

SOUTHERN STAR NVCP APPLICATION SUPPORTING DOCUMENT

M77/198, M77/702, M77/660, L77/105

19 March 2026



**ACRONYMS**

Acronym	Definition
Barto	Barto Gold Mining Pty Ltd
BC Act	<i>Biodiversity Conservation Act 1999</i>
DMPE	Department of Mines, Petroleum and Exploration
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986</i>
ha	Hectare
Km	Kilometre
NVCP	Native Vegetation Clearing Permit
SDP	Surface Disturbance Permit
SXO	Southern Cross Operations
TEC	Threatened Ecological Community
WRL	Waste Rock Landform



EXECUTIVE SUMMARY

Project Title: Southern Star Gold Mine

Area Proposed to be Cleared: Up to 200 ha within a 696 ha boundary

Purpose of Clearing: Gold mining

Barto Gold Mining Pty Ltd (Barto) propose to develop the Southern Star deposit (the Proposal), part of the Southern Cross Operations (SXO), located approximately 50 km southeast of Southern Cross in the eastern part of the Wheatbelt region of Western Australia (**Error! Reference source not found.**).

The clearing of native vegetation within the Proposed Clearing Permit Area requires submission of a Native Vegetation Clearing Permit (NVCP) application, and subsequent approval by the Department of Mines, Petroleum and Exploration (DMPE), in accordance with s 51E of the *Environmental Protection Act 1986* (EP Act). The purpose of this report is to support the NVCP application, which seeks approval for the clearing of up to 200 ha of native vegetation within the Proposed Clearing Permit Area.

An assessment against the Schedule 5, Principles for clearing native vegetation of the EP Act was undertaken. The proposed clearing is not at variance to clearing principles (d), unlikely to be at variance to principles (a), (b), (c), (e), (g), (h), (i), (j) and may be at variance to principle (d).



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1. INTRODUCTION

Barto Gold Mining Pty Ltd (Barto) propose to develop the Southern Star deposit (the Proposal), part of their Southern Cross Operations (SXO), located approximately 50 km southeast of Southern Cross in the eastern part of the wheatbelt region of Western Australia.

Barto have prepared this *Environmental Protection Act 1986* (EP Act) Part V Native Vegetation Clearing Permit (NVCP) application for the Department of Mines, Petroleum and Exploration (DMPE) to seek approval for clearing native vegetation on mining tenements M77/198, M77/702, M77/660, L77/105, L77/167, and L77/106. This document has been prepared to support the NVCP application, which seeks approval for the clearing of up to 200 hectares (ha) of native vegetation within a 696 ha proposed Purpose Permit Area located on these tenements (Figure 1). All mining tenements are owned by Barto.

The application for the NVCP (Purpose Permit) is based primarily on the findings of the Southern Star Flora, Vegetation and Fauna Survey undertaken by Botanica in 2025, the Southern Cross Operations Detailed Flora and Vegetation Consolidation Survey undertaken by Stantec in 2023, and the Southern Cross Operations Terrestrial Fauna & SRE Survey Consolidation by Stantec also in 2023.

1.1. DOCUMENT PURPOSE

The purpose of this document is to provide the necessary information and justification, as prescribed within the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* to seek approval under Part V of the EP Act for the clearing of native vegetation.

This NVCP document is structured to provide the following information:

- Description and map of the proposed Purpose Permit Area proposed for clearing in regard to location, size and purpose.
- Site overview with a brief description of local climate, biogeographic region, geology, land use and land systems, soils, hydrology and hydrogeology.
- Description of the proposed Purpose Permit Area to be cleared in regard to vegetation type, condition and representation in a regional context.
- Identification of any significant flora within the proposed Purpose Permit Area.
- Description of broad fauna habitat within the proposed Purpose Permit Area.



2. TENEMENT HOLDER AUTHORISATION

The proposed Purpose Permit Area lies within the below tenements held by Barto and shown below in Table 2-1 and displayed in Figure 1.

Table 2-1. Applicable tenement details

Tenement	Holder	Area (Ha)	Grant Date	Expiry date
M77/198	Barto Gold Mining Pty Ltd	108.60	21/03/1988	20/03/2030
M77/702		384.25	10/05/1996	09/05/2038
M77/660		430.95	08/08/1995	07/08/2037
L77/105		100.00	28/05/1992	27/05/2027

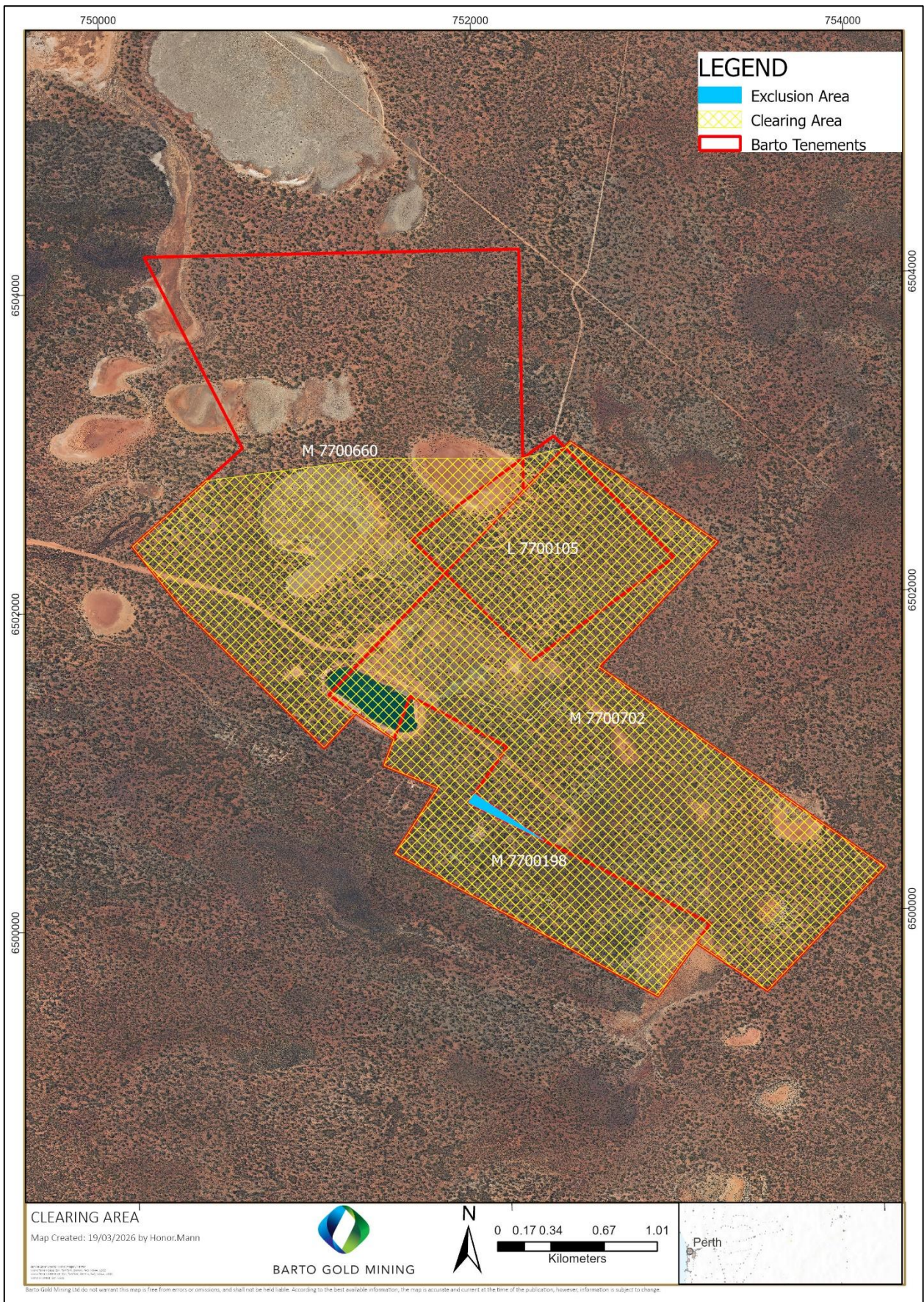


Figure 1: Clearing area and Tenements



3. PROPOSED ACTIVITIES

Barto is proposing to further develop the Southern Star Project to extract gold ore for processing at their Marvel Loch Processing Mill.

Barto will complete a cutback on the previously mined Southern Star open pit and will require clearing for the following additional mine activities, including:

- Open pit void;
- Waste rock landforms (WRL);
- Run-of-mine (ROM) pad;
- Mine water pond;
- Dewatering pipelines;
- Access tracks and haul roads;
- Topsoil stockpiles;
- Surface water diversion channels or drains; and
- Other ancillary infrastructure, as required.

A Mining Development and Closure Proposal (MDCP) for the Project will be submitted to DMPE in conjunction with other supporting approvals required under applicable legislation prior to commencement of activities.

3.1. PURPOSE PERMIT AREA

Barto propose to clear up to 200 ha of native vegetation within the 697 Ha proposed Purpose Permit Area. An indicative site layout within the Purpose Permit Area is shown in Figure 2. Approximately 70 ha of previous disturbance also exists within the permit area.

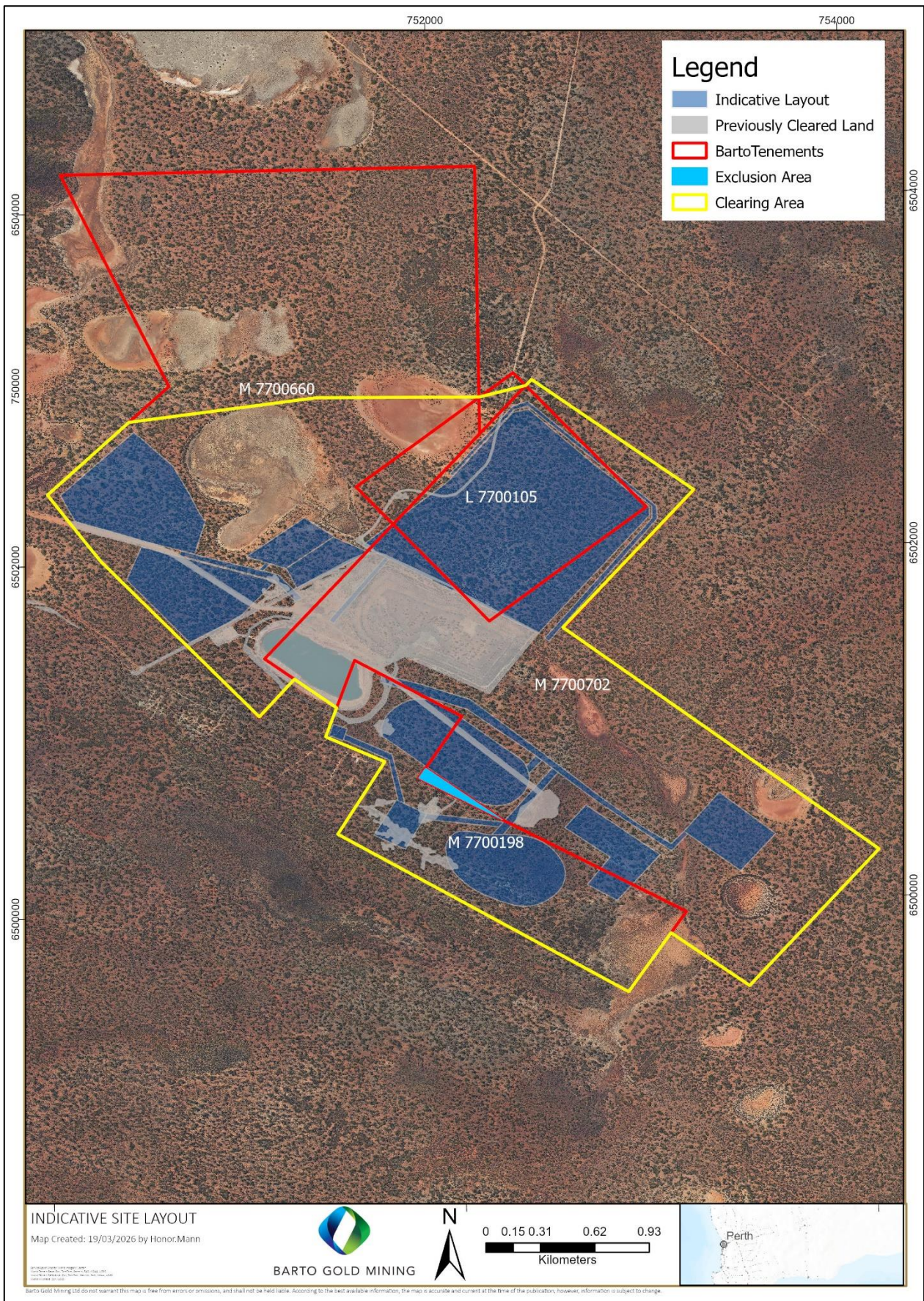


Figure 2: Indicative Site Layout



4. BOTANICAL SURVEYS

Botanica Consulting was commissioned to undertake a detailed flora and reconnaissance level fauna survey for the permit area during spring 2025. The report is available in Appendix A.

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

Barto Gold will implement the following mitigation measures in place to reduce the risks of the potential variance with the clearing principle (f).

- Infrastructure will be placed to avoid the clearing of the riparian zone of clay pans and shallow lakes.
- Where infrastructure cannot be moved from the riparian zone of the drainage line, the clearing will be minimised and water diversions will be created.

Table 4-1: Assessment against native vegetation clearing principles

Principle		Assessment	Outcome
Native vegetation should not be cleared if it:			
(a)	comprises a high level of biological diversity.	Vegetation identified within the survey area is not considered to be of high biological diversity and is well represented outside of 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 assessment did not record any evidence of the presence of significant fauna within the survey area.	Clearing is unlikely to be at variance with this principle
(c)	includes, or is necessary for the continued existence of rare flora.	No Threatened Flora taxa, pursuant to the BC Act and the EPBC Act were identified within the survey area.	Clearing is unlikely to be at variance with this principle
(d)	comprises the whole or part of or is necessary for the maintenance of a threatened ecological community (TEC).	No TEC listed under the EPBC Act or by the BC Act occur within the survey area.	Clearing is not at variance with this principle
(e)	is significant as a remnant of native vegetation in an area that has been extensively cleared	The vegetation associations in the survey area retain >88% of their original pre-European vegetation extent.	Clearing is unlikely to be at variance with this principle
(f)	is growing, in, or in association with, an environment associated with a watercourse or wetland	There is one minor or major drainage lines within the survey area. There are several non-perennial lakes in 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	There are no Reserves in the survey area, the nearest gazetted Reserve is the Jilbadji	Clearing is unlikely to be at variance with this principle



Principle		Assessment	Outcome
Native vegetation should not be cleared if it:			
	values of any adjacent or nearby conservation area.	Nature Reserve which is approximately 6 km east of the survey area.	
(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.	Disturbances within the survey area is not expected to cause deterioration in the quality of water on the surface or underground.	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 Southern Cross subregion has an average rainfall of 250-300mm and an evaporation rate of 2400 mm. 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



5. VEGETATION CLEARING

Vegetation will be cleared by mechanical clearing. Clearing areas will be kept to the minimum required for mine activities and undertaken progressively where possible. Existing disturbances will also be utilised where possible to minimise the amount of new clearing required.

5.2. METHOD OF VEGETATION CLEARING

Prior to clearing, a project specific internal permit will be completed and signed off by the Environmental Department to ensure clearing is being undertaken under a granted native vegetation clearing permit or a valid exemption (i.e., Regulation 20 of the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*). Clearing methodology will also include the following practices:

- Clearing areas will be delineated in accordance with the project specific internal SDP, the clearing boundary will be surveyed and demarcated with survey pegs and/or flagging tape;
- The internal SDP will identify any conditions that apply to the clearing area (including any protected areas / species to be avoided where practicable);
- Clearing will not be undertaken until construction is imminent, minimising erosion and dust risks;
- Vegetation will be removed prior to topsoil stripping 'blade up' with bulldozers or graders within the proposed Purpose Permit Area.;
- Vegetation will typically be stripped and stored to the side of each disturbed area for use in rehabilitation works;
- The upper 200 mm (topsoil) of the soil profile within the proposed disturbance areas is stripped (where possible) and placed in stockpiles (paddock dumped not greater than 2 m in height with adequate distance between them to create a series of mounds and troughs);
- Subsoil may also be stripped and stockpiled separately to ensure adequate capping and growth media is collected, if deemed appropriate;
- Any rock fragments and surface litter present within the soil profiles may be collected and stockpiled with the topsoil; and
- Machinery operators will aim to minimise the frequency and intensity of disturbance, so they do not compromise the structural integrity of the material. Handling of topsoil will be minimised as much as possible, particularly when wet.



6. ENVIRONMENTAL MANAGEMENT

6.1. SIGNIFICANT FLORA MANAGEMENT

Barto aim to reduce impact on all conservation significant species where possible. Where this is unable to be avoided, Barto will:

- Assess if re-designing infrastructure is feasible to allow complete avoidance of impact on any conservation significant species in the first instance;
- If avoidance is not possible, a field inspection will be undertaken to quantify how many individual plants will be removed and records retained; and
- Barto are currently finalising a review of the Flora Management Plan which also addresses actions in response to reducing impact to conservation significant flora species.

6.2. WEED MANAGEMENT

Barto aim to prevent the introduction of weeds and limit the spread of weeds in the proposed Purpose Permit Area as far as practicable. The following management measures may be implemented to minimise the risk of introducing flora into the proposed Purpose Permit Area:

- Weed, Seed and Hygiene Certificates will be presented as verification prior to mobilisation;
- All vehicles and equipment to be cleaned before mobilisation to the proposed Purpose Permit Area, to remove all dirt and vegetative materials;
- Vehicle and equipment washdown will only occur at an appropriate facility;
- Off-road vehicle use will be strictly controlled with no driving permitted off designated roads; and
- Any new weed outbreaks will be recorded in the operation's Incident Reporting system and managed in accordance with site environmental procedures.

6.3. FAUNA MANAGEMENT

Barto will aim to ensure fauna species are not adversely affected, via either direct impacts or impacts to habitat, as far as practicable. The following management measures will be implemented to minimise potential impacts on fauna:

- Pre-clearance inspections for Malleefowl nests will be conducted by the Environment Department within two weeks prior to clearing during the breeding season (September to January) to confirm no active nests are present;
- Awareness training will outline the appropriate behaviour and responses in the event of contact with native fauna
- Native fauna will not be captured, fed, harmed or disturbed. If relocation is required during the clearing process, the site Environmental Department will be contacted;
- All significant fauna deaths will be reported through the site incident reporting system; and
- Open excavations will be monitored regularly to ensure that any trapped fauna are rescued and released as quickly as possible.

6.4. DUST DEPOSITION ON VEGETATION

Barto will aim to minimise fugitive dust emissions and other air quality issues created during Project construction and operation by:



- Using water to suppress dust emission from unsealed roads, stockpiles and work areas as required;
- Ensure that any saline water used is only sprayed within the haul road and cleared infrastructure footprints;
- Where possible, operational activities will be scheduled to avoid high winds that may generate excessive dust; and
- Report any community complaints regarding dust emissions that are deemed excessive as an incident.

6.5. SOIL AND TOPSOIL MANAGEMENT

Topsoil is an important resource for rehabilitation of disturbed sites, which need to be managed effectively during the clearing process. Incorrect management of topsoil can impact upon the soil structure and decrease its usefulness in rehabilitation. Topsoil will be managed by:

- Stockpiling vegetation, topsoil and subsoil as per the SDP and Mining Proposal commitments;
- Striping topsoil to the required depth (approximately 200mm);
- Not using topsoil for construction of windrows or in surface water management;
- Not using saline water for dust suppression during topsoil / subsoil harvesting or rehandling;
- Not storing materials or equipment on topsoil stockpiles;
- Marking out stockpile locations on maps and recording them in a GIS database, along with volumes; and
- Implementing weed, seed and hygiene requirements.

6.6. HYDROCARBON MANAGEMENT

Barto will actively manage the storage and use of hydrocarbon in machinery and vehicles to minimise and contain spills and uncontrolled releases to prevent impacts to vegetation, soil and/or water. Increased vehicle activity during construction and operation may result in hydrocarbon spills; however, Barto aims to minimise such occurrences by ensuring that:

- Hazardous materials are approved prior to site entry;
- Hydrocarbons and chemicals are safely stored; and
- Effective spill clean-up material is readily available at each work site and on all mobile service trucks or vehicles, and where hydrocarbons and chemicals are stored and / or used.



Appendix A: Detailed Flora and Reconnaissance Fauna Survey

SOUTHERN STAR PROJECT

Detailed Flora / Vegetation and Basic Fauna Survey

Prepared for Barto Gold Pty Ltd
January 2026



Prepared by



33 Brewer St PERTH WA 6000 | 0419 916 034

Document Information

Prepared for: Barto Gold Pty Ltd
Project Name: Southern Star Project
Tenements: M77/198, M77/660, M77/702, M77/1308 (**pending**)
Job Reference: Detailed Flora/ Vegetation and Basic Fauna Survey
Job Number: 2025/072
Date: 08/01/2026
Version: Final

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Cover Photo: Woodland in the survey area (Taken 15 October 2025).

Prepared by:	Jennifer Jackson Senior Environmental Consultant Botanica Consulting
Reviewed by:	Andrea Williams Director Botanica Consulting
Approved by:	Jim Williams Director Botanica Consulting

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EXECUTIVE SUMMARY

Botanica Consulting Pty Ltd (Botanica) was commissioned by Barto Gold Pty Ltd (Barto) to undertake both a detailed flora and vegetation survey of the proposed Southern Star Project (referred to as the 'survey area') and a basic fauna survey. This survey area surrounds Barto's existing Southern Star mine and beyond, with an approximate area of 727 ha. It is located approximately 48 km southeast of Southern Cross, Western Australia.

The survey area lies within the Southern Cross (COO02) subregion of the Coolgardie Bioregion, as defined by the Interim Biogeographic Regionalisation of Australia (IBRA). The survey area is within the Shire of Yilgarn.

Botanica conducted the detailed flora and vegetation survey on the 15th to the 16th October 2025. The area was traversed using a four-wheel drive vehicle and on foot by two Botanica personnel.

Six vegetation types were identified within the survey area. These vegetation types were identified within four landform types and comprised of three major vegetation groups. Eighty-two flora taxa were identified within the survey area which were represented by a total of 23 families and 46 genera. Nineteen annual species were present, five of these were an introduced flora.

Based on the vegetation condition rating scale specified in the Environmental Protection Authority (EPA) *Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment – December 2016* (EPA, 2016a), vegetation was rated as 'good' to 'very good'. Disturbances in the area was mostly a result of previous mining and/or exploration activities.

No Threatened Flora or Threatened Ecological Communities as listed under the Western Australian *Biodiversity Conservation (BC) Act 2016* or Commonwealth *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* were identified within the survey area. The Priority 2 *Acacia asepala* has previously been recorded and is still present in the survey area. One Priority Ecological Community, the Priority 3 Parker Range System is present within the survey area.

Four broad scale terrestrial fauna habitat were identified within the survey area. No evidence of conservation significant fauna was observed.

There are no Reserves in the survey area, the nearest gazetted Reserve is the Jilbadji Nature Reserve (R24049) which is approximately 6 km east of the survey area. There are no wetlands of international importance (Ramsar Wetlands) or national importance (Australian Nature Conservation Agency Wetlands) within the survey area.

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 vegetation clearing activities within the survey area may be at variance with clearing principle (f).

1 INTRODUCTION

Botanica Consulting Pty Ltd (Botanica) was commissioned by Barto Gold Pty Ltd (Barto) to undertake both a detailed flora and vegetation survey of the proposed Southern Star Project (referred to as the 'survey area') and a basic fauna survey. This survey area surrounds Barto's existing Southern Star mine and beyond, with an approximate area of 727 ha. It is located approximately 48 km southeast of Southern Cross, Western Australia (Figure 1-1).

1.1 Objectives

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

- Gather background information on flora and vegetation likely to occur in the study area (desktop literature review, databases and map-based searches);
- Conduct a field survey to verify and ground truth the desktop assessment findings through a detailed survey;
- Define and map vegetation communities of the survey area to a scale appropriate for the Bioregion and described according to the National Vegetation Information System (NVIS) classification (NVIS Level V – Association);
- Record the species composition (abundance and diversity) of each vegetation community within the survey area and compile a species list for the survey area by vegetation type;
- Provide quadrat-based data from plots representative of each vegetation type (minimum of three quadrats per vegetation type) according to Environmental Protection Authority (EPA) guidelines;
- Assess the species composition of each quadrat;
- Determine the local and regional conservation significance of flora and vegetation within the survey area;
- Identify and record the locations of any conservation significant flora/vegetation within the survey area;
- Identify and record the locations of any introduced flora species (including Declared Pests) within the survey area;
- Provide a map showing the distribution of conservation significant flora/vegetation within the survey area; and

- Define and map the condition of vegetation within the survey area in accordance with the vegetation condition rating scale specified in the Environmental Protection Authority (EPA) *Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment – December 2016* (EPA, 2016a).

The fauna assessment was conducted in accordance with the requirements of a basic terrestrial vertebrate fauna survey as defined in *Technical Guidance - Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment – June 2020* (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 *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) databases for presence of Threatened and Priority listed fauna species within the survey area.

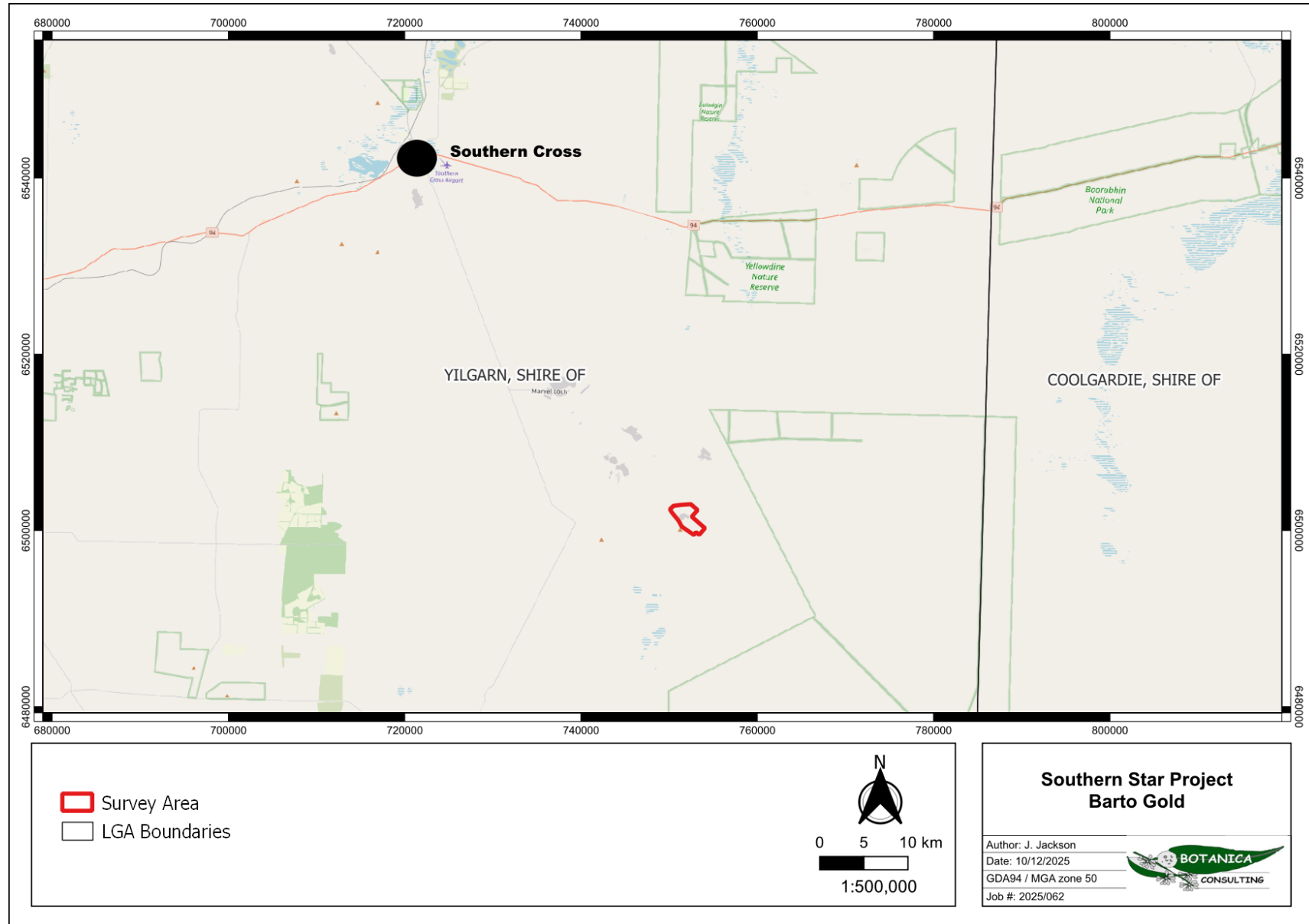


Figure 1-1: Regional map of the survey area

2 REGIONAL BIOPHYSICAL ENVIRONMENT

2.1 Regional Environment

The survey area lies within the Southern Cross (COO02) subregion of the Coolgardie Bioregion, as defined by the Interim Biogeographic Regionalisation of Australia (IBRA) (DCCEEW, 2020) (Figure 2-1).

