	
P1	**Poorly-known ecological communities**
	Ecological communities with apparently few, small occurrences, all or most not actively managed for conservation (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) and for which current threats exist.
P2	**Poorly-known ecological communities**
	Communities that are known from few small occurrences, all or most of which are actively managed for conservation (e.g. within national parks, conservation parks, nature reserves, State forest, un-allocated Crown land, water reserves, etc.) and not under imminent threat of destruction or degradation.
P3	**Poorly known ecological communities**
	Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or:
	Communities known from a few widespread occurrences, which are either large or within significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat, or;
	Communities made up of large, and/or widespread occurrences, that may or not be represented in the reserve system but are under threat of modification across much of their range from processes such as grazing and inappropriate fire regimes.
P4	**Ecological communities that are adequately known, rare but not threatened** or meet criteria for near threatened, or that have been recently removed from the threatened list. These communities require regular monitoring.
P5	**Conservation Dependent ecological communities**
	Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.

APPENDIX B:
POTENTIALLY OCCURRING INTRODUCED (WEED) FLORA SPECIES

Family	Taxon	Common Name	WAOL Status	Control Category	WoNS
Asteraceae	*Carduus tenuiflorus*	Slender Thistle	Permitted - s11	No Control Category	No
Asteraceae	*Centaurea melitensis*	Maltese Cockspur	Permitted - s11	No Control Category	No
Asteraceae	*Gazania linearis*	Gazania	Permitted - s11	No Control Category	No
Asteraceae	*Oncosiphon suffruticosum*	Calomba Daisy	Permitted - s11	No Control Category	No
Asteraceae	*Sonchus oleraceus*	Common Sowthistle	Permitted - s11	No Control Category	No
Boraginaceae	*Echium plantagineum*	Patersons Curse	Declared Pest - s22(2)	No Control Category, Whole of State	No
Boraginaceae	*Sisymbrium erysimoides*	smooth mustard	Permitted - s11	No Control Category	No
Brassicaceae	*Alyssum linifolium*	Flax-leaf Alyssum	Permitted - s11	No Control Category	No
Brassicaceae	*Carrichtera annua*	Ward's Weed	Permitted - s11	No Control Category	No
Brassicaceae	*Lepidium africanum*	Rubble Peppercress	Permitted - s11	No Control Category	No
Brassicaceae	*Sisymbrium irio*	London Rocket	Permitted - s11	No Control Category	No
Crassulaceae	*Bryophyllum delagoense*	Mother-of-millions	Permitted - s11	No Control Category	No
Cucurbitaceae	*Citrullus colocynthis*	Bitter apple	Permitted - s11	No Control Category	No
Geraniaceae	*Erodium cicutarium*	Common Storksbill	Permitted - s11	No Control Category	No
Lamiaceae	*Salvia verbenaca*	Wild Sage	Permitted - s11	No Control Category	No
Martyniaceae	*Proboscidea louisianica*	Purple Flower Devil's Claw	Declared Pest, Prohibited - s12	C1 Management, whole of state	No
Poaceae	*Cenchrus ciliaris*	Buffel Grass	Permitted - s11	No Control Category	No
Poaceae	*Rostraria pumila*	Roughtail	Permitted - s11	No Control Category	No
Polygonaceae	*Rumex hypogaeus*	Double-gee	Permitted - s11	No Control Category	No
Primulaceae	*Lysimachia arvensis*	Pimpernel	Permitted - s11	No Control Category	No
Resedaceae	*Reseda luteola*	Wild mingonette	Permitted - s11	No Control Category	No
Solanaceae	*Datura ferox*	Fierce Thornapple	Permitted - s11	No Control Category	No
Solanaceae	*Nicotiana glauca*	Tree Tobacco	Permitted - s11	No Control Category	No
Verbenaceae	*Lantana camara*	Common Lantana	Declared Pest - s22(2)	C3 Management, whole of state	Yes

APPENDIX C:
SIGNIFICANT FLORA LIKELIHOOD ASSESSMENT

Taxon	Conservation Status			Habitat Description (WA Herbarium, 1998-)	Likelihood of Occurrence
	EPBC Act	BC Act	Priority		
Austrostipa turbinata			3	Basalt lower slope.	Unlikely, no habitat in the survey area
Calandrinia lefroyensis			1	Undulating plain. Red-brown sand, sandy loam.	Possible
Chrysocephalum apiculatum subsp. *norsemanense*			3	Sandplain. Orange sandy loam.	Unlikely, no habitat in the survey area
Cyathostemon divaricatus			1	Rocky hillslope.	Unlikely, no habitat in the survey area
Eremophila acutifolia			3	Grey or yellow sand. Sandplains.	Unlikely; no habitat in the survey area
Eremophila arachnoides subsp. tenera			3	Flat plain with small drainage depressions.	Possible
Eucalyptus kruseana			4	Sandy loam. Granite outcrops & hills.	Unlikely, no habitat in the survey area
Eucalyptus websteriana subsp. *norsemanica*			1	Rocky rises.	Unlikely, no habitat in the survey area
Eucalyptus x brachyphylla			4	Sandy loam. Granite outcrops.	Unlikely, no habitat in the survey area
Melaleuca coccinea			3	Sandy loam over granite. Granite outcrops, sandplain, river valleys.	Unlikely, no habitat in the survey area
Phlegmatospermum eremaeum			3	Stony loam.	Unlikely, no habitat in the survey area
Prostanthera splendens			1	Stony loam, shallow soils with ironstone pebbles. Breakaways.	Unlikely, no habitat in the survey area
Ptilotus rigidus			1	Associated with salt lakes (WAHERB, 1998-)	Unlikely, no habitat in the survey area
Ricinocarpos digynus			1	Grows in sandy loam on rocky hillsides (WAHERB, 1998-).	Unlikely, no habitat in the survey area
Sowerbaea multicaulis			4	Yellow-brown sand.	Unlikely, no habitat in the survey area
Tecticornia flabelliformis	VU		2	Saline flats.	Unlikely, no habitat in the survey area
Xanthoparmelia xanthomelanoides			2	Hill with bare to stoney dry clay.	Unlikely, no habitat in the survey area

