

# Vegetation, Flora, Fauna and Environmental Considerations Report

Shire of Esperance 2022-23 Strategic Purpose Permit Site C – Circle Valley Road, SLK 1.32-7.68



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# **Acknowledgement of country**

The Shire of Esperance acknowledges the Kepa Kurl Wudjari people of the Nyungar nation and Ngadju people who are the traditional custodians of this land and their continuing connection to land, waters and community. We pay our respect to their Elders past, present and emerging and we extend that respect to other Aboriginal Australians today.

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#### LIST OF ABBREVIATIONS

**BAM Act:** Biosecurity and Agriculture Management Act 2007 (WA)

**BC Act:** Biodiversity Conservation Act 2016 (WA)

**BOM:** Bureau of Meteorology

**DBCA:** Department of Biodiversity, Conservation and Attractions

**EP Act:** Environmental Protection Act 1986 (WA)

**EPA:** Environmental Protection Authority

EPBC Act: Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

IBRA: Interim Biogeographical Regionalisation for Australia

**IUCN:** International Union of Conservation Nature

LGA: Local Government Area

**NVIS:** National Vegetation Information System

**PEC:** Priority Ecological Community **PF:** Priority Flora (Under BC Act)

**SOE:** Shire of Esperance

**SLK:** Straight Line Kilometres (Main Roads WA)

**TEC:** Threatened Ecological Community **TF:** Threatened Flora (Under BC Act)

**TPFL:** Threatened and Priority Flora Database (DBCA) **TPRF:** Threatened and Priority Flora Report Form **WAH:** Western Australian Herbarium (PERTH) **WAOL:** Western Australian Organism List

# 1 Executive Summary

The Shire of Esperance Environmental Team was commissioned by the Shire of Esperance Asset Management department to undertake a review of the flora, vegetation and fauna values on the proposed Circle Valley Road, SLK 1.32-7.68 project in 2023-24 as part of their Strategic Purpose Permit application. The proposed development involves the clearing of 0.061 ha of native vegetation for the purpose of road upgrades. The Shire of Esperance's two Environmental Scientists, Julie Waters and Katherine Walkerden completed the site assessment on Circle Valley Road, SLK 1.32-7.68 between the 16th of September to 21st of September, 2022.

A total of 142 vascular plant taxa, representative of 90 genera and 37 families, were recorded within Circle Valley Road, SLK 1.32-7.68 survey area. The majority of taxa recorded were representative of the Myrtaceae (27 taxa), Asteraceae (21 taxa), Fabaceae (15 taxa) and Poaceae (9 taxa) families. Of these 116 were native species and 26 were introduced. A single vegetation type was mapped and described during the field survey, described as: "mixed mallee woodland over open mixed shrubland". Overall, the vegetation community mapped and species recorded in the 'Circle Valley Road, SLK 1.32-7.68 survey area' survey area was consistent with the historical mapping of Beard (1973). It is believed that the Beard (1973) vegetation association Salmon Gums\_486 was an appropriate match for vegetation within the project area. This vegetation community is well represented at a local and regional scale.

One threatened and five priority flora species pursuant to the Biodiversity Conservation Act (2016) and as listed by the Department of Biodiversity, Conservation and Attractions (DBCA) were recorded during the Circle Valley Road, SLK 1.32-7.68 survey.

**Table 1**: Summary of Threatened and Priority flora species recorded in Site C – Circle Valley Road, SLK 1.32-7.68 project area.

Species	Conservation Code	Total Plants	Total plants taking in Site C	Total plants not disturbed	Total plants in existing Maintenance Zone
Eucalyptus merrickiae	T	40	0	38	2
Acacia bartlei	P3	2	0	2	0
Acacia glaucissima	P3	167	0	151	15
Persoonia cymbifolia	P3	2	0	2	0
Pityrodia chrysocalyx	P3	165	~10	135	20
Melaleuca fissurata	P4	1	0	1	0

No EPBC Act-listed Threatened Ecological Communities (TEC) or BC Act-listed Priority Ecological Communities (PEC) were identified to be present within the survey area.

As Shire Environmental Coordinator signs off on project work packs the following recommendation will be included within the internal SOE approval process for this road project:

- All vehicles and construction equipment to be cleaned prior to start of the project;
- Minimise clearing to minimum amount required;
- Avoid larger habitat trees (larger trees and trees with hollows) wherever possible;
- Maintain existing drainage systems, spoon drains and ensuring tracks and other infrastructure areas do not disrupt or divert historic water flow patterns;

- Minimise soil disturbance during clearing and practice standard vehicle hygiene to ensure introduced (exotic) species do not become established within the Circle Valley Road, SLK 1.32-7.68 survey area;
- Follow up spraying of emergent roadside weeds where gravel has been sourced from farmland to prevent weeds coming into the weed free areas.

These have been addressed in the attached Weed and Dieback plan (Section 7.1), and provided these measures are implemented, there should be no impediments to the widening of Circle Valley Road, SLK 1.32-7.68.

#### 1 Introduction

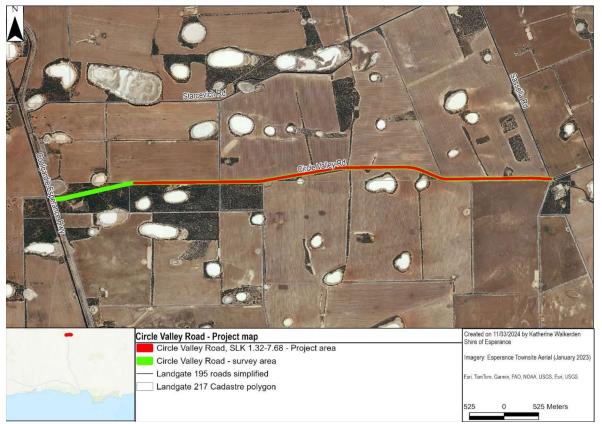
The Shire of Esperance endeavors to maintain a high level of road safety, being proactive in identifying high risk road designs and progressively upgrading them. The Shire of Esperance manages the largest road network of any local government in Western Australia, encompassing a total of 4,593 km of road. The Shire of Esperance is submitting 'Circle Valley Road, SLK 1.32-7.68' project as Site C under the '2023-24 Strategic Purpose Permit' (Figure 1), for the purpose of road upgrades during a pre-bitumen resheet.

## 1.1 Location and Scope of Project

The proposed works are located 95 km north of Esperance, within the Shire of Esperance managed road reserve of Circle Valley Road. Specifically, it is starting from Coolgardie Esperance Highway, at straight line kilometre (SLK) 273.50 (Main Roads, 2022). Originally the scope of the project was defined as Circle Valley Road SLK 0 - 7.68, however after designs were completed the area requiring clearing was refined to Circle Valley Road SLK 1.32 - 7.68. A point within the proposed clearing permit area is 6339859.59m N, 379624.14m E (UTM Zone 51 H, GDA94).

Circle Valley Road is particularly narrow resulting in safety issues during grain harvest season. Circle Valley Road requires widening to maintain the safety of road users during harvest. This road is classified as a local distributor road on Shire road network providing vital link to properties and other access roads in north east region of Esperance. Traffic counts showing a major impact of heavy vehicle occupied during harvesting season and it is an approved RAV route and a school bus route.

