WESTERN QUEEN PROJECT

Reconnaissance Flora-Vegetation and Basic Fauna Survey

Prepared for Mega Resources Ltd
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Disclaimer

Quality Assurance

An internal quality review process has been implemented to each project task undertaken by BC. Each document and its contents is carefully reviewed by core members of the Consultancy team and signed off at Director Level prior to issue to the client. Draft documents are submitted to the client for comment and acceptance prior to final production.

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EXECUTIVE SUMMARY

Botanica Consulting Pty Ltd (Botanica) was commissioned by Mega Resources Ltd to undertake a reconnaissance flora/ vegetation survey and basic fauna survey of their Western Queen project area (referred to as the 'survey area'). The survey area is approximately 2,898 ha in extent and is located approximately 86 km northwest of Mt. Magnet, Western Australia. This assessment is intended to support a Native Vegetation Clearing Permit (NVCP) application for the Western Queen project.

The study area lies within the Western Murchison (MUR2) subregion of the Murchison Bioregion, as defined by the Interim Biogeographic Regionalisation of Australia (IBRA).

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

- Maia Environmental Consultancy (2023). Cue Gold Project, Single – Phase Detailed Flora and Vegetation Assessment and Targeted Flora Survey. Prepared on behalf of Musgrave Minerals, September 2023
- 360 Environmental (2021). *Moyagee Gold Project Biological Survey*. Prepared on behalf of Musgrave Minerals, February 2021
- 360 Environmental (2018). *Moyagee Gold Project Detailed Flora and Vegetation Assessment*. Prepared on behalf of Musgrave Minerals, August 2018

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:

- DBCA Threatened and Priority Flora databases (DBCA, 2024a);
- Atlas of Living Australia (ALA) database (ALA, 2024); and
- EPBC Protected Matters search tool (DCCEEW, 2024a).

The DBCA database searches, ALA spatial portal search and EPBC Protected Matters search were conducted with a 40 km buffer from the survey area.

The ALA desktop search identified 467 vascular flora species as occurring within 40 km of the survey area, representing 195 genera from 63 families. The most diverse families were Fabaceae (70 species), Asteraceae (60 species) and Scrophulariaceae (36 species). The most dominant genera were *Acacia* (44 species), *Eremophila* (35 species) and *Ptilotus* (15 species).

The desktop assessment identified 21 significant flora species recorded within a 40 km radius of the survey area. These consist of one Threatened, five Priority 1, two Priority 2, ten 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 did not identify any taxa as 'Previously Recorded' in the survey area, 17 were assessed as 'Unlikely', two were assessed as 'Possible' (one Priority 1 and one Priority 3) and one as 'Likely' (Priority 4).

The Protected Matters search (DCCEEW, 2024a) did not identify and Threatened Ecological Communities (TECs) as occurring within 40 km of the survey area.

Analysis of the Priority Ecological Communities within the Midwest region (DBCA, 2021) did not identify any significant vegetation assemblages as potentially occurring within the survey area.

The desktop review identified 13 terrestrial vertebrate fauna species of conservation significance that have previously been recorded in the regional area, some of which have the potential to occur in or utilise sections of the survey area at times. These species consisted of eight Threatened and seven migratory species (of which two are also listed as Threatened) under the EPBC Act. Habitat and distribution data was used to determine the likelihood of occurrence within the survey area. The assessment did not identify any taxa as 'Known to Occur' in the survey area, seven were assessed as 'Would Not Occur', three were assessed as 'Unlikely to Occur' and three were assessed as 'Possibly Occurs'; including the Migratory species *Merops ornatus* (Rainbow bee-eater), and two Vulnerable species *Leipoa ocellata* (Malleefowl) and *Aphelocephala leucopsis* (Southern Whiteface).

No Environmentally Sensitive Areas (ESAs) were identified within the survey area.

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

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

Botanica conducted a reconnaissance flora/ vegetation survey and basic fauna assessment on the 13-14th January 2025, with the area traversed on foot and by 4WD by Jim Williams (Director/Principal Botanist, Diploma of Horticulture).

The field survey identified 86 vascular flora taxa within the survey area. These taxa represented 42 genera across 27 families, with the most diverse families being Fabaceae (19 species), Chenopodiaceae (12 species) and Scrophulariaceae (11 species). Dominant genera include *Acacia* (14 species), *Eremophila* (11 species), and *Maireana* and *Ptilotus* (five species each).

No introduced (weed) species were recorded within the survey area.

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

A total of 11 broad-scale vegetation communities were identified within the survey area. Vegetation community descriptions and extents were determined from field survey results, aerial imagery

interpretation and extrapolation of the communities. These communities, whilst locally variable, are relatively widespread throughout the Murchison bioregion.

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

Based on vegetation and associated landforms identified during the flora and vegetation assessment, four 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. Available information suggests that a breeding population of this Malleefowl is unlikely to be present in the survey area. No other evidence of significant fauna species were observed during the survey. For the conservation significant fauna assessed as 'Possibly' occurring within the survey area, significant impact is deemed unlikely.

Native vegetation condition within the survey area was categorised as 'Very Good' to 'Degraded'. The majority of impacts within the survey area were from historical disturbance, predominately caused by exploration activities and feral animal grazing.

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 *Environmental Protection* (EP) *Act 1986*. The assessment found that the proposed vegetation clearing activities may be at variance with clearing principle (f).

1 INTRODUCTION

Botanica Consulting Pty Ltd (Botanica) was commissioned by Mega Resources Ltd to undertake a reconnaissance flora/ vegetation survey and basic fauna assessment of their Western Queen project area (referred to as the 'survey area'). The survey area is approximately 2,898 ha in extent and is located approximately 86 km northwest of Mt. Magnet, Western Australia in the Shire of Yalgoo (Figure 1-1). This assessment is intended to support a Native Vegetation Clearing Permit (NVCP) application for the Western Queen project.

1.1 Objectives

The flora assessment was conducted in accordance with the requirements of a reconnaissance flora and vegetation survey as defined in *Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment* (Environmental Protection Authority [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 *Environmental Protection, Biodiversity and Conservation Act 1999* (Cth) (EPBC Act) 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.

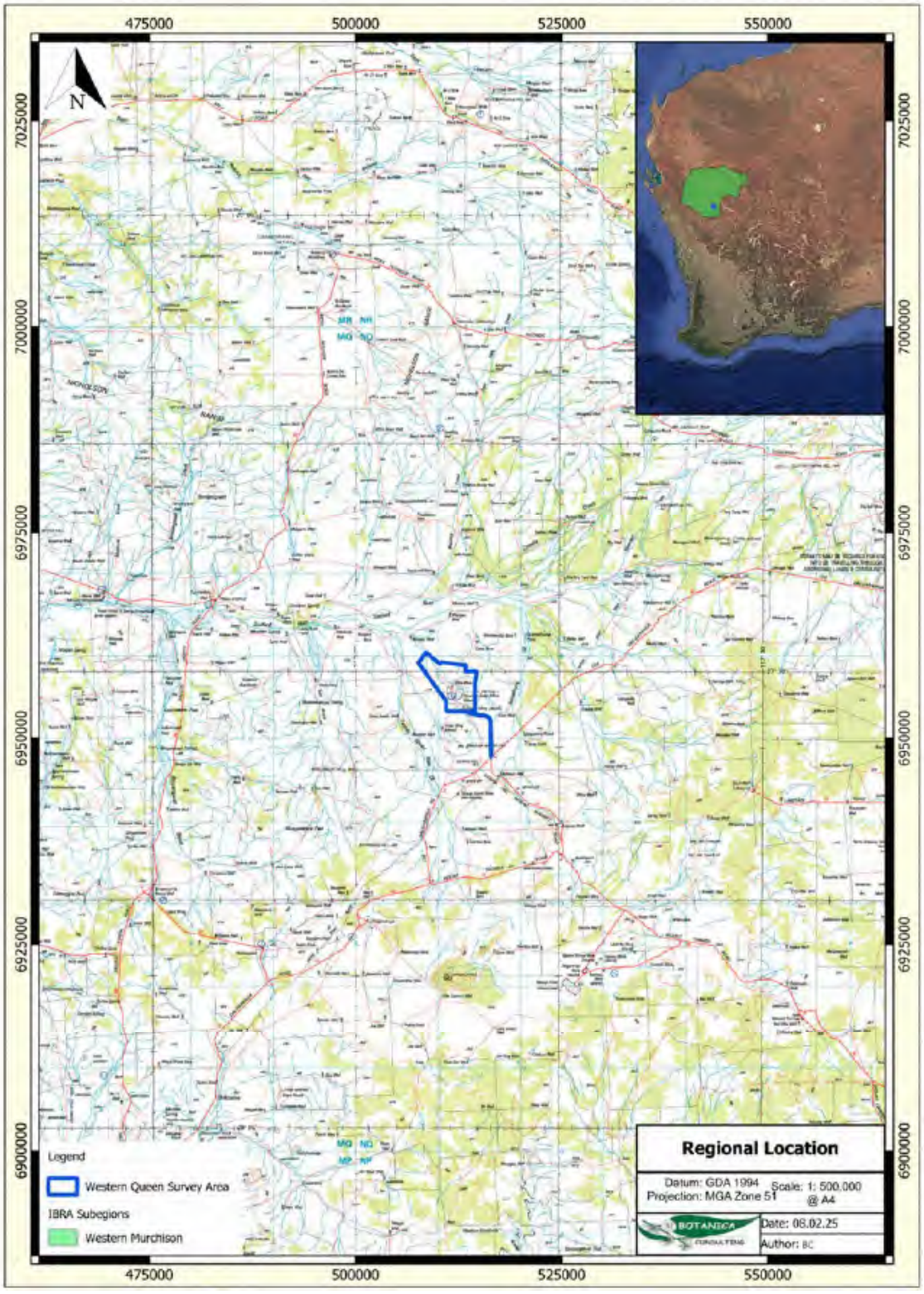

Figure 1-1: Regional map of the desktop survey area

2 BIOPHYSICAL ENVIRONMENT

2.1 Regional Environment

The survey area lies within the Western Murchison (MUR2) subregion of the Murchison Bioregion, as defined by the Interim Biogeographic Regionalisation of Australia (IBRA) (DCCEEW, 2020). The Western Murchison comprises the northern parts of the Murchison Terrains of the Yilgarn Craton, and is characterised by extensive hardpan washplains of fine-textured Quaternary alluvial and eluvial soils, with surfaces associated with the occluded drainage occurring throughout and mantling granitic and greenstone strata of the northern part of the Yilgarn Craton. The subregion contains the headwaters of the Murchison and Wooramel Rivers, which drain the subregion westwards to the coast. Vegetation consists of mulga low woodlands, often rich in ephemerals (usually with bunch grasses), on outcrops, with hummock grasslands on Quaternary sandplains, saltbush shrublands on calcareous soils and *Tecticornia* low shrublands on saline alluvia. The climate is arid, with bimodal rainfall that usually falls in winter. (Cowan, 2001).

In accordance with Beard (1990), the Murchison region is located in the Austin Botanical District within the Eremaean Province of WA. It is defined by the vegetational expression of geological boundaries of the Yilgarn Block, described as Archaean granite with infolded volcanics and meta-sediments (greenstones) of a like age. The topography is undulating, with occasional ranges of low hills and extensive sandplains in the eastern half. The principal soil type is shallow earthy loam overlying red-brown hardpan, with shallow stony loams on hills and red earthy sands on sandplains. The western half of the region more or less coincides with the basin of the Murchison River, the eastern half embraces the drainage of former rivers, now dry, draining towards the Eucla Basin. Vegetation is predominantly mulga low woodland *(Acacia aneura)* on plains, reduced to scrub on hills, with a tree steppe of *Eucalyptus* spp. and *Triodia basedowii* on sandplains. The climate is arid, with summer and winter rains and an average annual precipitation of 200 mm.

2.2 Land Use

The dominant land uses of the Western Murchison subregion include grazing native pastures (96.2%), UCL and crown reserves (2.814%). Conservation areas consist of just 0.06%, while considerable areas of mining interests are located within pastoral areas (Cowan, 2001).

2.3 Soil Landscape Systems

The survey area lies within the Murchison Province, located in the inland Mid-west and northern Goldfields between Three Springs, the Gascoyne River, Wiluna, Cosmo Newberry and Menzies. The landscape consists of hardpan wash plains and sandplains (with some stony plains, hills, mesas and salt lakes) on the granitic rocks and greenstone of the Yilgarn Craton. Soils include red loamy earths, red sandy earths, red shallow loams, red deep sands and red-brown hardpan shallow loams (with

some red shallow sands and red shallow sandy duplexes). Vegetation is typified by mulga shrublands with spinifex grasslands (and some bowgada shrublands, eucalypt woodlands and halophytic shrublands) (Tille, 2006).

The Murchison Province is further divided into soil-landscape zones, with the survey area located within the Yalgoo Plains Zone (273). The Yalgoo Plains Zone is comprised of hardpan wash plains (with some sandplains, stony plains, mesas and granite outcrops) on granitic rocks (with some greenstone) of the Yilgarn Craton (Murchison Domain). Soils consist of red loamy earths and red shallow loams (often with hardpans) with red deep sands and red shallow sands and some red shallow sandy duplexes. Vegetation is typified by mulga shrublands with bowgada shrublands, with some halophytic shrublands. This zone is located in the south-western Murchison from Paynes Find to Cue and Twin Peaks Station (Tille, 2006).

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

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

Soil Landscape System	Description	Extent within Survey Area
Challenge System	Gently undulating gritty and sandy surfaced plains, occasional granite hills, tors and low breakaways, supporting acacia shrublands and occasional halophytic shrublands.	424.2 ha (14.6%)
Gabanintha System	Greenstone ridges, hills and footslopes supporting sparse acacia and other mainly non-halophytic shrublands.	869.3 ha (30%)
Jundee System	Hardpan plains with variable gravelly mantles and minor sandy banks supporting weakly groved mulga shrublands.	1485.7 ha (51.3%)
Violet System	Gently undulating gravelly plains on greenstone, laterite and hardpan, with low stony rises and minor saline plains; supporting groved mulga and bowgada shrublands and occasionally chenopod shrublands.	0.2 ha (<0.1%)
Yanganoo System	Almost flat hardpan wash plains, with or without small wanderrie banks and weak groving; supporting mulga shrublands and wanderrie grasses on banks.	118.8 ha (4.1%)
TOTAL		**2898.2 ha (100%)**

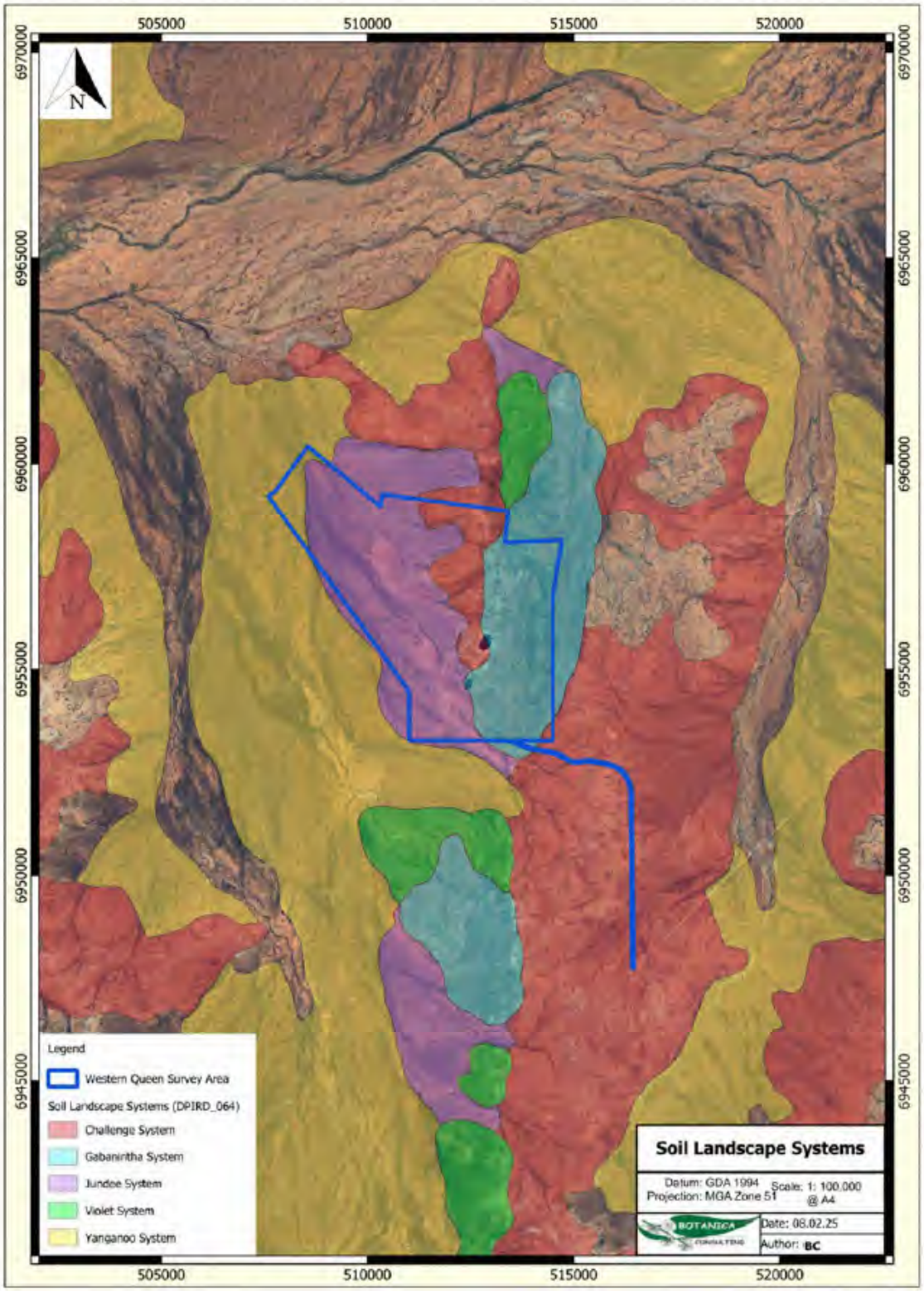

Figure 2-1: Map of soil landscape systems within the survey area

2.4 Regional Vegetation

In accordance with Tille (2006), the vegetation of the Yalgoo Plains Zone is typified by Acacia shrublands, sandplains and occasional dunes with grassy acacia shrublands and wash plains on hardpan with mulga shrublands.