APPENDIX D:
LIST OF SPECIES IDENTIFIED WITHIN THE SURVEY AREA

Family	Genus	Taxon	CLP-EW1	CLP-CS1	CLP-COW1	DD-CS1	RH-CFW1	CLP-MW1	CLP-EW4	SLP-MW1
Aizoaceae	*Disphyma*	*crassifolium*		*		*				
Aizoaceae	*Gunniopsis*	*quadrifida*		*		*				
Amaranthaceae	*Ptilotus*	*obovatus*		*			*	*	*	*
Apocynaceae	*Alyxia*	*buxifolia*	*						*	
Apocynaceae	*Leichhardtia*	*australis*	*		*				*	
Asteraceae	*Brachyscome*	*iberidifolia (A)*								*
Asteraceae	*Cratystylis*	*conocephala*	*				*		*	*
Asteraceae	*Cratystylis*	*microphylla*			*					
Asteraceae	*Cratystylis*	*subspinescens*		*		*		*		
Asteraceae	*Olearia*	*muelleri*	*	*	*		*	*	*	*
Casuarinaceae	*Casuarina*	*pauper*		*			*		*	
Chenopodiaceae	*Atriplex*	*lindleyi (A)*		*		*				
Chenopodiaceae	*Atriplex*	*nummularia* subsp. *spathulata*	*	*	*	*	*	*		
Chenopodiaceae	*Atriplex*	*vesicaria*	*			*				
Chenopodiaceae	*Maireana*	*amoena*		*		*				
Chenopodiaceae	*Maireana*	*erioclada*		*						
Chenopodiaceae	*Maireana*	*georgei*				*		*		
Chenopodiaceae	*Maireana*	*pentagona*						*	*	
Chenopodiaceae	*Maireana*	*pentatropis*		*						
Chenopodiaceae	*Maireana*	*pyramidata*	*			*				

Family	Genus	Taxon	CLP-EW1	CLP-CS1	CLP-COW1	DD-CS1	RH-CFW1	CLP-MW1	CLP-EW4	SLP-MW1
Chenopodiaceae	*Maireana*	*sedifolia*	*	*	*		*	*		
Chenopodiaceae	*Maireana*	*triptera*						*		
Chenopodiaceae	*Rhagodia*	*drummondii*				*				*
Chenopodiaceae	*Roycea*	*divaricata*		*		*				
Chenopodiaceae	*Sclerolaena*	*brevifolia*		*				*		
Chenopodiaceae	*Sclerolaena*	*cuneata*				*				
Chenopodiaceae	*Sclerolaena*	*eurotioides*				*				
Chenopodiaceae	*Tecticornia*	*disarticulata*		*		*				
Chenopodiaceae	*Tecticornia*	*pergranulata* subsp. *pergranulata*		*		*				
Chenopodiaceae	*Tecticornia*	sp. (sterile)		*		*		*		
Fabaceae	*Acacia*	*acuminata*					*			
Fabaceae	*Acacia*	*collegialis*				*				
Fabaceae	*Acacia*	*colletioides*	*					*	*	*
Fabaceae	*Acacia*	*donaldsonii*							*	*
Fabaceae	*Acacia*	*hemiteles*	*	*				*	*	
Fabaceae	*Acacia*	*tetragonophylla*				*		*		
Fabaceae	*Senna*	*artemisioides* subsp. *filifolia*	*	*	*		*	*	*	
Fabaceae	*Templetonia*	*egena*	*				*	*	*	
Frankeniaceae	*Frankenia*	*desertorum*		*						
Frankeniaceae	*Frankenia*	*interioris*		*					*	
Frankeniaceae	*Frankenia*	*pauciflora*		*		*				
Frankeniaceae	*Frankenia*	*setosa*		*		*				
Goodeniaceae	*Scaevola*	*spinescens*	*	*	*		*	*	*	*
Loranthaceae	*Amyema*	*preissii*		*		*				
Malvaceae	*Abutilon*	*malvifolium*				*		*		
Malvaceae	*Brachychiton*	*gregorii*								*
Malvaceae	*Lawrencia*	*helmsii*				*				
Myrtaceae	*Eucalyptus*	*gracilis*	*							

Family	Genus	Taxon	CLP-EW1	CLP-CS1	CLP-COW1	DD-CS1	RH-CFW1	CLP-MW1	CLP-EW4	SLP-MW1
Myrtaceae	*Eucalyptus*	*griffithsii*					*	*		
Myrtaceae	*Eucalyptus*	*lesouefii*	*							
Myrtaceae	*Eucalyptus*	*longicornis*							*	
Myrtaceae	*Eucalyptus*	*melanoxylon*								*
Myrtaceae	*Eucalyptus*	*platycorys*								*
Myrtaceae	*Eucalyptus*	*salmonophloia*	*			*				
Pittosporaceae	*Pittosporum*	*angustifolium*	*		*					
Poaceae	*Triodia*	*scariosa*								*
Santalaceae	*Exocarpos*	*aphyllus*	*	*			*	*	*	*
Santalaceae	*Santalum*	*spicatum*			*					
Sapindaceae	*Dodonaea*	*lobulata*		*	*		*			
Sapindaceae	*Dodonaea*	*viscosa* subsp. *angustissima*		*					*	*
Scrophulariaceae	*Eremophila*	*alternifolia*					*			
Scrophulariaceae	*Eremophila*	*caperata*								*
Scrophulariaceae	*Eremophila*	*decipiens* subsp. *decipiens*	*	*	*	*		*	*	*
Scrophulariaceae	*Eremophila*	*glabra* subsp. *glabra*	*		*		*	*		
Scrophulariaceae	*Eremophila*	*miniata*								*
Scrophulariaceae	*Eremophila*	*oldfieldii* subsp. *angustifolia*		*		*				
Scrophulariaceae	*Eremophila*	*oldfieldii* subsp. *oldfieldii*					*			
Scrophulariaceae	*Eremophila*	*parvifolia* subsp. *auricampa*	*				*	*		*
Scrophulariaceae	*Eremophila*	*scoparia*	*	*	*		*	*	*	*
Scrophulariaceae	*Myoporum*	*platycarpum* subsp. *platycarpum*		*	*		*			*
Solanaceae	*Lycium*	*australe*	*	*	*	*		*		
Solanaceae	*Solanum*	*hoplopetalum*		*						
Solanaceae	*Solanum*	*lasiophyllum*		*						
Solanaceae	*Solanum*	*nummularium*		*				*		