The Southern Cross subregion is 7,041,232 ha in extent and lies on the Southern Cross terrains of the Yilgarn Craton. It is characterised by subdued relief, comprising gently undulating uplands dissected by broad valleys with bands of low greenstone hills. Valleys have Quaternary duplex and graduated soils and include chains of saline playa-lakes. Upper levels in the landscape are the eroded remnants of a lateritic duricrust yielding yellow sandplains, gravelly sandplains and laterite breakaways. Vegetation consists diverse Eucalyptus woodlands with many endemic species around salt lakes, low greenstone hills, valley alluvials and broad plains of calcareous earths. Typical species include *Eucalyptus salmonophloia*, *E. salubris*, *E. transcontinentalis* and *E. longicornis*. Salt lake surfaces support dwarf samphire shrublands, and granite outcrops in the mid-level landscapes contain swards of *Borya constricta*, with stands of *Acacia acuminata* and *Eucalyptus loxophleba*. Mallees (*Eucalyptus leptopoda*, *E. platycorys* and *E. scyphocalyx*) and scrub-heaths (*Allocasuarina corniculata*, *Callitris preissii*, *Melaleuca uncinata* and *Acacia beauverdiana*) occur in upland areas, as well as on sand lunettes associated with playas along the broad valley floors, and sand sheets around the granite outcrops (Cowan *et al*, 2001).

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

2.2 Land Use

The dominant land uses of the Southern Cross subregion include grazing native pastures (17%), UCL and crown reserves (66.74%), dryland agriculture (2.27%) and conservation reserves (11.53%) (Cowan *et al*, 2001). The survey area is within the Shire of Yilgarn.

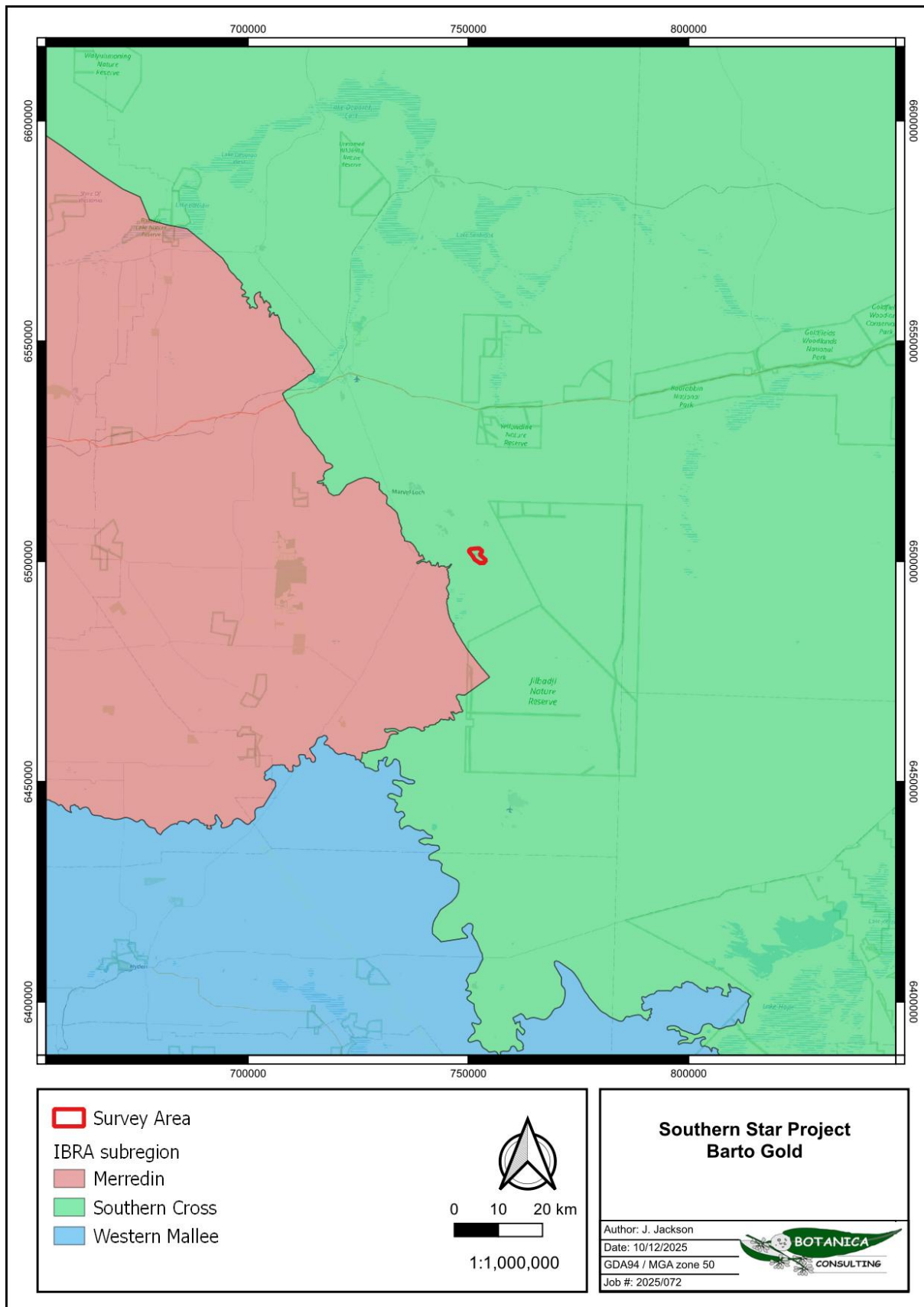


Figure 2-1: Map of IBRA subregions in relation to the survey area

2.3 Soil Landscape Systems

The survey area lies within the Kalgoorlie Province, which is located in the southern Goldfields between Paynes Find, Menzies, Southern Cross and Balladonia. The landscape consists of undulating plains (with some sandplains, hills and salt lakes) on the granitic rocks and greenstone of the Yilgarn Craton. Soils range from calcareous loamy earths and red loamy earths with some salt lake soils to red deep sands, yellow sandy earths, shallow loams and loamy duplexes. Vegetation communities are predominately Eucalypt woodlands with some acacia-casuarina thickets, mulga shrublands, halophytic shrublands and spinifex grasslands (Tille, 2006).

The Kalgoorlie Province is further divided into soil-landscape zones, with the survey area located within the Southern Cross Zone (261). The Southern Cross Zone is comprised of undulating plains and uplands (with some salt lake and low hills) on deeply weathered mantle, colluvium and alluvium over greenstone and granitic rocks of the Yilgarn Craton. Soils consist of calcareous loamy earths, red and yellow loamy earths and alkaline deep and shallow sandy duplexes with some yellow sandy earths, salt lake soils, yellow deep sands and red shallow loamy duplexes. Vegetation includes Salmon gum-gimlet-morrel-York gum woodlands with acacia-casuarina thickets and some mallee, scrub-heath and halophytic shrublands. This zone is located in the eastern Wheatbelt/south-western Goldfields between Bullfinch and Mt Holland (Tille, 2006).

The soil landscape zones are further divided into soil landscape systems, with the survey area located within three landscape systems, as described in described in Table 2-1 and shown in Figure 2-2 (Government of Western Australia, 2019).

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

Zone	Landscape System/ Mapping Unit	Description	Extent within Survey Area
Southern Cross (261)	BB5 System (261BB5)	Rocky ranges and hills of greenstones-basic igneous rocks.	214 ha (29.4%)
	DD15 System (261DD15)	Undulating plains with some low dunes, seasonal lakes, and clay pans.	466 ha (64.1%)
	SV2 System (261SV2)	Saline valleys with some dunes including barchan forms--salt lake channels, mostly devoid of true soils, and their fringing areas.	47 ha (6.5%)
Total			727 ha (100%)



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

2.4 Vegetation

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

2.4.1 Pre-European Vegetation

In accordance with Beard (1990) the survey area is located in the Coolgardie Botanical District of the Southwestern Interzone Province. The Pre-European vegetation association dataset (DPIRD, 2018) identified two vegetation associations occurring within the survey area (Figure 2-3). The association descriptions and their remaining extent within the COO02 IBRA subregion, as specified in Report 3b of the 2018 Statewide Vegetation Statistics (DBCA, 2018) are provided in Table 2-2.

Areas retaining less than 30% of their pre-European vegetation extent generally experience exponentially accelerated species loss, while areas with less than 10% are considered “endangered” (EPA, 2000).

Table 2-2: Beard vegetation associations within the survey area

Pre-European Vegetation	Description	Pre-European Extent Remaining (%)	Current Extent Reserved for Conservation (%)	Extent within Assessment Area
Parker 125	Salt lake, lagoon, clay pan.	100	2.93	33.3 ha (4.6%)
Parker 1068	Woodland, other. Wheatbelt; York gum, salmon gum etc. <i>Eucalyptus loxophleba</i> , <i>E. salmonophloia</i> . Goldfields; gimlet, redwood etc. <i>E. salubris</i> , <i>E. oleosa</i> .	88.22	8.17	693.7 ha (95.4%)



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

2.5 Climate

The climate of the Southern Cross subregion is characterised as an arid to semi-arid warm Mediterranean climate with 250-300 mm of mainly winter rainfall (Cowan *et al*, 2001). Rainfall data for the Southern Cross Airfield weather station (#12320) located approximately 48 km northwest of the survey area is shown in Figure 2-4 (BoM, 2025a). Rainfall received in August and September, prior to the survey, was above average.

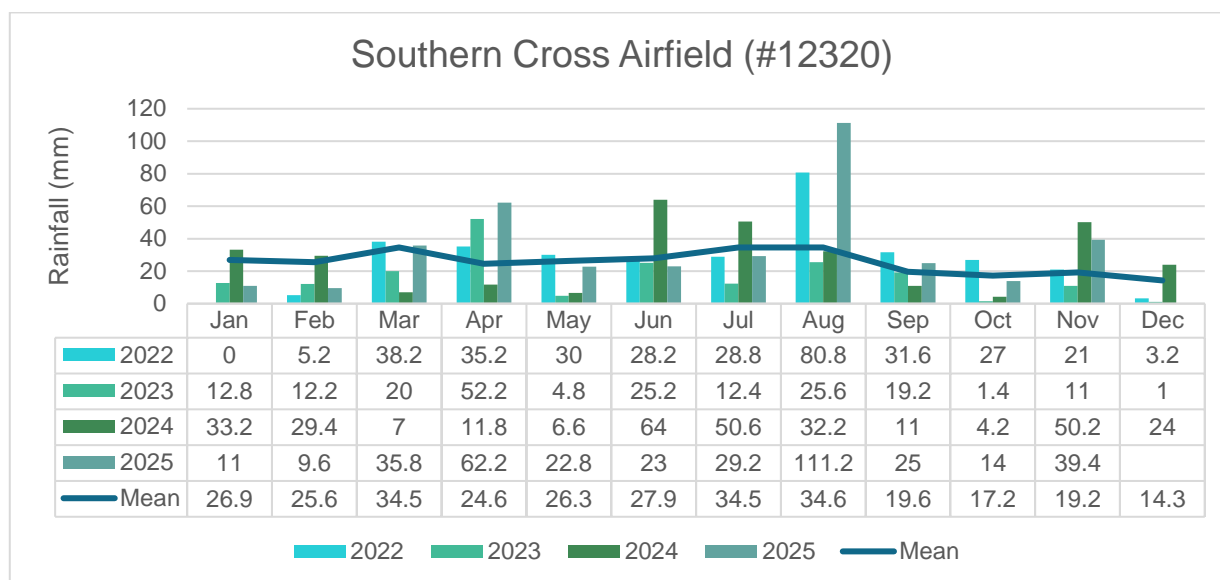


Figure 2-4: Monthly rainfall (January 2022 to November 2025) for the Southern Cross Airfield weather station (#12320) (BoM, 2025a)

2.6 Conservation Values

No Threatened Ecological Communities (TEC) listed under the Commonwealth EPBC Act, or the Western Australian BC Act are known to occur within the survey area. There are several occurrences of the TEC ‘Eucalypt woodlands of the Western Australian Wheatbelt’ within 25 km of the survey area (Figure 2-5). This TEC is listed as a Priority 3 Priority Ecological Community under the WA BC Act. One DBCA listed Priority Ecological Community (PEC) occurs within the survey area (Figure 2-5). The ‘Parker Range System’ is a Priority 3 PEC described as Plant assemblages of the Parker Range System. Note that this data provided by DBCA (DBCA, 2025b) presents the buffer of the communities, and that on-ground surveys are required to define the location of the PEC.

The vegetation of the Parker Range system was originally described by Beard (1979), Gibson and Lyons studied the area in 1994 and went on to describe six vegetation units of the range which are:

- *Eucalyptus sheathiana* with *E. transcontinentalis* and/or *E. eremophila* woodland on sandy soils at the base of ridges and low rises;
- *E. longicornis* with *E. corrugata* and *E. salubris* or *E. myriadena* woodland on broad flats;

- *E. salmonophloia* and *E. salubris* woodland on broad flats;
- *Allocasuarina acutivalvis* and *A. corniculata* on deeper sandy soils of lateritic ridges;
- *E. capillosa* subsp. *polyclada* and/or *E. loxophleba* over *Hakea pendens* thicket on skeletal soils on ridges (laterites, breakaways and massive gossanous caps); and
- *Callitris columellaris* low open woodland on massive greenstone ridges (vegetation units as described in Gibson and Lyons 1998) (DBCA, 2025).

The Southern Cross subregion contains no wetlands of national importance (Cowan *et al*, 2001). There are no Ramsar wetlands or wetlands of national importance (ANCA Wetlands) within the survey area or within 25 km of the survey area.

There are no Reserves in the survey area, the nearest gazetted Reserve is the Jilbadji Nature Reserve (R24049) which is gazetted with the Conservation and Parks Commission of WA for the purposes of 'conservation of flora and fauna'. This reserve is approximately 6 km east of the survey area (Figure 2-5). This Nature Reserve is also listed as an Environmentally Sensitive Area (ESA) as listed under the Environmental Protection Act 1986. There are no ESAs in the survey area.

2.6.1 Great Western Woodlands

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

The Great Western Woodlands provides a connection between southwest forests and inland deserts (Gondwana Link) as well as linking the north-west passage to Shark Bay. The majority of the Great Western Woodlands is unallocated crown land (61.1%) with other interests including pastoral leases (20.4%), conservation reserves (15.4%) unallocated crown land, ex pastoral (2%) managed by the Department of Biodiversity, Conservation and Attractions (DBCA) and private land (approximately 1%).

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

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

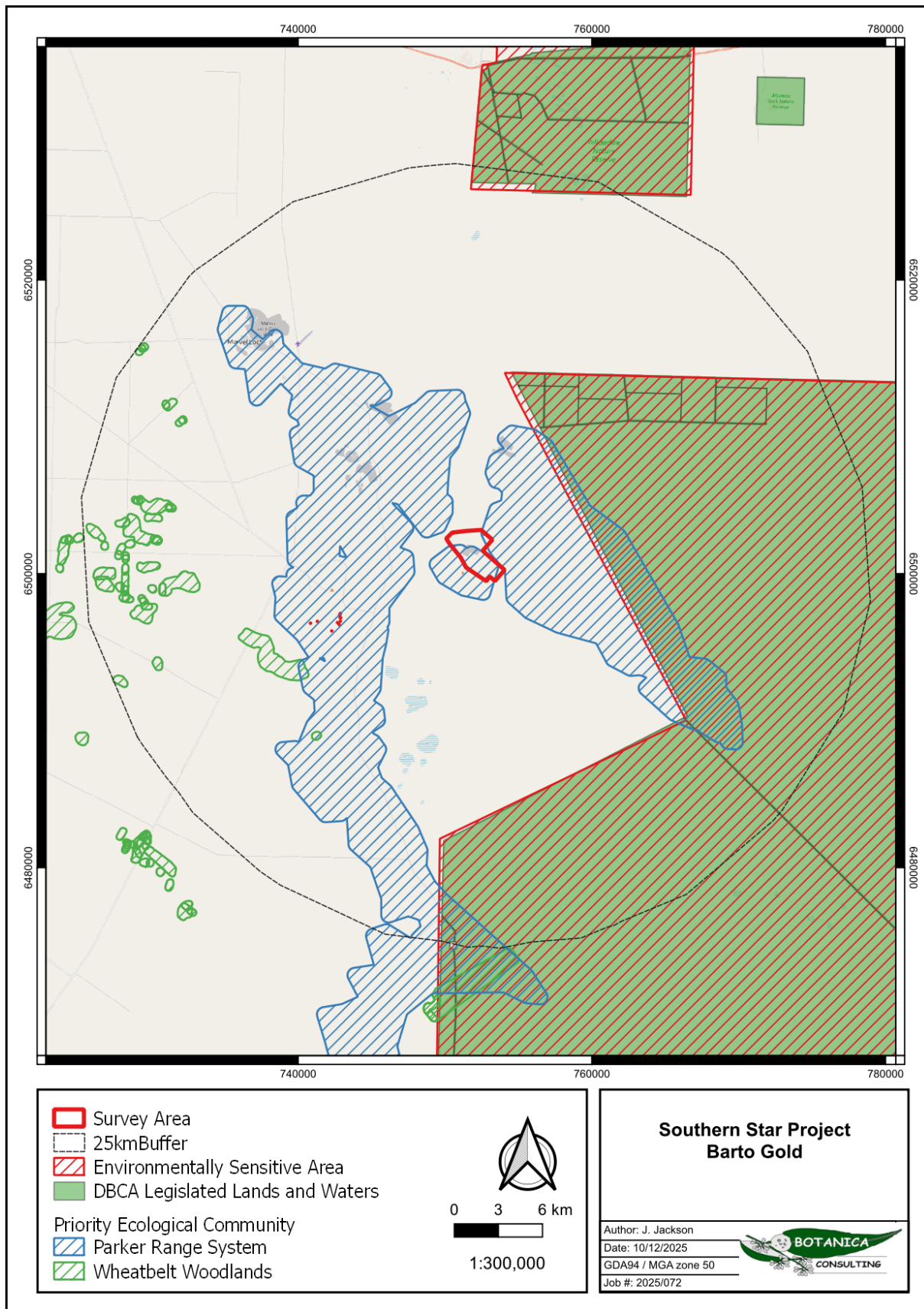


Figure 2-5: Conservation Values in relation to the survey area

2.7 Hydrology

According to the Geoscience Australia database (2015), there are no permanent/ perennial inland waters or drainage lines within the survey area. There is one minor non-perennial drainage line in the survey area. There are several non-perennial lakes in the survey area (Figure 2-6).

Groundwater Dependent Ecosystems (GDE) includes biological assemblages of species such as wetlands or woodlands that use groundwater either opportunistically or as their primary water source. For the purposes of this report, a GDE is defined as any vegetation community that derives part of its water budget from groundwater and must be assumed to have some degree of groundwater dependency. According to the BoM *Atlas of Groundwater Dependent Ecosystems* database (BoM, 2025b), there are no known or potential aquatic GDEs in the survey area, there are no known or potential terrestrial GDEs located within the survey area (Figure 2-6).



Figure 2-6: Regional hydrology of the survey area

3 SURVEY METHODOLOGY

3.1 Desktop Assessment

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

- Botanica Consulting Pty Ltd (2016). *Level 1 Reconnaissance Flora and Vegetation Survey of the Martin's Prospect*. Prepared for Hanking Gold Mining Pty Ltd. April 2016.
- Botanica Consulting Pty Ltd (2021). *Detailed Spring Flora and Basic Fauna Survey: Southern Cross Project Area*. Prepared for Altan Rio Minerals Ltd. March 2021.
- Botanica Consulting Pty Ltd (2022b). *Symes Find Project – Reconnaissance Flora and Vegetation Assessment*. Prepared for Ramelius Resources Ltd. September 2022.
- Botanica Consulting Pty Ltd (2024). *Southern Cross Windfarm: Reconnaissance Flora/ Vegetation Survey and Basic Fauna Assessment*. Prepared for Fortescue Future Industries. January 2024.
- GHD. (2017). *Great Eastern Highway Ghooli SLK 368.43-395: Biological Assessment*. Report prepared for Main Roads Western Australia, January 2017.
- Gibson, N. and Lyons, M. N. (1998). *Floristic and Vegetation of the Eastern Goldfields Ranges: Part 3. Parker Range*. Journal of the Royal Society of Western Australia 81 (119-129).
- Keighery, G. J, McKenzie, N. L and Hall, N. J (eds) (1995). *The Biological Survey of the Eastern Goldfields of Western Australia, Part 11, Boorabbin-Southern Cross Study Area*. Records of the Western Australian Museum, Supplement No. 49, Western Australia.
- Stantec (2021). *Yilgarn Star Flora, Vegetation and Fauna Survey*. Prepared for Barto Gold Mining Pty Ltd. March 2021.
- Stantec (2023). *Southern Cross Operations: Detailed Flora and Vegetation Consolidation Survey*. Prepared for Barto Gold Mining Pty Ltd. September 2023.

Searches of the following databases were undertaken to aid in the compilation of a list of flora taxa and vegetation within the survey area:

- Department of Biodiversity, Conservation and Attractions (DBCA) Priority/ Threatened Flora Database Search (Ref 16-0925FL) (DBCA, 2025a);
- DBCA Priority/ Threatened Fauna Database Search (Ref 71-0825FA) (DBCA, 2025b);
- DBCA Priority/ Threatened Ecological Communities Database Search (Ref 71-0825EC) (DBCA, 2025c);

- DBCA Dandjoo Database (DBCA, 2025d); and
- EPBC Act - Protected Matters Search Tool [PMST] (DCCEEW, 2025).

The Dandjoo and PMST were conducted for an area encompassing a 25 km radius (assessment area) surrounding the survey area. It should be noted that these lists are based on observations from a broader area than the assessment area and therefore may include taxa not present. The databases also often include very old records that may be incorrect or in some cases the taxa in question have become locally or regionally extinct. Information from these sources should therefore be taken as indicative only and local knowledge and information also need to be taken into consideration when determining what actual species may be present within the specific area being investigated.

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

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

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

The assessment categorised fauna species as follows:

- **Would Not Occur:** There is no suitable habitat for the species in the survey area and/or there is no documented record of the species in the general area since records have been kept and/or the species is generally accepted as being locally/regionally extinct (supported by a lack of recent records).
- **Unlikely to Occur:** The survey area is outside of the currently documented distribution for the species in question, or no suitable habitat (type, quality and extent) was identified as being present during the field assessment. Individuals of some species may occur occasionally as

vagrants/transients especially if suitable habitat is located nearby but the site itself would not support a population or part population of the species.

- **Possibly Occurs:** Survey area is within the known distribution of the species in question and habitat of at least marginal quality was identified as likely to be present during the field survey and literature review, supported in some cases by recent records being documented in literature from within or near the survey area. In some cases, while a species may be classified as possibly being present at times, habitat may be marginal (e.g., poor quality, fragmented, limited in extent) and therefore the frequency of occurrence and/or population levels may be low.
- **Known to Occur:** The species in question has been positively identified as being present (for sedentary species) or as using the survey area as habitat for some other purpose (for non-sedentary/mobile species) during field surveys within or near the survey area. This information may have been obtained by direct observation of individuals or by way of secondary evidence (e.g., tracks, foraging debris, scats). In some cases, while a species may be classified as known to occur, habitat may be marginal (e.g., poor quality, fragmented, limited in extent) and therefore the frequency of occurrence and/or population levels may be low.

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

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

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

- Japan Australia Migratory Bird Agreement 1981 (JAMBA)¹;

¹ Most but not all species listed under JAMBA are also specially protected under Specially Protected Species of the BC Act.

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

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

3.2 Flora and Vegetation Field Assessment

Botanica conducted a detailed flora and vegetation survey between the 15th to the 16th October 2025. The survey area was traversed by two people using a four wheel drive vehicle and on foot (Figure 3-1).



Figure 3-1: Survey area boundary, quadrats and GPS tracks traversed in the survey area

3.2.1 Vegetation Mapping

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

At each sample point, the following information was recorded:

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

Vegetation types were classified in accordance with the NVIS Level V-Association classification.

3.2.2 Detailed Flora and Vegetation Survey

Twenty-eight quadrats were established within the survey area (Figure 3-1 and Appendix D). According to the recommended quadrat size specified in the Environmental Protection Authority (EPA) Guidelines, 20 m x 20 m quadrats are recommended for the Coolgardie Bioregion. The quadrats were established by inserting survey markers into the NW corner and measuring the length of the resultant boundaries to verify the quadrats were 20 m x 20 m (square quadrats). The objective was to have at least three quadrats per vegetation type to capture the floristic variations within the survey area. Quadrats were not established within regrowth/ modified vegetation.

Following their establishment and boundary verification, the NW corner of each quadrat was recorded by GPS (Appendix D) and three photographs of the quadrat were taken from the NW corner (Appendix F). All vascular plants within the quadrat were recorded (Appendix C). This included recording of dominant taxa from the upper, middle and lower stratum, and sampling of all unknown taxa. Unknown taxa were identified using Botanica's own reference herbarium and relevant taxonomic keys or by a taxonomic consultant. Data on level of disturbance, presence of coarse fragments on surface, topographical position, elevation, aspect, percentage litter, percentage bare ground, percentage surface rock (bedrock and surface deposits), soil types (colour, profile, field texture and surface type), and vegetation structure were collected from each quadrat (Appendix E). Methods of recording data from these quadrats largely follow those outlined in CSIRO's *Australian Soil and Land Survey Field Handbook* (McDonald *et al.*, 2024) and in accordance with EPA

Guidelines (2016). Presence/absence data of taxa from sample sites were used to compile the representative vegetation types.

3.2.3 Flora Identification

Unknown specimens collected during the survey were identified with the aid of samples housed at the Botanica Herbarium and the Western Australian Herbarium.

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.

3.3.1 PATN Analysis

The PATN software package was used to assess the similarities/ dissimilarities between quadrats based on presence/absence of species. Nineteen annual taxa were recorded during the survey which were excluded from the analysis. Twenty-two Singleton taxa were excluded from the analysis. A total of 41 taxa recorded within the quadrats were included in the analysis.

The analysis produced a quantitative estimate of the relationship between species composition of each quadrat. The classifications were based upon a Bray-Curtis association matrix using a flexible Unweighted Pair Group Arithmetic Mean (UPGMA) method (with a beta value of -0.1) which standardises the data enabling the analysis to be completed. Semi-strong hybrid (SSH) ordination of the quadrat is then undertaken to show spatial relationships between groups and to elucidate possible environmental correlates with the classification.

The analysis also produced a stress value which is a measure of the 'strength' of the analysis (i.e. how well the quadrats are grouped together into the appropriate floristic groups). The lower the stress value the greater the strength of the analysis with a value of less than 0.3 showing that the analysis appropriately grouped quadrats. A stress value greater than 0.3 suggests that the analysis was unable to group quadrats appropriately due to extraneous variables (i.e. other factors influencing differences in floristic groups other than species composition e.g. fire, clearing disturbance etc.).

3.3.2 EstimateS

EstimateS software was used to estimate species richness present using the Chao2 richness estimator. For any number of samples, the estimator uses the existing pattern of species accumulation to estimate the true number of species at a site. The estimators tend to under-estimate species number when sample size is small, hence the estimated number of true species can be seen

to increase with sample size. This software was also used to compute Coleman rarefaction curves estimates which were used to calculate species accumulation curves.

3.4 Terrestrial Fauna Field Assessment

Botanica conducted a basic fauna survey of the survey area from the 15th to the 16th October 2025. The survey area was traversed by two people using a four wheel drive vehicle, and on foot (Figure 3-1).

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.

3.5 Personnel Involved

Table 3-1: Personnel involved with the flora, vegetation and fauna survey/ reporting

Staff Member	Position/ Qualifications	Experience	Tasks conducted during survey
Jim Williams	Environmental Consultant/Botanist/ Director (Diploma of Horticulture)	>30 years' experience across WA	Project Management (Lead Botanist). Flora and vegetation survey- identifying flora species within quadrats and opportunistic flora observations. Identifying and recording vegetation types. Identifying flora species within quadrats and opportunistic flora observations. Mapping vegetation types. Review of report.
Ben Naim	Environmental Consultant (Graduate) (BSc Environmental Management)	2 years experience across WA	Assistance with flora and vegetation survey. Bird surveys, assistance with fauna habitat assessment. Data entry.
Jennifer Jackson	Environmental Consultant (BSc-Honours Environmental Management)	>20 years' experience across WA	Report preparation. Assistance with mapping.

Staff Member	Position/ Qualifications	Experience	Tasks conducted during survey
Lauren Pick	Senior Environmental Consultant (BSc Conservation Biology)	>20 years' experience across WA	Statistical analysis.

3.6 Scientific Licences

Table 3-2: Scientific Licences of Botanica Staff coordinating the survey

Licensed Staff	Permit Number	Valid to
Jim Williams	FB62000457-2 Flora Taking (Biological Assessment) Licence	04/08/2028

3.7 Survey Limitations and Constraints

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

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

Variable	Potential Impact on Survey	Details
Access problems	Not a constraint	The survey was conducted using a four wheel drive vehicle and on foot. Numerous access tracks were present within the survey area providing ease of access.
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) Field Staff: Jim Williams and Ben Naim. Data Interpretation: Jim Williams, Jennifer Jackson and Lauren Pick.
Timing of survey, weather & season	Not a constraint	Fieldwork was undertaken in October during the EPA's recommended primary survey time period for the Interzone (i.e., Spring, September to November), the Spring survey was conducted following above average rainfall received in August and September.
Area disturbance	Not a constraint	The area has been disturbed from previous mining and exploration, feral herbivore grazing and other human impacts; however, vegetation was mostly intact and comprised of native vegetation.
Survey Effort/ Extent	Not a constraint	Survey intensity was appropriate for the size/significance of the area with a detailed flora survey completed to identify vegetation types and significant flora and vegetation.
Availability of contextual information at a regional and local scale	Not a constraint	Conservation significant flora database searches provided by the DBCA were used to identify any potential locations of Threatened/Priority flora species. BoM, DWER, DPIRD, DBCA and DCCEEW databases were reviewed to obtain appropriate regional desktop information on the biophysical environment of the local region. Botanica has conducted numerous surveys within Coolgardie Bioregion and was also able to obtain information about the area from previous research conducted within the area. Results of

Variable	Potential Impact on Survey	Details
		previous assessments in the local area were reviewed to provide context on the local environment.
Data Analysis	Minor constraint	Botanica staff conducting the PATN statistical analyses are not statistical analysts and have basic statistics training. These analyses were used to provide basic information on the relationships between vegetation communities delineated in the field.
Completeness	Not a constraint	<p>In the opinion of Botanica, the survey area was covered sufficiently to identify vegetation assemblages. Fieldwork was undertaken in October during the EPA's recommended primary survey time period for the Interzone (i.e., Spring, September to November). The survey was conducted following above average rainfall received in August and September. As a result all taxa were able to be identified to species level, many annual species were present.</p> <p>The vegetation associations for this study were based on visual descriptions of locations in the field. The distribution of these vegetation associations outside the study area is not known, however vegetation associations identified were categorised via comparison to vegetation distributions throughout WA given on NVIS (DotEE, 2017).</p>

4 RESULTS

4.1 Desktop Assessment

4.1.1 Flora

According to the results of the Dandjoo search (DBCA, 2025d), a total of 425 flora taxa have been recorded within a 25 km radius of the survey area, these were based on records from the WA Herbarium. Dominant families include Myrtaceae, Fabaceae, and Proteaceae (Appendix H).