More broadly, the vegetation of the Murchison Province is described by Tille (2006) as mulga (*Acacia aneura*) shrublands and woodlands with gidgee (*A. pruinocarpa*), curara (*A. tetragonophylla*), *A. linophylla*, bowgada (*A. ramulosa*), jam (*A. acuminata*), minniritchie (*A. grasbyi*), *Senna* spp. and *Eremophila* spp. dominate the hardpan wash plains. Denser, taller mulga woodlands are found on groves while the sandy banks support mulga, bowgada and curara shrublands with an understorey of wanderrie grasses (*Eragrostis* and *Eriachne* spp. and *Monachather paradoxa*). Snakewood (*A. xiphophylla*), bluebush (*Maireana* spp.) and saltbush (*Atriplex* spp.) grow on the saline drainage tracts. The sandplains in the east support grasslands of hard spinifex (*Triodia basedowii*). These grasslands occur with an open tree and shrub steppe of mulga, marble gum (*Eucalyptus* gongylocarpa), mallees (*E. kingsmillii*, *E. trichopoda*, *E. brachycorys* and *E. youngiana*), bowgada and spinifex wattle (*A. coolgardiensis*). In places denser woodlands of mulga, spinifex wattle or mallee are found over the spinifex. On western sandplains shrublands are dominated by bowgada with cypress pine (*Callitris columellaris*), mallees (e.g. *E. leptopoda* and *E. kingsmillii*), mulga and *Grevillea* spp. On the yellow sandplains in the south-west are closed mixed shrublands with *Melaleuca*, *Hakea*, *Calothamnus*, *Baeckea*, *Banksia prionotes*, *Allocasuarina*. and *Acacia* spp. The mesas have bowgada, mulga and *A. linophylla* shrublands above the breakaways, while the footslopes support shrublands with saltbush (*Atriplex* spp.), *Frankenia* spp., *Ptilotus* spp. and *Eremophila pterocarpa*. The hilly terrain has shrublands of mulga, minniritchie, *Eremophila* spp. and cotton bush (*Ptilotus obovatus*). Hills in the far west have woodlands of York gum (*Eucalyptus loxophleba*), salmon gum (*E. salmonophloia*) and jam. The stony plains support shrublands of mulga, gidgee, granite wattle (*Acacia quadrimarginea*), minniritchie, prickly wattle, snakewood, jam and *Eremophila* spp. On the valley floors there are shrublands of samphire (*Tecticornia* spp.), saltbush, sage (*Cratystylis subspinescens*) and *Frankenia* spp. surrounding salt lakes. Floodplains along the Murchison and its tributaries have shrublands of bluebush (*Maireana* spp.), saltbush and *Frankenia* spp., as well as mulga, prickly wattle and *Acacia distans*.

2.5 Conservation Values

The Western Murchison subregion contains 14 vegetation associations that have at least 85 per cent of their total extent in the Bioregion. The Bioregion is rich and diverse in flora and fauna but most species are wide ranging and usually occur in adjoining regions. A snake (*Pseudechis butleri*) is the only known regionally endemic vertebrate species.

There are three wetlands of national importance in the Bioregion: Lake Wooleen, Lake Breberle and Lake Anneen. There is one wetland of subregional importance, the Mungawolagudgi Claypan on Muggon Station. Riparian zone vegetation include the Murchison River and the Wooramel River.

No ecosystems are listed as Threatened under WA State legislation occur within the Western Murchison subregion, but 27 communities and vegetation associations are thought to be at risk for a variety of reasons. Grazing from livestock, goats and rabbits and changed fire regimes are the main threatening processes in the region, with clearing, impacts of mining, erosion and sedimentation also causing significant impacts.

2.6 Climate

The climate of the Western Murchison (MUR2) subregion is characterised as an arid climate with summer and winter rainfall of approximately 200 mm annually (Beard, 1990). Rainfall data for the Mount Magnet Aero weather station (#7600), located approximately 86 km southeast of the survey area, is shown in Figure 2-2. Mean monthly rainfall ranges from 35.6 mm in March to 7.2 mm in October, with a mean annual rainfall of 244.7 mm. The survey was conducted in January 2025, with the preceding months (November-December) characterised by above average rainfall – 43.6 mm and 26.2 mm respectively. Climate conditions are unlikely to represent a survey constraint.

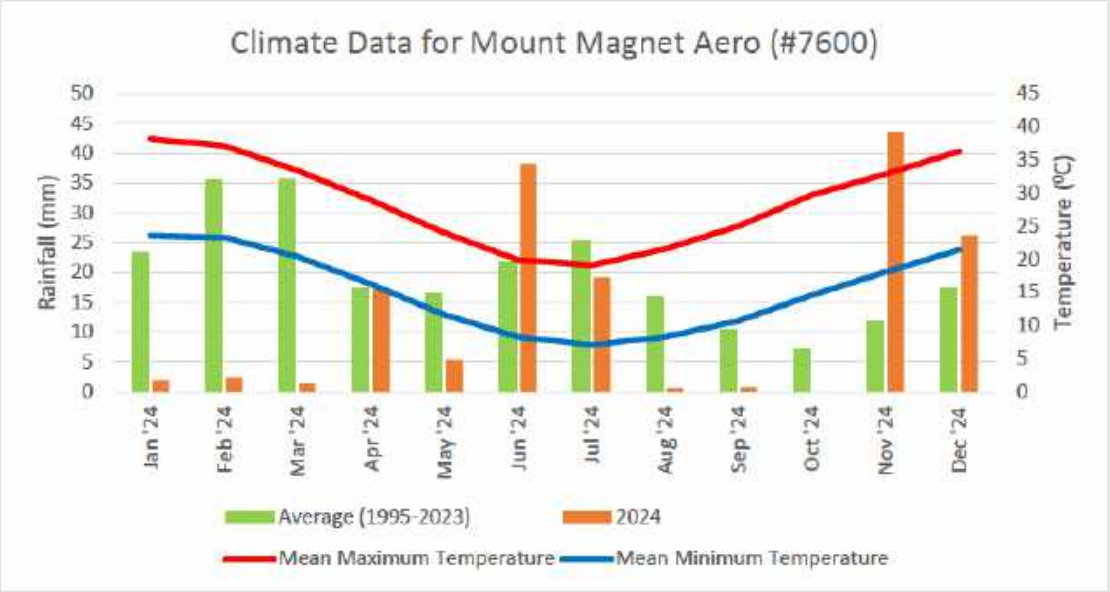

Figure 2-2: Climate data for Mount Magnet Aero (BoM, 2025a)

2.7 Hydrology

The survey area is located within the Murchison River surface water catchment area. According to the Geoscience Australia database (2015), there are no permanent or ephemeral water bodies within

the survey area (Figure 2-3). There are several minor ephemeral drainage channels within the survey area (Figure 2-3), which drain northwest to the Sanford River a tributary of the Murchison River.

Groundwater Dependent Ecosystems (GDEs) 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, 2024b) database, there are three potential terrestrial GDEs within the survey area, all of which are categorised as low potential. There are no potential aquatic GDEs within the survey area (Figure 2-3).

Table 2-2: Potential GDEs of the survey area

Geomorphology	Potential	Vegetation Description	Area
Sandplains and hardpan wash plains with outgoing drainage and salt lakes, broken by ridges of metamorphic rocks and granite.	Low	Low breakaways with saline gravelly lower plains supporting predominately halophytic low shrublands.	424.2 ha (14.7%)
		Salt lakes with extensively fringing saline plains, dunes and sandy banks, supporting low halophytic shrublands and scattered tall acacia shrublands.	1485.8 ha (51.4%)
		Distributary alluvial fans and wash plains supporting Mulga - chenopod shrublands.	118.8 ha (4.1%)
TOTAL			**2028.8 ha (70.1%)**

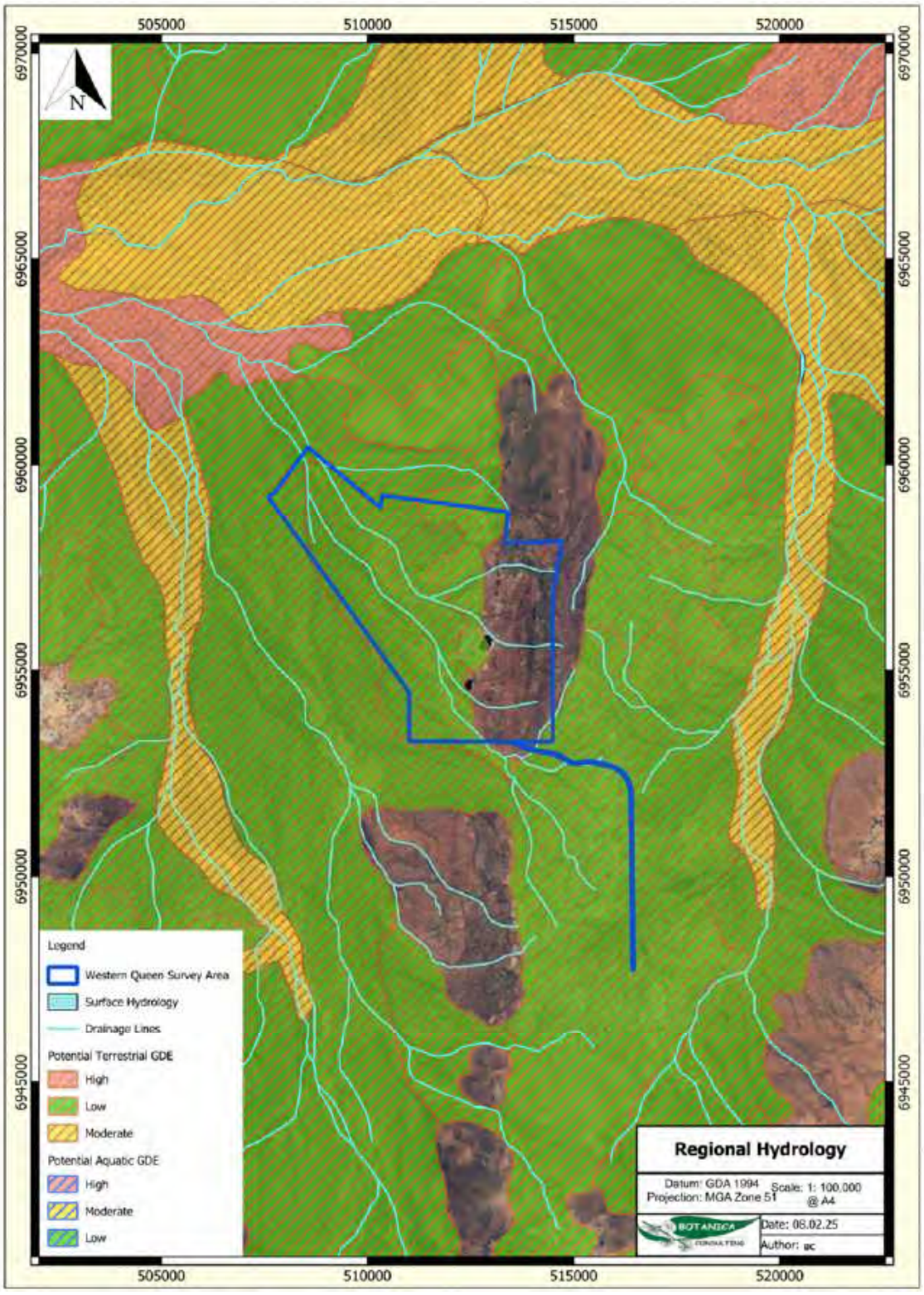

Figure 2-3: Regional hydrology of the survey area

3 SURVEY METHODOLOGY

3.1 Desktop Assessment

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

- Maia Environmental Consultancy (2023): *Cue Gold Project, Single – Phase Detailed Flora and Vegetation Assessment and Targeted Flora Survey*. Prepared on behalf of Musgrave Minerals, September 2023.
- 360 Environmental (2021). *Moyagee Gold Project Biological Survey*. Prepared on behalf of Musgrave Minerals, February 2021.
- 360 Environmental (2018). *Moyagee Gold Project Detailed Flora and Vegetation Assessment*. Prepared on behalf of Musgrave Minerals, August 2018.

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:

- DBCA Threatened and Priority Flora databases (DBCA, 2024a);
- Atlas of Living Australia (ALA) database (ALA, 2024); and
- EPBC Protected Matters search tool (DCCEEW, 2024a).

The DBCA database searches, ALA spatial portal search and EPBC Protected Matters search were conducted with a 40 km buffer from the survey area.

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

The assessment categorised flora species as follows:

- Unlikely - Suitable habitat is not expected to occur and/or the survey area is outside the known range of the species.
- Possible - Suitable habitat may be present, and the area is within the known range of the species. This option is also used when there is insufficient information to determine the preferred habitat of a species.
- Likely - Suitable habitat is expected to occur and there are records within 10 km of the survey area.

- Previously Recorded - A record for this species is located within the survey area. Field survey will ground-truth currently occurring individuals and populations.

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

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

- *Environment Protection and Biodiversity and Conservation* (EPBC) *Act 1999*. Administered by the Australian Government (DCCEEW);
- *Biodiversity Conservation* (BC) *Act 2016*. Administered by the WA Government (DBCA) - *Biodiversity Conservation (Listing of Native Species) (Flora) Order 2024* (released November 2024);
- Red List produced by the Species Survival Commission (SSC) of the World Conservation Union (also known as the IUCN Red List – the acronym derived from its former name of the International Union for Conservation of Nature and Natural Resources). The Red List has no legislative power in Australia but is used as a framework for State and Commonwealth categories and criteria; and
- Priority Flora list. A non-legislative list maintained by DBCA for management purposes (released January 2025).

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

3.2 Flora and Vegetation Field Assessment

Botanica conducted a reconnaissance flora/ vegetation survey and basic fauna assessment on the 13-14th January 2025, with the area traversed on foot and by 4WD by Jim Williams (Director/Principal Botanist, Diploma of Horticulture). The GPS track log of the survey effort is shown in Figure 3-1.

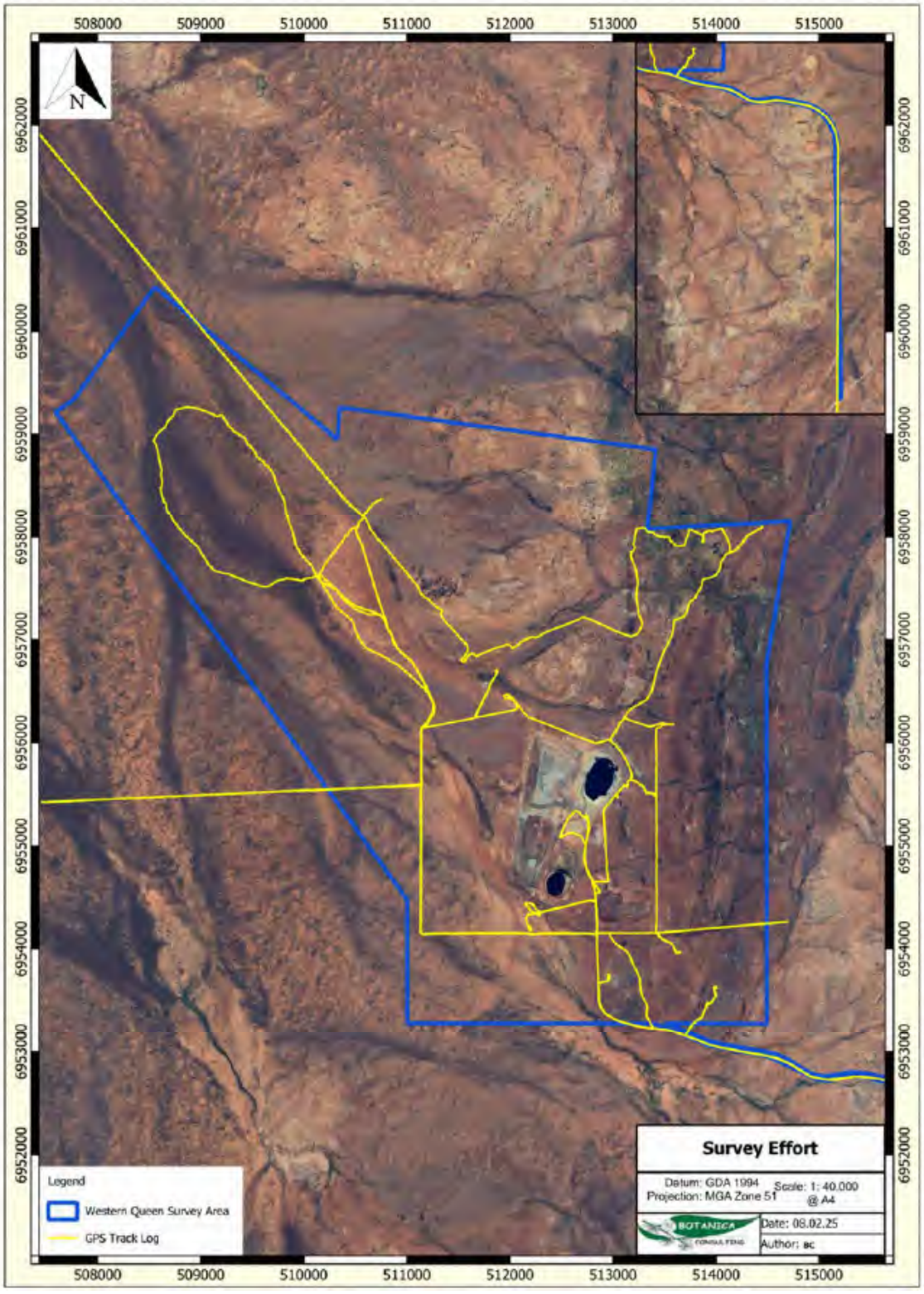

Figure 3-1: GPS track log of the survey effort

3.2.1 Flora Assessment

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. At each sample point, the following information was recorded:

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

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

3.3 Data Analysis Tools

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

3.4 Terrestrial Fauna Field Assessment

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.

Available information on the habitat requirements of the species of conservation significance listed as possibly occurring in the area (determined from the desktop assessment) 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 species utilising habitat within the survey area.

Opportunistic observations of fauna species were made during all field survey work.

Fauna of conservation significance identified during the literature review and database searches as previously being recorded in the general area were assessed and ranked for their likelihood of occurrence within the survey area. The rankings and criteria used were:

- 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).
- Locally Extinct: Populations no longer occur within a small part of the species natural range, in this case within 10 or 20 km of the survey area. Populations do however persist outside of this area.
- Regionally Extinct: Populations no longer occur in a large part of the species natural range, in this case within the Western Murchison subregion. Populations do however persist outside of this area.
- 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.