(W) denotes introduced (weed) species; (A) denotes ephemeral (annual) species; (P) denotes Priority species

APPENDIX E: VEGETATION CONDITION RATING

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

APPENDIX F:
NATUREMAP SPECIES LIST (40 KM BUFFER)

Animalia

Class	Taxon
AMPHI	*Neobatrachus kunapalari*
AMPHI	*Neobatrachus sp.*
AMPHI	*Pseudophryne occidentalis*
BIRD	*Acanthagenys rufogularis*
BIRD	*Acanthiza apicalis*
BIRD	*Acanthiza chrysorrhoa*
BIRD	*Acanthiza iredalei*
BIRD	*Acanthiza robustirostris*
BIRD	*Acanthiza uropygialis*
BIRD	*Accipiter cirrocephalus*
BIRD	*Accipiter fasciatus*
BIRD	*Aegotheles cristatus*
BIRD	*Amytornis textilis subsp. textilis*
BIRD	*Anas gracilis*
BIRD	*Anas rhynchotis*
BIRD	*Anas superciliosa*
BIRD	*Anthochaera carunculata*
BIRD	*Aphelocephala leucopsis*
BIRD	*Aquila audax*
BIRD	*Artamus cinereus*
BIRD	*Artamus cyanopterus*
BIRD	*Artamus personatus*
BIRD	*Aythya australis*
BIRD	*Barnardius zonarius*
BIRD	*Biziura lobata*
BIRD	*Cacatua roseicapilla subsp. assimilis*
BIRD	*Cacomantis flabelliformis*
BIRD	*Cacomantis pallidus*
BIRD	*Calidris acuminata*
BIRD	*Calidris ruficollis*
BIRD	*Certhionyx variegatus*
BIRD	*Charadrius ruficapillus*
BIRD	*Chenonetta jubata*
BIRD	*Cheramoeca leucosterna*
BIRD	*Cheramoeca leucosternus*
BIRD	*Chrysococcyx basalis*
BIRD	*Cincloramphus cruralis*
BIRD	*Cincloramphus mathewsi*
BIRD	*Cinclosoma castanotus*
BIRD	*Climacteris rufa*
BIRD	*Colluricincla harmonica*
BIRD	*Coracina maxima*
BIRD	*Coracina novaehollandiae*
BIRD	*Corvus bennetti*
BIRD	*Corvus coronoides*
BIRD	*Coturnix pectoralis*
BIRD	*Coturnix ypsilophora*
BIRD	*Cracticus nigrogularis*
BIRD	*Cracticus tibicen*
BIRD	*Cracticus torquatus*
BIRD	*Cygnus atratus*
BIRD	*Daphoenositta chrysoptera*
BIRD	*Dicaeum hirundinaceum*
BIRD	*Dromaius novaehollandiae*
BIRD	*Drymodes brunneopygia*
BIRD	*Egretta novaehollandiae*
BIRD	*Elanus axillaris*
BIRD	*Elseyornis melanops*
BIRD	*Eolophus roseicapillus*
BIRD	*Eopsaltria australis subsp. griseogularis*
BIRD	*Epthianura albifrons*
BIRD	*Epthianura aurifrons*
BIRD	*Epthianura tricolor*
BIRD	*Eurostopodus argus*
BIRD	*Falco berigora*
BIRD	*Falco cenchroides*
BIRD	*Falco longipennis*
BIRD	*Fulica atra*
BIRD	*Glossopsitta porphyrocephala*
BIRD	*Grallina cyanoleuca*
BIRD	*Himantopus himantopus*
BIRD	*Hirundo neoxena*
BIRD	*Hirundo nigricans*
BIRD	*Hylacola cauta*
BIRD	*Leipoa ocellata*
BIRD	*Lichenostomus leucotis*
BIRD	*Lichenostomus ornatus*
BIRD	*Lichenostomus virescens*
BIRD	*Lichmera indistincta*
BIRD	*Malacorhynchus membranaceus*
BIRD	*Malurus leucopterus*
BIRD	*Malurus pulcherrimus*
BIRD	*Malurus splendens*
BIRD	*Manorina flavigula*
BIRD	*Melanodryas cucullata*