To complete these works a small amount of native vegetation mainly around bends will be cleared. This requires clearing of 0.061 ha of native vegetation. Road widths and elevation changes have been kept to a minimum to reduce final road footprint therefore reducing clearing while improving road geometry and safety for the road user. To mitigate impact of clearing vegetation, where feasible clearing will not occur to the full permitted width, conserving vegetation.



**Figure 1.** Location of Site C – Circle Valley Road, SLK 1.32-7.68, with original survey area in green.

# 1.2 Environmental Legislation and Guidelines

The Commonwealth (federal) legislation relevant to this survey is the:

• Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

The following Western Australian (state) legislation relevant to this survey include the:

- Biodiversity Conservation Act 2016 (BC Act);
- Biodiversity Conservation Act 2016 Biodiversity Conservation (Listing of Native Species) (Flora)
   Order 2022
- Biodiversity Conservation Act 2016 Biodiversity Conservation (Listing of Native Species) (Fauna) Order 2022
- Biosecurity and Agriculture Management Act 2007 (BAM Act);
- Environmental Protection Act 1986 (EP Act);

Western Australian guidelines relevant to this survey are the:

- Environmental Factor Guideline: Flora and Vegetation (Environmental Protection Authority [EPA] 2016);
- Technical Guidance Flora and Vegetation Surveys for Environmental Impact Assessment (EPA 2016);
- A guide to the assessment of applications to clear native vegetation, Under Part V Division 2 of the Environmental Protection Act 1986 (DWER, 2014)
- Technical Guidance Terrestrial vertebrate fauna surveys for environmental impact assessment (EPA, 2020)

International Agreements relevant to this survey are the:

- Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment 1974 (Japan-Australia Migratory Bird Agreement – JAMBA)
- Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment 1986 (China-Australia Migratory Bird Agreement – CAMBA)
- Agreement between the Government of Australia and the Government of the Republic of Korea on the Protection of Migratory Birds 2007 (Republic of Korea-Australia Migratory Bird Agreement – ROKAMBA)
- Convention on Wetlands of International Importance 1971 (Ramsar Convention)

#### 2 OBJECTIVES

The objective of this survey was to undertake a flora, fauna and vegetation assessment of the Circle Valley Road, SLK 1.32-7.68 survey area including:

- Undertake a desktop study of the flora, fauna and vegetation of the Circle Valley Road, SLK 1.32-7.68 survey area, with an emphasis on threatened and priority flora, threatened and priority ecological communities (TECs and PECs) and Threatened and Priority fauna;
- Review the historical literature of the Circle Valley Road, SLK 1.32-7.68 survey area;
- Undertake a detailed survey of the Circle Valley Road, SLK 1.32-7.68 survey area, and collect and identify the vascular plant species present;
- Review the conservation status of the vascular plant species recorded by reference to current
  literature and listings by the Department of Biodiversity, Conservation and Attractions (DBCA)
  and plant collections held at the Western Australian State Herbarium (WAH), and listed by the
  Department of Climate Change, Energy, the Environment and Water under the EPBC Act;
- Define and map the vegetation communities in the Circle Valley Road, SLK 1.32-7.68 survey area:
- Define and map the location of any threatened and priority flora located within the Circle Valley Road, SLK 1.32-7.68 survey area;
- Define any management issues related to flora, fauna and vegetation values;
- Provide recommendations on the local and regional significance of the vegetation communities;
   and
- Prepare a report summarising the findings.

#### 3 METHODS

#### 3.1 Desktop Assessment

Desktop information was collated for all areas within a 20 km buffer zone of the site using DBCA datasets sourced under agreement. These data sources are listed below:

- Western Australian Herbarium data (WAH);
- Threatened and Priority Flora Database (TPFL);
- DBCA's Esperance District Threatened Flora spatial dataset;
- Threatened and Priority Ecological Communities (TECs & PECs);

- Threatened, Specially Protected and Priority fauna; and
- Black cockatoo roost and breeding sites.

Additionally, the EPBC Act Protected Matters Search Tool (PMST), was also checked to identify the possible occurrence of Threatened and Priority flora, fauna and ecological communities within the Circle Valley Road, SLK 1.32-7.68' area. Search parameters were 'by polygon' and a 20 km buffer was applied to the search area; standard used in this IBRA subregion. Historical and State documentation and datasets consulted include:

- Vegetation mapping of the region, principally the coarse-scale vegetation associations of Beard (1973);
- Vegetation Extent by Statewide Pre-European mapping statistics (GoWA, 2020);
- Soil landscape mapping (DAFWA);
- Dieback Information Data Management System (DIDMS; Gaia Resources);
- Shire of Esperance Weed Mapping Data;
- Existing site digital orthophotos (Scaddan 2015);
- Atlas of Living Australia (ALA) database;
- Hydrographic Catchments (DWER); and
- Crown Reserves (Landgate).

## 3.2 Field Survey

The site was initially inspected on 16<sup>th</sup> of September, by Julie Waters and Katherine Walkerden the SOE's Environmental Coordinator and Environmental Officer. A general assessment of possible ecological impacts included historical clearing, impact of fire regimes, regeneration from disturbance, waterlogging, senescence, weeds, erosion, sedimentation, invasive fauna, *Phytophthora* Dieback, and illegal dumping of rubbish.

A detailed field assessment of the flora and vegetation of the original Circle Valley SLK 0-7.68 survey area was undertaken by Shire of Esperance botanists from 16th of September to the 21st of September 2022 in accordance with methods outlined in Technical Guidance – Flora and vegetation surveys for environmental impact assessment (EPA 2016). All staff held valid collection licences to collect flora for scientific purposes, issued under the BC Act.

The methodology for assessing threatened and priority flora consisted of traversing by foot the entire original Circle Valley SLK 0 - 7.68 survey area. The road was used as a continuous transect. Vegetation up to 5 meters from the edge of the existing road's back-slope was surveyed. Botanists used handheld Garmin GPS units, recording all species, and collecting all but the very common, well known species.

For PF or TF species identified in the desktop survey as possible to occur, scans of pressed specimens from either the WAH or local Esperance District Herbarium were taken into the field. Suitable associated habitat for TF or PF identified in the desktop study were particularly focused on, and extensively searched. If suspected or known conservation significant flora species were encountered, a specimen was collected for subsequent identification with GPS coordinates and plant numbers

recorded for the population. During the survey, a field herbarium for the survey area was also constructed.

All species unknown in the field were collected, pressed and dressed in accordance with WAH instructions, and later identified by SOE's three Environmental staff, using keys, WA Herbarium's Florabase, literature and Esperance District Herbarium. Any species that were unable to be identified were submitted to the WAH for identification. Nomenclature of the species recorded is in accordance with the WAH.

A follow up survey was conducted on 25<sup>th</sup> of November 2022 by Katherine Walkerden to specifically target the identification and counting of Priority 3 *Pityrodia chrysocalyx*.

The vegetation communities of 'Site C – Circle Valley Road, SLK 1.32-7.68' was assessed for the presence a TEC or PEC (DBCA 2023, 2021) comparing that to descriptions in approved conservation advice for these communities.

Specifically, the site was assessed for the Environmental Protection and Biodiversity Conservation Act 1999 listed 'Proteaceae Dominated Kwongkan Shrublands of the Southeast Coastal Floristic Province of Western Australia (Kwongkan)' TEC. The presence of Kwongkan was identified using diagnostic characteristics defined in the 'Approved Conservation Advice for Kwongkan (Commonwealth of Australia, 2014)' as;

- 2a) Characterised by Proteaceae species having 30% or greater cover of Proteaceae species across all layers where these shrubs occur (crowns measured as if they are opaque). And/or
- 2b) Two or more diagnostic Proteaceae species are present that are likely to form a significant vegetative component when regenerated.