4.1.2 Introduced Flora

Results of the Dandjoo search (DBCA, 2025d) identified eight introduced taxa as having previously been recorded within a 25 km radius of the survey area (Table 4-1, Appendix H). One of these is listed as a Declared Pest under the BAM Act, none are listed as a Weed of National Significance (WoNS) by the Commonwealth DCCEEW.

Table 4-1: Introduced flora previously recorded within 40 km of the survey area

Family	Species Name	Common Name	Declared	WoNS
Asteraceae	<i>Hypochaeris glabra</i>	Smooth Cats-ear	No	No
Geraniaceae	<i>Erodium cicutarium</i>	Common storksbill	No	No
Iridaceae	<i>Moraea miniata</i>	Two-leaf Cape Tulip	Yes	No
Poaceae	<i>Aira cupaniana</i>	Silvery Hairgrass	No	No
Poaceae	<i>Bromus rubens</i>	Red Brome	No	No
Poaceae	<i>Pentameris airoides</i>	False Hairgrass	No	No
Poaceae	<i>Vulpia myuros</i>	Rat's-tail Fescue	No	No
Primulaceae	<i>Lysimachia arvensis</i>	Pimpernel	No	No

4.1.3 Conservation Significant Flora

The results of the literature review, combined search of the Flora of Conservation Significance databases (DBCA, 2025a), Dandjoo search (DBCA, 2025d) and Protected Matters Search (DCCEEW, 2025) indicated that no Threatened Flora species have previously recorded within the survey area. One Priority flora, *Acacia asepala* (P2) has previously been collected from within the survey area on a waste rock dump (DBCA, 2025a).

As listed in Table 4-2 below, one Threatened flora, and forty-one Priority flora have previously been collected within a 25 km radius of the survey area. A map of flora locations provided in Figure 4-1.

Table 4-2: Likelihood of occurrence for Threatened and Priority flora within the survey area

Taxon	DBCA			Habitat Description (WA Herbarium, 1998-; DBCA, 2025a)	Likelihood of Occurrence
	EPBC Act	BC Act	Priority		
<i>Acacia asepala</i>			2	Red-brown sandy loam. Undulating plains, along drainage lines.	Previously recorded in the survey area.
<i>Acacia concolorans</i>			2	Red/brown loam, clay. Low lateritic hills, flats.	Possible
<i>Acacia crenulata</i>			3	Clay, sandy clay, yellow sand. Rocky rises, granite outcrops, breakaways.	Possible
<i>Acacia desertorum</i> var. <i>nudipes</i>			3	Yellow sand, lateritic gravel. Sandplains, flats.	Unlikely, no suitable habitat present in the survey area
<i>Balaustion grandibracteatum</i> subsp. <i>grandibracteatum</i>			3	Yellow sand, lateritic gravel. Sandplains, flats.	Unlikely, no suitable habitat present in the survey area
<i>Balaustion grandibracteatum</i> subsp. <i>junctura</i>			2	Flat sandplain of deep yellow sandy soil.	Unlikely, no suitable habitat present in the survey area
<i>Chamelaucium</i> sp. Parker Range (B.H. Smith 1255)			1	Dry, yellow sand over laterite.	Unlikely, mostly restricted to the Parker Range, further south.
<i>Cryptandra crispula</i>			3	Brown sandy clay, yellow loamy sand, red soil, pebbles. Dune ridges, hills, near salt lakes.	Possible
<i>Eremophila caerulea</i> subsp. <i>merrallii</i>			4	Sand, clay or loam. Undulating plains.	Possible
<i>Eremophila inflata</i>			4	Low undulating plain. Red sandy clay loam with ironstone gravel.	Possible
<i>Eucalyptus calycogona</i> subsp. <i>miraculum</i>			1	Below small breakaway.	Unlikely, no habitat present in the survey area
<i>Eucalyptus polita</i> subsp. <i>polita</i>			3	Loam, sand. Around salt lakes, flats.	Possible
<i>Eucalyptus urna</i> subsp. <i>xesta</i>			3	In calcareous red to grey loams with <i>Eucalyptus salubris</i> .	Possible
<i>Eutaxia lasiocalyx</i>			2	Red sandy loam, laterite and quartz gravel. Gentle lower slopes.	Possible
<i>Goodenia heatheriana</i>			1	Red crumbly clay, greenstone gravel and cobbles. Lower slopes, moderately exposed gently undulating plain, roadsides.	Possible
<i>Grevillea lissopleura</i>			1	Stony loam on banded ironstone. On ridges.	Unlikely, no habitat present in the survey area
<i>Grevillea neodissecta</i>			4	No habitat description found	Unlikely, record is from Skeleton Rock which is a granite rock.
<i>Grevillea phillipsiana</i>			1	Red sand, stony loam. Granite hills.	Possible
<i>Grevillea prostrata</i>			4	White, grey or yellow sand, gravel. Sandplains.	Unlikely, no habitat present in the survey area
<i>Hakea pendens</i>			3	Stony loam. Ironstone ridges.	Unlikely, no suitable habitat present in the survey area
<i>Hemigenia glaucissima</i>			1	Yellow sandy loam on undulating plain.	Unlikely, no habitat present in the survey area

Taxon	DBCA			Habitat Description (WA Herbarium, 1998-; DBCA, 2025a)	Likelihood of Occurrence
	EPBC Act	BC Act	Priority		
<i>Hydrocotyle corynophora</i>			1	Wetlands	Possible
<i>Isopogon robustus</i>	CR	CR		Skeletal grey sandy loam, laterite. Ridges.	Unlikely, no habitat present in the survey area, known populations are 13 km to the SW.
<i>Lepidium genistoides</i>			3	Sandy loam.	Unlikely, most populations are north of the Great Eastern Hwy.
<i>Lepidosperma</i> sp. Mt Caudan (N. Gibson & M. Lyons 2081)			1	Brown sandy loam, with ironstone gravel, on a gentle south-eastern mid slope.	Possible
<i>Lepidosperma</i> sp. Parker Range (N. Gibson & M. Lyons 2094)			1	Dark brown loam over massive laterite with gravel, on a gentle NE mid slope.	Possible
<i>Leucopogon validus</i>			1	Dry, brown, rocky sandy loam, brown-orange sandy clay, gravel, ironstone, sandstone. Low ranges, on and around exposed breakaways.	Unlikely, no habitat present in the survey area, known populations are SW on Mt Caudin.
<i>Melaleuca grieviana</i>			1	Well-drained orange-brown loam, brown clay. Plains, gentle slopes, edge of crop paddocks.	Unlikely, no habitat present in the survey area, known populations are 12 km SW of the survey area.
<i>Melichrus</i> sp. Coolgardie (K.R. Newbey 8698)			1	Yellow loamy sand. Undulating plains.	Unlikely, no habitat present in the survey area
<i>Microcorys</i> sp. Forrestania (V. English 2004)			4	Yellow sandy clay or red-brown clay. Open woodland or cleared areas.	Possible
<i>Microseris walteri</i>			3	Variable-drained, saline loamy sand. Moderately exposed, elevated samphire flat.	Possible
<i>Millotia newbeyi</i>			1	Red/brown loam, red clay. Undulating plains.	Possible
<i>Notisia intonsa</i>			3	Red clay, with greenstone gravel and cobbles, lower slope.	Possible
<i>Prostanthera nanophylla</i>			3	Yellow sand over laterite, rocky loam. Sandplains.	Unlikely, no suitable habitat present in the survey area
<i>Rinzia medifila</i>			1	On gentle E slope of orange - brown sandy loam with 70% greenstone cobbles on surface (2-30 cm), 70% litter cover.	Unlikely, habitat may be present in the survey area, but known populations are >10 km SW of the survey area.
<i>Rinzia torquata</i>			3	Undulating plain. Yellow-brown, sandy loam over laterite.	Unlikely, habitat may be present in the survey area, but known populations are 1>0 km west and SW of the survey area.
<i>Stenanthemum bremerense</i>			4	Orange-brown sandy loam, orange-red gravelly loam, skeletal red loam, laterite, ironstone. Top or sides of outcrops and breakaways.	Unlikely, no suitable habitat present in the survey area
<i>Thryptomene interzonensis</i>			1	No habitat description found	Unlikely, record is from Skeleton Rock which is a granite rock.
<i>Verticordia mitodes</i>			3	Yellow sand. Undulating plains.	Unlikely, no suitable habitat present in the survey area

Taxon	DBCA			Habitat Description (WA Herbarium, 1998-; DBCA, 2025a)	Likelihood of Occurrence
	EPBC Act	BC Act	Priority		
<i>Verticordia multiflora</i> subsp. <i>solox</i>			2	Yellow sand over gravel, sand over granite.	Unlikely, no suitable habitat present in the survey area
<i>Verticordia stenopetala</i>			3	Yellow sand, sometimes with gravel. Undulating plains.	Unlikely, no suitable habitat present in the survey area
<i>Westringia acifolia</i>			1	No habitat description found.	Unlikely, populations seem to occur on the Parker Range, >10km to the SW.

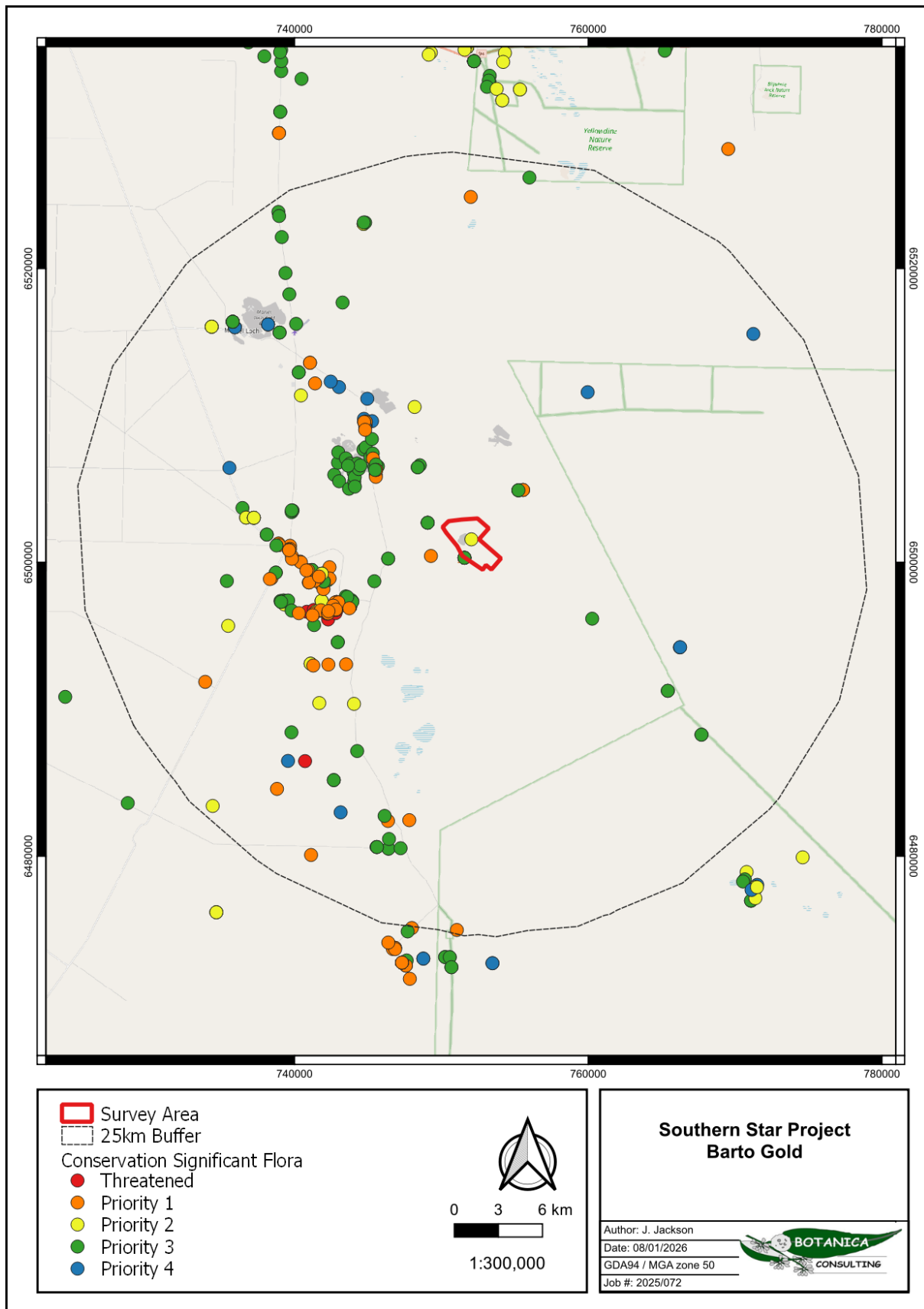


Figure 4-1: Conservation significant flora in relation to the survey area

4.1.4 Fauna

The Dandjoo database search (DBCA, 2025d) identified a total of 194 terrestrial vertebrate fauna taxa having been previously recorded within 25 km of the survey area, consisting of 99 bird, 31 mammal, 59 reptile and five amphibian taxa. The full list of vertebrate fauna identified by the desktop search is contained in Appendix H.

4.1.5 Conservation Significant Fauna

The desktop review identified 20 terrestrial vertebrate fauna species of conservation significance as previously being recorded within 25 km of the survey area (DBCA, 2025b) and/or the species or species habitat that may occur within 25 km of the survey area (DCCEEW, 2025). Of those, eight are Threatened species, six are Priority species and there are six listed migratory wetland birds. Habitat and distribution data was used to determine the likelihood of occurrence within the survey area (Table 4-3).

Table 4-3: Potentially occurring significant fauna

Taxon	Conservation Status			Habitat Description	Likelihood of Occurrence
	EPBC Act	BC Act	DBCA		
Bird					
Southern Whiteface <i>Aphelocephala leucopsis</i>	VU	VU	-	Found in arid regions across most of the southern half of the Australian continent, Acacia woodlands, particularly those dominated by mulga and drought-resistant chenopod shrub species, including saltbush and bluebush (ALA, 2025).	Unlikely to Occur. No records within 25 km.
Sharp-tailed Sandpiper <i>Calidris acuminata</i>	VU	-	MI	Intertidal mudflats, also freshwater swamps and saltwater lakes (ALA, 2025).	Possibly Occurs. Visits wetlands after large rainfall events
Curlew Sandpiper <i>Calidris ferruginea</i>	CR	CR	-	Prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, saltpans and hypersaline salt lakes inland (DCCEEW, 2025b).	Possibly Occurs. Visits wetlands after large rainfall events
Grey Falcon <i>Falco hypoleucos</i>	VU	VU	-	Occurs in arid and semi-arid Australia, acacia shrublands that are crossed by tree-lined water courses, has been observed hunting in treeless areas and frequents tussock grassland and open woodland, especially in winter (DCCEEW, 2025b).	Unlikely to Occur. No records within 25 km.
Malleefowl <i>Leipoa ocellata</i>	VU	VU	-	Scrublands and woodlands dominated by mallee and wattle species (DCCEEW, 2025b).	Possible, several recent records within 25 km of survey area.
Night parrot <i>Pezoporus occidentalis</i>	CR	CR	-	Broad habitat requirements include areas of old-growth spinifex (<i>Triodia</i>) for roosting and nesting, together with foraging habitats that are likely to include various native grasses and herbs, that may or may not contain shrubs or low trees. (DBCA, 2020).	Would Not Occur in the area. PMST records state that the species or species habitat may be in the area. Considered to be locally extinct. Suitable habitat not present.
Western rosella (inland) <i>Platycercus icterotis xanthogenys</i>			P4	Dry woodland, with a heath understorey, Wheatbelt areas (Birdlife Australia, 2025).	Possibly occurs.
Migratory Shorebirds (inc Common sandpiper, Ruddy turnstone)	MI	IA	-	Prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, saltpans and hypersaline salt lakes inland (DCCEEW, 2025b).	Possibly Occurs. Visits wetlands after large rainfall events

Taxon	Conservation Status			Habitat Description	Likelihood of Occurrence
	EPBC Act	BC Act	DFCA		
Mammals					
Chuditch <i>Dasyurus geoffroii</i>	VU	VU		Jarrah forests and in woodlands, mallee shrublands and heaths. There are also occasional records from drier woodland and mallee shrubland (DCCEEW, 2025).	Possible, several recent records within 25 km of survey area.
Western brush wallaby <i>Notamacropus irma</i>			P4	southwest coastal region of WA, they particularly favor open, seasonally damp flat areas with low grasses and open scrubby brushes (ALA, 2026).	Unlikely, although several recent records within 25 km of survey area, they prefer coastal areas to the SW.
Central long-eared bat <i>Nyctophilus major tor</i>			P3	Eucalypt woodlands, savanna woodland, mallee, spinifex grasslands (EPA, 2025)	Unlikely to Occur. Only one historic record within 25 km.
Red-tailed phascogale <i>Phascogale calura</i>	VU	CD		Restricted to the southern Western Australian wheatbelt, found in dense and tall climax vegetation, and appears to prefer those containing the Wandoo (<i>Eucalyptus wandoo</i>) and the rock sheoak (<i>Allocasuarina huegeliana</i>) (ALA, 2026).	Unlikely to Occur. Only one historic record within 25 km.
Reptile					
Lake Cronin snake <i>Paroplocephalus atriceps</i>			P3	No habitat description found.	Unlikely to Occur. Only one record 24 km south of the survey area, most populations are further to the south.
Invertebrate					
Tree-stem trapdoor spider <i>Idiosoma castellum</i>	-	-	P4	restricted to hillslopes (lower slopes to upper ridges) and banded ironstone formations in gravelly loam soils (Bennelongia, 2023).	Possible, several recent records within 25 km of survey area.
Trapdoor spider <i>Idiosoma</i> sp.			P3	No habitat description found.	

4.2 Field Assessment

4.2.1 Flora

The field survey identified 23 families, 46 genera and 82 taxa as occurring in the survey area. Dominant genera include *Eucalyptus* (ten species), *Eremophila* (five species) and *Acacia* (four species). Fourteen annual native flora species were present. The total species list is provided in Appendix C.

4.2.1.1 Introduced Flora

Five introduced flora species were observed within the survey area (Table 4-4), these were recorded in several quadrats, as well as in low numbers adjacent to tracks and these locations were not marked. None of these weeds are listed as a Declared Pest on the Western Australian Organism List (WAOL) under the *Biosecurity and Agriculture Management (BAM) Act 2007*, or as a Weed of National Significance.

Table 4-4: Introduced flora observed in the survey area

Family	Taxon	Common name	Declared	WONS
<i>Aizoaceae</i>	<i>Mesembryanthemum nodiflorum</i>	Slender Iceplant	No	No
<i>Asteraceae</i>	<i>Sonchus oleraceus</i>	Common Sowthistle	No	No
<i>Poaceae</i>	<i>Bromus diandrus</i>	Great Brome	No	No
<i>Poaceae</i>	<i>Vulpia bromoides</i>	Squirrel Tail Fescue	No	No
<i>Primulaceae</i>	<i>Lysimachia arvensis</i>	Pimpernel	No	No

4.2.1.2 Conservation Significant Flora

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

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

No Threatened Flora taxa are previously known to occur or were identified within the survey area.

No Priority Flora taxa were identified within the survey area.

Acacia asepala (P2) has previously been collected in the survey area with a record in the WA Herbarium from 2012. The record states it was growing on a waste dump and this area was not surveyed as part of this survey. Stantec also recorded it in their 2021 survey, with more than 120 plants observed at several locations (Stantec, 2023). Botanica did not observe it during this survey; however it is likely still present.

No other conservation significant flora was observed in the survey area.

4.2.2 Vegetation

Six vegetation types (not including cleared vegetation) were identified within the survey area. These vegetation types were located within four landform types and comprised of three NVIS major vegetation groups (Table 4-5, Figure 4-2).

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

Landform	NVIS Major Vegetation Group	Vegetation Type	Vegetation Code	Quadrat	Area (ha)	Area (%)
Clay loam plain	Eucalypt Woodland (MVG 5)	<i>Eucalyptus salubris</i> and/or <i>E myriadena</i> mid open forest over <i>Melaleuca pauperiflora</i> and/or <i>Exocarpos aphyllus</i> tall open shrubland over mid open shrubland of <i>Eremophila scoparia</i> over <i>Atriplex vesicaria</i> low open chenopod shrubland.	CLP-EW1	Q12, Q13, Q16, Q18, Q20, Q21, Q22, Q25, Q28	220.6	30.4
Sandy clay loam plain	Eucalypt Woodland (MVG 5)	<i>Eucalyptus salicola</i> and/or <i>E myriadena</i> mid open forest over <i>Exocarpos aphyllus</i> and <i>Santalum acuminatum</i> tall open shrubland over <i>Olearia muelleri</i> low open shrubland.	SCLP-EW1	Q4, Q7, Q9, Q10, Q11, Q14, Q15	147.5	20.3
Rocky slope	Eucalypt Woodland (MVG 5)	<i>Eucalyptus corrugata</i> mid open forest over <i>Melaleuca pauperiflora</i> and/or <i>Exocarpos aphyllus</i> tall open shrubland over <i>Acacia merrallii</i> and <i>Olearia muelleri</i> low open shrubland.	RS-EW1	Q1, Q3, Q26, Q27	143.5	19.7
Drainage depression	Melaleuca shrubland (MVG 9)	Tall open shrubland of <i>Melaleuca pauperiflora</i> over low open chenopod shrubland of <i>Tecticornia indica</i> subsp. <i>bidens</i> and <i>T. halocnemoides</i> .	DD-MS1	Q5, Q23, Q24	31.2	4.3
Closed depression	Melaleuca shrubland (MVG 9)	Tall open shrubland of <i>Melaleuca pauperiflora</i> over low open shrubland of <i>Melaleuca lateriflora</i> .	CD-MS1	Q8	5.2	0.7
Closed depression	Chenopod shrublands (MVG 22)	Low chenopod shrubland of <i>Tecticornia indica</i> subsp. <i>bidens</i> and <i>T. disarticulata</i> .	CD-CS1	Q2, Q6, Q17, Q19	80	11
N/A	N/A	Cleared Vegetation	CV	N/A	99	13.6
TOTAL				12	727	100



Figure 4-2: Vegetation types within the survey area

4.2.2.1 Vegetation Types

Clay-Loam Plain: Eucalypt Woodland

Eucalyptus salubris and/or *E myriadena* mid open forest over *Melaleuca pauperiflora* and/or *Exocarpos aphyllus* tall open shrubland over mid open shrubland of *Eremophila scoparia* over *Atriplex vesicaria* low open chenopod shrubland on clay loam plain (CLP-EW1)

The total flora recorded within this vegetation type was represented by a total of 16 families, 27 genera and 45 taxa (Plate 1 and Appendix C). Dominant taxa from the vegetation type are shown in Table 4-6. According to the NVIS, this vegetation type is best represented by the MVG5 -Eucalypt Woodlands (DotEE, 2017).

Table 4-6: Vegetation assemblage for *Eucalyptus salubris* and/or *E myriadena* mid open forest over *Melaleuca pauperiflora* and/or *Exocarpos aphyllus* tall open shrubland over mid open shrubland of *Eremophila scoparia* over *Atriplex vesicaria* low open chenopod shrubland on clay loam plain.

Life Form/Height Class	Canopy Cover	Dominant Taxa
Tree 6-12 m	30-70%	<i>Eucalyptus salubris</i> and/or <i>E myriadena</i>
Shrub 1-3 m	10-30%	<i>Melaleuca pauperiflora</i> and/or <i>Exocarpos aphyllus</i>
Shrub <1 m	10-30%	<i>Eremophila scoparia</i> , <i>Atriplex vesicaria</i>



Plate 1: *Eucalyptus salubris* and/or *E myriadena* mid open forest over *Melaleuca pauperiflora* and/or *Exocarpos aphyllus* tall open shrubland over mid open shrubland of *Eremophila scoparia* over *Atriplex vesicaria* low open chenopod shrubland on clay loam plain.

Sandy Clay-Loam Plain: Eucalypt Woodland

Eucalyptus salicola and/or *E myriadena* mid open forest over *Exocarpos aphyllus* and *Santalum acuminatum* tall open shrubland over *Olearia muelleri* low open shrubland on sandy clay-loam plain. (SCLP-EW1)

The total flora recorded within this vegetation type was represented by a total of 15 families, 23 genera and 35 taxa (Plate 2 and Appendix C). Dominant taxa from the vegetation type are shown in Table 4-7. According to the NVIS, this vegetation type is best represented by the MVG5 -Eucalypt Woodlands (DotEE, 2017).

Table 4-7: Vegetation assemblage for *Eucalyptus salicola* and/or *E myriadena* mid open forest over *Exocarpos aphyllus* and *Santalum acuminatum* tall open shrubland over *Olearia muelleri* low open shrubland on sandy clay-loam plain.

Life Form/Height Class	Canopy Cover	Dominant Taxa
Tree 6-12 m	30-70%	<i>Eucalyptus salicola</i> and/or <i>E myriadena</i>
Shrub 1-3 m	10-30%	<i>Exocarpos aphyllus</i> , <i>Santalum acuminatum</i>
Shrub <1m	10-30%	<i>Olearia muelleri</i>



Plate 2: *Eucalyptus salicola* and/or *E myriadena* mid open forest over *Exocarpos aphyllus* and *Santalum acuminatum* tall open shrubland over *Olearia muelleri* low open shrubland on sandy clay-loam plain.

Rocky Slope: Eucalypt Woodland

Eucalyptus corrugata mid open forest over *Melaleuca pauperiflora* and/or *Exocarpos aphyllus* tall open shrubland over *Acacia merrallii* and *Olearia muelleri* low open shrubland on rocky slope (RS-EW1)

The total flora recorded within this vegetation type was represented by a total of 17 families, 26 genera and 32 taxa (Plate 3 and Appendix C). Dominant taxa from the vegetation type are shown in Table 4-8. According to the NVIS, this vegetation type is best represented by the MVG5 – Eucalypt Woodlands (DotEE, 2017).

This is likely the PEC ‘Plant assemblages of the Parker Range System’.

Table 4-8: Vegetation assemblage for *Eucalyptus corrugata* mid open forest over *Melaleuca pauperiflora* and/or *Exocarpos aphyllus* tall open shrubland over *Acacia merrallii* and *Olearia muelleri* low open shrubland on rocky slope

Life Form/Height Class	Canopy Cover	Dominant Taxa
Tree 6-12 m	30-70%	<i>Eucalyptus corrugata</i>
Shrub 1-3m	10-30%	<i>Melaleuca pauperiflora</i> and/or <i>Exocarpos aphyllus</i>
Shrub <1m	10-30%	<i>Acacia merrallii</i> and <i>Olearia muelleri</i>



Plate 3: *Eucalyptus corrugata* mid open forest over *Melaleuca pauperiflora* and/or *Exocarpos aphyllus* tall open shrubland over *Acacia merrallii* and *Olearia muelleri* low open shrubland on rocky slope.

Drainage depression: Melaleuca Shrubland

Tall open shrubland of Melaleuca pauperiflora over low open chenopod shrubland of Tecticornia indica subsp. bidens and T. halocnemoides in drainage depression (DD-MS1)

The total flora recorded within this vegetation type was represented by a total of eight families, 13 genera and 17 taxa (Plate 4 and Appendix C). Dominant taxa from the vegetation type are shown in Table 4-9. According to the NVIS, this vegetation type is best represented by the MVG9 – Melaleuca Woodlands (DotEE, 2017).

Table 4-9: Vegetation assemblage for tall open shrubland of *Melaleuca pauperiflora* over low open chenopod shrubland of *Tecticornia indica* subsp. *bidens* and *T. halocnemoides* in drainage depression

Life Form/Height Class	Canopy Cover	Dominant Taxa
Shrub 3-6 m	10-30%	<i>Melaleuca pauperiflora</i>
Chenopod Shrub <1m	10-30%	<i>Tecticornia indica</i> subsp. <i>bidens</i> and <i>T. halocnemoides</i>



Plate 4: Tall open shrubland of *Melaleuca pauperiflora* over low open chenopod shrubland of *Tecticornia indica* subsp. *bidens* and *T. halocnemoides* in drainage depression.

Closed depression: Melaleuca Shrubland

Tall open shrubland of Melaleuca pauperiflora over low open shrubland of Melaleuca lateriflora in closed depression (CD-MS1)

The total flora recorded within this vegetation type was represented by a total of one family, one genus and two taxa (only one quadrat installed) (Plate 5 and Appendix C). Dominant taxa from the vegetation type are shown in Table 4-10. According to the NVIS, this vegetation type is best represented by the MVG9 – Melaleuca Woodlands (DotEE, 2017).