Class	Taxon
BIRD	*Melithreptus brevirostris*
BIRD	*Melopsittacus undulatus*
BIRD	*Merops ornatus*
BIRD	*Microcarbo melanoleucos*
BIRD	*Microeca fascinans*
BIRD	*Microeca leucophaea*
BIRD	*Ninox novaeseelandiae*
BIRD	*Ocyphaps lophotes*
BIRD	*Oreoica gutturalis*
BIRD	*Pachycephala inornata*
BIRD	*Pachycephala pectoralis*
BIRD	*Pachycephala rufiventris*
BIRD	*Pardalotus punctatus*
BIRD	*Pardalotus striatus*
BIRD	*Pardalotus striatus subsp. westraliensis*
BIRD	*Petrochelidon ariel*
BIRD	*Petrochelidon nigricans*
BIRD	*Petroica goodenovii*
BIRD	*Phalacrocorax carbo*
BIRD	*Phalacrocorax sulcirostris*
BIRD	*Phaps chalcoptera*
BIRD	*Phylidonyris albifrons*
BIRD	*Platycercus varius*
BIRD	*Platycercus zonarius*
BIRD	*Podargus strigoides*
BIRD	*Poliocephalus poliocephalus*
BIRD	*Pomatostomus superciliosus*
BIRD	*Purnella albifrons*
BIRD	*Pyrrholaemus brunneus*
BIRD	*Recurvirostra novaehollandiae*
BIRD	*Rhipidura albiscapa*
BIRD	*Rhipidura fuliginosa*
BIRD	*Rhipidura leucophrys*
BIRD	*Smicrornis brevirostris*
BIRD	*Strepera versicolor*
BIRD	*Tachybaptus novaehollandiae*
BIRD	*Tadorna tadornoides*
BIRD	*Taeniopygia guttata*

Class	Taxon
BIRD	*Todiramphus pyrrhopygius*
BIRD	*Tribonyx ventralis*
BIRD	*Turnix velox*
BIRD	*Vanellus tricolor*
BIRD	*Zosterops lateralis*
INVERT	*Acarina 003*
INVERT	*Acarina 004*
INVERT	*Acarina 005*
INVERT	*Acarina 006*
INVERT	*Acarina 007*
INVERT	*Acarina 008*
INVERT	*Acarina 010*
INVERT	*Acarina 012*
INVERT	*Acarina 013*
INVERT	*Aganippe sp. indet.*
INVERT	*Agraptocorixa parvipunctata*
INVERT	*Allodessus bistrigatus*
INVERT	*Alona rigidicaudis*
INVERT	*Alona sp. a (GOL)*
INVERT	*Alona sp. b (GOL)*
INVERT	*Aname tepperi*
INVERT	*Anax papuensis*
INVERT	*Anidiops villosus*
INVERT	*Anisops hyperion*
INVERT	*Anisops stali*
INVERT	*Anisops thienemanni*
INVERT	*ant 009*
INVERT	*ant 037*
INVERT	*Araneus eburneiventris*
INVERT	*Araneus senicaudatus*
INVERT	*Arcella sp.*
INVERT	*Arrenurus (Arrenurus) balladoniensis*
INVERT	*Asadipus phaleratus*
INVERT	*Australocyclops australis*
INVERT	*Austrolestes analis*
INVERT	*Austrolestes annulosus*
INVERT	*Austrolestes io*
INVERT	*beetle 001*

Class	Taxon
INVERT	*beetle 002*
INVERT	*beetle 003*
INVERT	*beetle 005*
INVERT	*beetle 006*
INVERT	*beetle 007*
INVERT	*beetle 012*
INVERT	*beetle 015*
INVERT	*beetle 016*
INVERT	*beetle 018*
INVERT	*beetle 019*
INVERT	*beetle 020*
INVERT	*beetle sp. indet.*
INVERT	*Boeckella triarticulata*
INVERT	*Bothriembryon sp. indet.*
INVERT	*Brachionus angularis*
INVERT	*Brachionus lyratus*
INVERT	*Buddelundia cf. frontosa*
INVERT	*Calamoecia ampulla*
INVERT	*Calamoecia ampulla var. b01*
INVERT	*Calamoecia sp.*
INVERT	*Cercophonius michaelseni*
INVERT	*Chironomus aff. alternans (V24) (CB)*
INVERT	*Cloeon sp.*
INVERT	*Clynotis albobarbatus*
INVERT	*Cormocephalus turneri*
INVERT	*Cryptochironomus griseidorsum*
INVERT	*Culicoides sp.*
INVERT	*Cyprinotus cingalensis*
INVERT	*Daphnia carinata s.l.*
INVERT	*Daphnia sp.*
INVERT	*Diaprograpta peterandrewsi*
INVERT	*Diplacodes bipunctata*
INVERT	*Ephemeroporus barroisi s.l.*
INVERT	*Eriophora biapicata*
INVERT	*Euchlanis dilatata*
INVERT	*fly 003*
INVERT	*fly 004*
INVERT	*fly 005*

Class	Taxon
INVERT	*fly 008*
INVERT	*fly 009*
INVERT	*fly sp.*
INVERT	*Hemicordulia tau*
INVERT	*Hemiptera 001*
INVERT	*Hemiptera 009*
INVERT	*Hemiptera 020*
INVERT	*Hemiptera 024*
INVERT	*Hemiptera 025*
INVERT	*Hemiptera 026*
INVERT	*Hemiptera juvenile 001*
INVERT	*Hexarthra intermedia*
INVERT	*Hoggicosa castanea*
INVERT	*Hoggicosa storri*
INVERT	*Hogna salifodina*
INVERT	*Holconia nigrigularis*
INVERT	*Hydrachna australica*
INVERT	*Hyphydrus elegans*
INVERT	*Indolpium sp. indet.*
INVERT	*Isometroides vescus*
INVERT	*Keratella cf. quadrata (SAP)*
INVERT	*Kwonkan sp. indet.*
INVERT	*Latrodectus hasseltii*
INVERT	*Lecane papuana*
INVERT	*Longrita grasspatch*
INVERT	*Lychas 'adonis'*
INVERT	*Lychas jonesae*
INVERT	*Macrothrix breviseta*
INVERT	*Mainosa longipes*
INVERT	*Maratus 'pes0340'*
INVERT	*Maraura macracantha (formerly Alona macrocantha)*
INVERT	*Mesocyclops brooksi*
INVERT	*Micronecta gracilis*
INVERT	*Micronecta robusta*
INVERT	*Missulena occatoria*
INVERT	*Myandra bicincta*
INVERT	*Nicodamus mainae*
INVERT	*Notalina spira*