PEC's do not have published approved conservation advice. Comparison of the vegetation community occurred using 'Priority Ecological Communities for Western Australia, *Version 35*' (DBCA 2023c) definitions.

Only a basic fauna survey was conducted as per EPA (2020) guidelines. Observations of fauna presence, such as call sounds, footprints and scats were noted, and the area assessed for suitability of habitat within 'Site C – Circle Valley Road, SLK 1.32-7.68' for fauna species identified in the desktop survey.

A drone flight was conducted on the 22/11/2023 by the Shire of Esperance surveying team producing a high-resolution drone orthomosaic over the project area.

# 3.3 Survey Timing

According to Table 3 in the Technical Guidance – Flora and vegetation surveys for Environmental Impact Assessment (EPA 2016), the primary survey timing for the South-west and Interzone Botanical Province is Spring (September-November). As all surveys in the original Circle Valley SLK 0 - 7.68 survey area were conducted in September and November, it falls within this period. The surveys were timed, where possible, to align with peak flowering periods of conservation significant flora with the potential to occur in the Circle Valley Road, SLK 1.32 - 7.68 survey area. The 2022 spring rainfall was above average, and hence spring flowering continued for an extended period in 2022.

## 3.4 Vegetation Descriptions

Vegetation community was assessed during the field survey. Broad vegetation types defined by structure and composition were recorded and described using the National Vegetation Information System (NVIS) (ESCAVI 2003) classification system.

Condition of vegetation was assessed using Table 2 of the Technical Guidance – Flora and vegetation surveys for Environmental Impact Assessment (EPA 2016) categories, as 'Excellent', 'Very Good', 'Good', 'Degraded' or 'Completely Degraded'. This illustrates how healthy vegetation is, determined by vegetation structure, weed cover, presence of dieback, historical clearing, grazing and other signs of disturbance.

Additionally, possible environmentally sensitive areas, such as wetlands or granite, were noted. Overall, an assessment of environmental impacts to Department of Water and Environmental Regulation's (DWER) biodiversity values were inspected and valued.

## 3.5 Survey Limitations

A general assessment was made of the survey against a range of factors that may have limited the outcomes and conclusions of this report (Table 2). Based on this assessment, the present survey has not been subject to constraints which would affect the thoroughness of the survey, and the conclusions which have been formed.

**Table 2:** Potential limitations affecting the conclusions made in this report

Potential Survey Limitation	Impact on Current Survey
Availability of contextual information at a regional and local scale	Not a limitation: Reference resources such as Beard's mapping, together with online flora and vegetation information, have provided an appropriate level of information for the current survey. The vegetation of the Esperance shire has previously been mapped by Beard (1973).
Resources (i.e. were there adequate resources to complete the survey to the required standard).	Not a constraint: Adequate resources were made available by Shire of Esperance to complete the surveys.
Competency/experience of team carrying out survey; experience in the bioregion surveyed	Not a limitation: Botanists had extensive experience working within the Shire of Esperance and wider areas. Two of the botanists have consistently worked within this bioregion for more than 15 years. Botanists were familiar with flora in the area. Any unknown or potential threatened or priority flora species were collected and identified, utilising resources available at the Western Australian Herbarium and consultation with expert taxonomists.
Proportion of flora collected and identification issues	Potential limitation: While many plants were in flower during the survey, a proportion of plants encountered during the survey were sterile and may impact the chance of identification of some specimens to species level. Orchid species may not emerge each year if conditions are not favourable. Although these may affect the

	completeness of the species list, it is not expected to have a significant effect on mapping reliability, nor on the identification of threatened and priority species in the area as the majority were perennial species. Surveys were only undertaken in one year
Effort and extent of survey	Potential limitation: The survey area was thoroughly covered. The threatened and priority flora search undertaken by botanists by means of foot-traverse between vegetation quadrat sites ensured thorough coverage of the survey area. Flora that was unknown or resembled threatened or priority flora were collected, the location and habitat noted, and the number of plants estimated.
Mapping reliability	<b>Not a constraint.</b> Handheld GPS units were used for the survey, which for a majority of field conditions have an accuracy level of ± 5 m.
Survey timing, rainfall, season of survey	Not a limitation: The EPA (2016a) recommends that flora and vegetation surveys in the South – West Botanical Province be conducted in Spring (September-November). All surveys have been conducted in September - November which falls within this period. Rainfall in 2022 was above average, and continued well into December.
Disturbances (fire/flood/clearing)	<b>Not a limitation:</b> The Circle Valley Road, SLK 1.32-7.68 survey area exhibits minimal levels of recent disturbance.

#### 4 DESKTOP ASSESSMENT RESULTS

#### 4.1 Climate

The Salmon Gums climate is characterised by cool winters and hot dry summers (BoM 2022). The area receives an average annual rainfall of 355 mm. The Shire of Esperance received an unusually high level of rainfall in 2022 resulting in an extended flowering period.

#### 4.2 Catchment

Circle Valley Road is mapped as present within the Bandy Creek catchment area. It is located approximately 87km form the coastline. There are numerous salt lakes in the immediate vicinity.

### 4.3 Geology, Soils and Topography

A single geological unit was identified within 'Site C – Circle Valley Road, SLK 1.32-7.68, by Schoknecht et al. (2004). It is described as: "Tertiary sediments. Lacustrine sediments with gypsum and salt in lakes. Bedrock is deep".

Within the area, there has been a single soil type recorded. This was: "Alkaline grey deep and shallow sandy duplex soils with associated salt lake soils, pale deep sands and calcareous loamy earths".

Using Schnoknect et al. (2004), the project topography is mapped at a fine scale, traversing a single topographic area described as: "Gently undulating to undulating plain with many small playas. Lunettes and sand dunes are common on eastern side of lakes".

## 4.4 Regional Vegetation

The site is located within the Eastern Mallee (Mal01) Interim Biogeographic Regionalisation of Australia (Thackway & Cresswell 1995) region. The MaL01 is described as "the south-eastern of Yilgarn Craton is gently undulating, with partially occluded drainage. Mainly Mallee over Myrtaceous-Proteaceous heaths on duplex (sand over clay) soils. Melaleuca shrublands characterize alluvia, and Halosarcia low shrublands occur on saline alluvium. A mosaic of mixed Eucalypt woodlands and Mallee occur on calcareous earth plans, and sandplains overlying the Eocene Limestone strata in the East. Semi-arid (dry) and warm Mediterranean".

Beard (1973) mapped one vegetation association (VA) within the 'Site C – Circle Valley Road, SLK 1.32-7.68' project area (Table 3). Salmon Gums 486 is well represented with 37% of its Eastern Mallee extent remaining.

**Table 3.** Vegetation associations mapped by Beard (1973) within the 'Site C – Circle Valley Road, SLK 1.32-7.68', and statistics on pre-European remaining areas.

Vegetation Association	
Name	SALMON GUMS_486
Description	Mosaic: Medium woodland; salmon gum & red mallee / Shrublands; mallee scrub Eucalyptus eremophila
Total remaining (%)	58.69
Pre-European extent in IBRA sub-region MaL01 (%)	37.38
Pre-European extent in LGA (%)	39.38
Current extent conserved in IUCN area (%)	6.70
Pre-European extent conserved in IUCN area (%)	4.86

# 4.5 Surrounding Land Use

The area directly included in the clearing permit application 'Site C – Circle Valley Road, SLK 1.32-7.68' is currently intact and vegetated 20 m wide road reserve, managed by the Shire of Esperance. The surrounding land use is broad acre agricultural land. The area is within rural zoning.