3.5 Scientific Licences

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

Licensed Staff	Permit Number	Date of Expiry
Jim Williams	FB62000457(licence to take flora for scientific purposes)	04/08/2025

3.6 Survey Limitations and Constraints

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

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

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

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

Table 3-2: Limitations and constraints associated with the survey

Variable	Potential Impact on Survey	Details
Access problems	Not a constraint	The survey was conducted via 4WD and on foot. The survey area was easily accessible via existing tracks and roads.
Competency/ Experience	Not a constraint	The Botanica personnel that conducted the survey were regarded as suitably qualified and experienced. Coordinating Staff: Jim Williams (Principal Botanist) Data Interpretation: Jim Williams (Principal Botanist), and Kelby Jennings (Senior Environmental Consultant).
Timing of survey, weather & season	Minor constraint	Fieldwork was undertaken outside the EPA's recommended survey period (6-8 weeks post wet season (March-June)) for the Eremaean Province. However, the survey was able to describe the broad vegetation systems of the survey area, and potentially occurring

Variable	Potential Impact on Survey	Details
		significant flora are perennial and would have been detectable at time of the survey if present.
Area disturbance	Minor constraint	There is significant historical mining disturbance within the survey area, and evidence of feral animal grazing was present throughout the survey area.
Survey Effort/ Extent	Not a constraint	Survey intensity was appropriate for the size/significance of the area with a reconnaissance flora survey and basic fauna survey completed to identify vegetation types/ fauna habitats and significant flora, fauna and vegetation.
Availability of contextual information at a regional and local scale	Not a constraint	DBCA desktop searches for significant flora, fauna and ecological communities were used to inform the survey effort and identify the location of significant environmental values. 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 a number of surveys within the Murchison bioregion and was also able to obtain information about the area from previous research conducted within the area. Results of previous assessments in the local area were reviewed to provide context on the local environment.
Completeness	Not a constraint	In the opinion of Botanica, the survey area was covered sufficiently in order to fulfill the requirements of a reconnaissance level survey. Vegetation assemblages were described and mapped, and all observed flora individuals were able to be identified to species level. The vegetation associations for this study were based on visual descriptions of locations in the field. The distribution of these vegetation associations outside the survey area is not known, however vegetation associations identified were categorised via comparison to vegetation distributions throughout WA given on NVIS (DotEE, 2017).

4 RESULTS

4.1 Desktop Assessment

4.1.1 Flora

The ALA desktop search identified 467 vascular flora species as occurring within 40 km of the survey area, representing 195 genera from 63 families. The most diverse families were Fabaceae (70 species), Asteraceae (60 species) and Scrophulariaceae (36 species). The most dominant genera were *Acacia* (44 species), *Eremophila* (35 species) and *Ptilotus* (15 species).

4.1.1.1 Introduced Flora

Nineteen introduced (weed) flora species, representing 12 families, were identified in the desktop study area (Table 4-1). Of these, two species are listed as a Declared Pest on the Western Australian Organism List (WAOL) under the *Biosecurity and Agriculture Management (BAM) Act 2007* and as a Weed of National Significance (WONS).

Table 4-1: Introduced flora species of the desktop study area

Family	Taxon	DP	WONS
Aizoaceae	*Cleretum papulosum*		
Asteraceae	*Carthamus lanatus*		
Brassicaceae	*Carrichtera annua*		
Brassicaceae	*Sisymbrium erysimoides*		
Brassicaceae	*Sisymbrium orientale*		
Cactaceae	*Cylindropuntia fulgida*	Y	Y
Caryophyllaceae	*Silene gallica* var. *gallica*		
Caryophyllaceae	*Spergula pentandra*		
Chenopodiaceae	*Chenopodium murale*		
Fabaceae	*Medicago minima*		
Fabaceae	*Medicago polymorpha*		
Fabaceae	*Vachellia farnesiana* var. *farnesiana*		
Malvaceae	*Malva parviflora*		
Poaceae	*Cenchrus ciliaris*		
Poaceae	*Ehrharta longiflora*		
Polygonaceae	*Rumex hypogaeus*		
Polygonaceae	*Rumex vesicarius*		
Solanaceae	*Solanum nigrum*		
Tamaricaceae	*Tamarix aphylla*	Y	Y

4.1.1.2 Significant Flora

The assessment of the DBCA Threatened and Priority flora database searches (DBCA, 2024a), ALA (ALA, 2024) and Protected Matters search (DCCEEW, 2025a) and previous relevant literature identified 21 significant flora species recorded within a 40 km radius of the survey area. These consist of one Threatened, five Priority 1, two Priority 2, ten Priority 3 and three Priority 4 taxa (Appendix B).

The locations of the DBCA database records are illustrated spatially in Figure 4-1.

These taxa were assessed for distribution and known habitat to determine their likelihood of occurrence within the survey area (Appendix B). The assessment did not identify any taxa as 'Previously Recorded' in the survey area, 17 were assessed as 'Unlikely', two were assessed as 'Possible' (one Priority 1 and one Priority 3) and one as 'Likely' (Priority 4).

Table 4-2 provides a summary of the taxa assessed as Possible and Likely to occur in the survey area, whilst the full flora likelihood assessment is provided as Appendix B.

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

Taxon	DBCA Priority	Description	Comments	Likelihood
Acacia speckii	P4	Bushy, rounded shrub or tree, 1.5-3 m high. Rocky soils over granite, basalt or dolerite. Rocky hills or rises.	Within known range, habitat likely to be present.	Likely
Petrophile vana	P1	Shrub, to 1.5 m high. Shallow, white, gritty clay-soil pockets, laterite. Breakaways.	Within known range, habitat may be present.	Possible
Eremophila simulans subsp. *megacalyx*	P3	Shrub, 0.9-2 m high. Fl. violet, Aug to Sep.	Within known range.	Possible

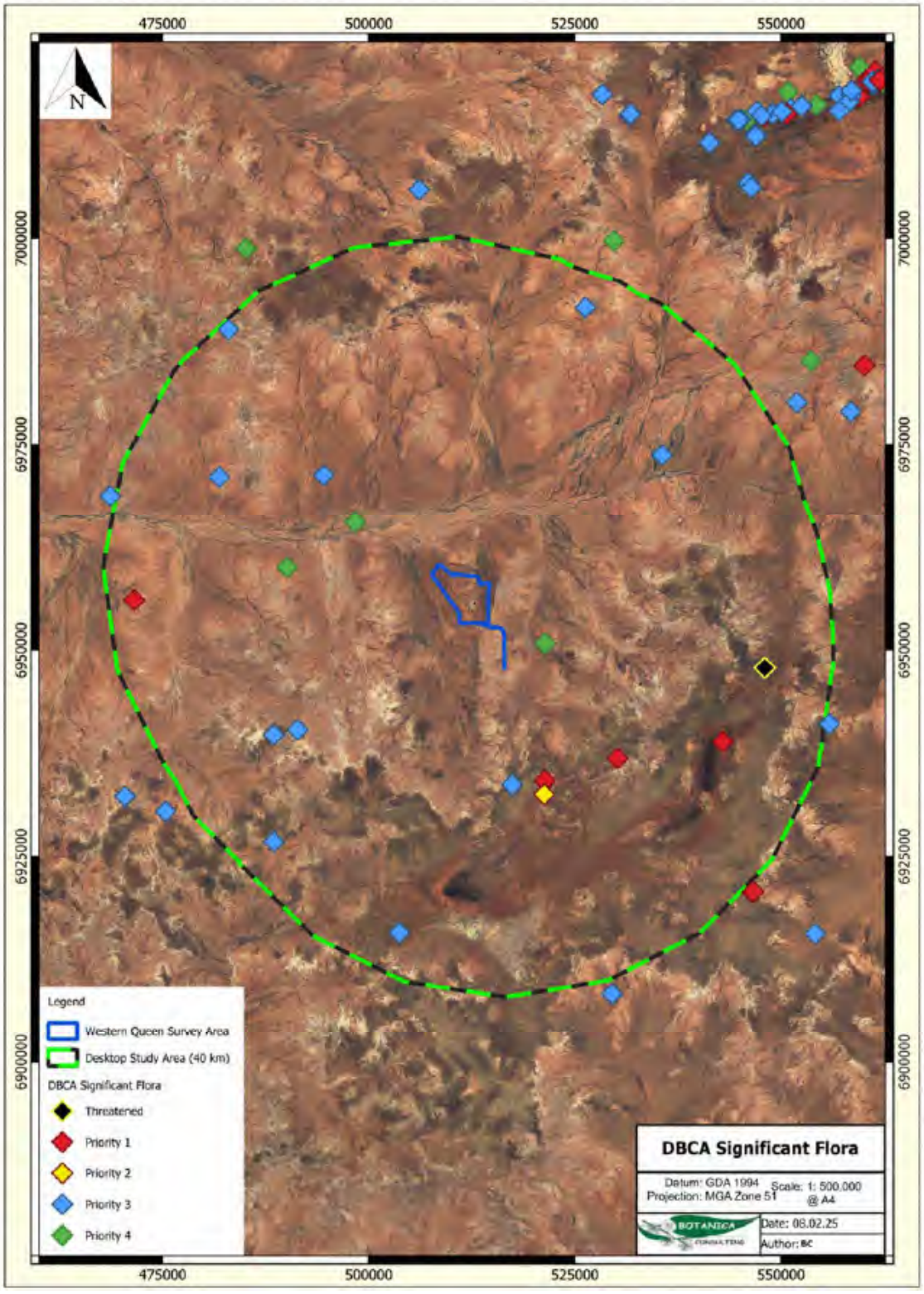

Figure 4-1: Significant flora within the desktop search area

4.1.2 Vegetation and Ecological Communities

4.1.2.1 Vegetation Associations

The pre-European vegetation association spatial mapping dataset (DPIRD, 2018) identified two vegetation associations as occurring within the survey area (Table 4-3). The association descriptions and their remaining extent, as specified in the 2018 Statewide Vegetation Statistics (DBCA, 2019b) are provided in Table 4-3. 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). Both vegetation associations retain >99% of their pre-European extent, and development within the survey area will not significantly reduce the current extent of these vegetation associations.

Table 4-3: Pre-European vegetation associations within the survey area

Vegetation Association	Current Extent	Protected for Conservation	Floristic Description	Extent within Survey Area
Upper Murchison 39	398,395.6 ha (99.76%)	-	Shrublands; mulga scrub	1164.2 ha (40.2%)
Upper Murchison 18	1,635,841.8 ha (99.73%)	-	Low woodland; mulga (*Acacia aneura*)	1734 ha (59.8%)
TOTAL				**2898.2 ha (100%)**

4.1.2.2 Significant Ecological Communities

The Protected Matters search (DCCEEW, 2024a) did not identify any Threatened Ecological Communities (TECs) as occurring within 40 km of the survey area.

The DBCA's *Threatened Ecological Community List* (State of Western Australia, 2023) does not list any TECs within the Shire of Yalgoo.

Analysis of the Priority Ecological Communities (PECs) within the Midwest region (DBCA, 2023) did not identify any significant vegetation assemblages as potentially occurring within the survey area.

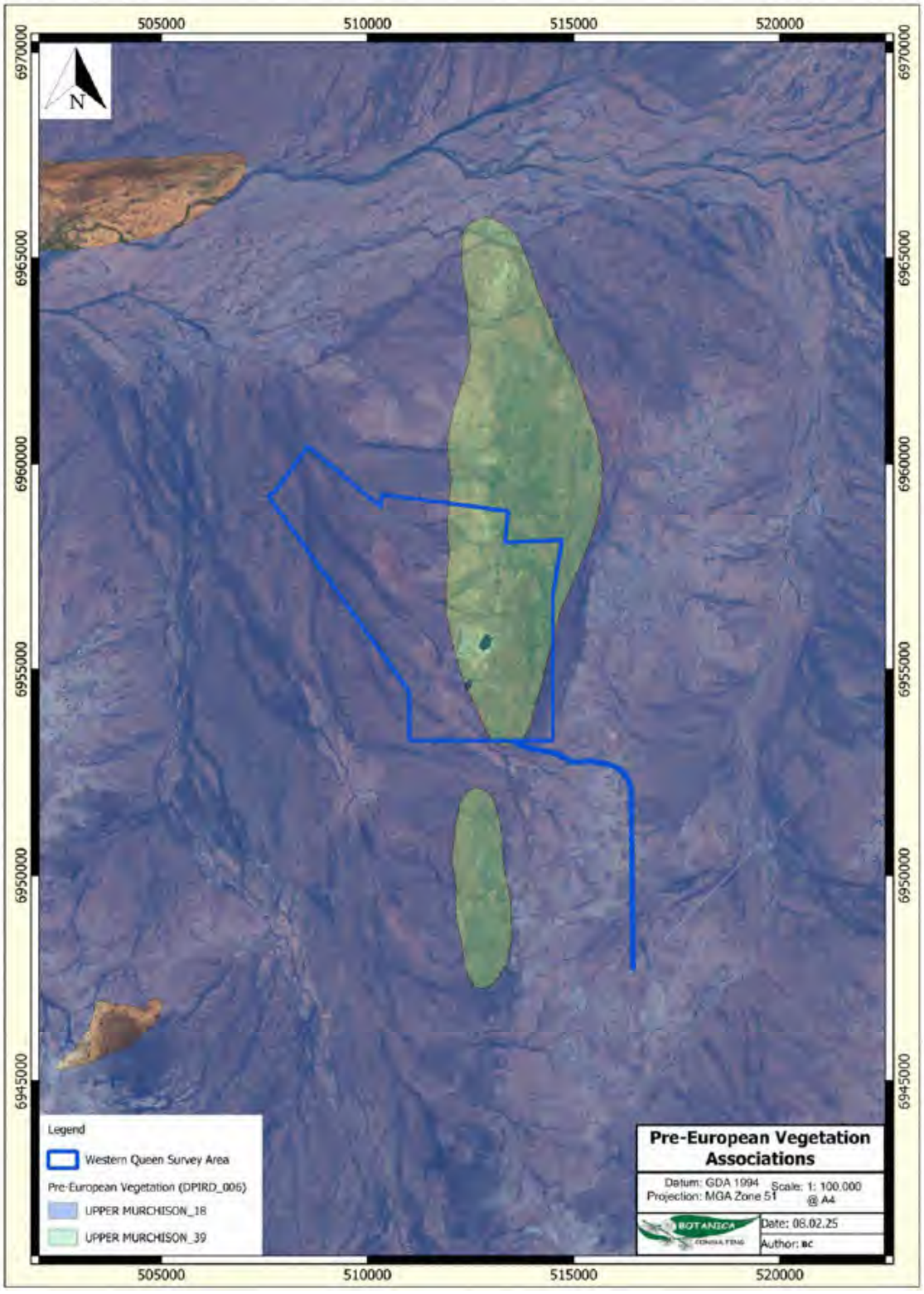

Figure 4-2: Pre-European vegetation associations of the survey area

4.1.3 Fauna

According to the results of the ALA database search (ALA, 2024), a total of 208 terrestrial vertebrate fauna taxa have been recorded within 40 km of the survey area, consisting of 156 birds, ten mammal, 33 reptile and nine amphibian taxa.

4.1.3.1 Significant Fauna

The desktop review identified 13 terrestrial vertebrate fauna species of conservation significance that have previously been recorded in the regional area[1], some of which have the potential to occur in or utilise sections of the survey area at times. These species consisted of eight Threatened and seven migratory species (of which two are also listed as Threatened) under the EPBC Act (Appendix C).

Habitat and distribution data was used to determine the likelihood of occurrence within the survey area (Appendix C). The assessment did not identify any taxa as 'Known to Occur' in the survey area, seven were assessed as 'Would Not Occur', three were assessed as 'Unlikely to Occur' and three were assessed as 'Possibly Occurs'.

Table 4-4 provides a summary of the taxa assessed as Possibly Occurs in the survey area, whilst the full fauna likelihood assessment is provided in Appendix C.

[1] The desktop review also identified one terrestrial invertebrate (spider) fauna species of conservation significance which was not assessed.

Table 4-4: Potentially occurring significant fauna

Species	Conservation Status			Habitat Description	Assessment	Likelihood
	EPBC Act	BC Act	DBCA Priority			
Rainbow bee-eater *Merops ornatus*	MI	-	-	The Rainbow Bee-eater occurs in open woodlands and shrublands, including mallee, and in open forests that are usually dominated by eucalypts. It also occurs in grasslands and, especially in arid or semi-arid areas, in riparian, floodplain or wetland vegetation assemblages (Department of the Environment, 2025).	Within known range. May occasionally visit but unlikely to significantly utilise the area.	Possibly Occurs
Malleefowl *Leipoa ocellata*	VU	VU	-	Scrublands and woodlands dominated by mallee and wattle species (Department of the Environment, 2025). Malleefowl are known to avoid open areas and instead select habitat where vegetation of two to four metres in height is prevalent (*i.e.* ~ 50% cover or greater) and provides adequate cover (Benshemesh *et al.* 2007).	Few regional records, suitable habitat may be present.	Possibly Occurs
Southern Whiteface *Aphelocephala leucopsis*	VU	VU	-	The Southern Whiteface occur across most of mainland Australia south of the tropics, from the north-eastern edge of the Western Australian wheatbelt, east to the Great Dividing Range. Habitat includes a wide range of open woodlands and shrublands where there is an understorey of grasses or shrubs, or both. These areas are usually in habitats dominated by acacias or eucalypts on ranges, foothills and lowlands, and plains. Critical habitat includes relatively undisturbed open woodlands and shrublands with an understorey of grasses and/or shrubs, habitat with low tree densities and an herbaceous understory litter cover which provides essential foraging habitat, and living and dead trees with hollows and crevices which are essential for roosting and nesting.	Within known range, but vegetation is unlikely to support breeding or optimal foraging habitat due to extensive impacts to vegetation. May occasionally visit but unlikely to significantly utilize the area.	Possibly Occurs

4.2 Field Assessment

4.2.1 Flora

The field survey identified 86 vascular flora taxa within the survey area. These taxa represented 42 genera across 27 families, with the most diverse families being Fabaceae (19 species) Chenopodiaceae (12 species) and Scrophulariaceae (11 species). Dominant genera include *Acacia* (14 species), *Eremophila* (11 species), and *Maireana* and *Ptilotus* (five species each). No introduced (weed) species were recorded within the survey area. The full field species inventory is listed in Appendix D.

4.2.2 Introduced Flora

No introduced (weed) species were recorded within the survey area.

4.2.3 Significant Flora

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

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

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

4.2.4 Vegetation Communities

A total of 11 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.

Overall, the survey area was dominated by Acacia Forests and Woodlands (88.9%), the remaining vegetation was classified as Chenopod Shrublands (4.3%) and 6.8% had been previously cleared of vegetation (mining).

The survey found RP-AOW1 was the most commonly represented vegetation community in the survey area, occupying 543.7 ha (18.7%), while DD-CS1 was the least represented with 19.4 ha (0.7%). The most diverse vegetation types were CLP-AOW1, with 49 species (57.0%), while the least diverse was RH-AOW2 with seven species (8.1%).

These communities, whilst locally variable, are relatively widespread throughout the Murchison bioregion.