Class	Taxon
INVERT	*Orthetrum caledonicum*
INVERT	*Pantala flavescens*
INVERT	*Parartemia sp.*
INVERT	*Parartemia veronicae*
INVERT	*Pardosa pexa*
INVERT	*Polyarthra dolichoptera*
INVERT	*Polypedilum nubifer*
INVERT	*Procladius paludicola*
INVERT	*Procladius villosimanus*
INVERT	*pseudoscorpion sp. indet.*
INVERT	*Scolopendra laeta*
INVERT	*Scolopendra morsitans*
INVERT	*Sternopriscus multimaculatus*
INVERT	*Stratiomyidae sp.*
INVERT	*Synsphyronus dorothyae*
INVERT	*Synsphyronus lathrius*
INVERT	*Synsphyronus mimulus*
INVERT	*Tanytarsus fuscithorax/semibarbitarsus*
INVERT	*Tasmanicosa leuckartii*
INVERT	*Testudinella patina*
INVERT	*Tetralycosa alteripa*
INVERT	*Thereuopoda lesueurii*
INVERT	*Trichocyclus balladong*
INVERT	*Urodacus armatus*
INVERT	*white ant 001*
INVERT	*white ant 002*
INVERT	*white ant 003*
INVERT	*Xanthagrion erythroneurum*
MAMMAL	*Canis lupus subsp. dingo*
MAMMAL	*Cercartetus concinnus*
MAMMAL	*Chalinolobus gouldii*
MAMMAL	*Dasyurus geoffroii*
MAMMAL	*Felis catus*
MAMMAL	*Macropus fuliginosus*
MAMMAL	*Mus musculus*
MAMMAL	*Ningaui ridei*
MAMMAL	*Ningaui yvonneae*
MAMMAL	*Notomys mitchellii*

Class	Taxon
MAMMAL	*Oryctolagus cuniculus*
MAMMAL	*Pseudomys bolami*
MAMMAL	*Pseudomys hermannsburgensis*
MAMMAL	*Sminthopsis crassicaudata*
MAMMAL	*Sminthopsis dolichura*
MAMMAL	*Sminthopsis gilberti*
MAMMAL	*Sminthopsis murina*
MAMMAL	*Sminthopsis ooldea*
MAMMAL	*Tachyglossus aculeatus*
REPTILE	*Brachyurophis semifasciata*
REPTILE	*Christinus marmoratus*
REPTILE	*Crenadactylus ocellatus subsp. ocellatus*
REPTILE	*Cryptoblepharus buchananii*
REPTILE	*Cryptoblepharus plagiocephalus*
REPTILE	*Ctenophorus cristatus*
REPTILE	*Ctenophorus fordi*
REPTILE	*Ctenophorus reticulatus*
REPTILE	*Ctenophorus salinarum*
REPTILE	*Ctenophorus scutulatus*
REPTILE	*Ctenotus atlas*
REPTILE	*Ctenotus leonhardii*
REPTILE	*Ctenotus schomburgkii*
REPTILE	*Ctenotus uber*
REPTILE	*Cyclodomorphus melanops subsp. elongatus*
REPTILE	*Delma australis*
REPTILE	*Delma butleri*
REPTILE	*Delma fraseri*
REPTILE	*Demansia psammophis subsp. psammophis*
REPTILE	*Diplodactylus granariensis*
REPTILE	*Diplodactylus pulcher*
REPTILE	*Echiopsis curta*
REPTILE	*Egernia depressa*
REPTILE	*Egernia formosa*
REPTILE	*Egernia inornata*
REPTILE	*Eremiascincus richardsonii*
REPTILE	*Furina ornata*
REPTILE	*Gehyra purpurascens*
REPTILE	*Gehyra variegata*

Class	Taxon
REPTILE	*Hemiergis initialis subsp. initialis*
REPTILE	*Hemiergis peronii subsp. peronii*
REPTILE	*Heteronotia binoei*
REPTILE	*Lerista distinguenda*
REPTILE	*Lerista kingi*
REPTILE	*Lerista muelleri*
REPTILE	*Lerista picturata*
REPTILE	*Lerista rhodonoides*
REPTILE	*Lerista timida*
REPTILE	*Lialis burtonis*
REPTILE	*Liopholis inornata*
REPTILE	*Liopholis multiscutata*
REPTILE	*Lucasium damaeum*
REPTILE	*Lucasium maini*
REPTILE	*Menetia greyii*
REPTILE	*Moloch horridus*
REPTILE	*Morelia spilota subsp. imbricata*
REPTILE	*Morethia adelaidensis*
REPTILE	*Morethia butleri*
REPTILE	*Neelaps bimaculatus*
REPTILE	*Nephrurus laevissimus*
REPTILE	*Nephrurus milii*
REPTILE	*Oedura reticulata*
REPTILE	*Parasuta gouldii*
REPTILE	*Parasuta monachus*
REPTILE	*Pogona minor*
REPTILE	*Pogona minor subsp. minor*
REPTILE	*Pseudechis australis*
REPTILE	*Pseudonaja affinis subsp. affinis*
REPTILE	*Pseudonaja mengdeni*
REPTILE	*Pseudonaja modesta*
REPTILE	*Pseudonaja nuchalis*
REPTILE	*Pygopus lepidopodus*
REPTILE	*Ramphotyphlops australis*
REPTILE	*Ramphotyphlops bicolor*
REPTILE	*Ramphotyphlops bituberculatus*
REPTILE	*Ramphotyphlops hamatus*
REPTILE	*Ramphotyphlops waitii*