The site was 7.47 km from Red Lake Townsite Nature Reserve (Reserve 29680) the closest conservation reserve. No other conservation vested reserves were within 10 km of the site.

### 4.6 Potential Threatened and Priority Flora

Two threatened flora (TF) and 30 priority flora (PF) were recorded within a 20 km radius of the proposed impact site (Appendix 3). Of these, one TF species and 26 PF species had suitable known associated habitat that corresponded with vegetation communities and soil type of 'Site C – Circle

Valley Road, SLK 1.32-7.68' project. Confirmed records of one population (consisting of 3 subpopulations) of the TF species, *Eucalyptus merrickiae* were recorded in the area.

## 4.7 Potential Threatened and Priority Ecological Communities

The BC listed "Granite outcrop pools with endemic aquatic fauna" PEC was recorded within 20km of the project area. No other TEC's or priority ecological communities (PEC) were identified by the desktop study as being within "Site C – Circle Valley Road, SLK 1.32-7.68" or within a 20 km buffer of the site.

## 4.8 Potential Threatened and Priority Fauna

Six threatened fauna were recorded within a 20 km radius of the proposed impact site (Appendix 4)). An additional six threatened fauna were listed in the EPBC protected matters tool. Four of these had potentially suitable habitat to the site.

# 4.9 Phytophthora Dieback

Dieback Information Delivery and Management System (DIDMS; GAIA Resources, SCNRM & State NRM 2022) data shows no *Phytophthora cinnamomi* or other *Phytophthora* sp. Dieback sample results in the immediate area. The area is likely to be in too low a rainfall zone for the persistence of *Phytophthora* spp.

#### 5 FIELD SURVEY RESULTS AND DISCUSSION

#### 5.1 Flora

A total of 142 vascular plant taxa, representative of 90 genera and 37 families, were recorded within the survey area. Of these 118 were native species and 26 were introduced. The majority of taxa recorded were representative of the Myrtaceae (27 taxa), Asteraceae (21 taxa), Fabaceae (15 taxa) and Poaceae (9 taxa) families (see Appendix 1 for the complete incidental species list).

Numerous specimen's unknown to surveyors were collected and verified at the WAH as non-threatened species, such as:

- Cyathostemon ambiguus complex (Accession 9783; KSW14222, Specimen retained)
- Cyathostemon sp. (Accession 9783; KSW14822, Specimen retained)
- Eucalyptus connexa (Accession 9874; KSW21322, Specimen retained)

A number of plant specimens collected could not be identified accurately to species level due to the absence of sufficient taxonomic characters to enable accurate identification. The principal reasons for not being able to fully identify some of the collected specimens to species level were:

- Plant material was sterile or lacked sufficient taxonomic features to permit accurate identification to species level. In these cases, the species is identified as, for example, *Hordeum* sp. and *Lolium* sp.
- The plant material collected could not be determined to a known taxon. For example, Lepidosperma (as species are currently undergoing taxonomic revision).

# 5.2 Threatened and Priority Flora

One TF species, was identified during the survey. In addition, the targeted flora survey identified 5 PF species, 2, within the proposed clearing permit footprint (Section 5.2.3; 5.2.6). Queries of spatial datasets were requested specifically for these species, to interrogate impact of proposed works on species sustainability (DBCA 2022a; DBCA 2022c; DBCA 2022d). Acacia bartlei and Pityrodia chrysocalyx were not recorded on the TPFL database. DBCA do not actively manage or monitor the majority of low priority species, due to their prevalence in the landscape relative to TF. There are 136 species recorded as priority three or four conservation status within the Shire of Esperance boundaries (DBCA 2024a). It was noted that additional information on Acacia bartlei and Acacia glaucissima was located on file.

**Table 4**: Summary of Priority flora species recorded in survey area for Site C – Circle Valley Road, SLK 1.32-7.68 project area.

Species	Conservation Code	Total Plants	Total plants not disturbed	Total taking in Site C	Total in existing Maintenance Zone
Eucalyptus merrickiae	T	40	38	0	2
Acacia bartlei	P3	2	2	0	0
Acacia glaucissima	P3	167	151	0	15
Melaleuca fissurata	P3	1	1	0	0
Persoonia cymbifolia	P3	2	2	0	0
Pityrodia chrysocalyx	P3	165	135	~10	20

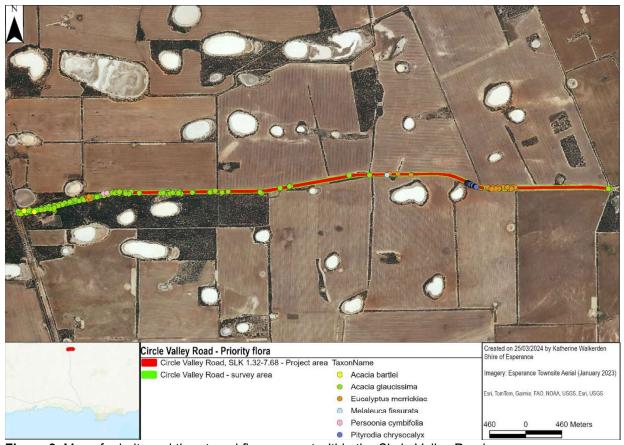


Figure 2. Map of priority and threatened flora present within the Circle Valley Road survey area.

#### 5.2.1 Eucalyptus merrickiae, Threatened

The survey resulted in one new population of *Eucalyptus merrickiae* being recorded.

Three Threatened and Priority Flora Reporting Forms (TPRF) were completed and sent to Department of Biodiversity, Conservation and Attractions (DBCA) District Flora Conservation Officer and Species and Communities Branch on 11/03/2024 (Appendix 2.1, 2.2, 2.3). A small amount of clearing will occur within the *Eucalyptus merrickiae* area of occurrence though this is unlikely to significantly impact any of the plants, with some branches of the mallees likely to be removed, other *Eucalyptus merrickiae* will be trimmed back to the maintenance zone.

Eucalyptus merrickiae is a widespread species with 64 confirmed herbarium records and 89 TPFL records a majority of these records were present within road reserves. However, numerous populations were present with conservation reserves or Unallocated crown land. The species has a 70km east to west and a 75km north to south range. Given the large number of populations present within a large geographic area the species is likely suitable for delisting or downgrading to a Priority 4 status.

A permit to take application will be submitted concurrently with this permit.

**Table 5.** Populations of *Eucalyptus merrickiae* plants by SLK and TPFL population number recorded during flora surveys.

Number of Plants	SLK	TPFL Population number
6	0.97 - 1	New population
5	4.84 - 5.12	16A
27	6.12 - 6.47	16B

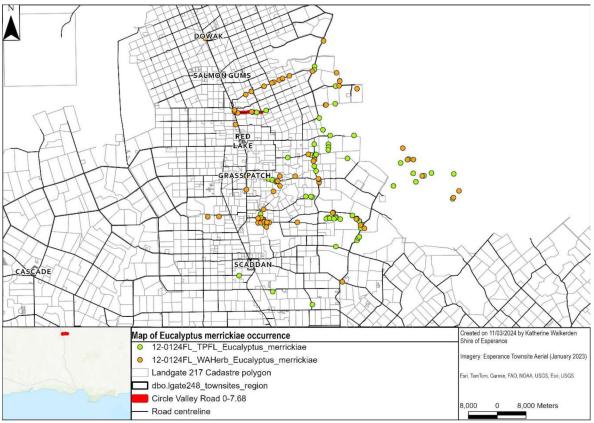


Figure 3. Map of Eucalyptus merrickiae occurrence, showing WAH and TPFL datasets (DBCA, 2024a).