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

Vegetation Code	NVIS Vegetation Group	Vegetation Type	Landform	Image
CLP-AFW1 268.8 ha (9.3%)	Acacia Forests and Woodlands	*Acacia incurvaneura* low open forest over *Acacia ramulosa* var *ramulosa* mid open shrubland over *Eremophila punicea* and *E. compacta* sparse low shrubland	Clay-loam plain	
CLP-AOW1 197.6 ha (6.8%)	Acacia Forests and Woodlands	*Acacia aptaneura* and/or *Acacia incurvaneura* low open woodland over *Acacia acuminata* mid open shrubland over *Ptilotus obovatus* and *Eremophila compacta* low sparse shrubland	Clay-loam plain	

Vegetation Code	NVIS Vegetation Group	Vegetation Type	Landform	Image
DD-AFW1 532.3 ha (18.4%)	Acacia Forests and Woodlands	*Acacia incurvaneura*, *A. mulganeura*, *A. ramulosa* low open forest over *Acacia tetragonophylla*, *Eremophila punicea*, *Sida ectogama* mid open shrubland over *Atriplex bunburyana* and *Maireana pyramidata* low sparse chenopod shrubland	Drainage depression	
DD-AFW2 137.8 ha (4.8%)	Acacia Forests and Woodlands	*Acacia incurvaneura* low open forest over *Acacia tetragonophylla* and *Eremophila oppositifolia* mid open shrubland over *Atriplex bunburyana* and *Rhagodia eremaea* low sparse chenopod shrubland	Drainage depression	

Vegetation Code	NVIS Vegetation Group	Vegetation Type	Landform	Image
DD-AOW1 384.3 ha (13.3%)	Acacia Forests and Woodlands	*Acacia aptaneura* low open woodland over *Eremophila exilifolia* and *Acacia tetragonophylla* low open shrubland over *Maireana triptera* and *M. pyramidata* low sparse chenopod shrubland	Drainage depression	
DD-CS1 19.4 ha (0.7%)	Chenopod shrubland	*Maireana pyramidata*, *M. georgei* and *M. triptera* low sparse chenopod shrubland	Drainage depression	

Vegetation Code	NVIS Vegetation Group	Vegetation Type	Landform	Image
DD-CS2 105.2 ha (3.6%)	Chenopod shrubland	Low open shrubland of *Acacia tetragonophylla* over low sparse chenopod shrubland of *Maireana pyramidata*, *Enchylaena tomentosa* and *Maireana triptera*	Drainage depression	
RH-AFW1 79.6 ha (2.7%)	Acacia Forests and Woodlands	*Acacia aptaneura* and/or *Acacia incurvaneura* low open forest over *Eremophila latrobei* low sparse shrubland	Rocky hillslope	

Vegetation Code	NVIS Vegetation Group	Vegetation Type	Landform	Image
RH-AOW1 299.7 ha (10.3%)	Acacia Forests and Woodlands	*Acacia aptaneura*, *A. grasbyi* and *A. tetragonophylla* low open woodland over *Eremophila fraseri* and *E. forrestii* subsp. *forrestii* low open shrubland over *Aristida contorta* low sparse tussock grassland	Rocky hillslope	
RH-AOW2 132.9 ha (4.6%)	Acacia Forests and Woodlands	*Acacia aptaneura* and *Acacia ramulosa* var. *linophylla* low open woodland over *Eremophila fraseri* or *Eremophila exilifolia* open shrubland over *Aristida contorta* low tussock grassland	Rocky hillslope	

Vegetation Code	NVIS Vegetation Group	Vegetation Type	Landform	Image
RP-AOW1 543.7 ha (18.7%)	Acacia Forests and Woodlands	*Acacia pteraneura* and *Acacia grasbyi* low open woodland over *Senna artemisioides* subsp. *filifolia*, *Ptilotus rotundifolius* mid sparse shrubland over *Rhagodia drummondii*, *Maireana oppositifolia* low open chenopod shrubland	Rocky plain	
Cleared 196.9 ha (6.8%)	N/A	Cleared	N/A	N/A

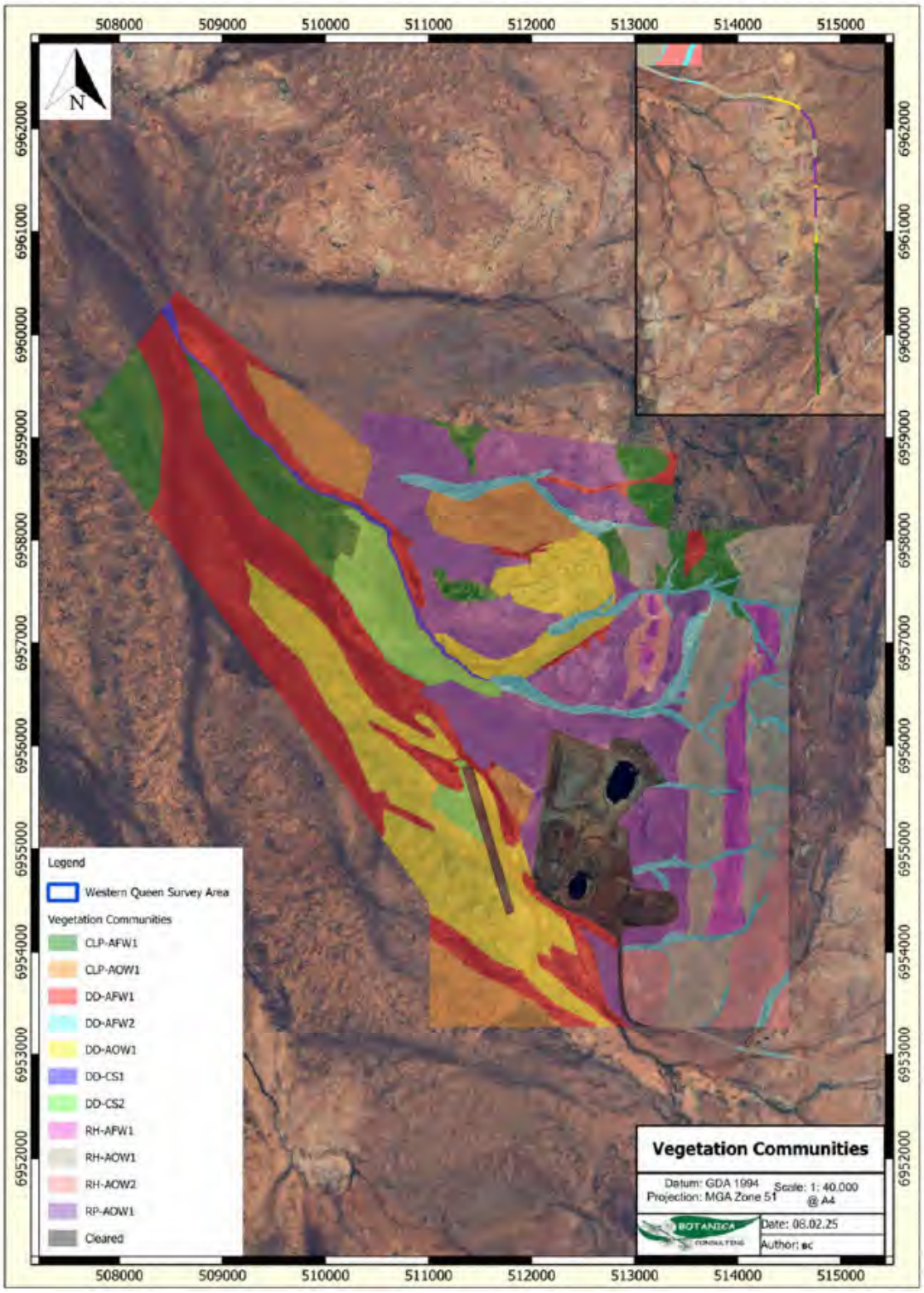

Figure 4-3: Vegetation communities within the survey area

4.2.5 Vegetation Condition

Based on the vegetation condition rating scale adapted from Keighery (1994) and Trudgen, (1988), native vegetation within the survey area was categorised as 'Very Good' to 'Degraded', with the majority (45.5%) being categorised as 'Good' (Table 4-6, Figure 4-4). Vegetation condition rating descriptions are listed in Appendix E.

The majority of impacts within the survey area were from historical disturbance, predominately caused by exploration activities and associated tracks, with significant feral animal grazing also observed.

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

Condition rating	Description	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.	773.7 ha (26.7%)
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.	1,319.7 ha (45.5%)
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.	140.6 (4.9%)
Degraded	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.	467.3 ha (16.1%)
Cleared	-	196.9 ha (6.8%)
TOTAL		**2,898.2 ha (100%)**

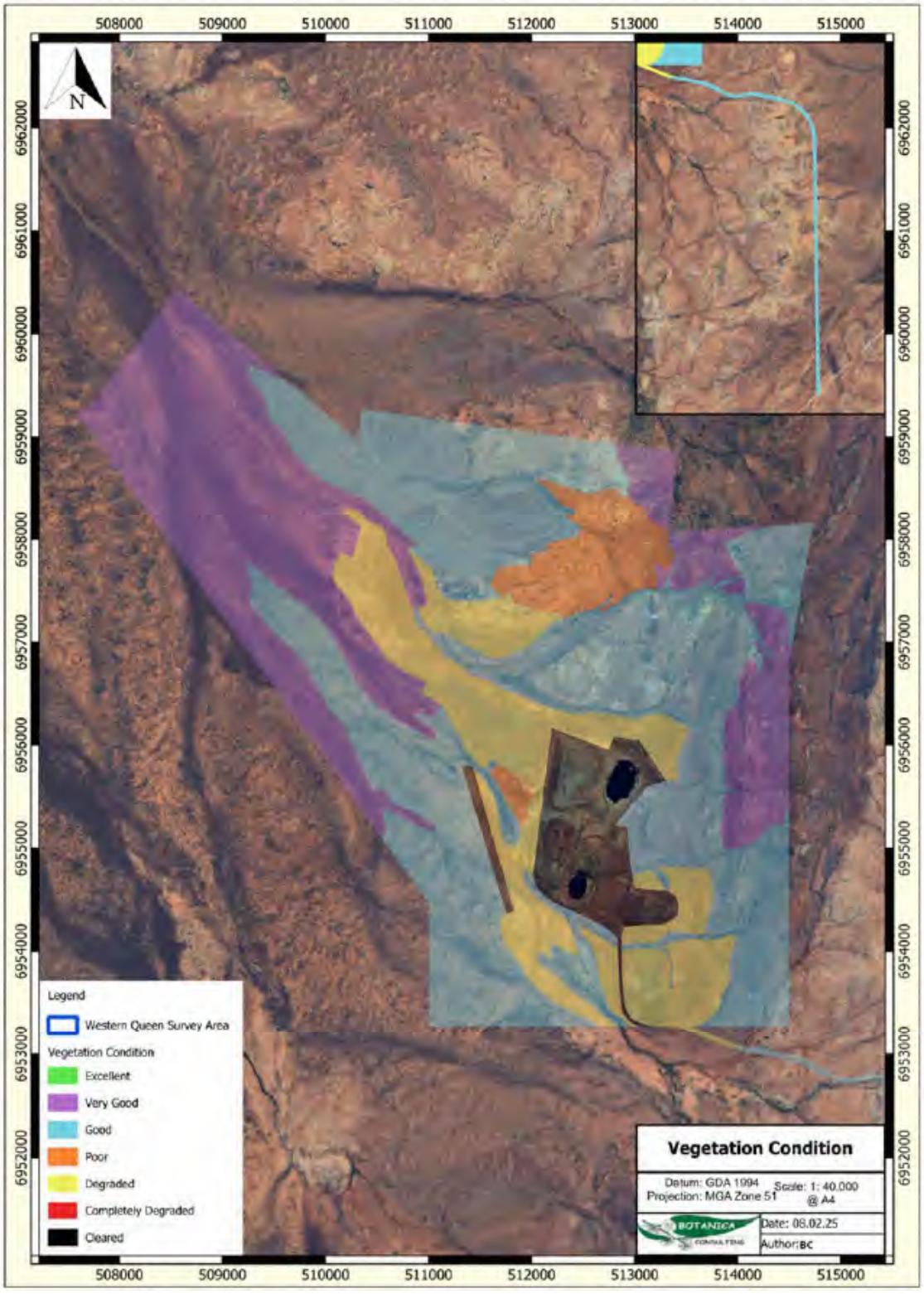

Figure 4-4: Vegetation condition within the survey area

4.2.6 *Significant Vegetation*

According to the EPA *Environmental Factor Guideline: 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.

4.2.7 *Fauna Habitat*

Based on vegetation and associated landforms identified during the flora and vegetation assessment, five broad scale terrestrial fauna habitats were identified as occurring within the survey area. Table 4-8provides 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 provides a list of opportunistic observations of fauna species that was made during the field survey with a total of 24 fauna species observed.

Table 4-7: Fauna observed during the survey

Taxon	Common Name	Comments
Avifauna		
Aquila audax	Wedge-tailed eagle	Observed
Barnardius zonarius	Ringneck parrot	Observed
Cinclosoma castanotum	Chestnut quail-thrush	Observed
Coracina novaehollandiae	Black-faced cuckoo-shrike	Observed
Corvus coronoides	Australian raven	Observed
Corvus orru	Torresian crow	Heard
Cracticus torquatus	Grey butcherbird	Observed
Dromaius novaehollandiae	Emu	Observed
Geopelia cuneata	Diamond dove	Observed
Grallina cyanoleuca	Magpie-lark	Observed
Gymnorhina tibicen	Australian magpie	Observed
Lichmera indistincta	Brown honey eater	Observed

Taxon	Common Name	Comments
Malurus splendens	Splendid fairy wren	Heard
Manorina flavigula	Yellow-throated Miner	Observed
Oreoica gutturalis	Crested bellbird	Heard
Phaps chalcoptera	Common bronzewing	Observed
Psephotellus varius	Mulga Parrot	Observed
Rhipidura leucophrys	Willie wagtail	Observed
Taeniopygia castanotis	Zebra finch	Observed
Mammals		
Canis lupus familiaris	Dog	Tracks observed
Capra aegagrus hircus	Goat	Observed
Felis catus	Cat	Tracks observed
Oryctolagus cuniculus	Rabbit	Scats Observed
Macropus sp.	Kangaroo and/or Euro	Tracks and Scats Observed

Table 4-8: Main terrestrial fauna habitats within the survey area

Fauna Habitat	Representative Fauna Attributes	Possibly Occurring Significant Species	Example Image
Acacia forest and woodland on clay-loam plain 466.4 ha (16.1%)	• Ground not especially suited to burrowing species. • Moderate diversity vegetation strata supporting avifauna assemblage. • Low vegetation density and low leaf litter.	Rainbow bee-eater *Merops ornatus*	
Acacia forest and woodland in drainage depression 1,054.4 ha (36.5%)	• Ground not suited to burrowing species. • Moderate diversity vegetation strata supporting avifauna assemblage. • Moderate vegetation density and moderate leaf litter.	Rainbow bee-eater *Merops ornatus* Malleefowl *Leipoa ocellata* Southern Whiteface *Aphelocephala leucopsis*	

Fauna Habitat	Representative Fauna Attributes	Possibly Occurring Significant Species	Example Image
Acacia forest and woodland on rocky hillslopes 512.2 ha (17.6%)	• Ground not suited to burrowing species. • Low diversity vegetation strata • Low vegetation density and low leaf litter	Rainbow bee-eater *Merops ornatus* Southern Whiteface *Aphelocephala leucopsis*	
Acacia forest and woodland on rocky plain 543.7 ha (18.7%)	• Ground suited to burrowing species. • Moderate diversity vegetation strata supporting avifauna assemblage • Moderate vegetation density and low to moderate leaf litter	Rainbow bee-eater *Merops ornatus* Malleefowl *Leipoa ocellata* Southern Whiteface *Aphelocephala leucopsis*	

Fauna Habitat	Representative Fauna Attributes	Possibly Occurring Significant Species	Example Image
Chenopod shrubland on clay-loam plain 124.6 ha (4.3%)	Ground not particularly suited to burrowing species. Low diversity vegetation strata Low vegetation density and low leaf litter	N/A	
Cleared 9.3 ha (2.6%)	N/A	N/A	N/A

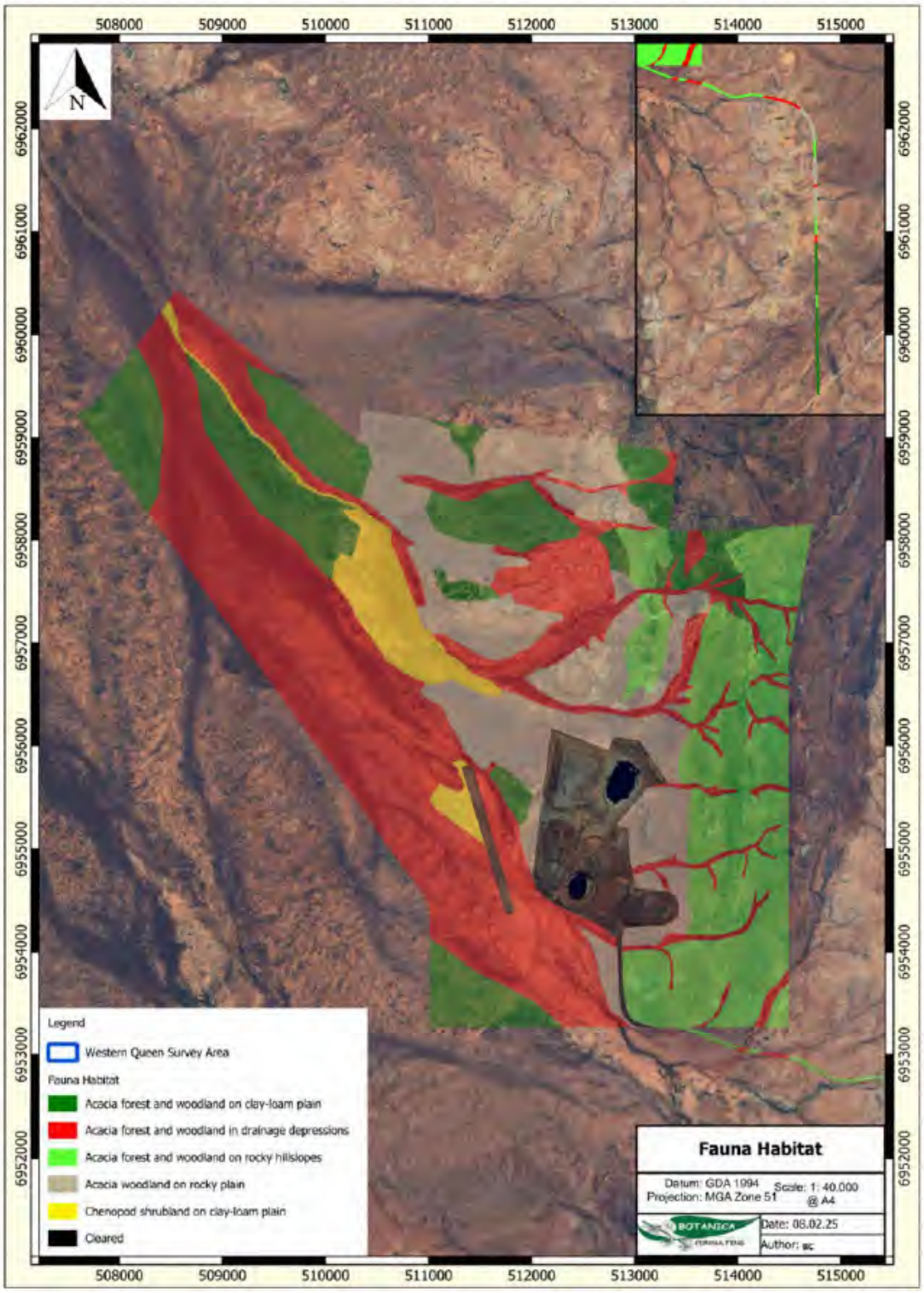

Figure 4-5: Fauna habitats within the survey area

4.2.8 Significant Fauna

According to the EPA *Environmental Factor Guideline: 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 for the presence of Malleefowl (*Leipoa ocellata*), 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.