Class	Taxon
REPTILE	*Rhynchoedura ornata*
REPTILE	*Simoselaps bertholdi*
REPTILE	*Strophurus assimilis*
REPTILE	*Strophurus elderi*
REPTILE	*Suta fasciata*
REPTILE	*Tiliqua rugosa*
REPTILE	*Tiliqua rugosa subsp. rugosa*
REPTILE	*Tympanocryptis cephalus*
REPTILE	*Underwoodisaurus milii*
REPTILE	*Varanus gouldii*
REPTILE	*Varanus tristis*

Vascular Plants

Plantae	Taxon
DICOT	*Acacia acuminata*
DICOT	*Acacia aneura*
DICOT	*Acacia aptaneura*
DICOT	*Acacia collegialis*
DICOT	*Acacia donaldsonii*
DICOT	*Acacia erinacea*
DICOT	*Acacia gilesiana*
DICOT	*Acacia hemiteles*
DICOT	*Acacia inceana subsp. inceana*
DICOT	*Acacia jennerae*
DICOT	*Acacia kalgoorliensis*
DICOT	*Acacia masliniana*
DICOT	*Acacia mulganeura*
DICOT	*Acacia murrayana*
DICOT	*Acacia nyssophylla*
DICOT	*Acacia oswaldii (Narrow phyllode variant)*
DICOT	*Acacia prainii*
DICOT	*Acacia resinosa*

Plantae	Taxon
DICOT	*Acacia sp.*
DICOT	*Acacia xerophila var. brevior*
DICOT	*Alectryon oleifolius subsp. canescens*
DICOT	*Allocasuarina helmsii*
DICOT	*Alyssum linifolium*
DICOT	*Amyema benthamii*
DICOT	*Amyema preissii*
DICOT	*Angianthus tomentosus*
DICOT	*Arabidella trisecta*
DICOT	*Argemone ochroleuca subsp. ochroleuca*
DICOT	*Asteridea chaetopoda*
DICOT	*Atriplex acutibractea*
DICOT	*Atriplex codonocarpa*
DICOT	*Atriplex nana*
DICOT	*Atriplex nummularia subsp. spathulata*
DICOT	*Atriplex quadrivalvata var. quadrivalvata*
DICOT	*Atriplex stipitata*
DICOT	*Atriplex vesicaria*
DICOT	*Beyeria lechenaultii*
DICOT	*Brachychiton gregorii*
DICOT	*Brachyscome ciliaris*
DICOT	*Brassica sp.*
DICOT	*Bryophyllum delagoense*
DICOT	*Calandrinia lefroyensis*
DICOT	*Calandrinia translucens*
DICOT	*Calotis hispidula*
DICOT	*Calytrix tetragona*
DICOT	*Carduus tenuiflorus*
DICOT	*Carrichtera annua*
DICOT	*Casuarina pauper*

Plantae	Taxon
DICOT	*Centaurea melitensis*
DICOT	*Cephalipterum drummondii*
DICOT	*Chenopodium curvispicatum*
DICOT	*Chrysocephalum apiculatum subsp. norsemanense*
DICOT	*Citrullus colocynthis*
DICOT	*Codonocarpus cotinifolius*
DICOT	*Convolvulus remotus*
DICOT	*Coopernookia strophiolata*
DICOT	*Cratystylis conocephala x microphylla*
DICOT	*Cratystylis microphylla*
DICOT	*Cratystylis subspinescens*
DICOT	*Cryptandra aridicola*
DICOT	*Cryptandra graniticola*
DICOT	*Cullen discolor*
DICOT	*Cyanostegia microphylla*
DICOT	*Cyathostemon divaricatus*
DICOT	*Cylindropuntia fulgida var. mamillata*
DICOT	*Dampiera latealata*
DICOT	*Dampiera stenostachya*
DICOT	*Darwinia sp. Karonie (K. Newbey 8503)*
DICOT	*Datura ferox*
DICOT	*Daviesia aphylla*
DICOT	*Daviesia croniniana*
DICOT	*Daviesia grahamii*
DICOT	*Dodonaea lobulata*
DICOT	*Dodonaea microzyga*
DICOT	*Dodonaea stenozyga*
DICOT	*Dodonaea viscosa subsp. angustissima*
DICOT	*Echium plantagineum*
DICOT	*Enchylaena tomentosa*

Plantae	Taxon
DICOT	*Eremaea zonospila*
DICOT	*Eremophila alternifolia*
DICOT	*Eremophila arachnoides subsp. tenera*
DICOT	*Eremophila clarkei*
DICOT	*Eremophila decipiens subsp. decipiens*
DICOT	*Eremophila dempsteri*
DICOT	*Eremophila georgei*
DICOT	*Eremophila glabra subsp. glabra*
DICOT	*Eremophila granitica*
DICOT	*Eremophila interstans subsp. interstans*
DICOT	*Eremophila maculata subsp. brevifolia*
DICOT	*Eremophila miniata*
DICOT	*Eremophila oldfieldii subsp. angustifolia*
DICOT	*Eremophila pantonii*
DICOT	*Eremophila parvifolia subsp. auricampa*
DICOT	*Eremophila pustulata*
DICOT	*Eremophila rugosa*
DICOT	*Eremophila scoparia*
DICOT	*Eriochiton sclerolaenoides*
DICOT	*Erodium cicutarium*
DICOT	*Erodium cygnorum*
DICOT	*Erymophyllum glossanthus*
DICOT	*Erymophyllum ramosum subsp. ramosum*
DICOT	*Eucalyptus celastroides subsp. celastroides*
DICOT	*Eucalyptus ceratocorys*
DICOT	*Eucalyptus concinna / planipes*
DICOT	*Eucalyptus flocktoniae*
DICOT	*Eucalyptus griffithsii*
DICOT	*Eucalyptus horistes*
DICOT	*Eucalyptus hypolaena*