### 5.2.2 Acacia bartlei, P3

A specimen of *Acacia bartlei* was sent to the WA Herbarium for identification confirmation (KSW14922; Accession 9740 with specimen retained). It was confirmed as *Acacia bartlei* by Michael Hislop on 25th of October 2022. A Threatened and Priority Flora Reporting Form (TPRF) was completed and sent to Department of Biodiversity, Conservation and Attractions (DBCA) District Flora Conservation Officer and Species and Communities Branch on 11/03/2024 (Appendix 2.4). There were two plants found, both of these were a significant distance from the roadside and were spotted form a distance. If proposed works occur, no plants will be impacted.



**Figure 4.** Photo of *Acacia bartlei* taken during collection of KSW14922 on the 16/09/2022 by Katherine Walkerden.

#### 5.2.3 Acacia glaucissima, P3

A specimen of *Acacia glaucissima* was sent to the WA Herbarium for identification confirmation (KSW12522; Accession 9740 with specimen retained). It was confirmed as *Acacia glaucissima* by Michael Hislop on 25th of October 2022. A Threatened and Priority Flora Reporting Form (TPRF) was completed and sent to Department of Biodiversity, Conservation and Attractions (DBCA) District Flora Conservation Officer and Species and Communities Branch on 11/03/2024 (Appendix 2.5, 2.6, 2.7). If proposed works occur, no plants will be impacted upon, from a population total of 167. An additional 15 plants were present within the maintenance zone.

There was a total of 22 confirmed herbarium records for this species, A single TPFL record was present and an additional 8 populations were confirmed in 2022 by WA Herbarium staff which have yet to be databased. Additionally, 82 populations of this species totaling 10,000 plants were reported by Ecoscape during the State Barrier Fence Biological surveys (Ecoscape, 2015), only two of these populations totaling 40+ plants were on DBCA databases.

The species had a wide geographic range with a 261km east to west geographic range, and a 69km north to south range. The species contains large gaps in its range in which there are large expanses of poorly surveyed UCL.

#### 5.2.4 Melaleuca fissurata, P4

A specimen of *Melaleuca fissurata* was sent to the WA Herbarium for identification confirmation (KSW12422; Accession 9740 with specimen retained). It was confirmed as *Melaleuca fissurata* by Michael Hislop on 25th of October 2022. A Threatened and Priority Flora Reporting Form (TPRF) was

completed and sent to Department of Biodiversity, Conservation and Attractions (DBCA) District Flora Conservation Officer and Species and Communities Branch on 11/03/2024 (Appendix 2.8). There was a total of one plant found, the plant was found on the edge of the road reserve with a salt lake present 200m away from the plant. The *Melaleuca fissurata* was likely an outlying plant from a population on private land surrounding the nearby salt lake. If proposed works occur, no plants will be impacted.

#### 5.2.5 Persoonia cymbifolia, P3

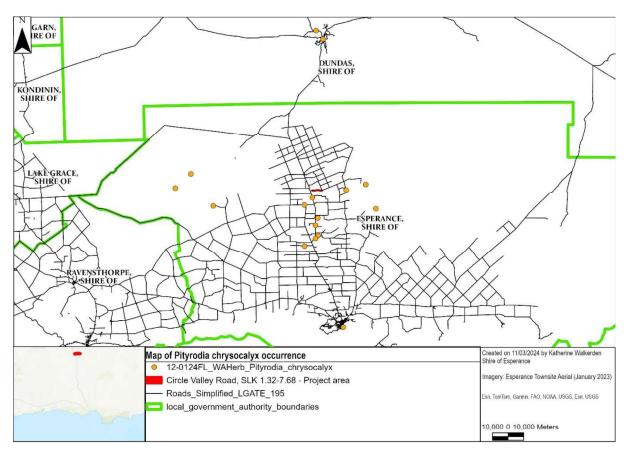
A specimen of *Persoonia cymbifolia* was sent to the WA Herbarium for identification confirmation (KSW12622; Accession 9740 with specimen retained). It was confirmed as *Persoonia cymbifolia* by Michael Hislop on the 25<sup>th</sup> of October 2022. A Threatened and Priority Flora Reporting Form (TPRF) was completed and sent to Department of Biodiversity, Conservation and Attractions (DBCA) District Flora Conservation Officer and Species and Communities Branch on 11/03/2024 (Appendix 2.9). There was a total of two plants found. If proposed works occur, no plants will be impacted.

#### 5.2.6 Pityrodia chrysocalyx, P3

A specimen of *Pityrodia chrysocalyx* was sent to the WA Herbarium for identification confirmation (KSW13422; Accession 9740 with specimen retained). It was confirmed as *Pityrodia chrysocalyx* by Michael Hislop on the 25<sup>th</sup> of October 2022. A Threatened and Priority Flora Reporting Form (TPRF) was completed and sent to Department of Biodiversity, Conservation and Attractions (DBCA) District Flora Conservation Officer and Species and Communities Branch on 11/03/2024 (Appendix 2.10). If proposed works occur, 97 plants will be impacted upon, from a population total of 165.

Analysing the WA Herbarium database there was a total of 21 records. There was no TPFL records for this species. The species has a wide geographic range spanning 136km north to south and 130km west to east. Of the confirmed herbarium records, 7 were within UCL, and 5 or 6 were within road, rail reserves and private property, none of the records were within conservation estate.

Additionally, 11 populations of this species totalling 5000 plants were reported by Ecoscape during the State Barrier Fence Biological surveys (Ecoscape, 2015), only two of these populations totalling 150+ plants were located on DBCA databases.



**Figure 5.** Known records of Priority 3 species *Pityrodia chrysocalyx* across an 136km north to south and 130km west to east geographic range (DBCA, 2024a).

**Table 6.** Known Herbarium records of priority 3 species *Pityrodia chrysocalyx*, detailing location details, frequency, tenure and collection date (DBCA, 2024a).