Table 4-10: Vegetation assemblage for tall open shrubland of *Melaleuca pauperiflora* over low open shrubland of *Melaleuca lateriflora* in closed depression

Life Form/Height Class	Canopy Cover	Dominant Taxa
Shrub 3-6 m	10-30%	<i>Melaleuca pauperiflora</i>
Shrub 1-3 m	10-30%	<i>Melaleuca lateriflora</i>



Plate 5: Tall open shrubland of *Melaleuca pauperiflora* over low open shrubland of *Melaleuca lateriflora* in closed depression.

Closed depression: Chenopod Shrubland

Low chenopod shrubland of Tecticornia indica subsp. bidens and T. disarticulata in closed depression (CD-CS1)

The total flora recorded within this vegetation type was represented by a total of 12 families, 23 genera and 26 taxa (Plate 6 and Appendix C). Dominant taxa from the vegetation type are shown in Table 4-11. According to the NVIS, this vegetation type is best represented by the MV22 – Chenopod Shrublands (DotEE, 2017).

Table 4-11: Vegetation assemblage for low chenopod shrubland of *Tecticornia indica* subsp. *bidens* and *T. disarticulata* in closed depression

Life Form/Height Class	Canopy Cover	Dominant Taxa
Chenopod Shrub <1 m	30-70%	<i>Tecticornia indica</i> subsp. <i>bidens</i> and <i>T. disarticulata</i>



Plate 6: Low chenopod shrubland of *Tecticornia indica* subsp. *bidens* and *T. disarticulata* in closed depression.

4.2.3 Floristic Composition

PATN Analysis

Statistical analysis was conducted on quadrat data obtained from the survey to determine the similarities or differences in floristic composition between vegetation associations. Appendix G provides the dendrogram, two-way table and ordination graph generated from the PATN statistical analysis. A list of the twenty-eight (28) quadrats and their respective vegetation associations are provided in Table 4-12 below. The PATN analysis produced a stress value of 0.1996.

Table 4-12: Vegetation types with corresponding quadrats

Vegetation Type	Vegetation Code	Quadrat
<i>Eucalyptus salubris</i> and/or <i>E myriadena</i> mid open forest over <i>Melaleuca pauperiflora</i> and/or <i>Exocarpos aphyllus</i> tall open shrubland over mid open shrubland of <i>Eremophila scoparia</i> over <i>Atriplex vesicaria</i> low open chenopod shrubland.	CLP-EW1	Q12, Q13, Q16, Q18, Q20, Q21, Q22, Q25, Q28
<i>Eucalyptus salicola</i> and/or <i>E myriadena</i> mid open forest over <i>Exocarpos aphyllus</i> and <i>Santalum acuminatum</i> tall open shrubland over <i>Olearia muelleri</i> low open shrubland.	SCLP-EW1	Q4, Q7, Q9, Q10, Q11, Q14, Q15
<i>Eucalyptus corrugata</i> mid open forest over <i>Melaleuca pauperiflora</i> and/or <i>Exocarpos aphyllus</i> tall open shrubland over <i>Acacia merrallii</i> and <i>Olearia muelleri</i> low open shrubland.	RS-EW1	Q1, Q3, Q26, Q27
Tall open shrubland of <i>Melaleuca pauperiflora</i> over low open chenopod shrubland of <i>Tecticornia indica</i> subsp. <i>bidens</i> and <i>T. halocnemoides</i> .	DD-MS1	Q5, Q23, Q24
Tall open shrubland of <i>Melaleuca pauperiflora</i> over low open shrubland of <i>Melaleuca lateriflora</i> .	CD-MS1	Q8
Low chenopod shrubland of <i>Tecticornia indica</i> subsp. <i>bidens</i> and <i>T. disarticulata</i> .	CD-CS1	Q2, Q6, Q17, Q19

Six species groups were identified in the analysis (species group A to F) as shown in the two-way table (Appendix G).

The first floristic group comprised of quadrats 1, 11, 21 and 25 and was characterised by species group F, with an average species richness of 11 taxa per quadrat (ranged from nine to 12 taxa per quadrat).

The second floristic group comprised of quadrats 4, 7, 9, 10, 13, 14, 16, 18, 20, 22, 23, 26 and 28. This floristic group was mostly characterised by species group B. This floristic group had an average species richness of eight taxa per quadrat (ranged from 5 to 13 taxa per quadrat).

The third floristic group comprised of quadrats 15 and 27. This floristic group was mostly characterised by species group C. This floristic group had an average species richness of nine taxa per quadrat (ranged from 9 to 10 taxa per quadrat).

The fourth floristic group comprised of quadrats 2, 3, 6 and 12. This floristic group was mostly characterised by species group D). This floristic group had an average species richness of eight taxa per quadrat (ranged from 6 to 10 taxa per quadrat).

The fifth floristic group comprised of quadrats 17 and 19. This floristic group was mostly characterised by species groups D and E). This floristic group had an average species richness of three taxa per quadrat (3 taxa per quadrat).

The sixth floristic group comprised of quadrats 5, 8 and 24. This floristic group was mostly characterised by species group E). This floristic group had an average species richness of five taxa per quadrat (ranged from 2 to 9 taxa per quadrat).

Results of the PATN analysis mostly supported vegetation delineations made in field, with six distinct floristic groups identified. Overall, the area was dominated by mixed Eucalypts over mixed shrubs.

Species Richness and Accumulation Estimates

The Chao 2 richness estimator provided an estimated species richness of 94 species in 40 sample sites (quadrats). Species richness recorded for the 28 quadrats surveyed was 82 species. A species accumulation curve was created to display the rate of species accumulation. The R^2 value (0.9926) suggests that the data “fits” the species accumulation curve shown in Figure 4-3. Species accumulation ranged from seven to four species per quadrat from 1-7 sample sites, three species per quadrat from 8-12 sample sites, two species per quadrat from 13-22 and one species per quadrat beyond 23 sample sites. Botanica has determined that according to this data a sufficient number of quadrats were established in the survey area to adequately assess the floristic composition of the area.

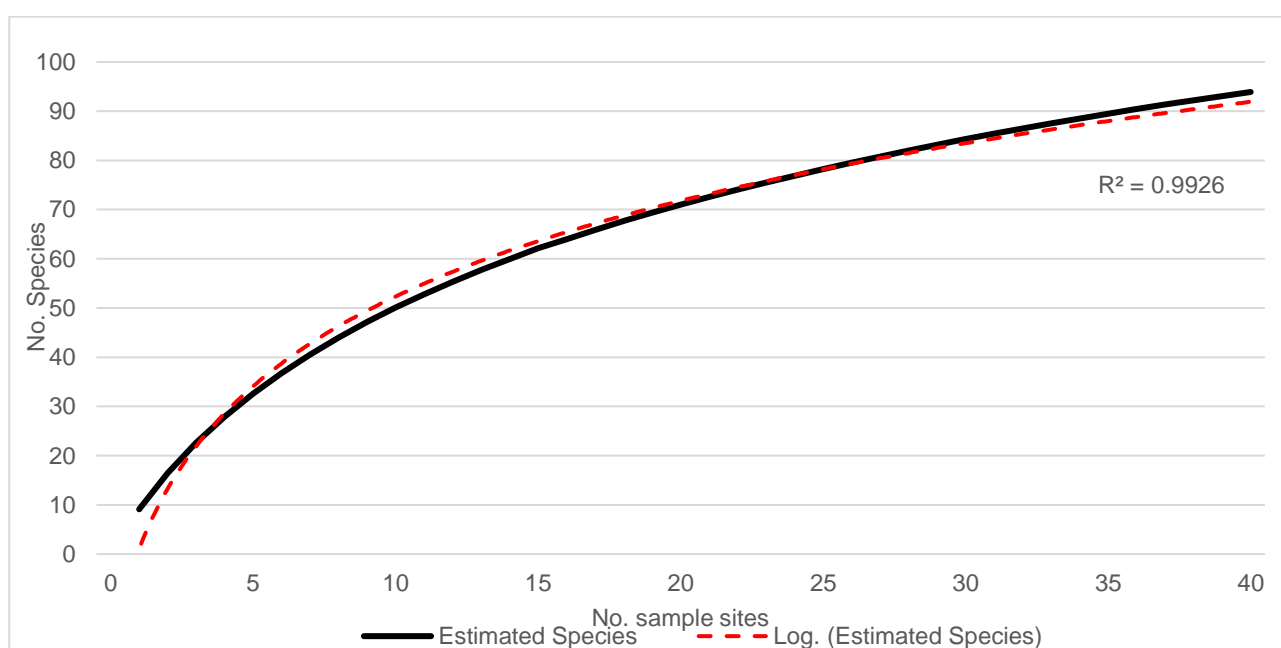


Figure 4-3: Species accumulation curve

4.2.4 Significant Vegetation

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

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

No TEC or restricted vegetation, highly disturbed vegetation, vegetation providing important refuge or significant ecological function was identified within the survey area.

Regarding the PEC 'Plant assemblages of the Parker Range System' this community may be present in the survey area. Two of the vegetation types mapped by Botanica may show affinities with two of the Parker Range Community Types (based on Gibson and Lyons, 1998), based on their floral composition and their presence on broad flats and rocky slopes (Table 4-13). The RS-EW1 fits within the boundary of the PEC provided by DBCA (Figure 4-4), however the floristic composition is different to the description provided by Gibson and Lyons, 1998. In the opinion of Botanica however, the vegetation types on broad flats should not be considered part of the PEC as these vegetation types are common and well represented throughout the Southern Cross bioregion. Note that the Parker 1068 pre-European vegetation association retains more than 88% of its pre-European extent remaining (DBCA, 2018).



Figure 4-4: Map showing the buffer of the Parker Range PEC over the survey area

Table 4-13: Presence of the PEC ‘Parker Range System’ in the Survey area

Community Type (based on Gibson and Lyons, 1998)	Present in the Survey area
Community type 1: occupies sandy soils at the base of ridges and low rises. It is generally dominated by <i>Eucalyptus sheathiana</i> with <i>E. transcontinentalis</i> and /or <i>E. eremophila</i> as co-dominants. Typical understorey species are <i>Daviesia argillacea</i> , <i>Grevillea huegelii</i> .	Not present in the survey area.
Community type 2: generally dominated by <i>Eucalyptus longicornis</i> . Other eucalypts that occur as codominant include <i>E. corrugata</i> and <i>E. salubris</i> (occasionally dominated by <i>E. myriadena</i>). This community occupies the broad flats.	Possibly in the survey area, parts of the CLP-EW1 community may show affinities with this community.
Community type 3: occurs on the broad flats within the greenstone belt. Usually dominated by <i>Eucalyptus salmonophloia</i> and <i>E. salubris</i> . Typical understorey species include <i>Eremophila oppositifolia</i> , <i>Acacia concolorans</i> , <i>Dodonaea stenozyga</i> and <i>Scaevola spinescens</i> .	Not present in the survey area.
Community type 4: generally dominated by <i>Allocasuarina acutivalvis</i> and <i>Allocasuarina corniculata</i> . <i>Eucalyptus capillosa</i> subsp. <i>polyclada</i> also occasionally occurred. Other species typical of this community type include <i>Baeckea elderiana</i> and <i>Thryptomene kochii</i> , further illustrating the sandy nature of these sites.	Not present in the survey area.
Community type 5: almost totally lacks <i>Allocasuarina corniculata</i> (cf type 4), being replaced by <i>A. campestris</i> , while <i>Allocasuarina acutivalvis</i> is still a common element. <i>Eucalyptus capillosa</i> subsp. <i>polyclada</i> and /or <i>Eucalyptus loxophleba</i> tend to dominate these sites while <i>Hakea pendens</i> (P3), <i>Phebalium tuberculosum</i> , and <i>Westringia cephalantha</i> are common understorey elements. This community type is associated with laterites, breakaways and the massive gossanous caps of the Mt. Caudan area.	Possibly in the survey area, the RS-EW1 community may show affinities with this community.
Community type 6: restricted to a small area of a massive decomposing laterite and granite in the Parker Range. The area is dominated by low trees of <i>Callitris columellaris</i> and the previously unknown <i>Isopogon robustus</i> (T).	Not present in the survey area.

4.2.5 Vegetation Condition

Based on the vegetation condition rating scale obtained from the EPA (2016a) provided in Appendix B, vegetation ranged from ‘good’ to ‘Very good’ condition with the majority of vegetation in ‘Very good’ condition (Table 4-14). Disturbance in the area was from previous mining and exploration operations and access tracks and roads. A map of the vegetation condition across the survey area is provided in Figure 4-5.

Table 4-14: Vegetation condition rating within the survey area

Condition Rating	Description (EPA, 2016a)	Area (ha)	Area (%)
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.	518.3	71.3
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.	99.2	13.6
Cleared areas	For example cleared areas for mining infrastructure, tracks and roads	109.5	15.1
TOTAL		727	100



Figure 4-5: Vegetation condition rating of the survey area

4.2.6 Fauna Habitat

Four broad scale terrestrial fauna habitat (not including cleared vegetation) were identified within the survey area. The extent of the identified fauna habitat and a summary description is provided in Table 4-16 below. A map of fauna habitats is provided in Figure 4-6.

4.2.6.1 Opportunistic Fauna Observations



During the field survey opportunistic observations of fauna species were made with 15 fauna species observed. These were:



Table 4-15: Fauna species observed in the survey area.

Taxon	Common Name	Observation
Birds		
<i>Acanthiza apicalis</i>	Inland Thornbill	Sighted
<i>Cracticus torquatus</i>	Grey Butcherbird	Sighted
<i>Dicaeum hirundinaceum</i>	Mistletoebird	Sighted
<i>Merops ornatus</i>	Rainbow Bee-eater	Sighted
<i>Microeca fascinans</i>	Jacky winter	Sighted
<i>Pardalotus striatus</i>	Striated Pardalote	Sighted
<i>Parvipsitta porphyrocephala</i>	Purple-crowned Lorikeet	Sighted
<i>Polytelis anthopeplus</i>	Regent Parrot	Sighted
<i>Smicrornis brevirostris</i>	Weebill	Sighted
<i>Strepera versicolor</i>	Grey Currawong	Sighted
Mammals		
<i>Oryctolagus cuniculus</i> *	Rabbit	Tracks and scat seen
<i>Osphranter rufus</i>	Red Kangaroo	Sighted
<i>Ovis aries</i> *	Sheep	Skull
Reptiles		
<i>Ctenophorus isolepis</i>	Military Dragon	Sighted
	Skink species	Sighted

*denotes introduced species.

Table 4-16: Main terrestrial fauna habitats within the survey area

Fauna Habitat	Description	Representative Fauna Attributes	Example Image
<p>Clay loam plain or sandy clay loam plain</p> <p>Eucalypt Woodland</p> <p>Area= 366.8 ha (50.6%)</p>	<p>Clay-loam plain or sandy clay-loam plain comprising of Eucalypt woodland over tall mixed shrubs.</p>	<ul style="list-style-type: none"> • Ground moderately suited to burrowing species. • Moderately diverse vegetation strata supporting diverse avifauna assemblage. • Moderately dense vegetation and low to moderate leaf litter. • Some taller Eucalypt trees may provide nesting hollows for bats and/or birds. 	
<p>Rocky slope</p> <p>Eucalypt Woodland</p> <p>Area= 142.9 ha (19.7%)</p>	<p>Rocky slope with Eucalypt woodland over mid to tall mixed shrubs.</p>	<ul style="list-style-type: none"> • Ground not particularly suited to burrowing species. • Potential refuge for small fauna under rocks • Moderate diversity vegetation strata supporting some small avifauna. • Moderate vegetation density and leaf litter. 	

Fauna Habitat	Description	Representative Fauna Attributes	Example Image
<p>Closed depression and/or drainage depression</p> <p>Melaleuca shrubs</p> <p>Area= 36.5 ha (5%)</p>	<p>Closed depression and/or drainage depression dominated by tall Melaleuca shrubs</p>	<ul style="list-style-type: none"> • Substrate moderately suited to a variety of burrowing small mammals and reptiles. • Moderately diverse vegetation strata supporting low to moderate diverse avifauna assemblage. • Dense vegetation with low to moderate leaf litter. • Source of water after large rainfall events. 	
<p>Closed depression</p> <p>Chenopod shrubs</p> <p>Area= 79.5 ha (11%)</p>	<p>Closed depression dominated by low chenopod shrubs</p>	<ul style="list-style-type: none"> • Ground not particularly suited to burrowing species. • Low diversity vegetation strata supporting low fauna assemblages. • Low to moderate vegetation and low leaf litter. • Chenopod shrubs provide food for avifauna during drought conditions. • Source of water after large rainfall events. 	
<p>Cleared areas</p> <p>Area= 98.6 ha (13.6%)</p>	<p>Cleared areas</p>	<ul style="list-style-type: none"> • Low value foraging habitat for mammals and avifauna due to lack of native vegetation, 	<p>No photo</p>

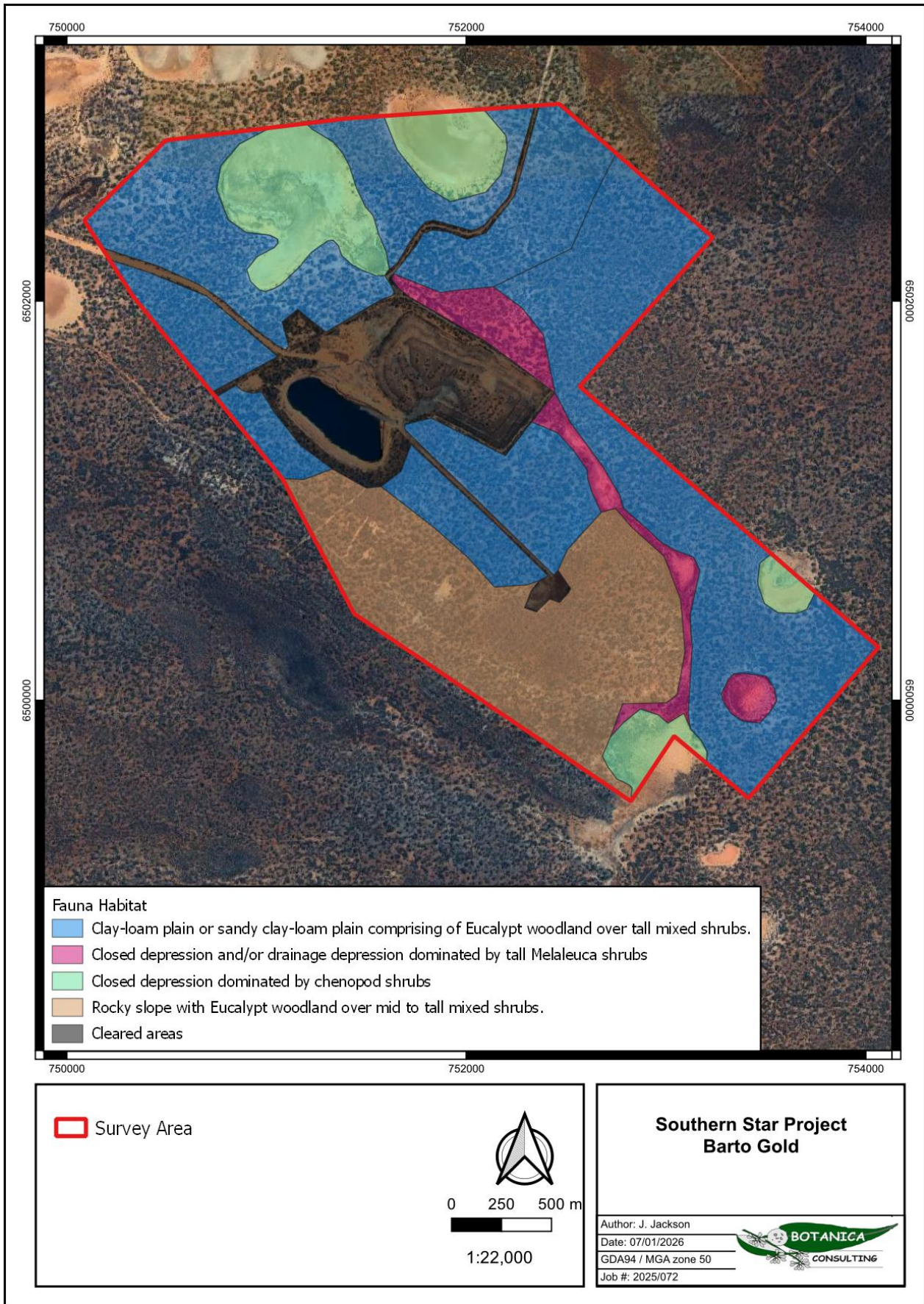


Figure 4-6: Fauna habitats within the survey area

4.2.7 Significant Fauna

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

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

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/ or recent nearby records, the following species of conservation significance can be regarded as possibly occurring in the wider area, or passing through the survey area (but not necessarily utilising the survey area for breeding):

- **Malleefowl (*Leipoa ocellata*) – VU EPBC Act; VU BC Act**

This species is occasionally recorded in the Southern Cross subregion. No evidence of Malleefowl, including any recently used or old mounds were observed in the survey area.

- **Western rosella (inland) (*Platycercus icterotis xanthogenys*) -P4 BC Act**

This species is occasionally recorded in the Southern Cross subregion. No evidence of this bird including any evidence of breeding in tree hollows was observed in the survey area.

- **Chuditch (*Dasyurus geoffroi*) - VU EPBC Act; VU BC Act**

This species is occasionally recorded in the Southern Cross subregion. No evidence of Chuditch was seen during this survey including, tracks, scats or refuges, targeted surveys would be needed to confirm its presence or absence in the survey.

- **Tree-stem trapdoor spider (*Idiosoma castellum*; *Idiosoma sp.*) -P4 and P3 BC Act**

This species is occasionally recorded in the Southern Cross subregion. No evidence of them was seen during this survey, targeted surveys would be needed to confirm their presence or absence in the survey.

It should be noted that while habitats onsite for 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. The result of the literature review and observations made during the field survey suggest that the probability of any of the above-mentioned fauna species actually occurring within the survey area would be low.

4.3 Matters of National Environmental Significance

4.3.1 Environment Protection and Biodiversity Conservation Act 1999

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

The EPBC Act covers nine protected matters:

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

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

4.4 Matters of State Environmental Significance

4.4.1 Environmental Protection Act WA 1986

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

Under Section 51C of the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations) any clearing of native vegetation in Western Australia that is not eligible for exemption under Schedule 6 of the EP Act or under the Clearing Regulations requires a clearing permit from the DWER or the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS). Under Section 51A of the EP Act native vegetation includes aquatic and terrestrial vegetation indigenous to Western Australia, and intentionally planted vegetation declared by regulation to be native vegetation, but not vegetation planted in a plantation or planted with commercial intent. Section 51A of the EP Act defines clearing as “the killing or destruction of; the removal of; the severing or ringbarking of trunks or stems of; or the doing of substantial damage to

some or all of the native vegetation in an area, including the flooding of land, the burning of vegetation, the grazing of stock or an act or activity that results in the above”.

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

The following areas are declared to be ESAs:

- a declared World Heritage property as defined in section 13 of the EPBC Act;
- an area that is included on the Register of the National Estate, because of its natural heritage value, under the Australian Heritage Council Act 2003 of the Commonwealth;
- a defined wetland and the area within 50 m of the wetland. Defined wetlands include Ramsar wetlands, conservation category wetlands and nationally important wetlands;
- the area covered by vegetation within 50 m of rare flora, to the extent to which the vegetation is continuous with the vegetation in which the rare flora is located;
- the area covered by a TEC;
- a Bush Forever site listed in “Bush Forever” Volumes 1 and 2 (2000), published by the Western Australia Planning Commission, except to the extent to which the site is approved to be developed by the Western Australia Planning Commission;
- the areas covered by the following policies –
 - 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 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

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.

4.4.3 Other Areas of Conservation Significance

The DBCA lists ‘Priority’ species and communities which are under consideration for declaration as ‘Threatened’ under the BC Act. These Priority species/ communities have no formal legal protection until they are endorsed by the Minister as being Threatened. No Priority flora were identified in the survey area. One PEC is present in 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 Reserves in the survey area, the nearest gazetted Reserve is the Jilbadji Nature Reserve (R24049) which is approximately 6 km east of the survey area.

4.5 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 4-17). The assessment found that the proposed vegetation clearing activities may be at variance with clearing principle (f).

Table 4-17: Assessment against native vegetation clearing principles

Letter	Principle	Assessment	Outcome
Native vegetation should not be cleared if it:			
(a)	comprises a high level of biological diversity.	Vegetation identified within the survey area is not considered to be of high biological diversity and is well represented outside of 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 assessment did not record any evidence of the presence of significant fauna within the survey area.	Clearing is unlikely to be at variance with this principle

Letter	Principle	Assessment	Outcome
Native vegetation should not be cleared if it:			
(c)	includes, or is necessary for the continued existence of rare flora.	No Threatened Flora taxa, pursuant to the BC Act and the EPBC Act were identified within the survey area.	Clearing is unlikely to be at variance with this principle
(d)	comprises the whole or part of or is necessary for the maintenance of a threatened ecological community (TEC).	No TEC listed under the EPBC Act or by the BC Act occur within the survey area.	Clearing is not at variance with this principle
(e)	is significant as a remnant of native vegetation in an area that has been extensively cleared	The vegetation associations in the survey area retain >88% of their original pre-European vegetation extent.	Clearing is unlikely to be at variance with this principle
(f)	is growing, in, or in association with, an environment associated with a watercourse or wetland	There is one minor or major drainage lines within the survey area. There are several non-perennial lakes in 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.	There are no Reserves in the survey area, the nearest gazetted Reserve is the Jilbadji Nature Reserve which is approximately 6 km east of the survey area.	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.	Disturbances within the survey area is not expected to cause deterioration in the quality of water on the surface or underground.	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 Southern Cross subregion has an average rainfall of 250-300mm and an evaporation rate of 2400 mm. 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

5 BIBLIOGRAPHY

- Atlas of Living Australia [ALA] (2025). *Spatial Portal. Atlas of Living Australia*. Available: <https://spatial.ala.org.au/>. Accessed March 2025.
- ASRIS (2014). *Atlas of Australian Soils Database*, Australian Soil Resource Information System.
- Beard, J.S. (1990). *Plant Life of Western Australia*, Kangaroo Press Pty Ltd, NSW.
- Bennelongia (2023). *Earl Grey Lithium Project Short-Range Endemic Invertebrate Fauna Desktop Assessment*. Prepared for Covalent Lithium, September 2023.
- Birdlife (2025). *Bird Profiles*. Available: <https://birdlife.org.au/bird-profiles/page/12/>. Accessed March 2025.
- BoM (2025a). Southern Cross Airfield Climate Data, Bureau of Meteorology. Available: <http://www.bom.gov.au/climate> Accessed: December 2025.
- BoM (2025b). Groundwater Dependent Ecosystems Atlas. Bureau of Meteorology. Available: <http://www.bom.gov.au/water/groundwater/gde/map.shtml> Accessed: March 2025.
- Botanica Consulting Pty Ltd (2016). *Level 1 Reconnaissance Flora and Vegetation Survey of the Martin's Prospect*. Prepared for Hanking Gold Mining Pty Ltd. April 2016.
- Botanica Consulting Pty Ltd (2021). *Detailed Spring Flora and Basic Fauna Survey: Southern Cross Project Area*. Prepared for Altan Rio Minerals Ltd. March 2021.
- Botanica Consulting Pty Ltd (2022b). *Symes Find Project – Reconnaissance Flora and Vegetation Assessment*. Prepared for Ramelius Resources Ltd. September 2022.
- Botanica Consulting Pty Ltd (2024). *Southern Cross Windfarm: Reconnaissance Flora/ Vegetation Survey and basic Fauna Assessment*. Prepared for Fortescue Future Industries. January 2024.
- Cowan, M, Graham, G & McKenzie, N (2001). "Coolgardie 2 (COO 2 – Southern Cross Subregion)." in A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002, eds. JE May & NL McKenzie, Department of Conservation and Land Management.
- Department of Biodiversity, Conservation and Attractions [DBCA] (2018). *2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis*. (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth.
- DBCA (2024b). *Threatened and Priority Fauna Database search results*, Department of Biodiversity, Conservation and Attractions.
- DBCA (2025a). *Threatened and Priority Flora Database search results*, Department of Biodiversity, Conservation and Attractions.
- DBCA, (2025c). *Threatened Ecological Community and Priority Ecological Community database search results*, Department of Biodiversity, Conservation and Attractions.
- DBCA (2025d). *Dandjoo Database search*. Department of Biodiversity, Conservation and Attractions.
- DBCA (2025e). *Priority Ecological Communities for Western Australia*. Species and Communities Program, Department of Biodiversity, Conservation and Attractions, Kensington. Retrieved from <https://www.dbca.wa.gov.au/media/1730/download>
- Department of Climate Change, Energy, the Environment and Water [DCCEEW] (2020). *Interim Biogeographic Regionalisation for Australia v. 7 (IBRA)*.
- DCCEEW (2025a). *Protected Matters Search Tool. Environment Protection and Biodiversity Conservation Act 1999*, Department of Climate Change, Energy the Environment and Water.