Plantae	Taxon
DICOT	*Eucalyptus kruseana*
DICOT	*Eucalyptus lesouefii*
DICOT	*Eucalyptus longissima*
DICOT	*Eucalyptus loxophleba subsp. lissophloia*
DICOT	*Eucalyptus oleosa subsp. oleosa*
DICOT	*Eucalyptus optima subsp. hypolaena*
DICOT	*Eucalyptus petraea*
DICOT	*Eucalyptus planipes*
DICOT	*Eucalyptus platycorys*
DICOT	*Eucalyptus ravida*
DICOT	*Eucalyptus salicola*
DICOT	*Eucalyptus salmonophloia*
DICOT	*Eucalyptus salubris*
DICOT	*Eucalyptus stricklandii*
DICOT	*Eucalyptus torquata*
DICOT	*Eucalyptus transcontinentalis*
DICOT	*Eucalyptus trichopoda*
DICOT	*Eucalyptus vittata*
DICOT	*Eucalyptus websteriana*
DICOT	*Eucalyptus websteriana subsp. norsemanica*
DICOT	*Eucalyptus websteriana subsp. websteriana*
DICOT	*Eucalyptus x brachyphylla*
DICOT	*Eucalyptus yilgarnensis*
DICOT	*Euphorbia tannensis subsp. eremophila*
DICOT	*Frankenia desertorum*
DICOT	*Frankenia interioris*
DICOT	*Frankenia interioris var. interioris*
DICOT	*Frankenia interioris var. parviflora*
DICOT	*Frankenia pauciflora*
DICOT	*Frankenia setosa*

Plantae	Taxon
DICOT	*Gazania linearis*
DICOT	*Glischrocaryon angustifolium*
DICOT	*Gonocarpus confertifolius var. helmsii*
DICOT	*Goodenia havilandii*
DICOT	*Grevillea acuaria*
DICOT	*Grevillea nematophylla subsp. nematophylla*
DICOT	*Grevillea oncogyne*
DICOT	*Grevillea sarissa subsp. sarissa*
DICOT	*Grevillea teretifolia*
DICOT	*Gunniopsis quadrifida*
DICOT	*Hakea preissii*
DICOT	*Halgania cyanea var. Allambi Stn (B.W. Strong 676)*
DICOT	*Haloragis gossei*
DICOT	*Haloragis trigonocarpa*
DICOT	*Heliotropium curassavicum*
DICOT	*Heliotropium europaeum*
DICOT	*Heliotropium supinum*
DICOT	*Hybanthus floribundus subsp. curvifolius*
DICOT	*Hypertelis cerviana*
DICOT	*Lantana camara*
DICOT	*Lawrencia chrysoderma*
DICOT	*Lawrencia helmsii*
DICOT	*Lawrencia squamata*
DICOT	*Leontodon rhagadioloides*
DICOT	*Lepidium africanum*
DICOT	*Lycium australe*
DICOT	*Lysimachia arvensis*
DICOT	*Maireana amoena*
DICOT	*Maireana erioclada*
DICOT	*Maireana glomerifolia*

Plantae	Taxon
DICOT	*Maireana oppositifolia*
DICOT	*Maireana pentatropis*
DICOT	*Maireana platycarpa*
DICOT	*Maireana trichoptera*
DICOT	*Maireana triptera*
DICOT	*Malva preissiana*
DICOT	*Marsdenia australis*
DICOT	*Melaleuca coccinea*
DICOT	*Melaleuca fulgens subsp. fulgens*
DICOT	*Melaleuca halmaturorum*
DICOT	*Melaleuca lateriflora*
DICOT	*Melaleuca sheathiana*
DICOT	*Menkea australis*
DICOT	*Micromyrtus monotaxis*
DICOT	*Millotia myosotidifolia*
DICOT	*Minuria cunninghamii*
DICOT	*Mirbelia depressa*
DICOT	*Mirbelia microphylla*
DICOT	*Monotaxis grandiflora var. obtusifolia*
DICOT	*Myoporum platycarpum*
DICOT	*Myoporum platycarpum subsp. platycarpum*
DICOT	*Nicotiana occidentalis subsp. obliqua*
DICOT	*Olearia muelleri*
DICOT	*Oncosiphon suffruticosum*
DICOT	*Persicaria prostrata*
DICOT	*Phebalium lepidotum*
DICOT	*Phlegmatospermum eremaeum*
DICOT	*Physopsis viscida*
DICOT	*Pimelea angustifolia*
DICOT	*Pimelea brevifolia subsp. brevifolia*

Plantae	Taxon
DICOT	*Pimelea microcephala subsp. microcephala*
DICOT	*Pittosporum angustifolium*
DICOT	*Plantago drummondii*
DICOT	*Podolepis capillaris*
DICOT	*Proboscidea louisianica*
DICOT	*Prostanthera althoferi / campbellii*
DICOT	*Prostanthera althoferi subsp. althoferi*
DICOT	*Prostanthera incurvata*
DICOT	*Prostanthera splendens*
DICOT	*Pterocaulon sphacelatum*
DICOT	*Ptilotus carlsonii*
DICOT	*Ptilotus exaltatus*
DICOT	*Ptilotus helichrysoides*
DICOT	*Ptilotus holosericeus*
DICOT	*Ptilotus obovatus*
DICOT	*Ptilotus rigidus*
DICOT	*Pultenaea sp.*
DICOT	*Radyera farragei*
DICOT	*Reseda luteola*
DICOT	*Rhagodia drummondii*
DICOT	*Rhodanthe floribunda*
DICOT	*Ricinocarpos sp. Eastern Goldfields (A. Williams 3)*
DICOT	*Roepera glauca*
DICOT	*Roepera reticulata*
DICOT	*Rumex vesicarius*
DICOT	*Salvia verbenaca*
DICOT	*Santalum acuminatum*
DICOT	*Santalum spicatum*
DICOT	*Scaevola spinescens*
DICOT	*Schoenia cassiniana*