Sheet number	Location	Frequency	Tenure	Record date
1066005	Esperance area.		Uncertain	1972
1065521	Grass Patch septentrionalem versus (North of Grass Patch)		Uncertain	5/09/1962
1065971	Prope Grass Patch, septentrionalem versus (Near Grass Patch towards N)		Uncertain	5/09/1962
1065947	Near Norseman.		Uncertain	14/10/1967
1065963	Near Norseman.		Uncertain	14/10/1967
1065505	13 km N of Scaddan.		Uncertain	13/11/1976
1065513	13 km N of Scaddan.		Uncertain	13/11/1976
1065939	42 km S of Salmon Gums (13 km N of Scaddan)		Uncertain	13/11/1976
1065998	72 km W of Salmon Gums		UCL	11/11/1979
1065955	About 5 km S of Grass Patch along		Road	2/10/1981
	Coolgardie-Esperance Highway, about 60 km N of Esperance		Reserve	
1985353	11 km N of Mount Ridley		UCL	13/10/1990
5328888	ca 5.2 km W along Thomas Road from		Road	23/09/1998

	Coolgardie - Esperance Highway,		reserve or Tijuk Foundation Reserve	
5332710	N of Grass Patch on Coolgardie - Esperance highway, opposite WAWA Reserve,	several plants.	Road Reserve	4/11/1998
7400578	Kambalda to Esperance Pipeline Survey ca 125 km S of Kambalda.		Rail Reserve	5/11/2002
8090688	Pyramid Lake Road, where road turns into sand track	21-50 plants.	UCL	24/08/2009
8160899	Lake Tay mine, ca 1 km S of mine area on edge of salt lake	2-5 plants.	UCL	22/09/2009
8667063	On the Cascade to Lake Tay Road.  Approximately 2 km SE of the southern shore of Lake Tay	10-20 plants.	UCL	5/09/2012
9061835	1.5 km along Davies Road from Carranya Road intersection, c. 28 km ESE of Salmon Gums	100+ plants.	UCL	5/11/2013
9061827	C. 40 km E of Salmon Gums on agricultural boundary firebreak	50+ plants.	UCL	5/11/2013
9449973	Ca. 55 km N of Esperance townsite and ca. 9.5 km N of Scaddan townsite. On western railway corridor, with two populations at 1 km S and 1.5 km S of the Truslove Road railway crossing	71 plants.	Rail Reserve	12/10/2021
9616330	Rollond road 1.17 km West of Rollond road and Swan Lagoon road intersection. 10 km North West of Grass Patch townsite	9 Plants	Road reserve and private property	23/1/2023

#### 5.3 Weeds

Weeds within the site were primarily grasses and herbs growing on the edge of the road shoulder. Some areas within the project completely lacked any native vegetation and were dominated by invasive grasses. The Declared weed *Opuntia stricta* were growing along and near and within the project area, these Declared weeds have been controlled by the Shire of Esperance and sprayed by a contractor. Overall, 26 invasive species were identified within the project area (Appendix 1). No Weeds of National Significance (WoNS; EPBC Act) were recorded within the project area. Of the 27 weed species, *Eragrostis curvula* was the most extensive and concerning. This is a priority environmental weed in the SOE's Environmental Weed Strategy 2009 – 2018 (Field 2009).

It is highly likely that proposed works will increase the distribution of weeds and degrade vegetation along the entire road reserve where works occur. Ideally, regular wash downs during the course of works to remove weed seeds or follow up herbicide control of invasive species needs to occur.

Weed management strategies are currently being discussed operationally, such as spraying material stockpiles in agricultural private property prior to use and periodic spraying of road verges for a 12-month period after road construction.

# 5.4 Phytophthora Dieback

No signs of dieback were present within the reserve. Vegetation within the reserve was not susceptible to Phytophthora dieback. Proposed works will be conducted using appropriate hygiene measures to limit spreading of the disease, including clearing in dry conditions and clean down of vehicles and machinery before entering the site.

# 5.7 Vegetation Communities

Vegetation within the site was a mixed mallee woodland over open mixed shrubland. 'Site C – Circle Valley Road, SLK 1.32-7.68', as defined by structure and composition. It is believed that the Beard (1973) vegetation associations Salmon Gums\_486 was an appropriate match for vegetation within the project area.



**Figure 6.** Vegetation in 'Site C — Circle Valley Road, SLK 1.32-7.68' project, described as: "mixed mallee woodland over open mixed shrubland".



**Figure 7.** Vegetation in 'Site C – Circle Valley Road, SLK 1.32-7.68' project, described as: "mixed mallee woodland over open mixed shrubland".

# 5.8 Vegetation Condition

Vegetation condition varied between very good and completely degraded. The road reserve was extremely narrow and had experience various historical disturbance including clearing for crossovers, fence lines and firewood collection. (Figure 10).

Quantifying vegetation condition, there is:

- 0.049 of vegetation is in a very good condition,
- 0.003 of vegetation is in a good condition,
- 0.003 of vegetation in a degraded condition,
- 0.006 of vegetation is in a completely degraded condition.



**Figure 8.** Vegetation condition across 'Site C –Circle Valley Road, SLK 1.32-7.68' project, ranging from a very good to completely degraded condition.

# 5.9 Threatened Ecological Communities

There was no vegetation or geology within the site that was relevant to the BC listed Priority 3 Community "Granite outcrop pools with endemic aquatic fauna". No other state or federally listed TEC's or PEC's listed were relevant to the site.

#### **5.10** Fauna

Of the species identified within the desktop survey, six had potentially suitable habitat to the site.

During the field survey the various bird calls were heard. Rabbits were also observed. It is also highly likely that foxes and feral cats are extensive throughout the area.

#### 5.10.1 Chuditch, Dasyurus geoffroii, VU

The closest known record (2008) for this species was 6.37 km from the project area. The Chuditch has historically inhabited a wide range of habitats, but today it survives mostly in Jarrah (*Eucalyptus marginata*) forests and woodlands, mallee shrublands and heathlands. The vegetation within the project area would likely provide important habitat connectivity for this species.

#### 5.10.2 Peregrine falcon, Falco peregrinus, OS

This species is listed as occurring in most habitats, from rainforests to the arid zone, and at most altitudes, from the coast to alpine areas. It requires abundant prey and secure nest sites, and prefers coastal and inland cliffs or open woodlands near water. The species is known for nesting in cliff faces, tree hollows or large abandoned nests of other birds. There were several large abandoned nests that could provide suitable nests for the species, an example of this is how in Figure 9. The vegetation within the site provides suitable nesting and hunting habitat for this species.



Figure 9. Photo showing example of abandoned nest within the survey area.

#### 5.10.3 Western rosella (inland), Platycercus icterotis xanthogenys, P4

The closest known record for this species was 8.02 km from the project area. This species is listed as occurring in open eucalypt forest and timbered areas, including cultivated land and orchards. The subspecies is found in drier woodland, with a heath understorey. The vegetation within this site likely provides important habitat connectivity for this species.

### 6 REVIEW OF 10 CLEARING PRINCIPLES FOR NATIVE VEGETATION

The 'Site C – Circle Valley Road, SLK 1.32-7.68' project may be at variance to some of the clearing principles that the Department of Water and Environmental Regulations (DWER) assess applications, as listed under Schedule 5 of the Environmental Protection Act 1986 (DWER 2019).

# 6.1 Principle (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Biodiversity at this site was high with 118 native species recorded.

# 6.2 Principle (b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

The vegetation contains potentially suitable habitat for several conservation listed fauna species including the Chuditch, peregrine falcon and western rosella (inland).

# 6.3 Principle (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

There were five priority species and one threatened species recorded within and surrounding the project area. The only species impacted upon will be *Pityrodia chrysocalyx* (P3), with approximately ten *Pityrodia chrysocalyx* plants being taken. Several threatened and priority species were growing within the maintenance zone including *Eucalyptus merrickiae* (T), *Pityrodia chrysocalyx* (P3) and *Acacia glaucissima* (P3).

# 6.4 Principle (d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

No TECs or PECs were relevant to the site.

# 6.5 Principle (e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

The immediate surroundings of the site were highly cleared agricultural land, within 5 km of the site only 7% of the areas pre-European extent remains. Vegetation within the site likely contributing to ecological linkages in the area, however given the degraded nature of the road reserve and large sections completely lacking vegetation, the ecological connectivity this road reserve provides is extremely limited.