- DCCEEW (2025b). *Species Profile and Threats Database*. Department of Climate Change, Energy the Environment and Water, Australian Government.
- DotEE (2017). *National Vegetation Information System (NVIS) Major Vegetation Groups, Version 4.2*, Department of the Environment and Energy
- DPIRD (2018a). *Soil Landscape System of Western Australia*, Department of Primary Industries and Regional Development.
- DPIRD (2018b). *Pre-European Vegetation - Western Australia (NVIS Compliant Version GIS file)*, Department of Primary Industries and Regional Development Western Australia.
- EPA (2016a). *Technical Guide - Flora and Vegetation Surveys for Environmental Impact Assessment – December 2016*. Environmental Protection Authority.
- EPA (2016b). *Environmental Factor Guideline Flora and Vegetation*. Environmental Protection Authority.
- EPA (2016c). *Environmental Factor Guideline Terrestrial Fauna*. Environmental Protection Authority.
- EPA (2020). *Technical Guidance - Terrestrial Fauna Surveys for Environmental Impact Assessment – June 2020*. Environmental Protection Authority.
- Geoscience Australia (2015). *Surface Hydrology GIS*. Australian Government.
- GHD. (2017). *Great Eastern Highway Ghooli SLK 368.43-395: Biological Assessment*. Report prepared for Main Roads Western Australia, January 2017.
- Gibson, N. and Lyons, M. N. (1998). *Floristic and Vegetation of the Eastern Goldfields Ranges: Part 3. Parker Range*. Journal of the Royal Society of Western Australia 81 (119-129).
- Government of Western Australia (2019). *Soil Landscape Mapping – Systems (DPIRD-064)*. GIS data obtained from data.wa.gov.au, last updated 27 June 2019.
- IUCN (2016a). *The IUCN Red List of Threatened Species. Version 2016-3*. International Union for Conservation of Nature.
- IUCN, (2016b). *The IUCN Red List of Ecosystems*. International Union for Conservation of Nature.
- Keighery, B. J., (1994). *Bushland Plant Survey: A guide to plant community survey for the community*. Wildflower Society of Western Australia (Inc.), Nedlands.
- Keighery, G. J., McKenzie, N. L. and Hall, N. J. (eds) (1995). *The Biological Survey of the Eastern Goldfields of Western Australia, Part 11, Boorabbin-Southern Cross Study Area*. Records of the Western Australian Museum, Supplement No. 49, Western Australia.
- McDonald, R. C., Isbell, R. F., Speight, J. G., Walker, J. and Hopkins, M. S. (2024). *Australian Soil and Land Survey Field Handbook, Fourth Edition*. Inkata Press, Melbourne.
- McKenzie, N.L., May J.E. and McKenna, S, (2002). *Bioregional Summary of the 2002 Biodiversity Audit for Western Australia*.
- Stantec (2021). *Yilgarn Star Flora, Vegetation and Fauna Survey*. Prepared for Barto Gold Mining Pty Ltd. March 2021.
- Stantec (2023). *Southern Cross Operations: Detailed Flora and Vegetation Consolidation Survey*. Prepared for Barto Gold Mining Pty Ltd. September 2023.
- Tille, P. (2006). *Soil Landscapes of Western Australia's Rangelands and Arid Interior*. Department of Agriculture and Food Western Australia.

Western Australian Herbarium [WAHERB] (1998-). *Florabase – the Western Australian flora*. Department of Biodiversity, Conservation and Attractions. Available: <https://florabase.dpaw.wa.gov.au/>. Accessed: December 2025.

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. - Published under Schedule 2 of the <i>Biodiversity Conservation (Listing of Native Species) (Fauna) Order 2025</i> (Government Gazette, WA 1 July 2025 No. 78 pg1060-1069). - Published under Schedule 1 of the <i>Biodiversity Conservation (Listing of Native Species) (Flora) Order 2025</i> (Government Gazette, WA 1 July 2025 No. 78 pg1070-1075).	
CR	Critically Endangered Threatened species considered to be “facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines”. Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines.
EN	Endangered Threatened species considered to be “facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines”. Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines.
VU	Vulnerable Threatened species considered to be “facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines”. Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines.
Extinct species Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild. - Published under Schedule 3 of the <i>Biodiversity Conservation (Listing of Native Species) (Fauna) Order 2025</i> (Government Gazette, WA 1 July 2025 No. 78 pg1060-1069). - Published under Schedule 2 of the <i>Biodiversity Conservation (Listing of Native Species) (Flora) Order 2025</i> (Government Gazette, WA 1 July 2025 No. 78 pg1070-1075).	
EX	Extinct Species where “ <i>there is no reasonable doubt that the last member of the species has died</i> ”, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).
EW	Extinct in the Wild Species that “ <i>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</i> ”, and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act). Currently there are no Threatened fauna or Threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.
Specially protected species Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection. Species that are listed as Threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species. - Published under Schedule 1 of the <i>Biodiversity Conservation (Listing of Native Species) (Fauna) Order 2025</i> (Government Gazette, WA 1 July 2025 No. 78).	
CD	Species of special conservation interest Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as Threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Code	Category
IA	<p>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).</p> <p>Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the <i>Convention on the Conservation of Migratory Species of Wild Animals</i> (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.</p>
OS	<p>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).</p>
<p>Priority species Possibly Threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of Priority for survey and evaluation of conservation status so that consideration can be given to their declaration as Threatened Fauna or Flora.</p> <p>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.</p> <p>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.</p>	
P1	<p>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.</p>
P2	<p>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.</p>
P3	<p>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.</p>
P4	<p>Priority 4: Rare, Near Threatened and other species in need of monitoring (a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands. (b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent. (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.</p>
<p>Commonwealth categories of Threatened species</p>	
EX	<p>Extinct Taxa where there is no reasonable doubt that the last member of the species has died.</p>
EW	<p>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.</p>
CR	<p>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.</p>

Code	Category
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: <ul style="list-style-type: none"> records within the last 50 years have not been confirmed despite thorough searches or known likely habitats or; all occurrences recorded within the last 50 years have since been destroyed.
CR	Critically Endangered
	An ecological community will be listed as Critically Endangered when it has been adequately surveyed and is found to be facing an extremely high risk of total destruction in the immediate future, meeting any one of the following criteria:
	The estimated geographic range and distribution has been reduced by at least 90% and is either continuing to decline with total destruction imminent, or is unlikely to be substantially rehabilitated in the immediate future due to modification;
	The current distribution is limited i.e. highly restricted, having very few small or isolated occurrences, or covering a small area;
	The ecological community is highly modified with potential of being rehabilitated in the immediate future.
EN	Endangered
	An ecological community will be listed as Endangered when it has been adequately surveyed and is not Critically Endangered but is facing a very high risk of total destruction in the near future. The ecological community must meet any one of the following criteria:
	The estimated geographic range and distribution has been reduced by at least 70% and is either continuing to decline with total destruction imminent in the short-term future, or is unlikely to be substantially rehabilitated in the short-term future due to modification;
	The current distribution is limited i.e. highly restricted, having very few small or isolated occurrences, or covering a small area;
	The ecological community is highly modified with potential of being rehabilitated in the short-term future.
VU	Vulnerable
	An ecological community will be listed as Vulnerable when it has been adequately surveyed and is not Critically Endangered or Endangered but is facing high risk of total destruction in the medium to long term future. The ecological community must meet any one of the following criteria:
	The ecological community exists largely as modified occurrences that are likely to be able to be substantially restored or rehabilitated;
	The ecological community may already be modified and would be vulnerable to threatening process, and restricted in range or distribution;
	The ecological community may be widespread but has potential to move to a higher threat category due to existing or impending threatening processes.
Commonwealth categories of Threatened Ecological Communities (TEC)	
CE	Critically Endangered If, at that time, an ecological community is facing an extremely high risk of extinction in the wild in the immediate future (indicative timeframe being the next 10 years).

Category Code	Category
EN	Endangered If, at that time, an ecological community is not critically endangered but is facing a very high risk of extinction in the wild in the near future (indicative timeframe being the next 20 years).
VU	Vulnerable If, at that time, an ecological community is not critically endangered or endangered, but is facing a high risk of extinction in the wild in the medium-term future (indicative timeframe being the next 50 years).
Priority Ecological Communities	
P1	Poorly-known ecological communities Ecological communities with apparently few, small occurrences, all or most not actively managed for conservation (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) and for which current threats exist.
P2	Poorly-known ecological communities Communities that are known from few small occurrences, all or most of which are actively managed for conservation (e.g. within national parks, conservation parks, nature reserves, State forest, un-allocated Crown land, water reserves, etc.) and not under imminent threat of destruction or degradation.
P3	Poorly known ecological communities Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or: Communities known from a few widespread occurrences, which are either large or within significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat, or; 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: VEGETATION CONDITION RATING

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

APPENDIX C: LIST OF SPECIES IDENTIFIED WITHIN EACH VEGETATION TYPE

(A) and blue text-denotes annual taxa; (W) and green text-denotes introduced flora (WAHERB, 1998-)

Family	Species	CLP-EW1	SCLP-EW1	RS-EW1	DD-MS1	CD-MS1	CD-CS1
Aizoaceae	<i>Disphyma crassifolium</i>			*			*
Aizoaceae	<i>Gunniopsis intermedia</i>						*
Aizoaceae	<i>Mesembryanthemum nodiflorum (W)</i>	*		*	*		
Apocynaceae	<i>Alyxia buxifolia</i>		*	*			
Asparagaceae	<i>Angianthus cornutus (A)</i>						*
Asparagaceae	<i>Lomandra effusa</i>	*	*		*		
Asparagaceae	<i>Thysanotus dichotomus</i>		*				
Asteraceae	<i>Angianthus tomentosus (A)</i>						*
Asteraceae	<i>Asteridea athrixoides (A)</i>	*					*
Asteraceae	<i>Erymophyllum ramosum (A)</i>	*					
Asteraceae	<i>Olearia muelleri</i>	*	*	*			
Asteraceae	<i>Olearia pimeleoides</i>	*	*				
Asteraceae	<i>Panaetia lessonii (A)</i>		*				*
Asteraceae	<i>Senecio pinnatifolius (A)</i>						*
Asteraceae	<i>Sonchus oleraceus (W)</i>						*
Asteraceae	<i>Waitzia fitzgibbonii (A)</i>	*					
Chenopodiaceae	<i>Atriplex codonocarpa (A)</i>				*		
Chenopodiaceae	<i>Atriplex stipitata</i>	*	*				
Chenopodiaceae	<i>Atriplex vesicaria</i>	*		*	*		*
Chenopodiaceae	<i>Enchylaena tomentosa</i>				*		
Chenopodiaceae	<i>Maireana carmosa</i>	*	*				*
Chenopodiaceae	<i>Maireana georgei</i>		*				
Chenopodiaceae	<i>Maireana glomerifolia</i>						*
Chenopodiaceae	<i>Rhagodia eremaea</i>	*	*	*	*		
Chenopodiaceae	<i>Sclerolaena diacantha</i>			*			
Chenopodiaceae	<i>Sclerolaena drummondii</i>						*
Chenopodiaceae	<i>Sclerolaena uniflora</i>	*	*		*		
Chenopodiaceae	<i>Tecticornia disarticulata</i>	*		*			*
Chenopodiaceae	<i>Tecticornia halocnemoides</i>				*		
Chenopodiaceae	<i>Tecticornia indica</i> subsp. <i>bidens</i>				*		*
Ericaceae	<i>Styphelia serratifolia</i>			*			
Euphorbiaceae	<i>Beyeria sulcata</i> var. <i>brevipes</i>	*					
Fabaceae	<i>Acacia colletioides</i>	*	*	*			
Fabaceae	<i>Acacia concolorans</i>	*					
Fabaceae	<i>Acacia erinacea</i>	*					
Fabaceae	<i>Acacia merrallii</i>	*	*	*			
Fabaceae	<i>Senna artemisioides</i> subsp. <i>filifolia</i>	*	*	*			
Fabaceae	<i>Templetonia ceracea</i>	*	*	*			*

Family	Species	CLP-EW1	SCLP-EW1	RS-EW1	DD-MS1	CD-MS1	CD-CS1
Frankeniaceae	<i>Frankenia cinerea</i>						*
Frankeniaceae	<i>Frankenia setosa</i>				*		*
Goodeniaceae	<i>Scaevola bursariifolia</i>		*				
Goodeniaceae	<i>Scaevola spinescens</i>	*	*	*			
Lamiaceae	<i>Westringia cephalantha</i>		*	*			
Lamiaceae	<i>Westringia rigida</i>	*	*				
Malvaceae	<i>Lawrenzia diffusa</i>			*			
Montiaceae	<i>Calandrinia polyandra (A)</i>			*			
Myrtaceae	<i>Eucalyptus celastroides</i>		*				
Myrtaceae	<i>Eucalyptus corrugata</i>	*		*			
Myrtaceae	<i>Eucalyptus gracilis</i>	*					
Myrtaceae	<i>Eucalyptus longicornis</i>	*	*	*			
Myrtaceae	<i>Eucalyptus myriadena</i>	*	*				
Myrtaceae	<i>Eucalyptus oleosa</i>	*		*			
Myrtaceae	<i>Eucalyptus salicola</i>	*	*				
Myrtaceae	<i>Eucalyptus salmonophloia</i>	*		*			
Myrtaceae	<i>Eucalyptus salubris</i>	*	*	*			
Myrtaceae	<i>Eucalyptus vittata</i>			*			
Myrtaceae	<i>Melaleuca lateriflora</i>				*	*	
Myrtaceae	<i>Melaleuca pauperiflora</i>	*	*	*	*	*	
Myrtaceae	<i>Melaleuca zeteticorum</i>				*		
Poaceae	<i>Austrostipa elegantissima</i>	*	*	*			*
Poaceae	<i>Austrostipa nitida (A)</i>		*				
Poaceae	<i>Bromus diandrus (W)</i>						*
Poaceae	<i>Eragrostis falcata</i>						*
Poaceae	<i>Vulpia bromoides (W)</i>						*
Primulaceae	<i>Lysimachia arvensis (W)</i>						*
Proteaceae	<i>Grevillea acuaria</i>	*	*				
Proteaceae	<i>Grevillea huegelii</i>		*				
Rutaceae	<i>Phebalium filifolium</i>	*					
Rutaceae	<i>Phebalium multiflorum</i> subsp. <i>multiflorum</i>	*		*			
Santalaceae	<i>Exocarpos aphyllus</i>	*	*	*	*		*
Santalaceae	<i>Santalum acuminatum</i>	*	*	*			
Sapindaceae	<i>Dodonaea stenozyga</i>			*			
Scrophulariaceae	<i>Eremophila caperata</i>	*			*		
Scrophulariaceae	<i>Eremophila dempsteri</i>	*					
Scrophulariaceae	<i>Eremophila ionantha</i>	*	*	*			*
Scrophulariaceae	<i>Eremophila maculata</i>				*		
Scrophulariaceae	<i>Eremophila scoparia</i>	*	*				
Solanaceae	<i>Lycium australe</i>	*	*	*	*		*
Zygophyllaceae	<i>Roepera fruticulosa (A)</i>	*					
Zygophyllaceae	<i>Roepera glauca (A)</i>	*					
Zygophyllaceae	<i>Roepera halophila (A)</i>						*
Zygophyllaceae	<i>Roepera ovata (A)</i>	*	*	*			

APPENDIX D: QUADRAT LOCATIONS (NW CORNER-GDA2020)

Quadrat	Easting	Northing	MGA Zone
Q1	752458.9	6499822	51
Q2	752721.5	6499761	51
Q3	752923.7	6500028	51
Q4	753178.2	6500205	51
Q5	753107.5	6500580	51
Q6	753464.0	6500574	51
Q7	753726.3	6500300	51
Q8	753447.1	6500044	51
Q9	753363.8	6499683	51
Q10	752904.0	6500948	51
Q11	752952.1	6501203	51
Q12	752254.3	6502872	51
Q13	752186.6	6502373	51
Q14	752525.9	6501984	51
Q15	753031.7	6502266	51
Q16	750738.8	6502094	51
Q17	750903.0	6502384	51
Q18	750763.8	6502772	51
Q19	751139.2	6502835	51
Q20	751206.3	6502152	51
Q21	750754.7	6501619	51
Q22	750548.4	6502540	51
Q23	752121.1	6501867	51
Q24	752242.8	6501932	51
Q25	751770.9	6501144	51
Q26	751593.5	6500928	51
Q27	751780.4	6500454	51
Q28	752261.1	6500645	51

APPENDIX E: QUADRAT DATASHEETS

Project Name: Southern Star		
Date: 15/10/2025	Botanist: JW	Photo number (NW corner): 802-804
Quadrat No: 1	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4308
Coordinates (GDA94): 752458.9E; 6499822.1N		Elevation (m): 380.5
Aspect: North	Fire (yrs): 60	Condition rating: Very good
Landform: Mid slope/ Top third of the height of the landform element/ Hill crest/ No effective disturbance except grazing by hoofed animals		
Coarse fragments on the surface: 50%-90%/ 20-60mm/ Subrounded		
Rock outcrop (abundance/runoff): Very rocky/ Very slow		
Soil (profile/field texture/soil surface): Light brown/ Uniform/ Silty clay loam/ Firm		
Cover leaf litter: 20%		
Cover bare ground: 70%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 3-6m	Height: 3-6m	Height: 0.5-1m
Crown cover: 30-70%	Crown cover: <10%	Crown cover: 30-70%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus oleosa</i>	<i>Melaleuca pauperiflora</i>	<i>Phebalium multiflorum</i> subsp. <i>multiflorum</i>
ALL TAXA		
<i>Acacia merrallii</i>		
<i>Eucalyptus oleosa</i>		
<i>Eucalyptus salubris</i>		
<i>Melaleuca pauperiflora</i>		
<i>Phebalium multiflorum</i> subsp. <i>multiflorum</i>		
<i>Roepera ovata</i> (A)		
<i>Santalum acuminatum</i>		
<i>Senna artemisioides</i> subsp. <i>filifolia</i>		
<i>Styphelia serratifolia</i>		
<i>Templetonia ceracea</i>		

Project Name: Southern Star		
Date: 15/10/2025	Botanist: JW	Photo number (NW corner): 805-807
Quadrat No: 2	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4312
Coordinates (GDA94): 752721.5E ; 6499760.8N		Elevation (m): 358.6
Aspect: East	Fire (yrs): Long unburnt	Condition rating: Good
Landform: Flat/ Closed depression/ Bottom third of the height of the landform element/ Playa/ No effective disturbance except grazing by hoofed animals		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ No runoff		
Soil (profile/field texture/soil surface): Uniform/ Heavy clay/ Firm		
Cover leaf litter: 10%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form:	Growth form: Shrub	Growth form: Chenopod shrub
Height:	Height: 1-3m	Height: 0.5-1m
Crown cover:	Crown cover: <1%	Crown cover: 30-70%
Dominant taxa:	Dominant taxa:	Dominant taxa:
Nil	<i>Exocarpos aphyllus</i>	<i>Tecticornia disarticulata</i>
ALL TAXA		
<i>Angianthus tomentosus (A)</i>		
<i>Atriplex vesicaria</i>		
<i>Austrostipa elegantissima</i>		
<i>Disphyma crassifolium</i>		
<i>Eremophila ionantha</i>		
<i>Exocarpos aphyllus</i>		
<i>Lycium australe</i>		
<i>Lysimachia arvensis (W) (A)</i>		
<i>Maireana glomerifolia</i>		
<i>Panaetia lessonii (A)</i>		
<i>Sclerolaena drummondii</i>		
<i>Sonchus oleraceus (W)(A)</i>		
<i>Tecticornia disarticulata</i>		
<i>Vulpia bromoides (W)(A)</i>		

Project Name: Southern Star		
Date: 15/10/2025	Botanist: JW	Photo number (NW corner): 808-810
Quadrat No: 3	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4316
Coordinates (GDA94): 752923.7E; 6500028.2N		Elevation (m): 366.1
Aspect: South	Fire (yrs): 60	Condition rating: Very good
Landform: Flat/ Middle third of the height of the landform element/ Flood-out/ No effective disturbance except grazing by hoofed animals		
Coarse fragments on the surface: <2%/ 20-60mm/ Angular platy		
Rock outcrop (abundance/runoff): Nil/ Moderately rapid		
Soil (profile/field texture/soil surface): Red brown/ Uniform/ Heavy clay/ Firm		
Cover leaf litter: 60%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Chenopod shrub
Height: 6-12m	Height: 1-3m	Height: 0.25-0.5m
Crown cover: 30-70%	Crown cover: <10%	Crown cover: 10-30%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus salubris</i>	<i>Exocarpos aphyllus</i>	<i>Tecticornia disarticulata</i>
ALL TAXA		
<i>Alyxia buxifolia</i>		
<i>Atriplex vesicaria</i>		
<i>Austrostipa elegantissima</i>		
<i>Calandrinia polyandra (A)</i>		
<i>Disphyma crassifolium</i>		
<i>Eucalyptus salubris</i>		
<i>Lawrenxia diffusa</i>		
<i>Lycium australe</i>		
<i>Rhagodia eremaea</i>		
<i>Tecticornia disarticulata</i>		
<i>Westringia cephalantha</i>		

Project Name: Southern Star		
Date: 15/10/2025	Botanist: JW	Photo number (NW corner): 816-818
Quadrat No: 4	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4321
Coordinates (GDA94): 753178.2E; 6500205.2N		Elevation (m): 362.8
Aspect: West	Fire (yrs): 40	Condition rating: Good
Landform: Flat/ Middle third of the height of the landform element/ Plain/ No effective disturbance except grazing by hoofed animals		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Moderately rapid		
Soil (profile/field texture/soil surface): Red brown/ Uniform/ Sandy clay loam/ Firm		
Cover leaf litter: 10%		
Cover bare ground: 40%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 1-3m	Height: 0.5-1m
Crown cover: 10-30%	Crown cover: <10%	Crown cover: 10-30%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus salubris</i>	<i>Eremophila scoparia</i>	<i>Acacia colletioides</i>
ALL TAXA		
<i>Acacia colletioides</i>		
<i>Atriplex stipitata</i>		
<i>Eremophila scoparia</i>		
<i>Eucalyptus salubris</i>		
<i>Grevillea acuaria</i>		
<i>Lycium australe</i>		
<i>Olearia muelleri</i>		
<i>Sclerolaena uniflora</i>		
<i>Thysanotus dichotomus</i>		

Project Name: Southern Star		
Date: 15/10/2025	Botanist: JW	Photo number (NW corner): 819-821
Quadrat No: 5	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4325
Coordinates (GDA94): 753107.5E; 6500579.5N		Elevation (m): 358.7
Aspect: North	Fire (yrs): 60	Condition rating: Good
Landform: Flat/ Closed depression/ Bottom third of the height of the landform/ Playa/ No effective disturbance except grazing by hoofed animals		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Moderately rapid		
Soil (profile/field texture/soil surface): Light brown/ Uniform/ Silty clay loam/ Firm		
Cover leaf litter: 10%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Shrub	Growth form: Shrub	Growth form: Shrub
Height: 3-6m	Height: 1-3m	Height: 0.5-1m
Crown cover: 30-70%	Crown cover: 10-30%	Crown cover: 10-30%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Melaleuca pauperiflora</i>	<i>Melaleuca lateriflora</i>	<i>Tecticornia indica</i> subsp. <i>bidens</i>
ALL TAXA		
<i>Atriplex vesicaria</i>		
<i>Enchylaena tomentosa</i>		
<i>Eremophila maculata</i>		
<i>Frankenia setosa</i>		
<i>Melaleuca lateriflora</i>		
<i>Rhagodia eremaea</i>		
<i>Sclerolaena uniflora</i>		
<i>Tecticornia halocnemoides</i>		
<i>Tecticornia indica</i> subsp. <i>bidens</i>		

Project Name: Southern Star		
Date: 15/10/2025	Botanist: JW	Photo number (NW corner): 822-824
Quadrat No: 6	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4329
Coordinates (GDA94): 753464.0E; 6500573.9N		Elevation (m): 360.5
Aspect: East	Fire (yrs): 60	Condition rating: Good
Landform: Flat/ Closed depression/ Bottom third of the height of the landform element/ Playa/ No effective disturbance except grazing by hoofed animals		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Very slow		
Soil (profile/field texture/soil surface): Red/ Uniform/ Heavy clay/ Firm		
Cover leaf litter: 10%		
Cover bare ground: 60%		
Upper stratum	Mid-stratum	Lower stratum
Growth form:	Growth form:	Growth form: Chenopod shrub
Height:	Height:	Height: 0.25-0.5m
Crown cover:	Crown cover:	Crown cover: 10-30%
Dominant taxa:	Dominant taxa:	Dominant taxa:
Nil	Nil	<i>Tecticornia indica</i>
ALL TAXA		
<i>Atriplex vesicaria</i>		
<i>Bromus diandrus (W)(A)</i>		
<i>Disphyma crassifolium</i>		
<i>Frankenia setosa</i>		
<i>Gunniopsis intermedia</i>		
<i>Lycium australe</i>		
<i>Maireana carnososa</i>		
<i>Tecticornia indica</i>		

Project Name: Southern Star		
Date: 15/10/2025	Botanist: JW	Photo number (NW corner): 825-827
Quadrat No: 7	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4333
Coordinates (GDA94): 753726.3E; 6500300.4N		Elevation (m): 364.5
Aspect: North	Fire (yrs): 40	Condition rating: Very good
Landform: Flat/ Middle third of the height of the landform element/ Plain/ No effective disturbance		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Slow		
Soil (profile/field texture/soil surface): Red brown/ Sandy clay loam/ Firm		
Cover leaf litter: 15%		
Cover bare ground: 60%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 1-3m	Height: 0.5-1m
Crown cover: 10-30%	Crown cover: 30-70%	Crown cover: 10-30%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus salicola</i>	<i>Acacia colletioides</i>	<i>Lomandra effusa</i>
ALL TAXA		
<i>Acacia colletioides</i>		
<i>Eucalyptus salicola</i>		
<i>Exocarpos aphyllus</i>		
<i>Lomandra effusa</i>		
<i>Lycium australe</i>		

Project Name: Southern Star		
Date: 15/10/2025	Botanist: JW	Photo number (NW corner): 828-830
Quadrat No: 8	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4337
Coordinates (GDA94): 753447.1E; 6500044.4N		Elevation (m): 356.4
Aspect: South	Fire (yrs): 60	Condition rating: Very good
Landform: Flat/ Closed Depression/ Bottom third of the height of the landform element/ Playa/ No effective disturbance		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Slow		
Soil (profile/field texture/soil surface): Red brown/ Uniform/ Heavy clay/ Firm		
Cover leaf litter: 5%		
Cover bare ground: 20%		
Upper stratum	Mid-stratum	Lower stratum
Growth form:	Growth form: Shrub	Growth form: Shrub
Height:	Height: 3-6m	Height: 0.5-1m
Crown cover:	Crown cover: 10-30%	Crown cover: 10-30%
Dominant taxa:	Dominant taxa:	Dominant taxa:
Nil	<i>Melaleuca pauperiflora</i>	<i>Melaleuca lateriflora</i>
ALL TAXA		
<i>Melaleuca lateriflora</i>		
<i>Melaleuca pauperiflora</i>		

Project Name: Southern Star		
Date: 15/10/2025	Botanist: JW	Photo number (NW corner): 831-833
Quadrat No: 9	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4341
Coordinates (GDA94): 753363.8E; 6499682.9N		Elevation (m): 357.7
Aspect: SW	Fire (yrs): 40	Condition rating: Very good
Landform: Flat/ Middle third of the height of the landform element/ Plain/ No effective disturbance		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Very slow		
Soil (profile/field texture/soil surface): Light red/ Heavy clay/ Firm		
Cover leaf litter: 20%		
Cover bare ground: 60%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 1-3m	Height: 0.5-1m
Crown cover: 10-30%	Crown cover: <10%	Crown cover: 10-30%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus myriadena</i>	<i>Melaleuca pauperiflora</i>	<i>Olearia muelleri</i>
ALL TAXA		
<i>Eucalyptus myriadena</i>		
<i>Eucalyptus salubris</i>		
<i>Exocarpos aphyllus</i>		
<i>Lomandra effusa</i>		
<i>Maireana georgei</i>		
<i>Melaleuca pauperiflora</i>		
<i>Olearia muelleri</i>		
<i>Rhagodia eremaea</i>		
<i>Sclerolaena uniflora</i>		

Project Name: Southern Star		
Date: 15/10/2025	Botanist: JW	Photo number (NW corner): 834-836
Quadrat No: 10	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4345
Coordinates (GDA94): 752904.0E; 6500948.1N		Elevation (m): 353.6
Aspect: West	Fire (yrs): 60	Condition rating: Very good
Landform: Flat/ Middle third of the height of the landform element/ Plain/ No effective disturbance		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Slow		
Soil (profile/field texture/soil surface): Red/ Heavy clay/ Soft		
Cover leaf litter: 30%		
Cover bare ground: 70%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 1-3m	Height: 0.5-1m
Crown cover: 30-70%	Crown cover: <1%	Crown cover: <10%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus salubris</i>	<i>Exocarpos aphyllus</i>	<i>Olearia muelleri</i>
ALL TAXA		
<i>Acacia merrallii</i>		
<i>Atriplex stipitata</i>		
<i>Eremophila scoparia</i>		
<i>Eucalyptus myriadena</i>		
<i>Eucalyptus salubris</i>		
<i>Exocarpos aphyllus</i>		
<i>Grevillea acuaria</i>		
<i>Grevillea huegelii</i>		
<i>Lomandra effusa</i>		
<i>Lycium australe</i>		
<i>Maireana carnosa</i>		
<i>Olearia muelleri</i>		
<i>Panaetia lessonii</i> (A)		
<i>Scaevola spinescens</i>		

Project Name: Southern Star		
Date: 15/10/2025	Botanist: JW	Photo number (NW corner): 837-839
Quadrat No: 11	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4349
Coordinates (GDA94): 752952.1E; 6501203.3N		Elevation (m): 356.6
Aspect: West	Fire (yrs): 60	Condition rating: Very good
Landform: Flat/ Bottom third of the height of the landform element/ Plain/ No effective disturbance		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Very slow		
Soil (profile/field texture/soil surface): Red Brown/ Uniform/ Sandy clay loam/ Soft		
Cover leaf litter: 20%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 1-3m	Height: 0.5-1m
Crown cover: 10-30%	Crown cover: 10-30%	Crown cover: 10-30%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus myriadena</i>	<i>Santalum acuminatum</i>	<i>Acacia merrallii</i>
ALL TAXA		
<i>Acacia merrallii</i>		
<i>Austrostipa elegantissima</i>		
<i>Grevillea acuaria</i>		
<i>Lomandra effusa</i>		
<i>Olearia pimeleoides</i>		
<i>Santalum acuminatum</i>		
<i>Scaevola bursariifolia</i>		
<i>Senna artemisioides</i> subsp. <i>filifolia</i>		
<i>Templetonia ceracea</i>		
<i>Westringia cephalantha</i>		
<i>Westringia rigida</i>		