Plantae	Taxon
DICOT	*Sclerolaena brevifolia*
DICOT	*Sclerolaena diacantha*
DICOT	*Sclerolaena drummondii*
DICOT	*Sclerolaena eurotioides*
DICOT	*Sclerolaena obliquicuspis*
DICOT	*Senecio lacustrinus*
DICOT	*Senna artemisioides*
DICOT	*Senna artemisioides subsp. filifolia*
DICOT	*Senna artemisioides subsp. x artemisioides*
DICOT	*Senna pleurocarpa var. angustifolia*
DICOT	*Senna sp.*
DICOT	*Senna stowardii*
DICOT	*Sida calyxhymenia*
DICOT	*Sida intricata*
DICOT	*Sida sp.*
DICOT	*Sida spodochroma*
DICOT	*Sisymbrium erysimoides*
DICOT	*Sisymbrium irio*
DICOT	*Solanum lasiophyllum*
DICOT	*Solanum nummularium*
DICOT	*Solanum petrophilum*
DICOT	*Solanum plicatile*
DICOT	*Sonchus oleraceus*
DICOT	*Spartothamnella sp. Helena & Aurora Range (P.G. Armstrong 155-109)*
DICOT	*Stackhousia sp. Mt Keith (G. Cockerton & G. O'Keefe 11017)*

Plantae	Taxon
DICOT	*Stenanthemum stipulosum*
DICOT	*Stenopetalum filifolium*
DICOT	*Streptoglossa liatroides*
DICOT	*Surreya diandra*
DICOT	*Swainsona beasleyana*
DICOT	*Tecticornia arborea*
DICOT	*Tecticornia disarticulata*
DICOT	*Tecticornia flabelliformis*
DICOT	*Tecticornia indica subsp. bidens*
DICOT	*Tecticornia peltata*
DICOT	*Tecticornia pruinosa*
DICOT	*Tecticornia syncarpa*
DICOT	*Tecticornia triandra*
DICOT	*Tecticornia undulata*
DICOT	*Thryptomene australis subsp. brachyandra*
DICOT	*Trachymene cyanopetala*
DICOT	*Trichanthodium skirrophorum*
DICOT	*Velleia sp.*
DICOT	*Waitzia acuminata var. acuminata*
DICOT	*Westringia rigida*
DICOT	*Wilsonia humilis*
DICOT	*Zygophyllum apiculatum*
DICOT	*Zygophyllum ovatum*
FERN	*Cheilanthes austrotenuifolia*
GYMNO	*Callitris columellaris*
MONOCOT	*Aristida contorta*

Plantae	Taxon
MONOCOT	*Austrostipa nitida*
MONOCOT	*Austrostipa nodosa*
MONOCOT	*Austrostipa sp. Carlingup Road (S. Kern & R. Jasper LCH 18459)*
MONOCOT	*Bulbine semibarbata*
MONOCOT	*Cenchrus ciliaris*
MONOCOT	*Cymbopogon ambiguus*
MONOCOT	*Eleocharis acutangula*
MONOCOT	*Enneapogon avenaceus*
MONOCOT	*Enneapogon caerulescens*
MONOCOT	*Enneapogon polyphyllus*
MONOCOT	*Enteropogon ramosus*
MONOCOT	*Eragrostis falcata*
MONOCOT	*Eriachne pulchella subsp. pulchella*
MONOCOT	*Hordeum sp.*
MONOCOT	*Paspalidium gracile*
MONOCOT	*Pterostylis tryphera*
MONOCOT	*Rostraria pumila*
MONOCOT	*Rytidosperma acerosum*
MONOCOT	*Rytidosperma caespitosum*
MONOCOT	*Sowerbaea multicaulis*
MONOCOT	*Thysanotus manglesianus*
MONOCOT	*Typha orientalis*

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

Australian Government
Department of Climate Change, Energy, the Environment and Water

EPBC Act Protected Matters Report

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

Report created: 08-Apr-2025

Summary

Matters of National Environment Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	11
Listed Migratory Species:	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 https://www.dcceew.gov.au/parks-heritage/heritage

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

Commonwealth Lands:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	11
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	2
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	3
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Listed Threatened Species [Resource Information]

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

Scientific Name	Threatened Category	Presence Text
BIRD		
Aphelocephala leucopsis		
Southern Whiteface [529]	Vulnerable	Species or species habitat known to occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may 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
Polytelis alexandrae		
Princess Parrot, Alexandra's Parrot [758]	Vulnerable	Species or species habitat may occur within area
Tringa nebularia		
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area
INSECT		
Ogyris petrina listed as Ogyris subterrestris petrina		
Arid Bronze Azure [94250]	Critically Endangered	Species or species habitat may occur within area
MAMMAL		
Dasyurus geoffroii		
Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat may occur within area
PLANT		
Tecticornia flabelliformis		
Bead Glasswort, Bead Samphire [82664]	Vulnerable	Species or species habitat known to occur within area

Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Motacilla cinerea		
Grey Wagtail [642]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Tringa nebularia		
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Lands [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State
Unknown	
Commonwealth Land - [52233]	WA

Listed Marine Species [Resource Information]

Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
Bubulcus ibis as Ardea ibis		
Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
Calidris acuminata		
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Chalcites osculans as Chrysococcyx osculans		
Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area
Merops ornatus		
Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Motacilla cinerea		
Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area
Thinornis cucullatus as Thinornis rubricollis		
Hooded Plover, Hooded Dotterel [87735]		Species or species habitat known to occur within area overfly marine area
Tringa nebularia		
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area overfly marine area

Extra Information

State and Territory Reserves [Resource Information]

Protected Area Name	Reserve Type	State
Kambalda	Nature Reserve	WA
Lakeside Timber Reserve	5(1)(g) Reserve	WA

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Nava-1 Cable System	2001/510	Controlled Action	Completed
Not controlled action			

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Gold Mining Developments on Lake Lefroy	2010/5402	Not Controlled Action	Completed
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

Please feel free to provide feedback via the Contact us page.

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