# 6.6 Principle (f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Vegetation within the project was not associated with any watercourses or wetlands, though vegetation was adjacent to several ephemeral salt lakes.

# 6.7 Principle (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Vegetation within this area will be providing limited function as windbreaks and erosion control for the agricultural areas surrounding it.

# 6.8 Principle (h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

The project is 7.47 km from Red Lake Townsite Nature Reserve (Reserve 29680) given the relatively low amount of native vegetation being cleared and distance from the nature reserve there is unlikely to be any impact.

# 6.9 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.

Given the relatively extremely low amount of native vegetation being cleared there is unlikely to be any significant impacts on water quality. Groundwater in the area is saline and not used for any purposes.

# 6.10 Principle (j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Given the extremely small amount of native vegetation being cleared there is unlikely to be any significant impacts on flood risk.

#### 7 RECOMMENDATIONS

As Shire Environmental Coordinator signs off on project work packs the following recommendation will be included within the internal SOE approval process for the road project.

- All vehicles and construction equipment to be cleaned prior to start of the project;
- Minimise clearing to minimum amount required;
- Avoid larger habitat trees (larger trees and trees with hollows) wherever possible;
- Maintain existing drainage systems, spoon drains and ensuring tracks and other infrastructure areas do not disrupt or divert historic water flow patterns;
- Minimise soil disturbance during clearing and practice standard vehicle hygiene to ensure introduced (exotic) species do not become established within the Circle Valley Road, SLK 1.32-7.68 survey area; and
- Follow up spraying of emergent roadside weeds where gravel has been sourced from farmland to prevent weeds coming into the weed free areas.

#### 7.1 Weed and Dieback Management Plan

### 7.1.1 Operational Dieback Hygiene Management

A substantial number of plant pathogens can be spread by moving infected soil, plant material and water. The most serious of these is *Phytophthora* dieback, though due to the low rainfall (350mm) within the Salmon Gums the area is not considered vulnerable to *Phytophthora* dieback infection.

#### 7.1.2 Weed Management

Weed infestation within the reserve was dominated by invasive grasses and herbs growing along the road shoulder, some completely degraded sections were completely dominated by invasive grasses. The Declared weed, *Opuntia stricta* was present within the project area during the surveys, though these have been successfully controlled by Shire of Esperance via spraying undertaken by contractor,

the shire will continue to monitor and control *Opuntia stricta* as required. Due to the presence of these weeds within the project area there is significant potential for further spread of these weeds within the road reserve.

Several systematic strategies to minimise the risk of weed introduction and establishment within the rehabilitated site include:

- a) Regular wash-downs of machinery, plant and equipment;
- b) Personnel ensuring that their clothes, socks and footwear are cleaned of any soil and plant material (especially seeds) prior to entering site;
- c) Ongoing monitoring and quick intervention if new *Opuntia stricta* germinants are present.

If any highly-invasive weed species are encountered that will likely result in an infestation, such as Declared Pests (BAM Act) and Weeds of National Significance (WoNS; EPBC Act), early-intervention control works such as hand-pulling, herbicide spraying and slashing will occur. Follow-up control works may be required.

### **8 LIST OF PERSONNEL**

The following Shire of Esperance Staff were involved in this project.

Name	Julie Waters
Position	Environmental Coordinator
Project Involvement	Desktop and Field Survey, Specimen Identification, GIS Mapping
-	Data Interpretation and Report writing
Qualifications BEnvSc (Hons)	
Experience	20 years working in environmental field including Flora
Conservation Officer for previous DBCA, and 15 years' exp	
	as a botanist in the region
Scientific Licence FT61000787	

Name Katherine Walkerden	
Position	Environmental Officer
Project Involvement	Desktop and Field Survey, Specimen Identification, GIS Mapping,
-	Data Interpretation and Report writing
Qualifications BSc, MEnvSc	
<b>Experience</b> Three years' experience as a Botanist in the region	
Scientific Licence	FT61000788

Name	Rosamund Mary Hoggart			
Position	Environmental Assistant			
Project Involvement	Specimen Identification			
Qualifications and Experience	BSc (Hons)Ag			
	15 years' experience as a botanist in the region and is highly			
	regarded by Esperance Wildflower Society and her peers in			
	Esperance as one of the best botanists in Esperance.			
Scientific Licence	N/A			

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# 10 APPENDICES

**Appendix 1: Incidental species list** 

- ippondiate in inc	duentai species iist		WA	
Family	Taxon	Weed	Conservation Status	Herbarium Reference
Aizoaceae	Carpobrotus modesta			
Aizoaceae	Mesembryanthemum crystallinum	Х		
Aizoaceae	Mesembryanthemum nodiflorum			
Amaranthaceae	Pilostylis spathulatus			
Apiaceae	Apiaceae effusa			
Apiaceae	Bupleurum semicompositum	Х		
Apocynaceae	Alyxia buxifolia			
Asparagaceae	Lomandra effusa			
Asparagaceae	Thysanotus patersonii			
Asphodelaceae	Asphodelus fistulosus	Х		
Asphodelaceae	Bulbine semibarbata			
Asteraceae	Arctotheca calendula	Х		
Asteraceae	Asteridea athrixioides			
Asteraceae	Blennospora drummondii			
Asteraceae	Calotis hispidula			
Asteraceae	Centaurea melitensis	Х		
Asteraceae	Gazania linearis	Х		
Asteraceae	Monoculus monstrosus	Х		
Asteraceae	Olearia muelleri			
Asteraceae	Olearia sp. eremicola			
Asteraceae	Oncosiphon suffruticosum	Х		
Asteraceae	Onopordum acaulon	Х		
Asteraceae	Ozothamnus blackallii			
Asteraceae	Senecio glossanthus			
Asteraceae	Senecio spanomerus			
Asteraceae	Siemssenia capillaris			
Asteraceae	Sonchus sp.	Х		
Asteraceae	Tolpis barbata	Х		
Asteraceae	Vittadinia dissecta var hirta			
Asteraceae	Vittadinia gracilis			
Asteraceae	Waitzia suaveolens var flava			
Boraginaceae	Halgania andromedifolia			
Brassicaceae	Brassica tournefortii	Х		
Brassicaceae	Carrichtera annua	Х		
Brassicaceae	Sisymbrium orientale	Х		
Cactaceae	Opuntia stricta	Х		
Chenopodiaceae	Maireana suaedifolia			