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:

- **Rainbow Bee-eater (*Merops ornatus*) - Migratory (EPBC Act)**

  This species is distributed across much of mainland Australia, and occurs on several near-shore islands. It is not found in Tasmania, and is thinly distributed in the most arid regions of central and Western Australia. May occur as occasional vagrants but unlikely to significantly utilise habitat within the survey area. Significant impact unlikely.

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

  This species is occasionally recorded in the Western Murchison (MUR2) subregion. The majority of habitat within the survey area appears unsuitable for breeding due to a relatively high level of disturbance. The 2025 field survey did not identify any evidence of Malleefowl utilising the survey area (no evidence of mounds or other activity such as diggings, tracks and feathers). Available information suggests that a breeding population of this species is unlikely to be present in the survey area, though transient non-breeding individuals may occasionally occur if present in the surrounding area. Significant impact unlikely.

- **Southern Whiteface (*Aphelocephala leucopsis)* - Vulnerable (EPBC Act and BC Act)**

  This species is recorded throughout inland Australia. This species prefers thick, undisturbed habitat, which is not present within the survey area due to historical clearing and grazing. May occur as occasional vagrants but unlikely to significantly utilise habitat within the survey area. 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 (Cth)

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 1986* (WA)

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 –
    - *Environmental Protection (Gnangara Mound Crown Land) Policy 1992*;
    - *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 (South West Agricultural Zone Wetlands) Policy 1998*.

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

Additionally, in accordance with Schedule 1, Clause 4 of the Clearing Regulations, clearing of native vegetation in a 'Schedule One Area' for mining purposes is not permitted without a clearing permit.

No Schedule One Areas occur within the survey area.

4.4.2 Biodiversity Conservation Act 2016 (WA)

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:

a) it is critical to the survival of a threatened species or a threatened ecological community; and
b) its listing is otherwise in accordance with the ministerial guidelines.

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

No Priority species or PECs 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 nor gazetted conservation reserves within the survey area.

The closest lands of conservation significance is an ex-pastoral lease (LR3071/884), identified by DBCA as of interest for the conservation of flora and fauna. This area is located approximately 1.6 km

south of the proposed access road and 7.1 km south of the main portion of the survey area, and activities within the survey area are unlikely to impact conservation values of this 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.

A map showing areas of conservation significance in relation to the survey area is provided in Figure 4-6.

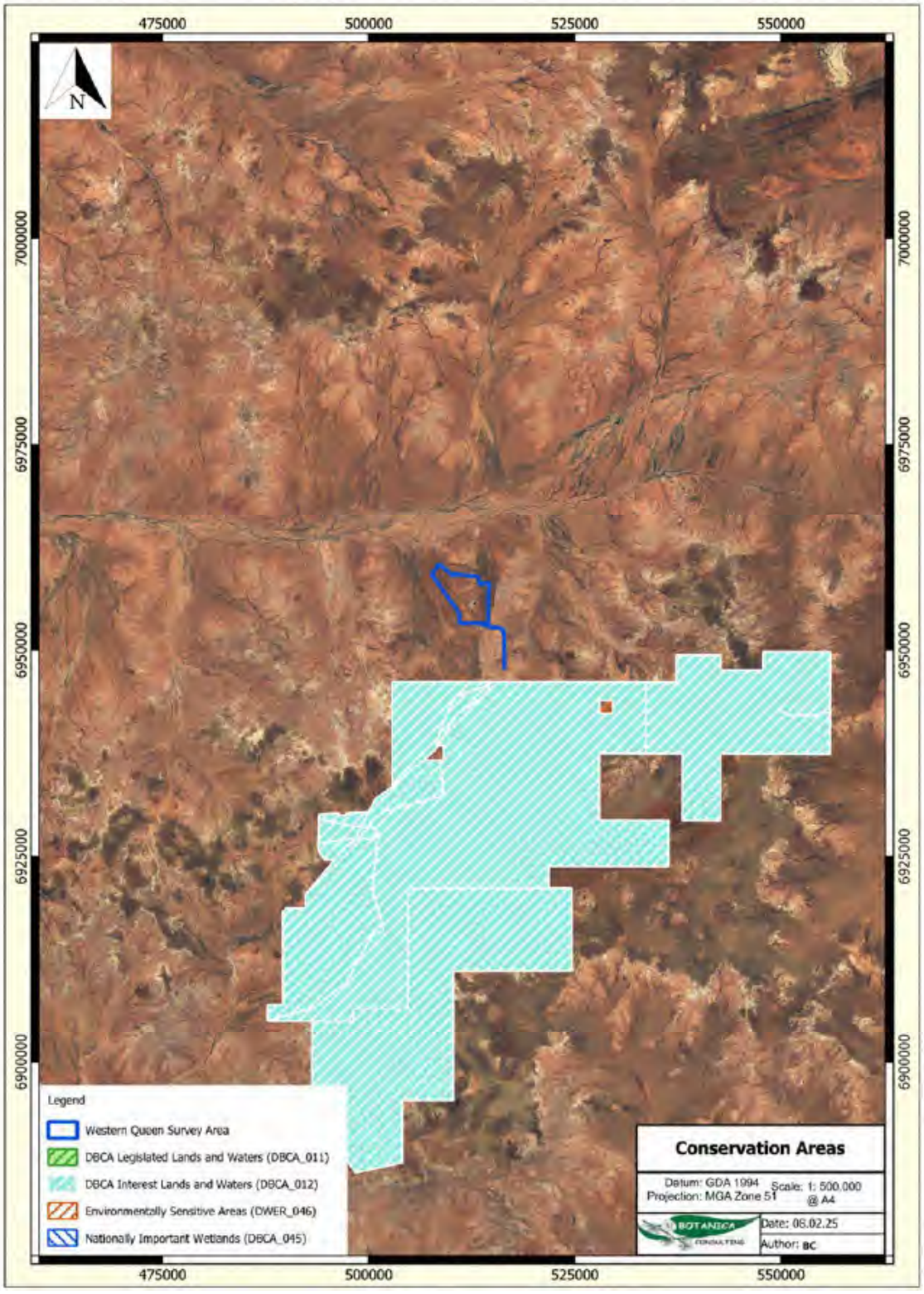

Figure 4-6: Areas of conservation significance

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 4-9). The assessment found that the proposed vegetation clearing activities may be at variance with clearing principle (f).

Table 4-9: 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 moderate biological diversity and is well represented outside the survey area. No Threatened, Priority or otherwise significant flora or ecological communities were identified 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 Threatened Ecological Communities were identified as potentially occurring within the survey area.	Clearing is unlikely to be 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 over 99% of their pre-European 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	Several ephemeral drainage lines were 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.	Clearing within the survey area would not impact any conservation reserves.	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.	Several ephemeral drainage lines were identified within the survey area. Clearing activities are unlikely to impact hydrological systems.	Clearing is unlikely to 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 Western Murchison subregion has an average rainfall of 250mm. 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 CATEGORIES (BC ACT AND EPBC ACT)

Definitions of Conservation Significant Species

Code	Category
State categories of Threatened and Priority species	
Threatened Species (T) Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as Threatened species under section 26(2) of the BC Act.	
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 *Biodiversity 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 *Biodiversity 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 *Biodiversity 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 the *Biodiversity 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
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*.
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*.
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.

Code	Category
	(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.
Commonwealth categories of Threatened species	
EX	**Extinct** Taxa where there is no reasonable doubt that the last member of the species has died.
EW	**Extinct in the Wild** Taxa where it is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
CR	**Critically Endangered** Taxa that are facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
EN	**Endangered** Taxa which are not critically endangered and is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
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:

Category Code	Category
	The estimated geographic range and distribution has been reduced by at least 70% and is either continuing to decline with total destruction imminent in the short-term future, or is unlikely to be substantially rehabilitated in the short-term future due to modification;
	The current distribution is limited i.e. highly restricted, having very few small or isolated occurrences, or covering a small area;
	The ecological community is highly modified with potential of being rehabilitated in the short-term future.
VU	**Vulnerable**
	An ecological community will be listed as Vulnerable when it has been adequately surveyed and is not Critically Endangered or Endangered but is facing high risk of total destruction in the medium to long term future. The ecological community must meet any one of the following criteria:
	The ecological community exists largely as modified occurrences that are likely to be able to be substantially restored or rehabilitated;
	The ecological community may already be modified and would be vulnerable to threatening process, and restricted in range or distribution;
	The ecological community may be widespread but has potential to move to a higher threat category due to existing or impending threatening processes.
Commonwealth categories of Threatened Ecological Communities (TEC)	
CE	**Critically Endangered** If, at that time, an ecological community is facing an extremely high risk of extinction in the wild in the immediate future (indicative timeframe being the next 10 years).
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:
SIGNIFICANT FLORA LIKELIHOOD ASSESSMENT

Taxon	Rank	Description and Habitat	Comments	Likelihood
Acacia lapidosa	Priority 1	-	Outside known range of species.	Unlikely
Acacia speckii	Priority 4	Bushy, rounded shrub or tree, 1.5-3 m high. Rocky soils over granite, basalt or dolerite. Rocky hills or rises.	Within known range, habitat likely to be present.	Likely
Acacia subsessilis	Priority 3	Rounded, straggly, pungent shrub, 1-2 m high. Fl. yellow, Jul to Aug. Red sand or stony gravel over ironstone. Rocky hills.	Outside known range of species, habitat unlikely to be present.	Unlikely
Acacia wilcoxii	Priority 1	Much-branched shrub, 2-4 m high. Fl. Aug to Sep. Granitic soils. Along creeks & adjacent stony plains & granite outcrops.	Outside known range of species (Gascoyne), habitat unlikely to be present.	Unlikely
Chamelaucium sp. Yalgoo (Y. Chadwick 1816)	Priority 1	Bushy, low shrub. Granite outcrops.	Outside known range of species.	Unlikely
Dicrastylis linearifolia	Priority 3	Much-branched shrub, 1-3 m high, inflorescence with scale-like indumentum; upper surface of leaves hairy; stamens usually 5. Fl. white, Nov to Dec. Red sand. Sandplain.	Within known range, habitat unlikely to be present.	Unlikely
Eremophila muelleriana	Priority 3	Shrub or tree, (0.3-)0.5-2.8(-4) m high. Fl. purple/purple-red/purple-black, Aug to Oct. Granitic soils.	At extreme of known range, habitat unlikely to be present.	Unlikely
Eremophila simulans subsp. *megacalyx*	Priority 3	Shrub, 0.9-2 m high. Fl. violet, Aug to Sep.	Within known range.	Possible
Frankenia confusa	Priority 4	Low, diffuse shrub, to 0.75 m high, to 0.75 wide. Fl. pink, Sep. Wet pale brown sand, brown clay, grey soil. Banks of rivers & waterholes, river floodplains.	At extreme of known range, habitat unlikely to be present.	Unlikely
Gnephosis cassiniana	Priority 3	Erect annual, herb, 0.01-0.06 m high. Fl. yellow, Sep to Oct. Sand, clay loam. Saline depressions, low wet areas.	Outside known range of species, habitat unlikely to be present.	Unlikely
Gunniopsis divisa	Priority 3	Annual, herb, 0.05-0.1 m high. Fl. white, Aug. Loam, quartz. Roadsides.	At extreme of known range, habitat unlikely to be present.	Unlikely
Jacksonia lanicarpa	Priority 1	Shrub, to 2 m high. Fl. orange, Nov. Red sand.	Within known range, habitat unlikely to be present.	Unlikely
Lepidium scandens	Priority 3	Weak, ascending or twining shrub, 0.4-2 m high. Fl. white, Aug to Sep. Red sand, clay.	Outside known range of species.	Unlikely
Petrophile pauciflora	Priority 3	Shrub, ca 1 m high. Fl. yellow, Sep. Decaying & dissected granite breakaways.	Within known range, habitat unlikely to be present.	Unlikely
Petrophile vana	Priority 1	Shrub, to 1.5 m high. Shallow, white, gritty clay-soil pockets, laterite. Breakaways.	Within known range, habitat may be present.	Possible

Taxon	Rank	Description and Habitat	Comments	Likelihood
Psammomoya grandiflora	Priority 2	Erect, spreading shrub, to 0.8 m high. Fl. white, Aug to Oct. Red loam, sand, jasperlite. Sandplains, rocky country.	Widespread, scattered records. Habitat unlikely to be present.	Unlikely
Sauropus sp. Woolgorong (M. Officer s.n. 10/8/94)	Priority 3	Shrub, 0.3-1 m high. Fl. yellow, Jun. Red sand. Plains.	Outside known range of species, habitat unlikely to be present.	Unlikely
Spirogardnera rubescens	VU	Spindly leafless shrub, to 1.6 m high. Fl. white, Aug to Dec. Laterite, sand over laterite, loam.	Outside known range of species (Geraldton Sandplains, Jarrah Forest, Swan Coastal Plain), habitat unlikely to be present.	Unlikely
Verticordia jamiesonii	Priority 3	Shrub, 0.2-0.6 m high. Fl. white/pink, Sep to Oct. Sandy clay soils. Lateritic breakaways.	Outside known range of species, habitat unlikely to be present.	Unlikely
Wurmbea murchisoniana	Priority 4	Cormous, perennial, herb, 0.1-0.26 m high, hermaphrodite. Fl. white, Jul to Sep. Clay, sandy clay, loam. Seasonally inundated clay hollows, rock pools.	Habitat unlikely to be present.	Unlikely

APPENDIX C:
SIGNIFICANT FAUNA LIKELIHOOD ASSESSMENT

Species	Conservation Status			Habitat Description	Assessment	Likelihood
	EPBC Act	BC Act	DBCA Priority			
BIRD						
Australian Painted Snipe *Rostratula australis*	EN	EN	-	The Australian Painted Snipe has been recorded at wetlands in all states of Australia. The Australian Painted Snipe generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans.	No suitable habitat present.	Would Not Occur
Common Sandpiper *Actitis hypoleuco*	MI	MI	-	The species utilises a wide range of coastal wetlands and some inland wetlands, with varying levels of salinity, and is mostly found around muddy margins or rocky shores and rarely on mudflats. The Common Sandpiper has been recorded in estuaries and deltas of streams, as well as on banks farther upstream; around lakes, pools, billabongs, reservoirs, dams and claypans, and occasionally piers and jetties. The muddy margins utilised by the species are often narrow, and may be steep. The species is often associated with mangroves, and sometimes found in areas of mud littered with rocks or snags (Department of the Environment, 2025).	Migratory shorebird, no suitable habitat present.	Would Not Occur
Curlew Sandpiper *Calidris ferruginea*	CR / MI	CR	-	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. Occasionally they are recorded around floodwaters (Department of the Environment, 2025)	Migratory shorebird, no suitable habitat present.	Would Not Occur
Fork-tailed Swift *Apus pacificus*	MI	MI	-	Low to very high airspace over varied habitat from rainforest to semi desert (Birdlife Australia, 2019).	Very occasional transients only.	Unlikely to Occur
Grey Wagtail *Motacilla cinerea*	MI	MI	-	Running water in disused quarries, sandy, rocky streams in escarpments and rainforest, sewerage ponds, ploughed fields and airfields (Morecombe 2004).	No suitable habitat.	Would Not Occur

Species	Conservation Status			Habitat Description	Assessment	Likelihood
	EPBC Act	BC Act	DBCA Priority			
Malleefowl *Leipoa ocellata*	VU	VU	-	Scrublands and woodlands dominated by mallee and wattle species (Department of the Environment, 2025). Malleefowl are known to avoid open areas and instead select habitat where vegetation of two to four metres in height is prevalent (*i.e.* – 50% cover or greater) and provides adequate cover (Benshemesh *et al.* 2007).	Within known range, suitable habitat may be present.	Possibly Occurs
Night Parrot *Pezoporus occidentalis*	EN	CR	-	Most habitat records are of Triodia (Spinifex) grasslands and/or chenopod shrublands in the arid and semi-arid zones, or *Astrebla* spp. (Mitchell grass), shrubby samphire and chenopod associations, scattered trees and shrubs, *Acacia aneura* (Mulga) woodland, treeless areas and bare gibber are associated with sightings of the species. Roosting and nesting sites are consistently reported as within clumps of dense vegetation, primarily old and large Spinifex (*Triodia*) clumps, but sometimes other vegetation types (Department of the Environment, 2025).	At extreme of known range, no suitable habitat.	Unlikely to Occur
Pectoral Sandpiper Calidris melanotos	MI	MI	-	In Australasia, the Pectoral Sandpiper prefers shallow fresh to saline wetlands. The species is usually found in coastal or near coastal habitat but occasionally found further inland. It prefers wetlands that have open fringing mudflats and low, emergent or fringing vegetation, such as grass or samphire. (Department of the Environment, 2025).	Migratory shorebird, no suitable habitat present.	Would Not Occur
Rainbow bee-eater *Merops ornatus*	MI	-	-	The Rainbow Bee-eater occurs in open woodlands and shrublands, including mallee, and in open forests that are usually dominated by eucalypts. It also occurs in grasslands and, especially in arid or semi-arid areas, in riparian, floodplain or wetland vegetation assemblages (Department of the Environment, 2025).	Within known range. May occasionally visit but unlikely to significantly utilise the area.	Possibly Occurs
Sharp-tailed Sandpiper *Calidris acuminata*	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. They also occur in saltworks and sewage farms. They use flooded paddocks, sedgelands and other ephemeral wetlands, but leave when they dry (Department of the Environment, 2025).	Migratory shorebird, no suitable habitat present.	Would Not Occur
Southern Whiteface *Aphelocephala leucopsis*	VU	VU	-	The Southern Whiteface occur across most of mainland Australia south of the tropics, from the north-eastern edge of the Western Australian wheatbelt, east to the Great Dividing Range. Habitat includes a wide range of open woodlands and shrublands where there is an understorey of grasses or shrubs, or both. These areas are usually in habitats dominated by acacias or eucalypts on ranges, foothills and lowlands, and plains. Critical habitat includes relatively undisturbed open woodlands and shrublands with an understorey of grasses and/or shrubs, habitat with low tree densities and an herbaceous understory litter cover which provides essential foraging habitat, and living and dead trees with hollows and crevices which are essential for roosting and nesting.	Within known range, but vegetation is unlikely to support breeding or optimal foraging habitat due to extensive impacts to vegetation. May occasionally visit but unlikely to significantly utilise the area.	Possibly Occurs

Species	Conservation Status			Habitat Description	Assessment	Likelihood
	EPBC Act	BC Act	DBCA Priority			
MAMMAL						
Greater Stick-nest Rat *Leporillus conditor*	VU	CD	-	The greater stick-nest rat was extinct on the Australian mainland by the 1930s, it remained only on the Franklin Islands, South Australia (Department of the Environment, 2025).	Very small number of records, species is considered regionally extinct.	Would Not Occur
REPTILE						
Western Spiny-tailed Skink *Egernia stokesii badia*	EN	VU	-	During surveys by Ecologia Environment (2006–09), all records of the black form of Western Spiny-tailed Skink were on small, isolated stands of granite containing suitable habitat to larger, more extensive clusters of rock. Flat granite domes, with no boulders or crevices, do not support Western Spiny-tailed Skink. This is distinct from the tree hollow habitat of the brown form (Department of the Environment, 2025).	Within known range, no suitable habitat present.	Unlikely to Occur
SPIDER						
Shield-backed Trapdoor Spider *Idiosoma nigrum*	VU	EN	-	Leaf litter and twigs are extremely important to the species as it provides material for the burrows, reduced soil moisture loss and increased prey availability. The species avoids areas of dense leaf litter as juveniles are unable to dig their initial hole in such areas (Department of the Environment, 2025).	NA	NA

NA – Not Assessed: species type outside of scope of basic terrestrial vertebrate fauna survey.