Project Name: Southern Star		
Date: 15/10/2025	Botanist: JW	Photo number (NW corner): 840-842
Quadrat No: 12	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4354
Coordinates (GDA94): 752254.3E; 6502872.0N		Elevation (m): 355.8
Aspect: West	Fire (yrs): 60	Condition rating: Very good
Landform: Flat/ Middle third of the height of the landform element/ Plain/ No effective disturbance except grazing by hoofed animals		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Very slow		
Soil (profile/field texture/soil surface): Light brown/ Uniform/ Heavy clay/ Firm		
Cover leaf litter: 20%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 1-3m	Height: 0.5-1m
Crown cover: 10-30%	Crown cover: 10-30%	Crown cover: 10-30%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus salubris</i>	<i>Eremophila scoparia</i>	<i>Atriplex vesicaria</i>
ALL TAXA		
<i>Atriplex vesicaria</i>		
<i>Eremophila scoparia</i>		
<i>Eucalyptus salubris</i>		
<i>Exocarpos aphyllus</i>		
<i>Lycium australe</i>		
<i>Olearia pimeleoides</i>		

Project Name: Southern Star		
Date: 15/10/2025	Botanist: JW	Photo number (NW corner): 843-845
Quadrat No: 13	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4358
Coordinates (GDA94): 752186.6E; 6502372.9N		Elevation (m): 357.0
Aspect: North	Fire (yrs): 40	Condition rating: Very good
Landform: Flat/ Top third of the height of the landform element/ Plain/ No effective disturbance		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Moderately rapid		
Soil (profile/field texture/soil surface): Light brown/ Sandy clay loam/ Soft		
Cover leaf litter: 40%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 1-3m	Height: 1-3m
Crown cover: 30-70%	Crown cover: <1%	Crown cover: 10-30%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus salicola</i>	<i>Exocarpos aphyllus</i>	<i>Acacia colletioides</i>
ALL TAXA		
<i>Acacia colletioides</i>		
<i>Eremophila caperata</i>		
<i>Eucalyptus salicola</i>		
<i>Exocarpos aphyllus</i>		
<i>Grevillea acuaria</i>		
<i>Lomandra effusa</i>		
<i>Olearia muelleri</i>		

Project Name: Southern Star		
Date: 15/10/2025	Botanist: JW	Photo number (NW corner): 846-848
Quadrat No: 14	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4362
Coordinates (GDA94): 752525.9E; 6501983.7N		Elevation (m): 354.8
Aspect: West	Fire (yrs): 60	Condition rating: Very good
Landform: Flat/ Middle third of the height of the landform element/ Plain/ No effective disturbance		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Very slow		
Soil (profile/field texture/soil surface): Light red/ Uniform/ Silty clay loam/ Firm		
Cover leaf litter: 30%		
Cover bare ground: 70%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 1-3m	Height: 0.5-1m
Crown cover: 10-30%	Crown cover: 10-30%	Crown cover: <10%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus myriadena</i>	<i>Exocarpos aphyllus</i>	<i>Olearia muelleri</i>
ALL TAXA		
<i>Acacia merrallii</i>		
<i>Eucalyptus celastroides</i>		
<i>Eucalyptus myriadena</i>		
<i>Exocarpos aphyllus</i>		
<i>Lomandra effusa</i>		
<i>Melaleuca pauperiflora</i>		
<i>Olearia muelleri</i>		
<i>Scaevola spinescens</i>		

Project Name: Southern Star		
Date: 15/10/2025	Botanist: JW	Photo number (NW corner): 849-851
Quadrat No: 15	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4366
Coordinates (GDA94): 753031.7E; 6502266.0N		Elevation (m): 361.6
Aspect: North	Fire (yrs): 60	Condition rating: Very good
Landform: Flat/ Middle third of the height of the landform element/ Plain/ No effective disturbance		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Slow		
Soil (profile/field texture/soil surface): Red/ Heavy clay/ Firm		
Cover leaf litter: 30%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 3-6m	Height: 0.25-0.5m
Crown cover: 30-70%	Crown cover: <10%	Crown cover: <10%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus longicornis</i>	<i>Exocarpos aphyllus</i>	<i>Olearia muelleri</i>
ALL TAXA		
<i>Alyxia buxifolia</i>		
<i>Austrostipa nitida</i> (A)		
<i>Eremophila ionantha</i>		
<i>Eucalyptus longicornis</i>		
<i>Exocarpos aphyllus</i>		
<i>Lomandra effusa</i>		
<i>Olearia muelleri</i>		
<i>Roepera ovata</i> (A)		
<i>Scaevola spinescens</i>		
<i>Senna artemisioides</i> subsp. <i>filifolia</i>		
<i>Westringia cephalantha</i>		

Project Name: Southern Star		
Date: 16/10/25	Botanist: JW	Photo number (NW corner): 847-849
Quadrat No: 16	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4371
Coordinates (GDA94): 750738.8E; 6502094.2N		Elevation (m): 360.6
Aspect: East	Fire (yrs): 60	Condition rating: Very good
Landform: Flat/ Middle third of the height of the landform element/ Plain/ No effective disturbance		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Slow		
Soil (profile/field texture/soil surface): Brown/ Uniform/ Heavy clay/ Firm		
Cover leaf litter: 60%		
Cover bare ground: 90%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 3-6m	Height: 0.5-1m
Crown cover: 30-70%	Crown cover: 10-30%	Crown cover: <1%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus salubris</i>	<i>Melaleuca pauperiflora</i>	<i>Grevillea acuaria</i>
ALL TAXA		
<i>Austrostipa elegantissima</i>		
<i>Eucalyptus salubris</i>		
<i>Exocarpos aphyllus</i>		
<i>Grevillea acuaria</i>		
<i>Lomandra effusa</i>		
<i>Lycium australe</i>		
<i>Melaleuca pauperiflora</i>		
<i>Olearia muelleri</i>		
<i>Roepera glauca (A)</i>		

Project Name: Southern Star		
Date: 16/10/25	Botanist: JW	Photo number (NW corner): 850-852
Quadrat No: 17	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4375
Coordinates (GDA94): 750903.E; 6502383.6N		Elevation (m): 359.4
Aspect: North	Fire (yrs): 60	Condition rating: Good
Landform: Flat/ Closed depression/ Bottom third of the height of the landform element/ Playa/ No effective disturbance		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Very slow		
Soil (profile/field texture/soil surface): Light brown/ Uniform/ Heavy clay/ Firm		
Cover leaf litter: 5%		
Cover bare ground: 40%		
Upper stratum	Mid-stratum	Lower stratum
Growth form:	Growth form:	Growth form: Chenopod shrub
Height:	Height:	Height: 0.25-0.5m
Crown cover:	Crown cover:	Crown cover: 30-70%
Dominant taxa:	Dominant taxa:	Dominant taxa:
Nil	Nil	<i>Tecticornia indica</i> subsp. <i>bidens</i>
ALL TAXA		
<i>Asteridea athrixioides</i> (A)		
<i>Disphyma crassifolium</i>		
<i>Frankenia cinerea</i>		
<i>Senecio pinnatifolius</i> (A)		
<i>Tecticornia indica</i> subsp. <i>bidens</i>		

Project Name: Southern Star		
Date: 16/10/25	Botanist: JW	Photo number (NW corner): 855-857
Quadrat No: 18	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4379
Coordinates (GDA94): 750763.8E; 6502771.6N		Elevation (m): 367.0
Aspect: South	Fire (yrs): 60	Condition rating: Very good
Landform: Flat/ Middle third of the height of the landform element/ Plain/ No effective disturbance except grazing by hoofed animals		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Slow		
Soil (profile/field texture/soil surface): Light brown/ Uniform/ Clay loam sandy/ Firm		
Cover leaf litter: 60%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 1-3m	Height: 0.5-1m
Crown cover: 30-70%	Crown cover: <10%	Crown cover: <10%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus myriadena</i>	<i>Exocarpos aphyllus</i>	<i>Acacia merrallii</i>
ALL TAXA		
<i>Acacia colletioides</i>		
<i>Acacia merrallii</i>		
<i>Asteridea athrixioides (A)</i>		
<i>Austrostipa elegantissima</i>		
<i>Eucalyptus myriadena</i>		
<i>Exocarpos aphyllus</i>		
<i>Lomandra effusa</i>		
<i>Lycium australe</i>		
<i>Maireana carnosa</i>		
<i>Olearia muelleri</i>		
<i>Roepera fruticulosa (A)</i>		
<i>Roepera ovata (A)</i>		

Project Name: Southern Star		
Date: 16/10/25	Botanist: JW	Photo number (NW corner): 858-860
Quadrat No: 19	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4383
Coordinates (GDA94): 751139.2E; 6502835.4N		Elevation (m): 366.0
Aspect: South	Fire (yrs): 60	Condition rating: Very good
Landform: Flat/ Closed depression/ Bottom third of the height of the landform element/ Playa/ No effective disturbance		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ No runoff		
Soil (profile/field texture/soil surface): Uniform/ Heavy clay/ Soft		
Cover leaf litter: 10%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form:	Growth form:	Growth form: Chenopod shrub
Height:	Height:	Height: 0.5-1m
Crown cover:	Crown cover:	Crown cover: 30-70%
Dominant taxa:	Dominant taxa:	Dominant taxa:
Nil	Nil	<i>Tecticornia indica</i> subsp. <i>bidens</i>
ALL TAXA		
<i>Angianthus cornutus</i> (A)		
<i>Bromus diandrus</i> (W)(A)		
<i>Disphyma crassifolium</i>		
<i>Eragrostis falcata</i>		
<i>Roepera halophila</i> (A)		
<i>Senecio pinnatifolius</i> (A)		
<i>Tecticornia indica</i> subsp. <i>bidens</i>		

Project Name: Southern Star		
Date: 16/10/25	Botanist: JW	Photo number (NW corner): 861-863
Quadrat No: 20	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4387
Coordinates (GDA94): 751206.3E; 6502151.8N		Elevation (m): 356.0
Aspect: North	Fire (yrs): 60	Condition rating: Very good
Landform: Flat/ Middle third of the height of the landform element/ Plain/ No effective disturbance except grazing by hoofed animals		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Very slow		
Soil (profile/field texture/soil surface): Red/ Uniform/ Heavy clay/ Firm		
Cover leaf litter: 40%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 1-3m	Height: 0.5-1m
Crown cover: 10-30%	Crown cover: 10-30%	Crown cover: 10-30%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus myriadena</i>	<i>Melaleuca pauperiflora</i>	<i>Tecticornia disarticulata</i>
ALL TAXA		
<i>Acacia erinacea</i>		
<i>Atriplex vesicaria</i>		
<i>Eucalyptus myriadena</i>		
<i>Exocarpos aphyllus</i>		
<i>Lomandra effusa</i>		
<i>Lycium australe</i>		
<i>Maireana carnosae</i>		
<i>Melaleuca pauperiflora</i>		
<i>Phebalium multiflorum</i> subsp. <i>multiflorum</i>		
<i>Rhagodia eremaea</i>		
<i>Sclerolaena uniflora</i>		
<i>Tecticornia disarticulata</i>		

Project Name: Southern Star		
Date: 16/10/25	Botanist: JW	Photo number (NW corner): 864-866
Quadrat No: 21	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4391
Coordinates (GDA94): 750754.7E; 6501618.8N		Elevation (m): 371.1
Aspect: North	Fire (yrs): Long unburnt	Condition rating: Very good
Landform: Flat/ Middle third of the height of the landform element/ Plain/ Playa/ No effective disturbance		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Very slow		
Soil (profile/field texture/soil surface): Light brown/ Uniform/ Heavy clay/ Firm		
Cover leaf litter: 40%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 3-6m	Height: 0.5-1m
Crown cover: 30-70%	Crown cover: <10%	Crown cover: <10%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus salubris</i>	<i>Exocarpos aphyllus</i>	<i>Templetonia ceracea</i>
ALL TAXA		
<i>Acacia colletioides</i>		
<i>Beyeria sulcata</i> var. <i>brevipes</i>		
<i>Eremophila ionantha</i>		
<i>Eucalyptus gracilis</i>		
<i>Eucalyptus salubris</i>		
<i>Exocarpos aphyllus</i>		
<i>Phebalium filifolium</i>		
<i>Santalum acuminatum</i>		
<i>Senna artemisioides</i> subsp. <i>filifolia</i>		
<i>Templetonia ceracea</i>		
<i>Westringia rigida</i>		

Project Name: Southern Star		
Date: 16/10/25	Botanist: JW	Photo number (NW corner): 868-870
Quadrat No: 22	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4395
Coordinates (GDA94): 750548.4E; 6502540.2N		Elevation (m): 358.1
Aspect: East	Fire (yrs): 60	Condition rating: Very good
Landform: Flat/ Middle third of the height of the landform element/ Plain/ No effective disturbance except grazing by hoofed animals		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Slow		
Soil (profile/field texture/soil surface): Light brown/ Uniform/ Clay loam sandy/ Soft		
Cover leaf litter: 40%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 3-6m	Height: 1-3m
Crown cover: 30-70%	Crown cover: 10-30%	Crown cover:
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus salubris</i>	<i>Melaleuca pauperiflora</i>	<i>Eremophila caperata</i>
ALL TAXA		
<i>Eremophila caperata</i>		
<i>Erymophyllum ramosum (A)</i>		
<i>Eucalyptus salubris</i>		
<i>Exocarpos aphyllus</i>		
<i>Lomandra effusa</i>		
<i>Melaleuca pauperiflora</i>		
<i>Olearia muelleri</i>		
<i>Olearia pimeleoides</i>		

Project Name: Southern Star		
Date: 16/10/25	Botanist: JW	Photo number (NW corner): 871-873
Quadrat No: 23	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4399
Coordinates (GDA94): 752121.1E; 6501866.9N		Elevation (m): 362.1
Aspect: South	Fire (yrs): 60	Condition rating: Very good
Landform: Flat/ Middle third of the height of the landform/ Plain/ No effective disturbance except grazing by hoofed animals		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Very slow		
Soil (profile/field texture/soil surface): Light brown/ Clay loam sandy/ Soft		
Cover leaf litter: 60%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 1-3m	Height: 0.5-1m
Crown cover: 30-70%	Crown cover: 10-30%	Crown cover: <10%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus salicola</i>	<i>Melaleuca pauperiflora</i>	<i>Lomandra effusa</i>
ALL TAXA		
<i>Eremophila caperata</i>		
<i>Eucalyptus salicola</i>		
<i>Exocarpos aphyllus</i>		
<i>Lomandra effusa</i>		
<i>Melaleuca pauperiflora</i>		
<i>Melaleuca zeteticorum</i>		

Project Name: Southern Star		
Date: 16/10/25	Botanist: JW	Photo number (NW corner): 867-869
Quadrat No: 24	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4403
Coordinates (GDA94): 752242.8E; 6501932.1N		Elevation (m): 356.1
Aspect: North	Fire (yrs): 60	Condition rating: Very good
Landform: Open depression/ Bottom third of the height of the landform element/ Gully/ No effective disturbance except for grazing by hoofed animals		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Slow		
Soil (profile/field texture/soil surface): Light brown/ Uniform/ Heavy clay/ Firm		
Cover leaf litter: 10%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Shrub	Growth form: Shrub	Growth form: Chenopod shrub
Height: 3-6m	Height: 0.5-1m	Height: < 0.2 m
Crown cover: 30-70%	Crown cover: 30-70%	Crown cover: 10-30%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Melaleuca pauperiflora</i>	<i>Tecticornia halocnemoides</i>	<i>Sclerolaena uniflora</i>
ALL TAXA		
<i>Atriplex codonocarpa (A)</i>		
<i>Lycium australe</i>		
<i>Melaleuca lateriflora</i>		
<i>Melaleuca pauperiflora</i>		
<i>Mesembryanthemum nodiflorum (A)(W)</i>		
<i>Sclerolaena uniflora</i>		
<i>Tecticornia halocnemoides</i>		

Project Name: Southern Star		
Date: 16/10/25	Botanist: JW	Photo number (NW corner): 870-872
Quadrat No: 25	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4407
Coordinates (GDA94): 751770.9E; 6501143.9N		Elevation (m): 369.5
Aspect: South	Fire (yrs): 60	Condition rating: Very good
Landform: Flat/ Middle third of the height of the landform element/ Hillslope/ No effective disturbance except for grazing by hoofed animals		
Coarse fragments on the surface: 50-90%/ 2-6mm/ Subangular		
Rock outcrop (abundance/runoff): Nil/ Slow		
Soil (profile/field texture/soil surface): Light brown/ Uniform/ Heavy clay/ Firm		
Cover leaf litter: 40%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 3-6m	Height: 0.5-1m	Height: 0.5-1m
Crown cover: 30-70%	Crown cover: 10-30%	Crown cover: 10-30%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus oleosa</i>	<i>Melaleuca pauperiflora</i>	<i>Phebalium filifolium</i>
ALL TAXA		
<i>Acacia concolorans</i>		
<i>Beyeria sulcata</i> var. <i>brevipes</i>		
<i>Eremophila dempsteri</i>		
<i>Eremophila scoparia</i>		
<i>Eucalyptus corrugata</i>		
<i>Eucalyptus oleosa</i>		
<i>Eucalyptus salmonophloia</i>		
<i>Melaleuca pauperiflora</i>		
<i>Mesembryanthemum nodiflorum</i> (A)(W)		
<i>Phebalium filifolium</i>		
<i>Santalum acuminatum</i>		
<i>Scaevola spinescens</i>		
<i>Templetonia ceracea</i>		

Project Name: Southern Star		
Date: 16/10/25	Botanist: JW	Photo number (NW corner): 873-875
Quadrat No: 26	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4411
Coordinates (GDA94): 751593.5E; 6500927.7N		Elevation (m): 370.4
Aspect: South	Fire (yrs): 60	Condition rating: Good
Landform: Mid/ Mid slope/ Top third of the height of the landform element/ Hillslope/ Limited clearing		
Coarse fragments on the surface: 50-90%/ 20-60mm/ Subangular		
Rock outcrop (abundance/runoff): Nil/ Slow		
Soil (profile/field texture/soil surface): Light brown/ Silty clay loam/ Soft		
Cover leaf litter: 30%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 1-3m	Height: 0.5-1m
Crown cover: 30-70%	Crown cover: 10-30%	Crown cover: <1%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus vittata</i>	<i>Melaleuca pauperiflora</i>	<i>Acacia merrallii</i>
ALL TAXA		
<i>Acacia merrallii</i>		
<i>Eremophila ionantha</i>		
<i>Eucalyptus vittata</i>		
<i>Exocarpos aphyllus</i>		
<i>Melaleuca pauperiflora</i>		
<i>Mesembryanthemum nodiflorum (A)(W)</i>		
<i>Scaevola spinescens</i>		
<i>Sclerolaena diacantha</i>		
















Project Name: Southern Star		
Date: 16/10/25	Botanist: JW	Photo number (NW corner): 876-878
Quadrat No: 27	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4418
Coordinates (GDA94): 751780.4E; 6500454.4N		Elevation (m): 373.9
Aspect: South	Fire (yrs): 60	Condition rating: Good
Landform: Mid/ Upper slope/ Top third of the height of the landform element/ Hillslope/ No effective disturbance except grazing by hoofed animals		
Coarse fragments on the surface: 50-90%/ 20-60mm/ Angular		
Rock outcrop (abundance/runoff): Slightly rocky/ Slow		
Soil (profile/field texture/soil surface): Light brown/ Uniform/ Silty clay loam/ Firm		
Cover leaf litter: 30%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree Mallee	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 1-3m	Height: 0.5-1m
Crown cover: 30-70%	Crown cover: 10-30%	Crown cover: <10%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus corrugata</i>	<i>Eremophila ionantha</i>	<i>Olearia muelleri</i>
ALL TAXA		
<i>Acacia colletioides</i>		
<i>Dodonaea stenozyga</i>		
<i>Eremophila ionantha</i>		
<i>Eucalyptus corrugata</i>		
<i>Eucalyptus longicornis</i>		
<i>Eucalyptus salmonophloia</i>		
<i>Exocarpos aphyllus</i>		
<i>Olearia muelleri</i>		
<i>Phebalium multiflorum</i>		
<i>Westringia cephalantha</i>		
















Project Name: Southern Star		
Date: 16/10/25	Botanist: JW	Photo number (NW corner): 879-881
Quadrat No: 28	Quadrat size/shape: 20m x 20m/Square	Waypoint: 4422
Coordinates (GDA94): 752261.1E; 6500645.4N		Elevation (m): 357.4
Aspect: North	Fire (yrs): 60	Condition rating: Very good
Landform: Flat/ Middle third of the height of the landform element/ Plain/ No effective disturbance except grazing by hoofed animals		
Coarse fragments on the surface: Nil		
Rock outcrop (abundance/runoff): Nil/ Very slow		
Soil (profile/field texture/soil surface): Light brown/ Uniform/ Heavy clay/ Firm		
Cover leaf litter: 40%		
Cover bare ground: 80%		
Upper stratum	Mid-stratum	Lower stratum
Growth form: Tree	Growth form: Shrub	Growth form: Shrub
Height: 6-12m	Height: 3-6m	Height: 1-3m
Crown cover: 30-70%	Crown cover: 10-30%	Crown cover: 10-30%
Dominant taxa:	Dominant taxa:	Dominant taxa:
<i>Eucalyptus longicornis</i>	<i>Melaleuca pauperiflora</i>	<i>Eremophila ionantha</i>
ALL TAXA		
<i>Atriplex stipitata</i>		
<i>Eremophila ionantha</i>		
<i>Eremophila scoparia</i>		
<i>Erymophyllum ramosum (A)</i>		
<i>Eucalyptus longicornis</i>		
<i>Eucalyptus salubris</i>		
<i>Exocarpos aphyllus</i>		
<i>Lycium australe</i>		
<i>Melaleuca pauperiflora</i>		
<i>Mesembryanthemum nodiflorum (A)(W)</i>		
<i>Olearia muelleri</i>		
<i>Sclerolaena uniflora</i>		
<i>Scaevola spinescens</i>		
<i>Waitzia fitzgibbonii (A)</i>		













APPENDIX F: QUADRAT PHOTOGRAPHS

Q1			
Directions	East	South-East	South
Q2			
Directions	East	South-East	South
Q3			
Directions	East	South-East	South
Q4			
Directions	East	South-East	South
Q5			
Directions	East	South-East	South

Q6			
Directions	East	South-East	South
Q7			
Directions	East	South-East	South
Q8			
Directions	East	South-East	South
Q9			
Directions	East	South-East	South
Q10			
Directions	East	South-East	South

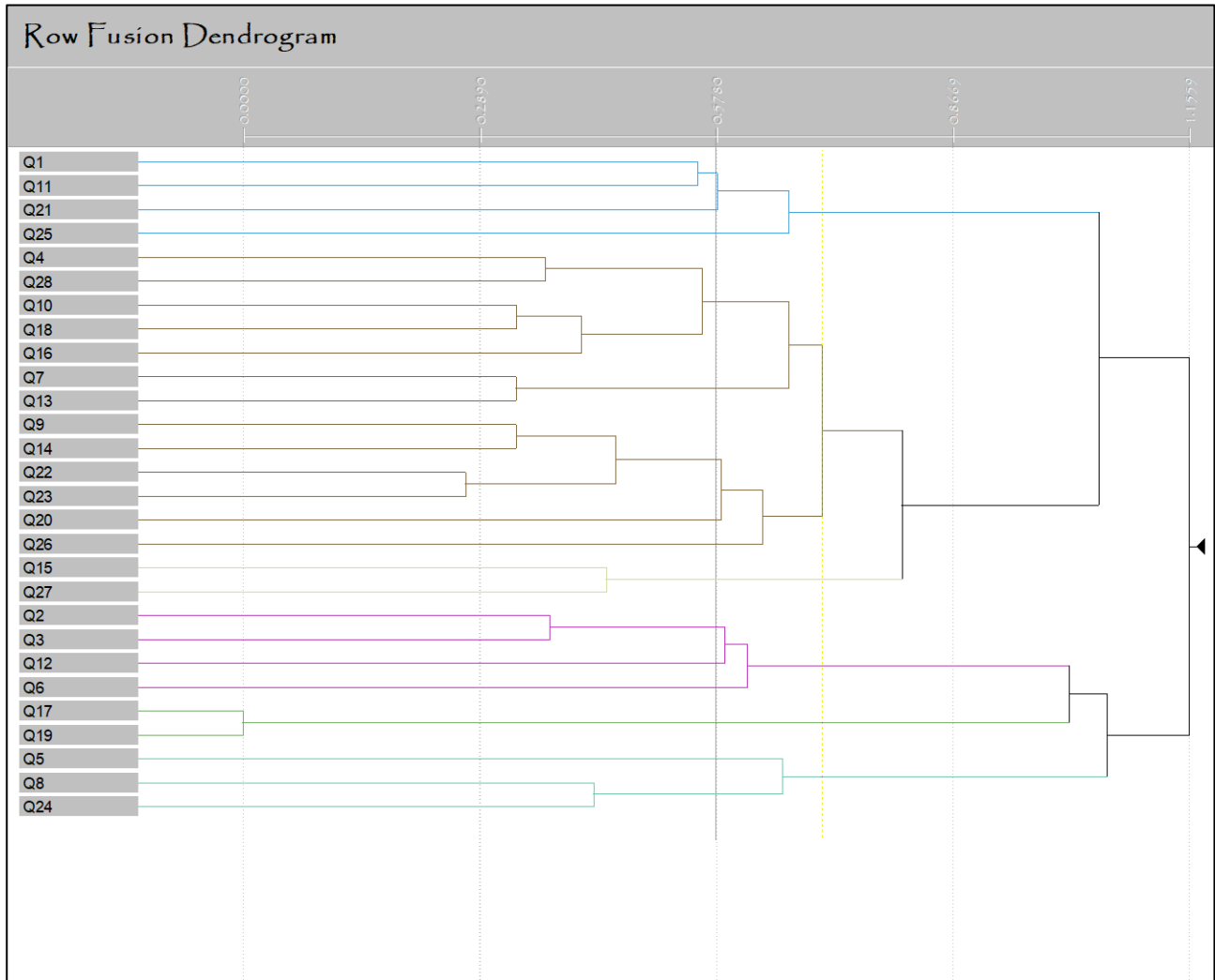
Q11			
Directions	East	South-East	South
Q12			
Directions	East	South-East	South
Q13			
Directions	East	South-East	South
Q14			
Directions	East	South-East	South
Q15			
Directions	East	South-East	South

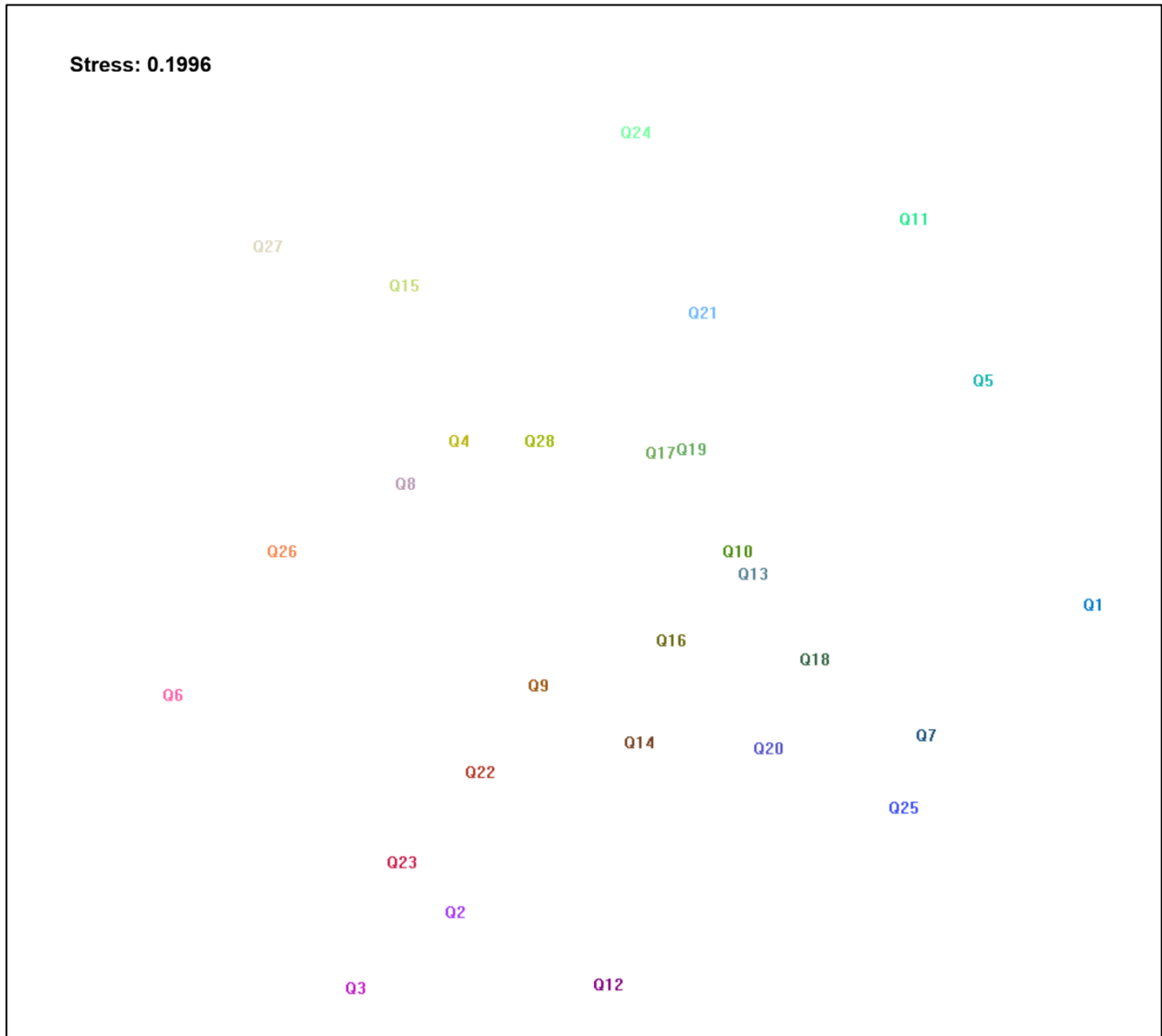
Q16			
Directions	East	South-East	South
Q17			
Directions	East	South-East	South
Q18			
Directions	East	South-East	South
Q19			
Directions	East	South-East	South
Q20			
Directions	East	South-East	South