APPENDIX D:
LIST OF SPECIES IDENTIFIED WITHIN THE SURVEY AREA

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

Family	Taxon	CLP-AFW1	CLP-AOW1	DD-AFW1	DD-AFW2	DD-AOW1	DD-CS1	DD-CS2	RH-AFW1	RH-AOW1	RH-AOW2	RP-AOW1
Amaranthaceae	*Ptilotus aervoides (A)*			*		*		*				
Amaranthaceae	*Ptilotus exaltatus (A)*		*	*					*			
Amaranthaceae	*Ptilotus obovatus*	*	*	*	*	*		*	*		*	*
Amaranthaceae	*Ptilotus schwartzii*	*	*									
Amaranthaceae	*Ptilotus rotundifolius*										*	*
Apocynaceae	*Leichhardtia australis*				*							*
Asteraceae	*Senecio magnificus (A)*		*						*			
Chenopodiaceae	*Atriplex bunburyana*		*	*								
Chenopodiaceae	*Atriplex codonocarpa (A)*			*			*		*			
Chenopodiaceae	*Enchylaena tomentosa*		*	*	*	*		*				
Chenopodiaceae	*Maireana georgei*	*			*		*		*	*		
Chenopodiaceae	*Maireana oppositifolia*		*									*
Chenopodiaceae	*Maireana pyramidata*		*	*		*	*	*	*			
Chenopodiaceae	*Maireana triptera*		*	*	*	*	*	*			*	*
Chenopodiaceae	*Rhagodia eremaea*				*							
Chenopodiaceae	*Rhagodia drummondii*		*	*	*			*				*
Chenopodiaceae	*Sclerolaena cuneata*		*				*					
Chenopodiaceae	*Sclerolaena densiflora*		*				*		*			
Chenopodiaceae	*Sclerolaena diacantha*		*	*	*	*		*	*			*
Chenopodiaceae	*Tecticornia disarticulata*		*	*	*	*		*				*
Colchicaceae	*Wurmbea tenella (A)*			*		*						
Euphorbiaceae	*Euphorbia drummondii (A)*		*	*	*	*	*	*				
Fabaceae	*Acacia acuminata*		*	*	*	*		*				
Fabaceae	*Acacia caesaneura*		*			*			*			

Family	Taxon	CLP-AFW1	CLP-AOW1	DD-AFW1	DD-AFW2	DD-AOW1	DD-CS1	DD-CS2	RH-AFW1	RH-AOW1	RH-AOW2	RP-AOW1
Fabaceae	*Acacia grasbyi*	*	*			*			*			*
Fabaceae	*Acacia incurvaneura*	*	*	*	*	*				*		*
Fabaceae	*Acacia pteraneura*		*						*			*
Fabaceae	*Acacia mulganeura*		*	*						*		
Fabaceae	*Acacia exocarpoides*	*							*	*		
Fabaceae	*Acacia quadrimarginea*								*			
Fabaceae	*Acacia ramulosa* var. *ramulosa*	*	*	*		*		*		*	*	*
Fabaceae	*Acacia burkittii*					*			*			
Fabaceae	*Acacia tetragonophylla*	*	*	*	*	*		*	*	*		*
Fabaceae	*Acacia aptaneura*	*	*			*				*		*
Fabaceae	*Acacia craspedocarpa*		*	*		*						*
Fabaceae	*Acacia fuscaneura*										*	
Fabaceae	*Senna artemisioides* subsp. x *artemisioides*											
Fabaceae	*Senna artemisioides* subsp. *filifolia*											*
Fabaceae	*Senna artemisioides* subsp. x *sturtii*											
Fabaceae	*Senna glutinosa* subsp. *chatelainiana*					*			*			
Fabaceae	*Senna* sp. Meekatharra		*	*								*
Geraniaceae	*Erodium cygnorum (A)*		*	*		*		*	*			*
Goodeniaceae	*Scaevola spinescens*		*	*	*	*						*
Haloragaceae	*Haloragis odontocarpa (A)*		*	*								
Hemerocallidaceae	*Dianella revoluta*		*			*						
Lamiaceae	*Teucrium teucriiflorum*	*				*						*
Loranthaceae	*Amyema fitzgeraldii*		*			*		*				
Malvaceae	*Abutilon cryptopetalum*		*	*	*	*		*				
Malvaceae	*Brachychiton gregorii*	*				*			*			*
Malvaceae	*Sida spodochroma*								*			
Malvaceae	*Sida calyxhymenia*		*	*	*	*		*		*		*
Malvaceae	*Sida ectogama*		*	*		*						
Montiaceae	*Calandrinia eremaea (A)*					*						
Myrtaceae	*Melaleuca hamata*											
Myrtaceae	*Melaleuca leiocarpa*				*				*			*
Nyctaginaceae	*Boerhavia coccinea*			*	*							
Pittosporaceae	*Pittosporum angustifolium*		*	*								
Poaceae	*Aristida contorta (A)*		*			*	*	*				

Family	Taxon	CLP-AFW1	CLP-AOW1	DD-AFW1	DD-AFW2	DD-AOW1	DD-CS1	DD-CS2	RH-AFW1	RH-AOW1	RH-AOW2	RP-AOW1
Poaceae	*Austrostipa elegantissima*											*
Poaceae	*Enneapogon caerulescens*			*		*	*	*				
Poaceae	*Eragrostis eriopoda*						*					*
Poaceae	*Eragrostis dielsii (A)*			*		*		*				
Poaceae	*Chloris truncata*			*								
Poaceae	*Cenchrus ciliaris (W)*		*						*			
Proteaceae	*Grevillea berryana*	*	*									
Proteaceae	*Hakea preissii*		*	*		*		*	*			
Proteaceae	*Hakea recurva* subsp. *arida*			*		*			*			
Pteridaceae	*Cheilanthes sieberi (A)*	*		*		*						*
Pteridaceae	*Cheilanthes lasiophylla (A)*								*			
Santalaceae	*Exocarpos aphyllus*			*	*				*			*
Sapindaceae	*Dodonaea rigida*	*										*
Scrophulariaceae	*Eremophila forrestii*	*				*	*					*
Scrophulariaceae	*Eremophila galeata*	*	*	*		*	*		*			
Scrophulariaceae	*Eremophila latrobei*	*	*			*				*		*
Scrophulariaceae	*Eremophila spectabilis*	*				*			*			
Scrophulariaceae	*Eremophila oldfieldii* subsp. *angustifolia*			*	*	*			*			
Scrophulariaceae	*Eremophila oppositifolia*				*							
Scrophulariaceae	*Eremophila pantonii*		*	*	*							*
Scrophulariaceae	*Eremophila compacta*	*	*	*								*
Scrophulariaceae	*Eremophila exilifolia*	*	*			*			*		*	
Scrophulariaceae	*Eremophila punicea*	*	*	*		*			*		*	
Scrophulariaceae	*Eremophila clarkei*	*	*	*		*				*		*
Solanaceae	*Lycium australe*	*	*		*							*
Solanaceae	*Nicotiana rosulata (A)*	*	*	*		*	*					
Solanaceae	*Solanum lasiophyllum*		*	*	*		*	*				*
Zygophyllaceae	*Tribulus astrocarpus*	*					*					

APPENDIX E:
VEGETATION CONDITION RATING

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

APPENDIX F:
ATLAS OF LIVING AUSTRALIA DESKTOP SEARCH (40KM)

VASCULAR FLORA

Family	Taxon
Aizoaceae	*Cleretum papulosum*
Aizoaceae	*Gunniopsis divisa*
Aizoaceae	*Gunniopsis propinqua*
Aizoaceae	*Gunniopsis quadrifida*
Aizoaceae	*Gunniopsis rodwayi*
Aizoaceae	*Gunniopsis rubra*
Aizoaceae	*Gunniopsis septifraga*
Aizoaceae	*Tetragonia cristata*
Amaranthaceae	*Ptilotus aervoides*
Amaranthaceae	*Ptilotus chamaecladus*
Amaranthaceae	*Ptilotus divaricatus*
Amaranthaceae	*Ptilotus drummondii*
Amaranthaceae	*Ptilotus drummondii* var. *minor*
Amaranthaceae	*Ptilotus exaltatus*
Amaranthaceae	*Ptilotus gaudichaudii*
Amaranthaceae	*Ptilotus grandiflorus*
Amaranthaceae	*Ptilotus helichrysoides*
Amaranthaceae	*Ptilotus helipteroides*
Amaranthaceae	*Ptilotus obovatus*
Amaranthaceae	*Ptilotus polakii* subsp. *polakii*
Amaranthaceae	*Ptilotus polystachyus*
Amaranthaceae	*Ptilotus schwartzii*
Amaranthaceae	*Ptilotus xerophilus*
Apiaceae	*Apium annuum*
Apocynaceae	*Cynanchum floribundum*
Apocynaceae	*Gymnema graniticola*
Apocynaceae	*Vincetoxicum lineare*
Araliaceae	*Hydrocotyle interlexta*
Araliaceae	*Trachymene ceratocarpa*
Araliaceae	*Trachymene pilbarensis*
Asparagaceae	*Arthropodium dyeri*
Asparagaceae	*Thysanotus manglesianus*
Asparagaceae	*Thysanotus ramulosus*
Asteraceae	*Actinobole oldfieldianum*
Asteraceae	*Actinobole uliginosum*
Asteraceae	*Angianthus milnei*
Asteraceae	*Angianthus tomentosus*
Asteraceae	*Bellida graminea*
Asteraceae	*Brachyscome ciliaris*
Asteraceae	*Brachyscome iberidifolia*
Asteraceae	*Brachyscome perpusilla*
Asteraceae	*Brachyscome trachycarpa*
Asteraceae	*Calocephalus knappii*
Asteraceae	*Calocephalus multiflorus*
Asteraceae	*Calotis hispidula*
Asteraceae	*Calotis multicaulis*
Asteraceae	*Carthamus lanatus*
Asteraceae	*Centipeda thespidioides*
Asteraceae	*Cephalipterum drummondii*
Asteraceae	*Chrysocephalum puteale*
Asteraceae	*Chthonocephalus pseudevax*
Asteraceae	*Cratystylis subspinescens*
Asteraceae	*Erymophyllum compactum*
Asteraceae	*Erymophyllum tenellum*
Asteraceae	*Feldstonia nitens*
Asteraceae	*Gilberta tenuifolia*
Asteraceae	*Gnephosis arachnoidea*
Asteraceae	*Gnephosis brevifolia*
Asteraceae	*Gnephosis cassiniana*
Asteraceae	*Gnephosis tenuissima*

Family	Taxon
Asteraceae	*Helipterum craspedioides*
Asteraceae	*Hyalosperma zacchaeus*
Asteraceae	*Lemooria burkittii*
Asteraceae	*Minuria cunninghamii*
Asteraceae	*Myriocephalus guerinae*
Asteraceae	*Myriocephalus pygmaeus*
Asteraceae	*Myriocephalus rudallii*
Asteraceae	*Olearia muelleri*
Asteraceae	*Olearia pimeleoides*
Asteraceae	*Olearia plucheacea*
Asteraceae	*Olearia stuartii*
Asteraceae	*Pluchea dentex*
Asteraceae	*Pluchea rubelliflora*
Asteraceae	*Podolepis capillaris*
Asteraceae	*Podotheca gnaphalioides*
Asteraceae	*Pogonolepis muelleriana*
Asteraceae	*Pogonolepis stricta*
Asteraceae	*Rhodanthe battii*
Asteraceae	*Rhodanthe charsleyae*
Asteraceae	*Rhodanthe chlorocephala*
Asteraceae	*Rhodanthe chlorocephala* subsp. *splendida*
Asteraceae	*Rhodanthe citrina*
Asteraceae	*Rhodanthe floribunda*
Asteraceae	*Rhodanthe humboldtiana*
Asteraceae	*Rhodanthe sterilescens*
Asteraceae	*Rhodanthe stricta*
Asteraceae	*Roebuckiella ciliocarpa*
Asteraceae	*Schoenia cassiniana*
Asteraceae	*Sondottia connata*
Asteraceae	*Streptoglossa cylindriceps*
Asteraceae	*Trichanthodium skirrophorum*
Asteraceae	*Vittadinia eremaea*
Asteraceae	*Waitzia acuminata* var. *acuminata*
Boraginaceae	*Heliotropium ammophilum*
Boraginaceae	*Heliotropium curassavicum*
Boraginaceae	*Trichodesma zeylanicum*

Family	Taxon
Boryaceae	*Borya sphaerocephala*
Brassicaceae	*Carrichtera annua*
Brassicaceae	*Lepidium oxytrichum*
Brassicaceae	*Lepidium platypetalum*
Brassicaceae	*Lepidium scandens*
Brassicaceae	*Menkea australis*
Brassicaceae	*Sisymbrium erysimoides*
Brassicaceae	*Sisymbrium orientale*
Brassicaceae	*Stenopetalum anfractum*
Cactaceae	*Cylindropuntia fulgida*
Campanulaceae	*Isotoma petraea*
Campanulaceae	*Lobelia winfridae*
Campanulaceae	*Wahlenbergia gracilenta*
Campanulaceae	*Wahlenbergia tumidifructa*
Caryophyllaceae	*Silene gallica* var. *gallica*
Caryophyllaceae	*Spergula pentandra*
Casuarinaceae	*Allocasuarina acutivalvis* subsp. *acutivalvis*
Casuarinaceae	*Casuarina pauper*
Celastraceae	*Psammomoya grandiflora*
Celastraceae	*Stackhousia monogyna*
Celastraceae	*Stackhousia* sp. Mt Keith (G.Cockerton & G.O'Keefe 11017)
Centrolepidaceae	*Centrolepis cephaloformis* subsp. *cephaloformis*
Chenopodiaceae	*Atriplex bunburyana*
Chenopodiaceae	*Atriplex semilunaris*
Chenopodiaceae	*Atriplex stipitata* subsp. *stipitata*
Chenopodiaceae	*Atriplex vesicaria*
Chenopodiaceae	*Chenopodium curvispicatum*
Chenopodiaceae	*Chenopodium gaudichaudianum*
Chenopodiaceae	*Chenopodium murale*
Chenopodiaceae	*Didymanthus roei*
Chenopodiaceae	*Dissocarpus paradoxus*
Chenopodiaceae	*Dysphania kalpari*
Chenopodiaceae	*Dysphania rhadinostachya* subsp. *inflata*
Chenopodiaceae	*Enchylaena lanata*
Chenopodiaceae	*Enchylaena tomentosa*
Chenopodiaceae	*Eriochiton sclerolaenoides*

Family	Taxon
Chenopodiaceae	*Maireana atkinsiana*
Chenopodiaceae	*Maireana carnosa*
Chenopodiaceae	*Maireana convexa*
Chenopodiaceae	*Maireana suaedifolia*
Chenopodiaceae	*Maireana thesioides*
Chenopodiaceae	*Maireana trichoptera*
Chenopodiaceae	*Maireana triptera*
Chenopodiaceae	*Rhagodia eremaea*
Chenopodiaceae	*Rhagodia preissii* subsp. *preissii*
Chenopodiaceae	*Salsola australis*
Chenopodiaceae	*Sclerolaena burbidgeae*
Chenopodiaceae	*Sclerolaena densiflora*
Chenopodiaceae	*Sclerolaena eriacantha*
Chenopodiaceae	*Sclerolaena eurotioides*
Chenopodiaceae	*Sclerolaena fusiformis*
Chenopodiaceae	*Sclerolaena gardneri*
Chenopodiaceae	*Sclerolaena recurvicuspis*
Colchicaceae	*Wurmbea inframediana*
Colchicaceae	*Wurmbea murchisoniana*
Colchicaceae	*Wurmbea tenella*
Convolvulaceae	*Duperreya commixta*
Convolvulaceae	*Duperreya sericea*
Crassulaceae	*Crassula colorata*
Crassulaceae	*Crassula colorata* var. *acuminata*
Cyperaceae	*Lepidosperma* sp. Wolga Rock (S.D.Hopper 6513)
Cyperaceae	*Schoenus variicellae*
Droseraceae	*Drosera finlaysoniana*
Droseraceae	*Drosera glanduligera*
Droseraceae	*Drosera macrantha* subsp. *eremaea*
Elatinaceae	*Bergia perennis* subsp. *exigua*
Euphorbiaceae	*Calycopeplus paucifolius*
Euphorbiaceae	*Euphorbia drummondii*
Euphorbiaceae	*Euphorbia porcata*
Euphorbiaceae	*Ricinocarpos muricatus*
Fabaceae	*Acacia anthochaera*
Fabaceae	*Acacia aptaneura*

Family	Taxon
Fabaceae	*Acacia aulacophylla*
Fabaceae	*Acacia burkittii*
Fabaceae	*Acacia caesaneura*
Fabaceae	*Acacia cockertoniana*
Fabaceae	*Acacia craspedocarpa*
Fabaceae	*Acacia cyperophylla*
Fabaceae	*Acacia daviesioides*
Fabaceae	*Acacia exocarpoides*
Fabaceae	*Acacia grasbyi*
Fabaceae	*Acacia incurvaneura*
Fabaceae	*Acacia kalgoorliensis*
Fabaceae	*Acacia lapidosa*
Fabaceae	*Acacia ligulata*
Fabaceae	*Acacia macraneura*
Fabaceae	*Acacia masliniana*
Fabaceae	*Acacia murrayana*
Fabaceae	*Acacia palustris*
Fabaceae	*Acacia prainii*
Fabaceae	*Acacia pruinocarpa*
Fabaceae	*Acacia pteraneura*
Fabaceae	*Acacia ramulosa*
Fabaceae	*Acacia ramulosa* var. *linophylla*
Fabaceae	*Acacia ramulosa* var. *ramulosa*
Fabaceae	*Acacia rhodophloia*
Fabaceae	*Acacia saligna* subsp. Wheatbelt (B.R.Maslin 8602)
Fabaceae	*Acacia scleroclada*
Fabaceae	*Acacia sclerosperma*
Fabaceae	*Acacia sclerosperma* subsp. *sclerosperma*
Fabaceae	*Acacia sibina*
Fabaceae	*Acacia sibirica*
Fabaceae	*Acacia* sp. (Townsville)
Fabaceae	*Acacia* sp. Weld Range (A.Markey & S.Dillon 2994)
Fabaceae	*Acacia speckii*
Fabaceae	*Acacia subsessilis*
Fabaceae	*Acacia synchronicia*
Fabaceae	*Acacia tetragonophylla*

Family	Taxon
Fabaceae	*Acacia tysonii*
Fabaceae	*Acacia umbraculiformis*
Fabaceae	*Acacia victoriae*
Fabaceae	*Acacia victoriae* subsp. *victoriae*
Fabaceae	*Acacia wilcoxii*
Fabaceae	*Acacia wiseana*
Fabaceae	*Cullen cinereum*
Fabaceae	*Gastrolobium laytonii*
Fabaceae	*Glycine canescens*
Fabaceae	*Jacksonia lanicarpa*
Fabaceae	*Medicago minima*
Fabaceae	*Medicago polymorpha*
Fabaceae	*Mirbelia microphylla*
Fabaceae	*Mirbelia rhagodioides*
Fabaceae	*Muelleranthus trifoliolatus*
Fabaceae	*Senna artemisioides*
Fabaceae	*Senna artemisioides* subsp. *filifolia*
Fabaceae	*Senna artemisioides* subsp. *helmsii*
Fabaceae	*Senna artemisioides* subsp. *x petiolaris*
Fabaceae	*Senna artemisioides* subsp. *x sturtii*
Fabaceae	*Senna charlesiana*
Fabaceae	*Senna glutinosa* subsp. *chatelainiana*
Fabaceae	*Senna* sp. Austin (A.Strid 20210)
Fabaceae	*Senna* sp. Meekatharra (E.Bailey 1-26)
Fabaceae	*Senna symonii*
Fabaceae	*Swainsona affinis*
Fabaceae	*Swainsona elegans*
Fabaceae	*Swainsona gracilis*
Fabaceae	*Swainsona rostellata*
Fabaceae	*Swainsona tenuis*
Fabaceae	*Trigonella suavissima*
Fabaceae	*Vachellia farnesiana* var. *farnesiana*
Frankeniaceae	*Frankenia cinerea*
Frankeniaceae	*Frankenia confusa*
Frankeniaceae	*Frankenia cordata*
Frankeniaceae	*Frankenia irregularis*

Family	Taxon
Frankeniaceae	*Frankenia laxiflora*
Frankeniaceae	*Frankenia sessilis*
Frankeniaceae	*Frankenia setosa*
Geraniaceae	*Erodium crinitum*
Geraniaceae	*Erodium cygnorum*
Goodeniaceae	*Brunonia australis*
Goodeniaceae	*Dampiera eriocephala*
Goodeniaceae	*Dampiera roycei*
Goodeniaceae	*Goodenia berardiana*
Goodeniaceae	*Goodenia havilandii*
Goodeniaceae	*Goodenia kingiana*
Goodeniaceae	*Goodenia mimuloides*
Goodeniaceae	*Goodenia occidentalis*
Goodeniaceae	*Goodenia pusiliflora*
Goodeniaceae	*Goodenia* sp. Midwest (K.A.Shepherd & C.F.Wilkins KS 1609)
Goodeniaceae	*Scaevola spinescens*
Goodeniaceae	*Velleia cycnopotamica*
Goodeniaceae	*Velleia rosea*
Gyrostemonaceae	*Codonocarpus cotinifolius*
Haloragaceae	*Haloragis odontocarpa f. rugosa*
Haloragaceae	*Haloragis trigonocarpa*
Hemerocallidaceae	*Dianella revoluta*
Hypericaceae	*Hypericum gramineum*
Juncaceae	*Juncus aridicola*
Juncaginaceae	*Triglochin* sp. A Flora of Australia (G.J.Keighery 2477)
Lamiaceae	*Dicrastylis linearifolia*
Lamiaceae	*Hemigenia benthamii*
Lamiaceae	*Hemigenia* sp. Yalgoo (A.M.Ashby 2624)
Lamiaceae	*Hemigenia yalgensis*
Lamiaceae	*Prostanthera albiflora*
Lamiaceae	*Prostanthera althoferi* subsp. *althoferi*
Lamiaceae	*Prostanthera campbellii*
Lamiaceae	*Prostanthera gryllioana*
Lamiaceae	*Prostanthera patens*
Lamiaceae	*Salvia verbenaca*
Lamiaceae	*Teucrium teucriiflorum*

Family	Taxon
Loranthaceae	*Amyema miraculosa* subsp. *boormanii*
Loranthaceae	*Amyema nestor*
Loranthaceae	*Lysiana casuarinae*
Loranthaceae	*Lysiana murrayi*
Malvaceae	*Abutilon cryptopetalum*
Malvaceae	*Abutilon leucopetalum*
Malvaceae	*Abutilon otocarpum*
Malvaceae	*Abutilon oxycarpum* subsp. Prostrate (A.A.Mitchell PRP 1266)
Malvaceae	*Androcalva luteiflora*
Malvaceae	*Hibiscus coatesii*
Malvaceae	*Hibiscus* sp. Gardneri (A.L.Payne PRP 1435)
Malvaceae	*Lawrencia glomerata*
Malvaceae	*Lawrencia helmsii*
Malvaceae	*Malva parviflora*
Malvaceae	*Seringia exastia*
Malvaceae	*Seringia integrifolia*
Malvaceae	*Seringia velutina*
Malvaceae	*Sida calyxhymenia*
Malvaceae	*Sida petrophila*
Malvaceae	*Sida phaeotricha*
Malvaceae	*Sida rohlenae*
Malvaceae	*Sida* sp. dark green fruits (S.van Leeuwen 2260)
Malvaceae	*Sida* sp. Golden calyces pubescent (G.J.Leach 1966)
Malvaceae	*Sida* sp. spiciform panicles (E.Leyland s.n. 14/8/1990)
Marsileaceae	*Marsilea hirsuta*
Myrtaceae	*Aluta aspera* subsp. *hesperia*
Myrtaceae	*Callistemon phoeniceus*
Myrtaceae	*Calytrix desolata*
Myrtaceae	*Calytrix divergens*
Myrtaceae	*Calytrix erosipetala*
Myrtaceae	*Chamelaucium* sp. Yalgoo (Y.Chadwick 1816)
Myrtaceae	*Eucalyptus eremicola* subsp. *peeneri*
Myrtaceae	*Eucalyptus gypsophila*
Myrtaceae	*Eucalyptus kochii* subsp. *borealis*
Myrtaceae	*Eucalyptus leptopoda* subsp. *elevata*
Myrtaceae	*Eucalyptus petraea*

Family	Taxon
Myrtaceae	*Eucalyptus striaticalyx*
Myrtaceae	*Eucalyptus victrix*
Myrtaceae	*Homalocalyx thryptomenoides*
Myrtaceae	*Melaleuca eleuterostachya*
Myrtaceae	*Melaleuca stereophloia*
Myrtaceae	*Melaleuca strobophylla*
Myrtaceae	*Micromyrtus flaviflora*
Myrtaceae	*Micromyrtus sulphurea*
Myrtaceae	*Thryptomene costata*
Myrtaceae	*Thryptomene decussata*
Myrtaceae	*Thryptomene johnsonii*
Myrtaceae	*Verticordia jamiesonii*
Nyctaginaceae	*Commicarpus australis*
Orchidaceae	*Microtis eremaea*
Orchidaceae	*Prasophyllum gracile*
Orchidaceae	*Pterostylis setulosa*
Phrymaceae	*Elacholoma hornii*
Phrymaceae	*Peplidium muelleri*
Phyllanthaceae	*Phyllanthus erwinii*
Phyllanthaceae	*Poranthera microphylla*
Phyllanthaceae	*Sauropus* sp. Woolgorong (M.Officer s.n. 10/8/94)
Picrodendraceae	*Stachystemon intricatus*
Pittosporaceae	*Bursaria occidentalis*
Pittosporaceae	*Cheiranthera simplicifolia*
Pittosporaceae	*Pittosporum angustifolium*
Plantaginaceae	*Plantago debilis*
Plantaginaceae	*Plantago drummondii*
Plantaginaceae	*Stemodia viscosa*
Plumbaginaceae	*Muellerolimon salicorniaceum*
Poaceae	*Alopecurus geniculatus*
Poaceae	*Aristida contorta*
Poaceae	*Austrostipa nitida*
Poaceae	*Cenchrus ciliaris*
Poaceae	*Cymbopogon ambiguus*
Poaceae	*Ehrharta longiflora*
Poaceae	*Enneapogon caerulescens*

Family	Taxon
Poaceae	*Eragrostis dielsii*
Poaceae	*Eragrostis eriopoda*
Poaceae	*Eragrostis falcata*
Poaceae	*Eragrostis lanipes*
Poaceae	*Eragrostis setifolia*
Poaceae	*Eriachne mucronata*
Poaceae	*Eriachne ovata*
Poaceae	*Eriachne pulchella*
Poaceae	*Eriachne pulchella* subsp. *pulchella*
Poaceae	*Iseilema dolichotrichum*
Poaceae	*Monachather paradoxus*
Poaceae	*Paspalidium clementii*
Poaceae	*Pentameris airoides*
Poaceae	*Themeda triandra*
Poaceae	*Thyridolepis mitchelliana*
Poaceae	*Thyridolepis multiculmis*
Poaceae	*Triodia tomentosa*
Polygalaceae	*Comesperma volubile*
Polygonaceae	*Muehlenbeckia adpressa*
Polygonaceae	*Rumex hypogaeus*
Polygonaceae	*Rumex vesicarius*
Portulacaceae	*Calandrinia creethae*
Portulacaceae	*Calandrinia eremaea*
Portulacaceae	*Calandrinia papillata*
Portulacaceae	*Calandrinia ptychosperma*
Portulacaceae	*Calandrinia pumila*
Portulacaceae	*Calandrinia remota*
Portulacaceae	*Calandrinia* sp. Bungalbin (G.J.Keighery & N.Gibson 1656)
Portulacaceae	*Portulaca oleracea*
Proteaceae	*Grevillea deflexa*
Proteaceae	*Grevillea eriostachya*
Proteaceae	*Grevillea hakeoides* subsp. *stenophylla*
Proteaceae	*Grevillea juncifolia* subsp. *juncifolia*
Proteaceae	*Grevillea levis*
Proteaceae	*Grevillea nematophylla* subsp. *supraplana*
Proteaceae	*Grevillea obliquistigma*

Family	Taxon
Proteaceae	*Grevillea obliquistigma* subsp. *obliquistigma*
Proteaceae	*Grevillea sarissa* subsp. *sarissa*
Proteaceae	*Hakea lorea*
Proteaceae	*Hakea preissii*
Proteaceae	*Hakea recurva* subsp. *arida*
Proteaceae	*Hakea recurva* subsp. *recurva*
Proteaceae	*Persoonia stricta*
Proteaceae	*Petrophile pauciflora*
Proteaceae	*Petrophile vana*
Pteridaceae	*Cheilanthes sieberi*
Pteridaceae	*Cheilanthes* sp. (Prince Regent NT)
Rubiaceae	*Psydrax latifolia*
Rubiaceae	*Psydrax suaveolens*
Rutaceae	*Philotheca brucei* subsp. *brucei*
Rutaceae	*Philotheca sericea*
Santalaceae	*Exocarpos aphyllus*
Santalaceae	*Santalum acuminatum*
Santalaceae	*Santalum lanceolatum*
Santalaceae	*Spirogardnera rubescens*
Sapindaceae	*Dodonaea adenophora*
Sapindaceae	*Dodonaea inaequifolia*
Sapindaceae	*Dodonaea microzyga* var. *acrolobata*
Sapindaceae	*Dodonaea pachyneura*
Sapindaceae	*Dodonaea petiolaris*
Sapindaceae	*Dodonaea pinifolia*
Sapindaceae	*Dodonaea viscosa* subsp. *angustissima*
Scrophulariaceae	*Eremophila alternifolia*
Scrophulariaceae	*Eremophila clarkei*
Scrophulariaceae	*Eremophila compacta* subsp. *compacta*
Scrophulariaceae	*Eremophila eriocalyx*
Scrophulariaceae	*Eremophila exilifolia*
Scrophulariaceae	*Eremophila foliosissima*
Scrophulariaceae	*Eremophila forrestii*
Scrophulariaceae	*Eremophila forrestii* subsp. *forrestii*
Scrophulariaceae	*Eremophila galeata*
Scrophulariaceae	*Eremophila georgei*

Family	Taxon
Scrophulariaceae	*Eremophila gilesii* subsp. *variabilis*
Scrophulariaceae	*Eremophila glabra* subsp. *tomentosa*
Scrophulariaceae	*Eremophila glutinosa*
Scrophulariaceae	*Eremophila hughesii*
Scrophulariaceae	*Eremophila latrobei*
Scrophulariaceae	*Eremophila latrobei* subsp. *latrobei*
Scrophulariaceae	*Eremophila longifolia*
Scrophulariaceae	*Eremophila mackinlayi* subsp. *spathulata*
Scrophulariaceae	*Eremophila miniata*
Scrophulariaceae	*Eremophila muelleriana*
Scrophulariaceae	*Eremophila oldfieldii* subsp. *angustifolia*
Scrophulariaceae	*Eremophila oppositifolia* subsp. *angustifolia*
Scrophulariaceae	*Eremophila pantonii*
Scrophulariaceae	*Eremophila platycalyx* subsp. Granites (D.J.Edinger & G.Marsh DJE 4782)
Scrophulariaceae	*Eremophila platycalyx* subsp. *platycalyx*
Scrophulariaceae	*Eremophila platycalyx* subsp. Yalgoo (A.Markey & S.Dillon 3337)
Scrophulariaceae	*Eremophila pterocarpa*
Scrophulariaceae	*Eremophila punicea*
Scrophulariaceae	*Eremophila serrulata*
Scrophulariaceae	*Eremophila shonae* subsp. *shonae*
Scrophulariaceae	*Eremophila simulans* subsp. *lapidensis*
Scrophulariaceae	*Eremophila simulans* subsp. *megacalyx*
Scrophulariaceae	*Eremophila simulans* subsp. *simulans*
Scrophulariaceae	*Eremophila youngii*
Scrophulariaceae	*Eremophila youngii* subsp. *youngii*
Scrophulariaceae	*Myoporum montanum*
Solanaceae	*Lycium australe*
Solanaceae	*Nicotiana cavicola*
Solanaceae	*Nicotiana occidentalis* subsp. *obliqua*
Solanaceae	*Nicotiana rosulata*
Solanaceae	*Solanum cleistogamum*
Solanaceae	*Solanum ferocissimum*
Solanaceae	*Solanum lasiophyllum*
Solanaceae	*Solanum nigrum*
Solanaceae	*Solanum orbiculatum* subsp. *orbiculatum*
Stylidiaceae	*Levenhookia leptantha*
Stylidiaceae	*Stylidium longibracteatum*
Stylidiaceae	*Stylidium warriedarense*
Tamaricaceae	*Tamarix aphylla*
Thymelaeaceae	*Pimelea microcephala* subsp. *microcephala*
Zygophyllaceae	*Roepera aurantiaca*
Zygophyllaceae	*Roepera aurantiaca* subsp. *aurantiaca*
Zygophyllaceae	*Roepera eichleri*
Zygophyllaceae	*Roepera eremaea*
Zygophyllaceae	*Roepera ovata*
Zygophyllaceae	*Tribulus astrocarpus*
Zygophyllaceae	*Tribulus forrestii*

TERRESTRIAL VERTEBRATE FAUNA FLORA

Class	Family	Taxon	Vernacular Name
Amphibia	Limnodynastidae	*Neobatrachus kunapalari*	Wheatbelt Frog
Amphibia	Limnodynastidae	*Neobatrachus sutor*	Shoemaker Frog
Amphibia	Limnodynastidae	*Neobatrachus wilsmorei*	Goldfields Bullfrog
Amphibia	Limnodynastidae	*Platyplectrum spenceri*	Spencer's Burrowing Frog
Amphibia	Myobatrachidae	*Pseudophryne*	
Amphibia	Myobatrachidae	*Pseudophryne occidentalis*	Orange-crowned Toadlet
Amphibia	Pelodryadidae	*Cyclorana occidentalis*	
Amphibia	Pelodryadidae	*Cyclorana platycephala*	Water-holding Frog
Amphibia	Pelodryadidae	*Litoria rubella*	Little Red Tree Frog
Aves	Acanthizidae	*Acanthiza (Acanthiza) apicalis*	Red-rumped Tit
Aves	Acanthizidae	*Acanthiza (Geobasileus) chrysorrhoa*	Yellow-rumped Thornbill
Aves	Acanthizidae	*Acanthiza (Geobasileus) iredalei*	Slender-billed Thornbill
Aves	Acanthizidae	*Acanthiza (Geobasileus) uropygialis*	Chestnut-rumped Thornbill
Aves	Acanthizidae	*Acanthiza (Milligania) robustirostris*	Slaty-backed Thornbill
Aves	Acanthizidae	*Aphelocephala leucopsis*	Southern Whiteface
Aves	Acanthizidae	*Aphelocephala nigricincta*	Banded Whiteface
Aves	Acanthizidae	*Gerygone fusca*	Western Gerygone
Aves	Acanthizidae	*Gerygone olivacea olivacea*	Eastern White-throated Gerygone