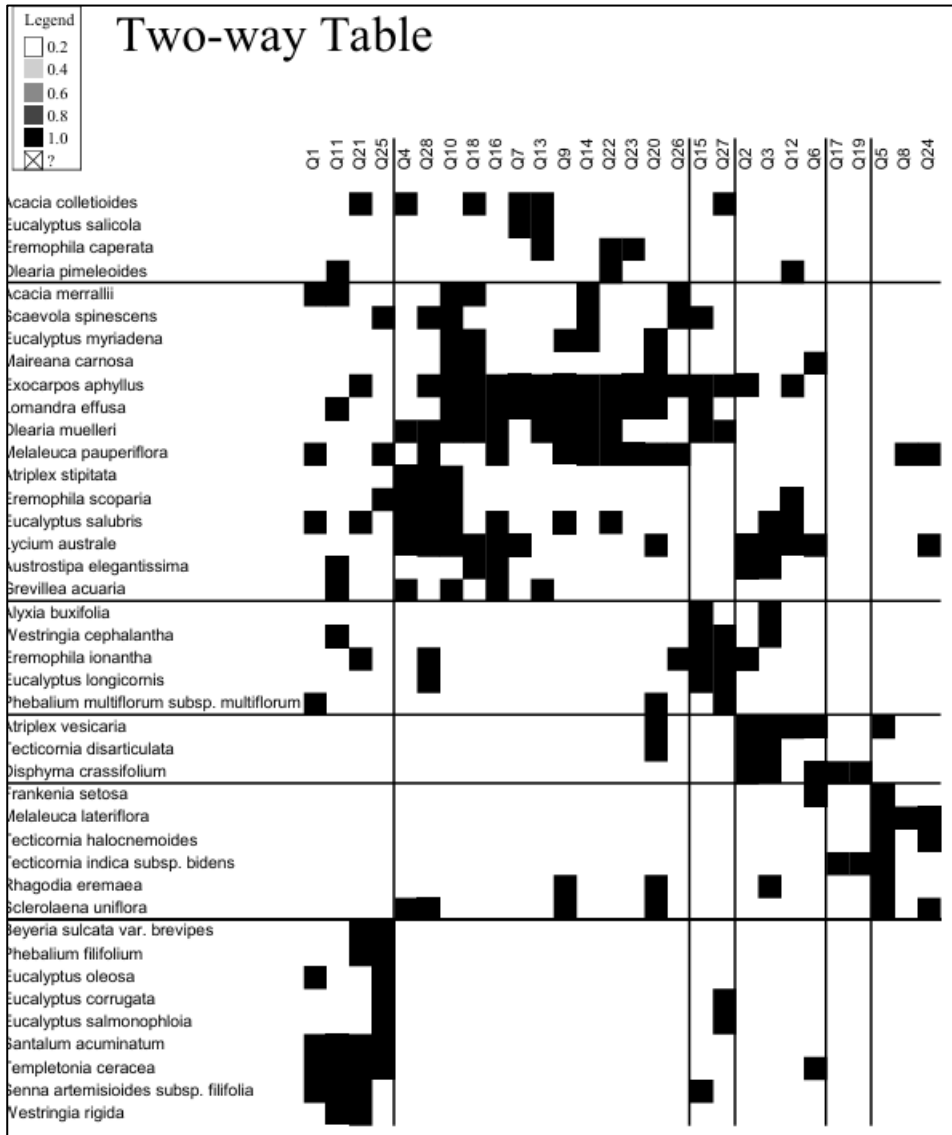
Q21			
Directions	East	South-East	South
Q22	No photo available		
Directions	East	South-East	South
Q23			
Directions	East	South-East	South
Q24			
Directions	East	South-East	South
Q25			
Directions	East	South-East	South



APPENDIX G: PATN ANALYSIS RESULTS







APPENDIX H: DANDJOO SEARCH RESULTS

Dandjoo Vascular Flora Species List



Source: Dandjoo – Department of Biodiversity, Conservation and Attractions

Method: User defined circle: [[119.6567, -31.5949]] 27.0 km.

Dandjoo Export: bio_species_list_public_2025-12-18T09_34_09.114587+08_00_filtered_flora.xlsm

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

Class	Order	Family	Taxon	Common Name	Estab.	Code
Liliopsida	Alismatales	Juncaginaceae Rich.	Triglochin sp. A Flora of Australia (G.J. Keighery 2477)		native	
Liliopsida	Asparagales	Asparagaceae Juss.	Arthropodium curvipes		native	
Liliopsida	Asparagales	Asparagaceae Juss.	Chamaexeros fimbriata		native	
Liliopsida	Asparagales	Asparagaceae Juss.	Chamaexeros macranthera		native	
Liliopsida	Asparagales	Asparagaceae Juss.	Laxmannia paleacea		native	
Liliopsida	Asparagales	Asparagaceae Juss.	Lomandra collina	Pale Mat Rush	native	
Liliopsida	Asparagales	Asparagaceae Juss.	Thysanotus patersonii	Paterson's Fringed Lily	native	
Liliopsida	Asparagales	Asparagaceae Juss.	Thysanotus speckii		native	
Liliopsida	Asparagales	Boryaceae (Baker) M.V	Borya constricta		native	
Liliopsida	Asparagales	Hemerocallidaceae R.B	Caesia sp. Great Victoria Desert (C. Taus 2835)		native	P2
Liliopsida	Asparagales	Iridaceae Juss.	Moraea miniata		alien	
Liliopsida	Asparagales	Orchidaceae Juss.	Caladenia incensum	Glistening spider orchid	native	
Liliopsida	Asparagales	Orchidaceae Juss.	Caladenia microchila	Western Wispy Spider Orchid	native	
Liliopsida	Asparagales	Orchidaceae Juss.	Caladenia roei	Ant Orchid	native	
Liliopsida	Asparagales	Orchidaceae Juss.	Caladenia sigmoidea	Sigmoid Spider Orchid	native	
Liliopsida	Asparagales	Orchidaceae Juss.	Caladenia x tryphera		native	
Liliopsida	Asparagales	Orchidaceae Juss.	Cyanicula amplexans		native	
Liliopsida	Asparagales	Orchidaceae Juss.	Ericksonella saccharata		native	
Liliopsida	Asparagales	Orchidaceae Juss.	Pterostylis mutica	Midget Greenhood	native	
Liliopsida	Asparagales	Orchidaceae Juss.	Pterostylis picta	Painted Rufous Greenhood	native	
Liliopsida	Asparagales	Orchidaceae Juss.	Pterostylis roensis	Rufous Greenhood	native	
Liliopsida	Asparagales	Orchidaceae Juss.	Pterostylis sargentii	Frog Greenhood	native	
Liliopsida	Asparagales	Orchidaceae Juss.	Pterostylis setulosa	Hairy-stemmed Snail Orchid	native	
Liliopsida	Asparagales	Orchidaceae Juss.	Thelymitra petrophila		native	
Liliopsida	Asparagales	Xanthorrhoeaceae Durr	Xanthorrhoea nana		native	
Liliopsida	Poales	Cyperaceae Juss.	Lepidosperma sanguinolentum		native	
Liliopsida	Poales	Cyperaceae Juss.	Lepidosperma sp. Mt Caudan (N. Gibson & M. Lyons 2081)		native	P1
Liliopsida	Poales	Cyperaceae Juss.	Lepidosperma sp. Parker Range (N. Gibson & M. Lyons 2094)		native	P1
Liliopsida	Poales	Cyperaceae Juss.	Schoenus hexandrus		native	
Liliopsida	Poales	Cyperaceae Juss.	Schoenus nanus	Tiny Bog Rush	native	
Liliopsida	Poales	Cyperaceae Juss.	Schoenus subaphyllus		native	
Liliopsida	Poales	Ecdeiocoleaceae D.F.C	Ecdeiocolea monostachya		native	
Liliopsida	Poales	Poaceae Barnhart	Aira cupaniana	Silvery Hairgrass	alien	
Liliopsida	Poales	Poaceae Barnhart	Amphipogon caricinus var. caricinus		native	
Liliopsida	Poales	Poaceae Barnhart	Amphipogon sp. Southern Cross (T.D. Macfarlane et al. TDM 7193)		native	P1
Liliopsida	Poales	Poaceae Barnhart	Austrostipa hemipogon		native	
Liliopsida	Poales	Poaceae Barnhart	Austrostipa nitida		native	
Liliopsida	Poales	Poaceae Barnhart	Austrostipa puberula		native	
Liliopsida	Poales	Poaceae Barnhart	Austrostipa scabra		native	
Liliopsida	Poales	Poaceae Barnhart	Austrostipa trichophylla		native	
Liliopsida	Poales	Poaceae Barnhart	Austrostipa variabilis		native	
Liliopsida	Poales	Poaceae Barnhart	Bromus rubens		alien	
Liliopsida	Poales	Poaceae Barnhart	Lachnagrostis filiformis		native	
Liliopsida	Poales	Poaceae Barnhart	Pentameris airoides	False Hairgrass	alien	
Liliopsida	Poales	Poaceae Barnhart	Pentameris airoides subsp. airoides		alien	
Liliopsida	Poales	Poaceae Barnhart	Rytidosperma caespitosum		native	
Liliopsida	Poales	Poaceae Barnhart	Rytidosperma setaceum		native	
Liliopsida	Poales	Poaceae Barnhart	Triodia tomentosa		native	
Liliopsida	Poales	Poaceae Barnhart	Vulpia myuros		alien	
Magnoliopsid: Apiales		Apiaceae Lindl.	Daucus glochidiatus	Australian Carrot	native	
Magnoliopsid: Apiales		Apiaceae Lindl.	Platysace juncea		native	
Magnoliopsid: Apiales		Araliaceae Juss.	Hydrocotyle corynophora		native	P1
Magnoliopsid: Apiales		Araliaceae Juss.	Hydrocotyle diantha		native	
Magnoliopsid: Apiales		Araliaceae Juss.	Hydrocotyle intertexta		native	
Magnoliopsid: Apiales		Araliaceae Juss.	Hydrocotyle rugulosa		native	
Magnoliopsid: Apiales		Pittosporaceae R.Br.	Pittosporum angustifolium		mixed	
Magnoliopsid: Asterales		Asteraceae Bercht. & J.	Angianthus tomentosus	Camel-grass	native	
Magnoliopsid: Asterales		Asteraceae Bercht. & J.	Asteridea atrixioides		native	
Magnoliopsid: Asterales		Asteraceae Bercht. & J.	Brachyscome perpusilla		native	
Magnoliopsid: Asterales		Asteraceae Bercht. & J.	Ceratogyne obionoides		native	

Magnoliopsid: Asterales	Asteraceae Bercht. & J. Chthonocephalus pseudevax	Woolly Groundheads	native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Cotula cotuloides		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Gnephosis tridens		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Hypochaeris glabra	Smooth Cats-ear	alien
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Isoetopsis graminifolia		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Microseris walteri		native P3
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Millotia newbeyi		native P1
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Millotia perpusilla		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Millotia tenuifolia var. tenuifolia		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Myriocephalus pygmaeus		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Notisia intonsa		native P3
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Olearia magniflora		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Olearia muelleri		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Olearia pimeleoides		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Olearia sp. Eremicola (Diels & Pritzel s.n. PERTH 00449628)		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Panaetia lessonii		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Rhodanthe chlorocephala subsp. rosea		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Rhodanthe heterantha		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Rhodanthe oppositifolia subsp. oppositifolia		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Rhodanthe rubella		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Siemssenia capillaris Steetz		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Siloxerus pygmaeus (A.Gray) P.S.Short		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Vittadinia humerata		native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Waitzia acuminata	Orange Immortelle	native
Magnoliopsid: Asterales	Asteraceae Bercht. & J. Waitzia fitzgibbonii		native
Magnoliopsid: Asterales	Goodeniaceae R.Br. Dampiera eriocephala		native
Magnoliopsid: Asterales	Goodeniaceae R.Br. Dampiera obliqua		native
Magnoliopsid: Asterales	Goodeniaceae R.Br. Dampiera stenostachya	Narrow-spiked Dampiera	native
Magnoliopsid: Asterales	Goodeniaceae R.Br. Goodenia berardiana		native
Magnoliopsid: Asterales	Goodeniaceae R.Br. Goodenia dyeri		native
Magnoliopsid: Asterales	Goodeniaceae R.Br. Goodenia heatheriana		native P1
Magnoliopsid: Asterales	Goodeniaceae R.Br. Goodenia mimuloides		native
Magnoliopsid: Asterales	Goodeniaceae R.Br. Goodenia pinifolia	Pine-leaved Goodenia	native
Magnoliopsid: Asterales	Goodeniaceae R.Br. Goodenia pinnatifida	Cutleaf Goodenia	native
Magnoliopsid: Asterales	Goodeniaceae R.Br. Goodenia pusilliflora		native
Magnoliopsid: Asterales	Goodeniaceae R.Br. Goodenia watsonii subsp. watsonii		native
Magnoliopsid: Asterales	Goodeniaceae R.Br. Scaevola spinescens	Currant Bush	native
Magnoliopsid: Asterales	Stylidiaceae R.Br. Levenhookia leptantha		native
Magnoliopsid: Asterales	Stylidiaceae R.Br. Levenhookia stipitata		native
Magnoliopsid: Asterales	Stylidiaceae R.Br. Styliidium androsaceum	Book Triggerplant	native
Magnoliopsid: Asterales	Stylidiaceae R.Br. Styliidium choreanthum	Dancing Triggerplant	native P3
Magnoliopsid: Asterales	Stylidiaceae R.Br. Styliidium dielsianum	Tangle Triggerplant	native
Magnoliopsid: Asterales	Stylidiaceae R.Br. Styliidium limbatum	Fringed-leaved Triggerplant	native
Magnoliopsid: Asterales	Stylidiaceae R.Br. Styliidium repens	Matted Triggerplant	native
Magnoliopsid: Asterales	Stylidiaceae R.Br. Styliidium salmonium		native
Magnoliopsid: Asterales	Stylidiaceae R.Br. Styliidium yilgarnense	Yilgarn Triggerplant	native
Magnoliopsid: Brassicales	Brassicaceae Burnett Lepidium genistoides		native P3
Magnoliopsid: Brassicales	Brassicaceae Burnett Stenopetalum filifolium		native
Magnoliopsid: Brassicales	Brassicaceae Burnett Stenopetalum lineare var. lineare		native
Magnoliopsid: Brassicales	Brassicaceae Burnett Stenopetalum sphaerocarpum		native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss. Ptilotus drummondii	Narrowleaf Mulla Mulla	native
Magnoliopsid: Caryophyllales	Amaranthaceae Juss. Ptilotus holosericeus		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent. Atriplex semilunaris	Annual Saltbush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent. Atriplex vesicaria		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent. Eriochiton sclerolaenoides		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent. Maireana erioclada		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent. Maireana trichoptera	Downy Bluebush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent. Sclerolaena diacantha	Grey Copperburr	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent. Sclerolaena drummondii		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent. Sclerolaena parviflora	Small-flower Saltbush	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent. Tecticornia disarticulata		native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent. Tecticornia doliiformis	Samphire	native
Magnoliopsid: Caryophyllales	Chenopodiaceae Vent. Tecticornia indica subsp. bidens		native
Magnoliopsid: Caryophyllales	Droseraceae Salisb. Drosera andersoniana	Sturdy Sundew	native
Magnoliopsid: Caryophyllales	Droseraceae Salisb. Drosera browniana		native
Magnoliopsid: Caryophyllales	Droseraceae Salisb. Drosera rupicola		native
Magnoliopsid: Caryophyllales	Droseraceae Salisb. Drosera sp. Branched styles (S.C. Coffey 193)		native
Magnoliopsid: Caryophyllales	Frankeniaceae Desv. Frankenia interioris Ostenf.		native
Magnoliopsid: Caryophyllales	Montiaceae Raf. Calandrinia calyprata	Pink Purslane	native

Magnoliopsid: Caryophyllales	Montiaceae Raf.	Calandrinia eremaea	Twining Purslane	native
Magnoliopsid: Caryophyllales	Montiaceae Raf.	Calandrinia granulifera	Pygmy Purslane	native
Magnoliopsid: Celastrales	Celastraceae R.Br.	Psammomoya choretroides		native
Magnoliopsid: Celastrales	Celastraceae R.Br.	Stackhousia sp. Hairy fruited (E.N.S. Jackson 1387)		native
Magnoliopsid: Dilleniales	Dilleniaceae Salisb.	Hibbertia eatoniae		native
Magnoliopsid: Dilleniales	Dilleniaceae Salisb.	Hibbertia exasperata		native
Magnoliopsid: Dilleniales	Dilleniaceae Salisb.	Hibbertia glomerosa	Guinea-flower	native
Magnoliopsid: Ericales	Ericaceae Juss.	Acrotriche lancifolia		native
Magnoliopsid: Ericales	Ericaceae Juss.	Leucopogon sp. Avon (J. Buegge D34)		native
Magnoliopsid: Ericales	Ericaceae Juss.	Leucopogon sp. Boorabbin (K.R. Newbey 8374)		native
Magnoliopsid: Ericales	Ericaceae Juss.	Leucopogon sp. Coolgardie (M. Hislop & F. Hort MH 3197)		native
Magnoliopsid: Ericales	Ericaceae Juss.	Leucopogon sp. outer wheatbelt (M. Hislop 30)		native
Magnoliopsid: Ericales	Ericaceae Juss.	Leucopogon validus		native P1
Magnoliopsid: Ericales	Ericaceae Juss.	Melichrus sp. Coolgardie (K.R. Newbey 8698)		native P1
Magnoliopsid: Ericales	Ericaceae Juss.	Styphelia browniae		native
Magnoliopsid: Ericales	Ericaceae Juss.	Styphelia hamulosa		native
Magnoliopsid: Ericales	Primulaceae Borkh.	Lysimachia arvensis	Pimpernel	alien
Magnoliopsid: Euasterids I	Boraginaceae Juss.	Halganina andromedifolia		native
Magnoliopsid: Euasterids I	Boraginaceae Juss.	Omphalolappula concava		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia asepala		native P2
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia assimilis subsp. assimilis		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia beauverdiana	Pukkati	native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia camptoclada		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia chrysellia		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia colletioides	Wait-a-while	native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia concolorans		native P2
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia consanguinea		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia crenulata		native P3
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia deficiens		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia desertorum var. nudipes		native P3
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia erinacea		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia hemiteles		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia heteroneura var. jutsonii		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia inaequiloba		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia inceana subsp. conformis		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia intricata S.Moore		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia kalgoorliensis R.S.Cowan & Maslin		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia merrallii F.Muell.		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia multispicata		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia nigripilosa		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia nigripilosa subsp. nigripilosa		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia poliochroa		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia pravifolia		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia rendlei		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia rossei		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia sphacelata Benth. subsp. sphacelata		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia steedmanii Maiden & Blakely subsp. steedmanii		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia warramaba		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Acacia yorkkrakenensis subsp. acrita		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Bossiaea celata		native P3
Magnoliopsid: Fabales	Fabaceae Lindl.	Chorizema circinale		native P3
Magnoliopsid: Fabales	Fabaceae Lindl.	Daviesia argillacea		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Daviesia croniniana		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Daviesia grahamii		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Daviesia nematophylla		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Erichsenia uncinata		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Eutaxia lasiocalyx		native P2
Magnoliopsid: Fabales	Fabaceae Lindl.	Gastrolobium aculeatum		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Gastrolobium floribundum	Wodjil Poison	native
Magnoliopsid: Fabales	Fabaceae Lindl.	Gastrolobium parviflorum		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Gompholobium gompholobioides		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Gompholobium viscidulum		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Leptosema daviesioides		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Mirbelia trichocalyx		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Senna artemisioides subsp. filifolia		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Templetonia aculeata		native
Magnoliopsid: Fabales	Fabaceae Lindl.	Templetonia ceracea		native
Magnoliopsid: Fabales	Polygalaceae Hoffmann	Comesperma scoparium	Broom Milkwort	native
Magnoliopsid: Fabales	Polygalaceae Hoffmann	Comesperma spinosum		native

Magnoliopsid: Fabales	Polygalaceae Hoffmann	Comesperma volubile		native	
Magnoliopsid: Fagales	Casuarinaceae R.Br.	Allocasuarina acutivalvis subsp. acutivalvis		native	
Magnoliopsid: Fagales	Casuarinaceae R.Br.	Allocasuarina campestris		native	
Magnoliopsid: Fagales	Casuarinaceae R.Br.	Allocasuarina corniculata		native	
Magnoliopsid: Fagales	Casuarinaceae R.Br.	Allocasuarina hemiculmii		native	
Magnoliopsid: Fagales	Casuarinaceae R.Br.	Allocasuarina spinosissima (C.A.Gardner) L.A.S.Johnson		native	
Magnoliopsid: Gentianales	Loganiaceae Mart.	Orianthera exilis		native	P2
Magnoliopsid: Geraniales	Geraniaceae Juss.	Erodium cicutarium		alien	
Magnoliopsid: Geraniales	Geraniaceae Juss.	Erodium cygnorum		native	
Magnoliopsid: Lamiales	Lamiaceae Martinov	Brachysola coerulea		native	
Magnoliopsid: Lamiales	Lamiaceae Martinov	Cyanostegia angustifolia	Tinsel-flower	native	
Magnoliopsid: Lamiales	Lamiaceae Martinov	Dicrasyllis parvifolia		native	
Magnoliopsid: Lamiales	Lamiaceae Martinov	Hemigenia pedunculata		native	
Magnoliopsid: Lamiales	Lamiaceae Martinov	Hemigenia westringioides		native	
Magnoliopsid: Lamiales	Lamiaceae Martinov	Microcorys elatoides	Mount Holland Microcorys	native	P1
Magnoliopsid: Lamiales	Lamiaceae Martinov	Microcorys sp. Forrestania (V. English 2004)		native	P4
Magnoliopsid: Lamiales	Lamiaceae Martinov	Pityrodia lepidota		native	
Magnoliopsid: Lamiales	Lamiaceae Martinov	Prostanthera incurvata		native	
Magnoliopsid: Lamiales	Lamiaceae Martinov	Prostanthera nanophylla		native	P3
Magnoliopsid: Lamiales	Lamiaceae Martinov	Prostanthera semiteres		native	
Magnoliopsid: Lamiales	Lamiaceae Martinov	Teucrium diabolicum	Devil's Germander	native	P3
Magnoliopsid: Lamiales	Lamiaceae Martinov	Westringia acifolia		native	P1
Magnoliopsid: Lamiales	Lamiaceae Martinov	Westringia cephalantha		native	
Magnoliopsid: Lamiales	Lamiaceae Martinov	Westringia rigida	Stiff Westringia	native	
Magnoliopsid: Lamiales	Phrymaceae Schauer	Glossostigma drummondii	Mudmat	native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila caerulea subsp. merrallii	Bruce Rock Eremophila	native	P4
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila clavata		native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila decipiens subsp. decipiens	Slender Fuschia Bush	native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila drummondii	Drummond's Eremophila	native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila granitica	Granite Poverty Bush	native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila inflata	Swollen-flowered Eremophila	native	P4
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila interstans subsp. interstans		native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila ionantha	Violet-flowered Eremophila	native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila metallicorum		native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila oppositifolia subsp. angustifolia		native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila saligna		native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila scoparia	Broom Bush (native	
Magnoliopsid: Lamiales	Scrophulariaceae Juss.	Eremophila subfloccosa subsp. lanata		native	
Magnoliopsid: Laurales	Lauraceae Juss.	Cassytha melanantha	Large Dodder-laurel	native	
Magnoliopsid: Laurales	Lauraceae Juss.	Cassytha nodiflora		native	
Magnoliopsid: Malpighiales	Elatinaceae Dumort.	Elatine gratioides		native	
Magnoliopsid: Malpighiales	Euphorbiaceae Juss.	Bertya dimerostigma		native	
Magnoliopsid: Malpighiales	Euphorbiaceae Juss.	Beyeria sulcata var. sulcata		native	
Magnoliopsid: Malpighiales	Euphorbiaceae Juss.	Beyeria sulcata var. brevipes		native	
Magnoliopsid: Malpighiales	Violaceae Batsch	Pigea floribunda		native	
Magnoliopsid: Malvales	Malvaceae Juss.	Alyogyne hakeifolia		native	
Magnoliopsid: Malvales	Malvaceae Juss.	Commersonia craurophylla		native	
Magnoliopsid: Malvales	Malvaceae Juss.	Lawrenzia squamata		native	
Magnoliopsid: Malvales	Malvaceae Juss.	Seringia adenogyna C.F.Wilkins		native	P3
Magnoliopsid: Malvales	Malvaceae Juss.	Seringia velutina (Steetz) F.Muell.		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Baeckea elderiana		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Balaustion grandibracteatum subsp. grandibracteatum		native	P3
Magnoliopsid: Myrtales	Myrtaceae Juss.	Balaustion grandibracteatum subsp. junctura		native	P2
Magnoliopsid: Myrtales	Myrtaceae Juss.	Beaufortia bracteosa		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Beaufortia orbifolia	Ravensthorpe Bottlebrush	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Beaufortia puberula	Hairy-leaved Beaufortia	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Calytrix breviseta subsp. stipulosa		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Calytrix tetragona	Common Fringe-myrtle	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Chamelaucium pauciflorum subsp. pauciflorum		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Chamelaucium pauciflorum subsp. Perenjori (B.J. Conn 2181)		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Chamelaucium sp. Bendering (T.J. Alford 110)		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Chamelaucium sp. Parker Range (B.H. Smith 1255)		native	P1
Magnoliopsid: Myrtales	Myrtaceae Juss.	Chamelaucium virgatum		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Eremaea pauciflora var. pauciflora		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Eucalyptus aequioperta		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Eucalyptus aspratiilis		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Eucalyptus calycogona		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Eucalyptus calycogona subsp. calycogona		native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	Eucalyptus calycogona subsp. miraculum		native	P1

Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus capillosa</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus celastroides</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus corrugata</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus cylindriflora</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus cylindrocarpa</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus ecdysiastes</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus extensa</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus flocktoniae</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus griffithsii</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus incerata</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus kochii</i> subsp. <i>yellowdinensis</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus leptopoda</i> subsp. <i>leptopoda</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus livida</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus longicornis</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus longissima</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus loxophleba</i> subsp. <i>lissophloia</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus melanoxylon</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus moderata</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus myriadena</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus oleosa</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus olivina</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus petraea</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus phenax</i> subsp. <i>phenax</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus platycorys</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus polita</i> Brooker & Hopper subsp. <i>polita</i>	native	P3
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus prolixa</i> D.Nicolle	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus rigidula</i> Maiden subsp. <i>rigidula</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus salmonophloia</i> F.Muell.	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus salubris</i> F.Muell.	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus sheathiana</i> Maiden	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus tenera</i> L.A.S.Johnson & K.D.Hill	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus tephroclada</i> L.A.S.Johnson & K.D.Hill	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus transcontinentalis</i> Maiden	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus urna</i> subsp. <i>xesta</i> D.Nicolle & M.E.French	native	P3
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus virella</i> (Brooker) D.Nicolle & M.E.French	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus vittata</i> D.Nicolle	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Eucalyptus yilgarnensis</i> (Maiden) Brooker	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Euryomyrtus leptospermoides</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Euryomyrtus maidenii</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Homalocalyx pulcherrimus</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Hysterobaeckea ochropetala</i> subsp. <i>reliqua</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Leptospermopsis fastigiata</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Malleostemon tuberculatus</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Melaleuca acuminata</i> subsp. <i>acuminata</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Melaleuca calyptroides</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Melaleuca cordata</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Melaleuca eleuterostachya</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Melaleuca grieviana</i>	native	P1
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Melaleuca hamata</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Melaleuca johnsonii</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Melaleuca lateriflora</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Melaleuca laxiflora</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Melaleuca leiocarpa</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Melaleuca pauperiflora</i> subsp. <i>fastigiata</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Melaleuca sparsiflora</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Melaleuca vinnula</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Micromyrtus erichsenii</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Micromyrtus obovata</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Micromyrtus racemosa</i>	native	Parent of co
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Thryptomene kochii</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Verticordia acerosa</i> var. <i>preissii</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Verticordia chrysantha</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Verticordia dasystylis</i> subsp. <i>dasystylis</i>	native	P2
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Verticordia eriocephala</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Verticordia helmsii</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Verticordia inclusa</i>	native	
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Verticordia mitodes</i>	native	P3
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Verticordia multiflora</i> subsp. <i>solox</i>	native	P2
Magnoliopsid: Myrtales	Myrtaceae Juss.	<i>Verticordia picta</i>	Painted Featherflower	native

Magnoliopsid: Myrtales	Myrtaceae Juss.	Verticordia plumosa var. incrassata		native
Magnoliopsid: Myrtales	Myrtaceae Juss.	Verticordia pritzelii	Pritzel's Featherflower	native
Magnoliopsid: Myrtales	Myrtaceae Juss.	Verticordia pulchella		native P2
Magnoliopsid: Myrtales	Myrtaceae Juss.	Verticordia rennieana		native
Magnoliopsid: Myrtales	Myrtaceae Juss.	Verticordia roei subsp. meiogona		native P1
Magnoliopsid: Myrtales	Myrtaceae Juss.	Verticordia stenopetala		native P3
Magnoliopsid: Proteales	Proteaceae Juss.	Adenanthos argyreus	Little Woollybush	native
Magnoliopsid: Proteales	Proteaceae Juss.	Banksia audax		native
Magnoliopsid: Proteales	Proteaceae Juss.	Banksia lullfitzii		native P3
Magnoliopsid: Proteales	Proteaceae Juss.	Banksia shanklandiorum		native P4
Magnoliopsid: Proteales	Proteaceae Juss.	Conospermum croniniae		native
Magnoliopsid: Proteales	Proteaceae Juss.	Conospermum sigmoideum		native P2
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea acuaria		native
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea cagiana		native
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea ceratocarpa		native
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea didymobotrya		native
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea hookeriana subsp. apiculoba		native
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea huegelii		native
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea incrassata		native
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea lissopleura		native P1
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea obliquistigma subsp. obliquistigma		native
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea oncogyne		native
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea paradoxa	Bottlebrush Grevillea	native
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea phillipsiana		native P1
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea prostrata	Pallarup Grevillea	native P4
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea teretifolia	Round Leaf Grevillea	native
Magnoliopsid: Proteales	Proteaceae Juss.	Grevillea tetrapleura		native
Magnoliopsid: Proteales	Proteaceae Juss.	Hakea commutata		native
Magnoliopsid: Proteales	Proteaceae Juss.	Hakea erecta		native
Magnoliopsid: Proteales	Proteaceae Juss.	Hakea francisiana	Emu Tree	native
Magnoliopsid: Proteales	Proteaceae Juss.	Hakea kippistiana		native
Magnoliopsid: Proteales	Proteaceae Juss.	Hakea newbeyana		native
Magnoliopsid: Proteales	Proteaceae Juss.	Hakea pendens		native P3
Magnoliopsid: Proteales	Proteaceae Juss.	Hakea platysperma	Cricket Ball Hakea	native
Magnoliopsid: Proteales	Proteaceae Juss.	Hakea subsulcata		native
Magnoliopsid: Proteales	Proteaceae Juss.	Isopogon robustus		native CR
Magnoliopsid: Proteales	Proteaceae Juss.	Isopogon scabriusculus subsp. stenophyllus		native
Magnoliopsid: Proteales	Proteaceae Juss.	Persoonia coriacea	Leathery-leaf Persoonia	native
Magnoliopsid: Proteales	Proteaceae Juss.	Persoonia inconspicua		native
Magnoliopsid: Proteales	Proteaceae Juss.	Persoonia quinquenervis		native
Magnoliopsid: Proteales	Proteaceae Juss.	Petrophile circinata		native
Magnoliopsid: Proteales	Proteaceae Juss.	Petrophile merrallii		native
Magnoliopsid: Proteales	Proteaceae Juss.	Petrophile seminuda		native
Magnoliopsid: Proteales	Proteaceae Juss.	Petrophile stricta		native
Magnoliopsid: Proteales	Proteaceae Juss.	Synaphea interioris		native
Magnoliopsid: Proteales	Proteaceae Juss.	Synaphea spinulosa subsp. major		native
Magnoliopsid: Rosales	Rhamnaceae Juss.	Cryptandra apetala var. anomala		native
Magnoliopsid: Rosales	Rhamnaceae Juss.	Cryptandra crispula		native P3
Magnoliopsid: Rosales	Rhamnaceae Juss.	Cryptandra minutifolia subsp. brevistyla		native
Magnoliopsid: Rosales	Rhamnaceae Juss.	Stenanthemum bremerense Rye		native P4
Magnoliopsid: Rosales	Rhamnaceae Juss.	Stenanthemum Reissek		
Magnoliopsid: Rosales	Rhamnaceae Juss.	Stenanthemum stipulosum		native
Magnoliopsid: Rosales	Rhamnaceae Juss.	Trymalium myrtillus subsp. myrtillus		native
Magnoliopsid: Rosales	Urticaceae Juss.	Parietaria cardiostegia		native
Magnoliopsid: Santalales	Loranthaceae Juss.	Amyema benthamii		native
Magnoliopsid: Santalales	Loranthaceae Juss.	Amyema miquelii	Stalked Mistletoe	native
Magnoliopsid: Santalales	Santalaceae R.Br.	Exocarpos aphyllus	Leafless Ballart	native
Magnoliopsid: Santalales	Santalaceae R.Br.	Leptomeria preissiana		native
Magnoliopsid: Santalales	Santalaceae R.Br.	Santalum acuminatum	Quandong	native
Magnoliopsid: Sapindales	Rutaceae Juss.	Boronia ternata var. ternata		native
Magnoliopsid: Sapindales	Rutaceae Juss.	Boronia ternata var. promiscua		native P3
Magnoliopsid: Sapindales	Rutaceae Juss.	Cyanothamnus fabianoides		native
Magnoliopsid: Sapindales	Rutaceae Juss.	Cyanothamnus fabianoides subsp. roseus		native
Magnoliopsid: Sapindales	Rutaceae Juss.	Drummondita hassellii		native
Magnoliopsid: Sapindales	Rutaceae Juss.	Drummondita wilsonii		native P1
Magnoliopsid: Sapindales	Rutaceae Juss.	Phebalium canaliculatum		native
Magnoliopsid: Sapindales	Rutaceae Juss.	Phebalium canaliculatum x tuberculosum		
Magnoliopsid: Sapindales	Rutaceae Juss.	Phebalium filifolium	Slender Phebalium	native
Magnoliopsid: Sapindales	Rutaceae Juss.	Phebalium lepidotum		native

Magnoliopsid: Sapindales	Rutaceae Juss.	Phebalium megaphyllum	native
Magnoliopsid: Sapindales	Rutaceae Juss.	Phebalium multiflorum	native
Magnoliopsid: Sapindales	Rutaceae Juss.	Phebalium multiflorum subsp. multiflorum	native
Magnoliopsid: Sapindales	Rutaceae Juss.	Phebalium tuberculosum	native
Magnoliopsid: Sapindales	Sapindaceae Juss.	Dodonaea bursariifolia	native
Magnoliopsid: Sapindales	Sapindaceae Juss.	Dodonaea caespitosa	native
Magnoliopsid: Sapindales	Sapindaceae Juss.	Dodonaea lobulata	Bead Hopbush native
Magnoliopsid: Sapindales	Sapindaceae Juss.	Dodonaea microzyga var. acrolobata	native
Magnoliopsid: Sapindales	Sapindaceae Juss.	Dodonaea stenozyga	native
Magnoliopsid: Saxifragales	Crassulaceae J.St.-Hil.	Crassula peduncularis	Purple Stonecrop native
Magnoliopsid: Saxifragales	Haloragaceae R.Br.	Glischrocaryon angustifolium	native
Magnoliopsid: Saxifragales	Haloragaceae R.Br.	Haloragis trigonocarpa	native
Magnoliopsid: Solanales	Convolvulaceae Juss.	Wilsonia humilis	Silky Wilsonia native
Magnoliopsid: Solanales	Solanaceae Juss.	Solanum plicatile (S.Moore) Symon	native
Magnoliopsid: Zygophyllales	Zygophyllaceae R.Br.	Roepera apiculata	native
Magnoliopsid: Zygophyllales	Zygophyllaceae R.Br.	Roepera eremaea	native
Pinopsida	Pinales	Cupressaceae Gray	Callitris canescens mixed
Pinopsida	Pinales	Cupressaceae Gray	Callitris columellaris mixed
Pinopsida	Pinales	Cupressaceae Gray	Callitris preissii mixed
Pinopsida	Pinales	Cupressaceae Gray	Callitris roei mixed

Summary by Class

Class	Taxa
Liliopsida	49
Magnoliopsida	372
Pinopsida	4
TOTAL	425

Top 5 Families by Species Count

Family	Taxa
Myrtaceae Juss.	94
Fabaceae Lindl.	48
Proteaceae Juss.	40
Asteraceae Bercht.	29
Poaceae Barnhart	17

Top 5 Genera by Species Count

Genus	Taxa
Eucalyptus	42
Acacia	30
Verticordia	15
Grevillea	15
Eremophila	13

Summary by Conservation Code

Code	Taxa
P1	17
P2	10
P3	20
P4	6
CR	1
Parent of conservat	1

Summary by Establishment Type

Establishment	Taxa
native	406
alien	9
mixed	5

Dandjoo Vertebrate Fauna Species List



Source: Dandjoo – Department of Biodiversity, Conservation and Attractions

Method: User defined circle: [[119.6567, -31.5949]] 27.0 km.

Dandjoo Export: bio_species_list_public_2025-12-18T09_32_32.914604+08_00_filtered_fauna.xlsm

Filter: Kingdom = Animalia, Phylum = Chordata

Class	Order	Family	Taxon	Common Name	Estab.	Code
Amphibia	Anura	Limnodynastidae	Heleioporus albopunctatus	Western Spotted Frog	native	
Amphibia	Anura	Limnodynastidae	Neobatrachus albigipes		native	
Amphibia	Anura	Limnodynastidae	Neobatrachus kunapalari		native	
Amphibia	Anura	Myobatrachidae	Pseudophryne guentheri	Crawling Toadlet	native	
Amphibia	Anura	Myobatrachidae	Pseudophryne occidentalis	Western Toadlet	native	
Aves	Accipitriformes	Accipitridae	Aquila audax		native	
Aves	Accipitriformes	Accipitridae	Circus assimilis		native	
Aves	Accipitriformes	Accipitridae	Hieraaetus morphnoides		native	
Aves	Accipitriformes	Accipitridae	Lophoictinia isura			
Aves	Accipitriformes	Accipitridae	Milvus migrans		native	
Aves	Accipitriformes	Accipitridae	Tachyspiza cirrocephala		native	
Aves	Anseriformes	Anatidae	Chenonetta jubata		native	
Aves	Anseriformes	Anatidae	Tadorna tadornoides		native	
Aves	Apodiformes	Aegothelidae	Aegotheles cristatus		native	
Aves	Caprimulgiformes	Caprimulgidae	Eurostopodus argus		native	
Aves	Caprimulgiformes	Podargidae	Podargus strigoides		native	
Aves	Casuariiformes	Casuariidae	Dromaius novaehollandiae		native	
Aves	Charadriiformes	Turnicidae	Turnix varius		native	
Aves	Charadriiformes	Turnicidae	Turnix velox		native	
Aves	Columbiformes	Columbidae	Ocyphaps lophotes		native	
Aves	Columbiformes	Columbidae	Phaps chalcoptera		native	
Aves	Coraciiformes	Meropidae	Merops ornatus		native	
Aves	Cuculiformes	Cuculidae	Cacomantis flabelliformis		native	
Aves	Cuculiformes	Cuculidae	Chalcites basalis			
Aves	Cuculiformes	Cuculidae	Chalcites lucidus			
Aves	Cuculiformes	Cuculidae	Heteroscenes pallidus			
Aves	Falconiformes	Falconidae	Falco berigora		native	
Aves	Falconiformes	Falconidae	Falco cenchroides		native	
Aves	Falconiformes	Falconidae	Falco longipennis		native	
Aves	Galliformes	Megapodiidae	Leipoa ocellata	Malleefowl	native	VU
Aves	Galliformes	Phasianidae	Pavo cristatus		alien	
Aves	Passeriformes	Acanthizidae	Acanthiza apicalis		native	
Aves	Passeriformes	Acanthizidae	Acanthiza chrysorrhoa		native	
Aves	Passeriformes	Acanthizidae	Acanthiza uropygialis		native	
Aves	Passeriformes	Acanthizidae	Calamanthus campestris		native	
Aves	Passeriformes	Acanthizidae	Calamanthus cautus		native	
Aves	Passeriformes	Acanthizidae	Gerygone fusca		native	
Aves	Passeriformes	Acanthizidae	Pyrrholaemus brunneus		native	
Aves	Passeriformes	Acanthizidae	Smicromis brevirostris	Weebill	native	
Aves	Passeriformes	Artamidae	Artamus cinereus		native	
Aves	Passeriformes	Artamidae	Artamus cyanopterus		native	
Aves	Passeriformes	Artamidae	Artamus personatus		native	
Aves	Passeriformes	Artamidae	Cracticus nigrogularis		native	
Aves	Passeriformes	Artamidae	Cracticus torquatus		native	
Aves	Passeriformes	Artamidae	Gymnorhina tibicen			
Aves	Passeriformes	Campephagidae	Coracina novaehollandiae (Gmelin, 1789)		native	
Aves	Passeriformes	Campephagidae	Lalage tricolor		native	
Aves	Passeriformes	Cinclosomatidae	Cinclosoma clarum		native	
Aves	Passeriformes	Climacteridae	Climacteris rufus		native	
Aves	Passeriformes	Corvidae	Corvus bennetti		native	
Aves	Passeriformes	Corvidae	Corvus coronoides Vigors & Horsfield, 1827		native	
Aves	Passeriformes	Cracticidae	Strepera versicolor		native	
Aves	Passeriformes	Dicaeidae	Dicaeum hirundinaceum		native	
Aves	Passeriformes	Hirundinidae	Cheramoeca leucosterna		native	
Aves	Passeriformes	Hirundinidae	Hirundo neoxena Gould, 1842		native	
Aves	Passeriformes	Hirundinidae	Petrochelidon nigricans		native	
Aves	Passeriformes	Locustellidae Bonaparte	Cincloramphus mathewsi		native	
Aves	Passeriformes	Maluridae	Malurus lamberti		mixed	Parent of co
Aves	Passeriformes	Maluridae	Malurus pulcherimus		native	

Aves	Passeriformes	Maluridae	Stipiturus malachurus		native	
Aves	Passeriformes	Meliphagidae	Acanthagenys rufogularis		native	
Aves	Passeriformes	Meliphagidae	Anthochaera carunculata		native	
Aves	Passeriformes	Meliphagidae	Certhionyx variegatus		native	
Aves	Passeriformes	Meliphagidae	Gavicalis virescens (Vieillot, 1817)		native	
Aves	Passeriformes	Meliphagidae	Gliciphila melanops		native	
Aves	Passeriformes	Meliphagidae	Lichenostomus cratitius		native	
Aves	Passeriformes	Meliphagidae	Lichmera indistincta (Vigors & Horsfield, 1827)		native	
Aves	Passeriformes	Meliphagidae	Manorina flavigula		native	
Aves	Passeriformes	Meliphagidae	Melithreptus brevirostris		native	
Aves	Passeriformes	Meliphagidae	Nesoptilotis leucotis			
Aves	Passeriformes	Meliphagidae	Nesoptilotis leucotis novaenorcae			
Aves	Passeriformes	Meliphagidae	Ptilotula ornata		native	
Aves	Passeriformes	Meliphagidae	Purnella albifrons		native	
Aves	Passeriformes	Meliphagidae	Sugomel niger		native	
Aves	Passeriformes	Monarchidae Bonaparte	Grallina cyanoleuca (Latham, 1802)		native	
Aves	Passeriformes	Neosittidae	Daphoenositta chrysoptera		native	
Aves	Passeriformes	Oreoicidae	Oreoica gutturalis		native	
Aves	Passeriformes	Pachycephalidae	Colluricincla harmonica		native	
Aves	Passeriformes	Pachycephalidae	Pachycephala inornata		native	
Aves	Passeriformes	Pachycephalidae	Pachycephala occidentalis		native	
Aves	Passeriformes	Pachycephalidae	Pachycephala rufiventris		native	
Aves	Passeriformes	Pardalotidae	Pardalotus punctatus		native	
Aves	Passeriformes	Pardalotidae	Pardalotus striatus		native	
Aves	Passeriformes	Petroicidae Mathews, 1	Drymodes brunneopygia		native	
Aves	Passeriformes	Petroicidae Mathews, 1	Eopsaltria griseogularis			
Aves	Passeriformes	Petroicidae Mathews, 1	Melanodryas cucullata		native	
Aves	Passeriformes	Petroicidae Mathews, 1	Microeca fascians		native	
Aves	Passeriformes	Petroicidae Mathews, 1	Microeca fascians assimilis		native	
Aves	Passeriformes	Petroicidae Mathews, 1	Petroica goodenovii		native	
Aves	Passeriformes	Pomatostomidae	Pomatostomus superciliosus		native	
Aves	Passeriformes	Rhipiduridae	Rhipidura albiscapa Gould, 1840		native	
Aves	Passeriformes	Rhipiduridae	Rhipidura leucophrys (Latham, 1802)		native	
Aves	Passeriformes	Zosteropidae	Zosterops lateralis		native	
Aves	Psittaciformes	Cacatuidae	Cacatua leadbeateri		native	
Aves	Psittaciformes	Cacatuidae	Eolophus roseicapilla			
Aves	Psittaciformes	Psittacidae	Neophema elegans		native	
Aves	Psittaciformes	Psittacidae	Psephotellus varius			
Aves	Psittaciformes	Psittaculidae	Barnardius zonarius			
Aves	Psittaciformes	Psittaculidae	Melopsittacus undulatus		native	
Aves	Psittaciformes	Psittaculidae	Parvipsitta porphyrocephala		native	
Aves	Psittaciformes	Psittaculidae	Platycercus icterotis	Western Rosella	native	
Aves	Psittaciformes	Psittaculidae	Platycercus icterotis xanthogenys	Western Rosella (inland)	native	P4
Aves	Psittaciformes	Psittaculidae	Polytelis anthopeplus		native	
Aves	Strigiformes	Strigidae	Ninox boobook		native	
Mammalia	Carnivora	Canidae	Canis familiaris		alien	
Mammalia	Carnivora	Canidae	Vulpes vulpes		alien	
Mammalia	Carnivora	Felidae	Felis catus		alien	
Mammalia	Chiroptera	Molossidae	Austronomus australis	White-striped Free-tailed Bat	native	
Mammalia	Chiroptera	Molossidae	Ozimops kitcheneri		native	
Mammalia	Chiroptera	Vespertilionidae	Chalinolobus gouldii	Gould's Wattled Bat	native	
Mammalia	Chiroptera	Vespertilionidae	Chalinolobus morio		native	
Mammalia	Chiroptera	Vespertilionidae	Nyctophilus geoffroyi		native	
Mammalia	Chiroptera	Vespertilionidae	Nyctophilus major tor	Central Long-eared Bat	native	P3
Mammalia	Chiroptera	Vespertilionidae	Vespertilio regulus		native	
Mammalia	Dasyuromorphia	Dasyuridae	Antechinomys laniger		native	
Mammalia	Dasyuromorphia	Dasyuridae	Dasyurus geoffroyi		native	VU
Mammalia	Dasyuromorphia	Dasyuridae	Ningau yvonneae	Southern Ningau	native	
Mammalia	Dasyuromorphia	Dasyuridae	Phascogale calura	Red-tailed Phascogale	native	CD
Mammalia	Dasyuromorphia	Dasyuridae	Sminthopsis		mixed	
Mammalia	Dasyuromorphia	Dasyuridae	Sminthopsis dolichura		native	
Mammalia	Dasyuromorphia	Dasyuridae	Sminthopsis gilberti		native	
Mammalia	Dasyuromorphia	Dasyuridae	Sminthopsis granulipes		native	
Mammalia	Diprotodontia	Burramyidae	Cercartetus concinnus		native	
Mammalia	Diprotodontia	Macropodidae	Macropus fuliginosus		native	
Mammalia	Diprotodontia	Macropodidae	Notamacropus irma	Western Brush Wallaby	native	P4
Mammalia	Diprotodontia	Macropodidae	Osphranter robustus erubescens		native	

Mammalia	Diprotodontia	Macropodidae	Osphranter rufus		native	
Mammalia	Diprotodontia	Macropodidae	Petrogale lateralis lateralis	Black-flanked Rock-wallaby	native	EN
Mammalia	Lagomorpha	Leporidae	Oryctolagus cuniculus		alien	
Mammalia	Monotremata	Tachyglossidae	Tachyglossus aculeatus		native	
Mammalia	Peramelemorphia	Peramelidae	Isodon fusciventer		native	P4
Mammalia	Rodentia	Muridae	Mus musculus	House Mouse	alien	
Mammalia	Rodentia	Muridae	Notomys mitchellii		native	
Mammalia	Rodentia	Muridae	Pseudomys bolami		native	
Mammalia	Rodentia	Muridae	Pseudomys hermannsburgensis		native	
Reptilia	Squamata	Agamidae	Ctenophorus cristatus	Bicycle Dragon	native	
Reptilia	Squamata	Agamidae	Ctenophorus griseus	Wheatbelt Sand Dragon		
Reptilia	Squamata	Agamidae	Ctenophorus ornatus	Ornate Crevice-Dragon	native	
Reptilia	Squamata	Agamidae	Ctenophorus reticulatus	Western Netted Dragon	native	
Reptilia	Squamata	Agamidae	Ctenophorus salinarum	Salt Pan Dragon	native	
Reptilia	Squamata	Agamidae	Ctenophorus scutulatus	Lozenge-marked Dragon	native	
Reptilia	Squamata	Agamidae	Moloch horridus	Thorny Devil	native	
Reptilia	Squamata	Agamidae	Pogona minor (Sternfeld, 1919)		native	
Reptilia	Squamata	Agamidae	Pogona minor minor	Western Bearded Dragon	native	
Reptilia	Squamata	Agamidae	Tympanocryptis pseudopsephos	Goldfields Pebble-mimic Dragon	native	
Reptilia	Squamata	Carphodactylidae	Nephrurus stellatus	Starred Knob-tailed Gecko	native	
Reptilia	Squamata	Diplodactylidae	Crenadactylus ocellatus	South-western clawless gecko	native	
Reptilia	Squamata	Diplodactylidae	Diplodactylus granariensis		native	
Reptilia	Squamata	Diplodactylidae	Diplodactylus granariensis granariensis	Western stone gecko	native	
Reptilia	Squamata	Diplodactylidae	Diplodactylus pulcher	Pretty Gecko	native	
Reptilia	Squamata	Diplodactylidae	Hesperoedura reticulata	Reticulated Velvet Gecko	native	
Reptilia	Squamata	Diplodactylidae	Lucasium maini	Main's ground gecko	native	
Reptilia	Squamata	Diplodactylidae	Strophurus assimilis	Goldfields Spiny-tailed Gecko	native	
Reptilia	Squamata	Elapidae	Brachyurophis semifasciatus	Southern Shovel-nosed Snake	native	
Reptilia	Squamata	Elapidae	Paroplocephalus atriceps	Lake Cronin Snake	native	P3
Reptilia	Squamata	Elapidae	Pseudechis australis	Mulga Snake	native	
Reptilia	Squamata	Elapidae	Pseudonaja affinis affinis	Dugite	native	
Reptilia	Squamata	Elapidae	Pseudonaja mengdeni	Western Brown Snake	native	
Reptilia	Squamata	Elapidae	Pseudonaja modesta	Ringed Brown Snake	native	
Reptilia	Squamata	Elapidae	Suta fasciata	Rosen's Snake	native	
Reptilia	Squamata	Elapidae	Suta gouldii	Gould's Hooded Snake		
Reptilia	Squamata	Gekkonidae	Christinus marmoratus (Gray, 1845)		native	
Reptilia	Squamata	Gekkonidae	Gehyra variegata	Variiegated Gehyra	native	
Reptilia	Squamata	Gekkonidae	Heteronotia binoei	Bynoe's Gecko	native	
Reptilia	Squamata	Gekkonidae	Underwoodisaurus milii	Southern Barking Gecko	native	
Reptilia	Squamata	Pygopodidae	Delma australis	Marble-faced Delma	native	
Reptilia	Squamata	Pygopodidae	Delma fraseri	Fraser's Delma", "Fraser's Legless	native	
Reptilia	Squamata	Pythonidae	Morelia spilota imbricata	Carpet Python', 'Western Australian	native	
Reptilia	Squamata	Scincidae	Cryptoblepharus buchananii	Buchanan's Snake-eyed Skink	native	
Reptilia	Squamata	Scincidae	Cryptoblepharus plagioccephalus (Cocteau, 1836)		native	
Reptilia	Squamata	Scincidae	Ctenotus leonhardii (Sternfeld, 1919)		native	
Reptilia	Squamata	Scincidae	Ctenotus pantherinus	Leopard Ctenotus	native	
Reptilia	Squamata	Scincidae	Ctenotus schomburgkii	Sandplain Ctenotus	native	
Reptilia	Squamata	Scincidae	Ctenotus uber uber		native	
Reptilia	Squamata	Scincidae	Ctenotus xenopleura	Wide-striped Ctenotus	native	
Reptilia	Squamata	Scincidae	Cyclodomorphus melanops elongatus	Spinifex Slender Blue-tongue	native	
Reptilia	Squamata	Scincidae	Egernia richardi	Woodland Crevice Skink	native	
Reptilia	Squamata	Scincidae	Hemiergis initialis		native	
Reptilia	Squamata	Scincidae	Hemiergis initialis initialis	Western Earless Skink	native	
Reptilia	Squamata	Scincidae	Lerista gerrardii	Bold-striped Robust Slider	native	
Reptilia	Squamata	Scincidae	Lerista kingi	King's Lerista	native	
Reptilia	Squamata	Scincidae	Liopholis inornata	Desert Skink	native	
Reptilia	Squamata	Scincidae	Liopholis multiscutata	Bull Skink	native	
Reptilia	Squamata	Scincidae	Menetia greyii	Common Dwarf Skink	native	
Reptilia	Squamata	Scincidae	Morethia butleri	Butler's Snake-eye	native	
Reptilia	Squamata	Scincidae	Morethia obscura	Shrubland Pale-flecked Morethia	native	
Reptilia	Squamata	Scincidae	Tiliqua occipitalis	Western Blue-tongue Skink	native	
Reptilia	Squamata	Scincidae	Tiliqua rugosa		native	
Reptilia	Squamata	Scincidae	Tiliqua rugosa rugosa	Bobtail	native	
Reptilia	Squamata	Typhlopidae Merrem, 1811	Anilius australis Gray, 1845		native	
Reptilia	Squamata	Typhlopidae Merrem, 1811	Anilius bicolor	Dark-spined Blind Snake	native	
Reptilia	Squamata	Typhlopidae Merrem, 1811	Anilius bituberculatus	Rough-nosed Blind Snake	native	
Reptilia	Squamata	Varanidae	Varanus gouldii	Bungarra or Sand Goanna', 'Bunga	native	

Summary by Class	
Class	Taxa
Amphibia	5
Aves	99
Mammalia	31
Reptilia	59
TOTAL	194

Top 5 Families by Species Count	
Family	Taxa
Scincidae	21
Meliphagidae	14
Agamidae	10
Acanthizidae	8
Elapidae	8

Summary by Conservation Code	
Code	Taxa
P3	2
P4	3
VU	2
EN	1
CD	1
Parent of conservat	1

Summary by Establishment Type	
Establishment	Taxa
native	173
alien	6
mixed	2

APPENDIX I: PMST SEARCH RESULTS



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: 18-Dec-2025

[Summary](#)

[Details](#)

[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	17
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:	10
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

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

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities

[\[Resource Information \]](#)

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

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text
Eucalypt Woodlands of the Western Australian Wheatbelt	Critically Endangered	Community likely to occur within area

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 likely 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
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat known to occur within area
Pezoporus occidentalis Night Parrot [59350]	Critically Endangered	Species or species habitat may occur within area

MAMMAL

Scientific Name	Threatened Category	Presence Text
Dasyurus geoffroi Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat likely to occur within area
PLANT		
Acacia lanuginophylla Woolly Wattle [55575]	Endangered	Species or species habitat may occur within area
Banksia dolichostyla listed as Banksia sphaerocarpa var. dolichostyla Ironcaps Banksia, Ironcap Banksia [93505]	Vulnerable	Species or species habitat may occur within area
Calectasia pignattiana Stilted Tinsel Lily [82018]	Vulnerable	Species or species habitat may occur within area
Dasymalla axillaris Native Foxglove [38829]	Critically Endangered	Species or species habitat may occur within area
Daviesia microcarpa Norseman Pea [56766]	Endangered	Species or species habitat may occur within area
Eremophila resinosa Resinous Eremophila [11735]	Endangered	Species or species habitat may occur within area
Eremophila viscida Varnish Bush [2394]	Endangered	Species or species habitat may occur within area
Gastrolobium graniticum Granite Poison [14872]	Endangered	Species or species habitat may occur within area
Isopogon robustus Robust Coneflower [82646]	Critically Endangered	Species or species habitat known to occur within area
Roycea pycnophylloides Saltmat [21161]	Endangered	Species or species habitat likely to occur within area

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

Scientific Name	Threatened Category	Presence Text
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat 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
Thinornis cucullatus as Thinornis rubricollis Hooded Plover, Hooded Dotterel [87735]		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
Condarnin Rock	Nature Reserve	WA
Jilbadji	Nature Reserve	WA

Protected Area Name	Reserve Type	State
Yellowdine	Nature Reserve	WA

EPBC Act Referrals [\[Resource Information \]](#)

Title of referral	Reference	Referral Outcome	Assessment Status
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Parker Range Mt Caudan Iron Ore Haul Road Proposal	2021/8955		Post-Approval
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Controlled action

Iron Ore Project	2010/5435	Controlled Action	Post-Approval
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Not controlled action

Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed
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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](#)
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- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

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

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

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Department of Climate Change, Energy, the Environment and Water

GPO Box 3090

Canberra ACT 2601 Australia

+61 2 6274 1111