Class	Family	Taxon	Vernacular Name
Aves	Acanthizidae	*Pyrrholaemus brunneus*	Redthroat
Aves	Acanthizidae	*Smicrornis brevirostris*	Weebill
Aves	Accipitridae	*Accipiter (Leucospiza) fasciatus*	Brown Goshawk
Aves	Accipitridae	*Accipiter (Paraspizias) cirrocephalus*	Collared Sparrowhawk
Aves	Accipitridae	*Aquila (Uroaetus) audax*	Wedge-tailed Eagle
Aves	Accipitridae	*Circus approximans*	Swamp Harrier
Aves	Accipitridae	*Circus assimilis*	Spotted Harrier
Aves	Accipitridae	*Elanus axillaris*	Black-shouldered Kite
Aves	Accipitridae	*Haliastur sphenurus*	Whistling Kite
Aves	Accipitridae	*Hamirostra melanosternon*	Black-breasted Buzzard
Aves	Accipitridae	*Hieraaetus (Hieraaetus) morphnoides*	Little Eagle
Aves	Accipitridae	*Lophoictinia isura*	Square-tailed Kite
Aves	Accipitridae	*Milvus migrans*	Black Kite
Aves	Aegothelidae	*Aegotheles (Aegotheles) cristatus*	Australian Owlet-nightjar
Aves	Alcedinidae	*Todiramphus (Cyanalcyon) pyrrhopygius*	Red-backed Kingfisher
Aves	Alcedinidae	*Todiramphus (Todiramphus) sanctus*	Sacred Kingfisher
Aves	Anatidae	*Anas (Anas) superciliosa*	Pacific Black Duck
Aves	Anatidae	*Anas (Nettion) castanea*	Chestnut Teal
Aves	Anatidae	*Anas gracilis*	Grey Teal
Aves	Anatidae	*Aythya (Nyroca) australis*	Hardhead
Aves	Anatidae	*Chenonetta jubata*	Australian Wood Duck
Aves	Anatidae	*Cygnus atratus*	Black Swan
Aves	Anatidae	*Malacorhynchus membranaceus*	Pink-eared Duck
Aves	Anatidae	*Spatula rhynchotis*	Australasian Shoveler
Aves	Anatidae	*Tadorna (Casarca) tadornoides*	Australian Shelduck
Aves	Apodidae	*Apus (Apus) pacificus*	Fork-tailed Swift
Aves	Ardeidae	*Ardea alba modesta*	Great Egret
Aves	Ardeidae	*Ardea pacifica*	White-necked Heron
Aves	Ardeidae	*Egretta novaehollandiae*	White-faced Heron
Aves	Artamidae	*Artamus (Angroyan) cinereus*	Black-faced Woodswallow
Aves	Artamidae	*Artamus (Angroyan) cyanopterus*	Dusky Woodswallow
Aves	Artamidae	*Artamus (Angroyan) minor*	Little Woodswallow
Aves	Artamidae	*Artamus (Campbellornis) personatus*	Masked Woodswallow
Aves	Artamidae	*Artamus (Campbellornis) superciliosus*	White-browed Woodswallow
Aves	Artamidae	*Cracticus nigrogularis*	Pied Butcherbird
Aves	Artamidae	*Cracticus torquatus*	Grey Butcherbird
Aves	Artamidae	*Gymnorhina tibicen*	Australian Magpie
Aves	Artamidae	*Strepera (Neostrepera) versicolor*	Grey Currawong
Aves	Burhinidae	*Burhinus (Burhinus) grallarius*	Bush Stone-curlew
Aves	Cacatuidae	*Cacatua (Licmetis) sanguinea*	Little Corella
Aves	Cacatuidae	*Calyptorhynchus (Calyptorhynchus) banksii*	Red-tailed Black Cockatoo
Aves	Cacatuidae	*Eolophus roseicapilla*	Galah
Aves	Cacatuidae	*Nymphicus hollandicus*	Cockatiel
Aves	Campephagidae	*Coracina (Coracina) novaehollandiae*	Black-faced Cuckoo-shrike
Aves	Campephagidae	*Coracina (Coracina) novaehollandiae novaehollandiae*	Tasmanian Black-faced Cuckoo-shrike
Aves	Campephagidae	*Coracina (Pteropodocys) maxima*	Ground Cuckoo-shrike
Aves	Campephagidae	*Lalage (Lalage) tricolor*	White-winged Triller
Aves	Caprimulgidae	*Eurostopodus (Eurostopodus) argus*	Spotted Nightjar
Aves	Casuariidae	*Dromaius novaehollandiae*	Emu
Aves	Charadriidae	*Charadrius (Charadrius) ruficapillus*	Red-capped Plover
Aves	Charadriidae	*Elseyornis melanops*	Black-fronted Dotterel
Aves	Charadriidae	*Erythrogonys cinctus*	Red-kneed Dotterel
Aves	Charadriidae	*Vanellus (Lobivanellus) tricolor*	Banded Lapwing
Aves	Cinclosomatidae	*Cinclosoma (Samuela) castanothorax*	Chestnut-breasted Quail-thrush
Aves	Cinclosomatidae	*Cinclosoma (Samuela) marginatum*	Western Quail-thrush
Aves	Climacteridae	*Climacteris (Climacterobates) affinis*	White-browed Treecreeper
Aves	Columbidae	*Geopelia cuneata*	Diamond Dove
Aves	Columbidae	*Geophaps (Lophophaps) plumifera*	Spinifex Pigeon
Aves	Columbidae	*Ocyphaps lophotes*	Crested Pigeon

Class	Family	Taxon	Vernacular Name
Aves	Columbidae	*Phaps (Phaps) chalcoptera*	Common Bronzewing
Aves	Corvidae	*Corvus bennetti*	Little Crow
Aves	Corvidae	*Corvus coronoides*	Australian Raven
Aves	Corvidae	*Corvus orru*	Torresian Crow
Aves	Corvidae	*Corvus orru cecilae*	Australian Torresian Crow
Aves	Cuculidae	*Chalcites basalis*	Horsfield's Bronze-cuckoo
Aves	Cuculidae	*Chalcites osculans*	Black-eared Cuckoo
Aves	Cuculidae	*Heteroscenes pallidus*	Pallid Cuckoo
Aves	Dicaeidae	*Dicaeum (Dicaeum) hirundinaceum*	Mistletoebird
Aves	Estrildidae	*Taeniopygia guttata*	Zebra Finch
Aves	Falconidae	*Falco (Falco) longipennis*	Australian Hobby
Aves	Falconidae	*Falco (Hierofalco) peregrinus*	Peregrine Falcon
Aves	Falconidae	*Falco (Ieracidea) berigora*	Brown Falcon
Aves	Falconidae	*Falco (Tinnunculus) cenchroides*	Nankeen Kestrel
Aves	Hirundinidae	*Cheramoeca leucosterna*	White-backed Swallow
Aves	Hirundinidae	*Hirundo (Hirundo) neoxena*	Welcome Swallow
Aves	Hirundinidae	*Petrochelidon (Hylochelidon) nigricans*	Tree Martin
Aves	Hirundinidae	*Petrochelidon (Petrochelidon) ariel*	Fairy Martin
Aves	Laridae	*Chlidonias (Pelodes) hybrida*	Whiskered Tern
Aves	Laridae	*Gelochelidon nilotica*	Gull-billed Tern
Aves	Locustellidae	*Cincloramphus (Cincloramphus) cruralis*	Brown Songlark
Aves	Locustellidae	*Cincloramphus (Maclennania) mathewsi*	Rufous Songlark
Aves	Maluridae	*Malurus (Leggeornis) assimilis*	Purple-backed Fairy-wren
Aves	Maluridae	*Malurus (Leggeornis) lamberti*	Variegated Fairy-wren
Aves	Maluridae	*Malurus (Malurus) splendens*	Splendid Fairy-wren
Aves	Malurdae	*Malurus (Musciparus) leucopterus*	White-winged Fairy-wren
Aves	Megapodiidae	*Leipoa ocellata*	Malleefowl
Aves	Meliphagidae	*Acanthagenys rufogularis*	Spiny-cheeked Honeyeater
Aves	Meliphagidae	*Anthochaera (Anthochaera) carunculata*	Red Wattlebird
Aves	Meliphagidae	*Certhionyx (Certhionyx) variegatus*	Pied Honeyeater
Aves	Meliphagidae	*Conopophila (Lacustroica) whitei*	Grey Honeyeater
Aves	Meliphagidae	*Epthianura (Aurepthianura) aurifrons*	Orange Chat
Aves	Meliphagidae	*Epthianura (Epthianura) albifrons*	White-fronted Chat
Aves	Meliphagidae	*Epthianura (Parepthianura) tricolor*	Crimson Chat
Aves	Meliphagidae	*Gavicalis virescens*	Singing Honeyeater
Aves	Meliphagidae	*Lichmera (Lichmera) indistincta*	Brown Honeyeater
Aves	Meliphagidae	*Manorina (Myzantha) flavigula*	Yellow-throated Miner
Aves	Meliphagidae	*Ptilotula penicillata*	White-plumed Honeyeater
Aves	Meliphagidae	*Ptilotula plumula*	Grey-fronted Honeyeater
Aves	Meliphagidae	*Purnella albifrons*	White-fronted Honeyeater
Aves	Meliphagidae	*Sugomel niger*	Black Honeyeater
Aves	Meropidae	*Merops (Merops) ornatus*	Rainbow Bee-eater
Aves	Monarchidae	*Grallina cyanoleuca*	Magpie-lark
Aves	Motacillidae	*Anthus (Anthus) novaeseelandiae*	Australian Pipit
Aves	Motacillidae	*Anthus (Anthus) novaeseelandiae novaeseelandiae*	
Aves	Neosittidae	*Daphoenositta (Neositta) chrysoptera*	Varied Sittella
Aves	Oreoicidae	*Oreoica gutturalis*	Crested Bellbird
Aves	Otididae	*Ardeotis australis*	Australian Bustard
Aves	Pachycephalidae	*Colluricincla (Colluricincla) harmonica*	Grey Shrike-thrush
Aves	Pachycephalidae	*Pachycephala (Alisterornis) rufiventris*	Rufous Whistler
Aves	Pardalotidae	*Pardalotus (Pardalotinus) striatus*	Striated Pardalote
Aves	Pelecanidae	*Pelecanus conspicillatus*	Australian Pelican
Aves	Petroicidae	*Melanodryas (Melanodryas) cucullata*	Hooded Robin
Aves	Petroicidae	*Melanodryas (Melanodryas) cucullata westralensis*	Western Hooded Robin
Aves	Petroicidae	*Microeca (Microeca) fascinans*	Jacky Winter

Class	Family	Taxon	Vernacular Name
Aves	Petroicidae	*Petroica (Petroica) boodang*	Scarlet Robin
Aves	Petroicidae	*Petroica (Petroica) goodenovii*	Red-capped Robin
Aves	Phalacrocoracidae	*Microcarbo melanoleucos*	Little Pied Cormorant
Aves	Phasianidae	*Coturnix (Coturnix) pectoralis*	Stubble Quail
Aves	Podargidae	*Podargus strigoides*	Tawny Frogmouth
Aves	Podicipedidae	*Poliocephalus poliocephalus*	Hoary-headed Grebe
Aves	Podicipedidae	*Tachybaptus novaehollandiae*	Australasian Grebe
Aves	Pomatostomidae	*Pomatostomus (Morganornis) superciliosus*	White-browed Babbler
Aves	Pomatostomidae	*Pomatostomus (Pomatostomus) temporalis*	Grey-crowned Babbler
Aves	Psittacidae	*Barnardius zonarius*	Australian Ringneck
Aves	Psittacidae	*Melopsittacus undulatus*	Budgerigar
Aves	Psittacidae	*Neophema (Neophema) splendida*	Scarlet-chested Parrot
Aves	Psittacidae	*Neopsephotus bourkii*	Bourke's Parrot
Aves	Psittacidae	*Pezoporus occidentalis*	Night Parrot
Aves	Psittacidae	*Psephotellus varius*	Mulga Parrot
Aves	Psophodidae	*Psophodes (Sphenostoma) occidentalis*	Chiming Wedgebill
Aves	Ptilonorhynchidae	*Chlamydera guttata*	Western Bowerbird
Aves	Ptilonorhynchidae	*Chlamydera nuchalis nuchalis*	Western Great Bowerbird
Aves	Rallidae	*Fulica atra*	Eurasian Coot
Aves	Rallidae	*Tribonyx ventralis*	Black-tailed Native-hen
Aves	Recurvirostridae	*Cladorhynchus leucocephalus*	Banded Stilt
Aves	Recurvirostridae	*Himantopus himantopus*	Black-winged Stilt
Aves	Recurvirostridae	*Himantopus himantopus leucocephalus*	Pied Stilt
Aves	Recurvirostridae	*Recurvirostra novaehollandiae*	Red-necked Avocet
Aves	Rhipiduridae	*Rhipidura (Rhipidura) albiscapa*	Grey Fantail
Aves	Rhipiduridae	*Rhipidura (Sauloprocta) leucophrys*	Willie Wagtail
Aves	Scolopacidae	*Tringa (Glottis) nebularia*	Common Greenshank
Aves	Strigidae	*Ninox (Ninox) novaeseelandiae*	Southern Boobook
Aves	Threskiornithidae	*Platalea (Platibis) flavipes*	Yellow-billed Spoonbill
Aves	Threskiornithidae	*Threskiornis moluccus*	Australian White Ibis
Aves	Threskiornithidae	*Threskiornis spinicollis*	Straw-necked Ibis
Aves	Turnicidae	*Turnix (Alphaturnia) velox*	Little Button-quail
Aves	Tytonidae	*Tyto javanica*	Eastern Barn Owl
Mammalia	Bovidae	*Capra hircus*	Goat
Mammalia	Dasyuridae	*Sminthopsis crassicaudata*	Fat-tailed Dunnart
Mammalia	Equidae	*Equus (Equus) caballus*	Horse
Mammalia	Felidae	*Felis catus*	Cat
Mammalia	Leporidae	*Oryctolagus cuniculus*	Rabbit
Mammalia	Macropodidae	*Osphranter rufus*	Red Kangaroo
Mammalia	Molossidae	*Austronomus australis*	White-striped Freetail-bat
Mammalia	Muridae	*Mus musculus*	House Mouse
Mammalia	Muridae	*Notomys alexis*	Spinifex Hopping-mouse
Mammalia	Muridae	*Notomys mitchellii*	Mitchell's Hopping-mouse
Reptilia	Agamidae	*Ctenophorus caudicinctus*	Ring-tailed Dragon
Reptilia	Agamidae	*Ctenophorus nuchalis*	Central Netted Dragon
Reptilia	Agamidae	*Ctenophorus ornatus*	Ornate Dragon
Reptilia	Agamidae	*Ctenophorus reticulatus*	Western Netted Dragon
Reptilia	Agamidae	*Ctenophorus scutulatus*	Lozenge-marked Dragon
Reptilia	Diplodactylidae	*Crenadactylus ocellatus*	South-western Clawless Gecko
Reptilia	Diplodactylidae	*Oedura fimbria*	
Reptilia	Diplodactylidae	*Rhynchoedura ornata*	Western Beaked Gecko
Reptilia	Diplodactylidae	*Strophurus strophurus*	Western Spiny-tailed Gecko
Reptilia	Elapidae	*Pseudonaja modesta*	Ringed Brown Snake
Reptilia	Elapidae	*Simoselaps bertholdi*	Jan's Banded Snake
Reptilia	Elapidae	*Suta fasciata*	Rosen's Snake
Reptilia	Gekkonidae	*Gehyra polka*	
Reptilia	Gekkonidae	*Gehyra punctata*	Spotted Dtella
Reptilia	Gekkonidae	*Gehyra variegata*	Tree Dtella
Reptilia	Gekkonidae	*Heteronotia binoei*	Bynoe's Gecko
Reptilia	Pygopodidae	*Delma tincta*	Excitable Delma
Reptilia	Pythonidae	*Antaresia perthensis*	Pygmy Python

Class	Family	Taxon	Vernacular Name
Reptilia	Scincidae	*Ctenotus leonhardii*	Leonhardi's Ctenotus
Reptilia	Scincidae	*Ctenotus mimetes*	Checker-sided Ctenotus
Reptilia	Scincidae	*Ctenotus schomburgkii*	Schomburgk's Ctenotus
Reptilia	Scincidae	*Ctenotus severus*	Stern Ctenotus
Reptilia	Scincidae	*Egernia depressa*	Pygmy Spiny-tailed Skink
Reptilia	Scincidae	*Egernia stokesii*	Stokes' Skink
Reptilia	Scincidae	*Lerista gerrardii*	Bold-striped Robust Slider
Reptilia	Scincidae	*Lerista lineata*	Perth Slider
Reptilia	Scincidae	*Lerista macropisthopus fusciceps*	
Reptilia	Scincidae	*Lerista nichollsi*	Inland Broad-blazed Slider
Reptilia	Scincidae	*Lerista timida*	Timid Slider
Reptilia	Scincidae	*Liopholis striata*	Nocturnal Desert-skink
Reptilia	Scincidae	*Menetia greyii*	Grey's Menetia
Reptilia	Varanidae	*Varanus caudolineatus*	Stripe-tailed Monitor
Reptilia	Varanidae	*Varanus panoptes rubidus*	

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: 05-Feb-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:	9
Listed Migratory Species:	6

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	9
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:	3
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	2
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

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 may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Leipoa ocellata		
Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
Pezoporus occidentalis		
Night Parrot [59350]	Endangered	Species or species habitat may occur within area
Rostratula australis		
Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
MAMMAL		
Leporillus conditor		
Wopilkara, Greater Stick-nest Rat [137]	Vulnerable	Species or species habitat may occur within area
REPTILE		
Egernia stokesii badia		
Western Spiny-tailed Skink, Baudin Island Spiny-tailed Skink [64483]	Endangered	Species or species habitat known to occur within area
SPIDER		
Idiosoma nigrum		
Shield-backed Trapdoor Spider, Black Rugose Trapdoor Spider [66798]	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 may 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

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
Calidris acuminata		
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may 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 likely 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
Rostratula australis as Rostratula benghalensis (sensu lato)		
Australian Painted Snipe [77037]	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	
Dalgaranga and Noongal Pastoral Leases	NRS Addition - Gazettal in Progress	WA	
Lakeside	National Park	WA	
Lakeside Pastoral Lease	NRS Addition - Gazettal in Progress	WA	

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

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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