Chenopodiaceae	Atriplex exilifolia			
Chenopodiaceae	Atriplex lindleyi subsp. inflata			
Chenopodiaceae	Chenopodium desertorum			
	subsp. desertorum			
Chenopodiaceae	Enchylaena tomentosa			
Chenopodiaceae	Maireana erioclada			
Chenopodiaceae	Maireana radiata			
Chenopodiaceae	Maireana trichoptera			
Chenopodiaceae	Rhagodia preissii subsp. preissii			
Chenopodiaceae	Rhagodia crassifolia			
Chenopodiaceae	Sclerolaena diacantha			
Chenopodiaceae	Threlkeldia diffusa			
Crassulaceae	Crassula exserta			
Cyperaceae	Gahnia sp.			
Cyperaceae	Lepidosperma sp.			
Dilleniaceae	Hibbertia gracilipes			
Dilleniaceae	Hibbertia psilocarpa			
Ericaceae	Styphelia subulata			
Fabaceae	Acacia bartlei		P3	KSW14922 ACC9783
Fabaceae	Acacia dermatophylla			KSW15022 ACC9783
Fabaceae	Acacia erinacea			
Fabaceae	Acacia glaucissima		P3	KSW12522, KSW12722
				ACC9740
Fabaceae	Acacia hadrophylla			
Fabaceae	Acacia maxwellii			
Fabaceae	Acacia nivea			KSW14622 ACC9783, KSW21922 ACC9874
Fabaceae	Acacia nyssophylla			TOWE 15ZE 71005014
Fabaceae	Acacia patagiata			
Fabaceae	Acacia pritzeliana			
Fabaceae	Daviesia aphylla			
Fabaceae	Dillwynia divaricata			
Fabaceae	Senna artemisioides subsp.			
1 4545545	filifolia			
Fabaceae	Senna sp. Pallinup River			
Fabaceae	Vicia sp.	Χ		
Geraniaceae	Erodium cicutarium	Χ		
Goodeniaceae	Coopernookia strophiolata			
Goodeniaceae	Goodenia affinis			
Goodeniaceae	Scaevola spinescens			
Hemerocallidaceae	Dianella brevicaulis			
Hemerocallidaceae	Dianella revoluta var divaricata			
Lamiaceae	Pityrodia chrysocalyx		P3	KSW13422 ACC9740
Lamiaceae	Westringia rigida			

Lauraceae	Cassytha melantha			
Malvaceae	Malva parviflora	X		
Myrtaceae	Cyathostemon blackettii			
Myrtaceae	Cyathostemon sp.			KSW14822 ACC9783
Myrtaceae	Cyathostemon ambiguus complex			KSW14222, KSW14322, KSW14522 ACC9783
Myrtaceae	Eucalyptus conglobata subsp. conglobata			
Myrtaceae	Eucalyptus connexa			KSW14722 ACC9783, KSW21322, KSW21422 ACC9874
Myrtaceae	Eucalyptus eremophila			
Myrtaceae	Eucalyptus flocktoniae			
Myrtaceae	Eucalyptus kessellii subsp. kessellii			
Myrtaceae	Eucalyptus kumarlensis			KSW14422 ACC9783
Myrtaceae	Eucalyptus leptocalyx			
Myrtaceae	Eucalyptus loxophleba subsp. lissophloia			
Myrtaceae	Eucalyptus merrickiae		TF	PERTH 09582991, PERTH 09582967
Myrtaceae	Eucalyptus phenax			
Myrtaceae	Eucalyptus pileata			
Myrtaceae	Eucalyptus salicola			
Myrtaceae	Eucalyptus sp. Southern Wheatbelt			
Myrtaceae	Melaleuca acuminata			
Myrtaceae	Melaleuca eleuterostachya			
Myrtaceae	Melaleuca fissurata		P4	KSW12422 ACC9740
Myrtaceae	Melaleuca hamata			
Myrtaceae	Melaleuca lanceolata			
Myrtaceae	Melaleuca linguiformis			
Myrtaceae	Melaleuca podiocarpa			
Myrtaceae	Melaleuca sapientes			
Myrtaceae	Melaleuca thyoides			
Myrtaceae	Melaleuca undulata			
Myrtaceae	Melaleuca halmaturorum			
Orchidaceae	Pterostylis mutica			
Papaveraceae	Papaver hybridum	Х		
Pittosporaceae	Billardiera coriacea			
Pittosporaceae	Billardiera lehmanniana			
Poaceae	Aristida contorta			
Poaceae	Austrostipa drummondii			
Poaceae	Austrostipa elegantissima			

Poaceae	Avena fatua	Х		
Poaceae	Hordeum sp.	Х		
Poaceae	Lolium sp.	X		
Poaceae	Rytidosperma setacea			
Poaceae	Schismus barbatus	Х		
Poaceae	Triticum aestivum	Х		
Primulaceae	Lysimachia arvensis	Х		
Proteaceae	Grevillea oligantha			
Proteaceae	Grevillea plurijuga subsp. superba			
Proteaceae	Persoonia cymbifolia		P3	KSW12622 ACC9740
Proteaceae	Persoonia teretifolia			
Rhamnaceae	Spyridium mucronatum subsp. mucronatum			
Rutaceae	Boronia inornata			
Rutaceae	Cyanothamnus baeckeaceus subsp. baeckeaceus			
Rutaceae	Phebalium multiflora subsp. baccharoides			
Rutaceae	Phebalium multiflora subsp. multiflora			
Rutaceae	Phebalium lepidotum			
Santalaceae	Exocarpos aphyllum			
Santalaceae	Exocarpos sparteus			
Santalaceae	Leptomeria lehmannii			
Santalaceae	Santalum acuminatum			
Sapindaceae	Dodonaea stenozyga			
Scrophulariaceae	Eremophila calorhabdos			
Scrophulariaceae	Eremophila decipiens			
Scrophulariaceae	Eremophila psilocalyx			
Solanaceae	Solanum hoplopetalum			
Solanaceae	Solanum nigrum	Х		
Thymelaeaceae	Pimelea erecta			
Zygophyllaceae	Roepera apiculata			

### **Appendix 2: Threatened and Priority Flora Report Form**

Appendix 2.1 Eucalyptus merrickiae - SLK 0-0.97

Department of Biodover		Threaten	ed and Pri	ority			
-1276		Flora	Report For	m		Version 1.4 N	darch 2021
Please complete as much of the form please refer to the Threatened	the form as po	ssible, with emp	ohasis on those se	ections bord	dered in blac	K. For information on h	now to complete
communities/freelened-clarits	& Priority Piora People	at Form (1FRF) mark	ial on the DeCA wedsite a	M MANUAL PROPERTY AND	Daylet Control	d of the section of the section	ACCORD-1816
TAXON: Eucalyptus m	errickiae				184	PFL Pop. No:	3 3
OBSERVATION DATE:	20/09/2023	( pp. )	CONSERVATION	STATUS:	T	New popul	lation 🔲
OBSERVER/S: Kathe	erine Walkerde	n, Julie Waters	. Emma Adams		PHO	NE NE	
ROLE: Environmental C	Officer, Conserv	vation Officer	ORGANISATION:	Shire of 8	Esperance, [	BCA	
EMAIL: Katherine.Walke	rden@esperar	nce.wa.gov.au			74		
DESCRIPTION OF LOCATION	ON (Provide at least	nearest fown/named k	ocality and the distance a	nd direction to t	hat place C	2 3	
Circle Valley Road at SLK							
	<del>5551 10</del>						
					Re	serve No:	
DBCA DISTRICT: Esperance	ie	LGA: E	sperance		Land man	ager present	
DATUM: COO	ORDINATES: (If	UTM coards provided	Zone is also required)	METHO	D USED:		
GDA94 / MGA94 🖼 .	cDegrees 🔲	DegMinSec 🔲	UTMs 🔯	GPS	■ Differ	ential GPS 🔲	Map 🔲
AGD84 / AMG84 La	t / Northing: _ 6	339765.6		No. sate	flites:	Map used:	
	ng / Easting: 3	378047.4			ry polygon	Map scale:	
Unknown 🗖	ZONE: 5	51		captured			
LAND TENURE:	ZONE.	OT:					
Nature reserve	Timber reserve	Private	property	Rail	reserve 🔲	Shire ro	ad reserve
National park	State forest	100000000000000000000000000000000000000	oral lease 🗖	MRWA road	reserve 🗖	Other Cro	wn reserve
Conservation park	Water reserve		UCL 🔲 SLK	Pole	10	Specify other:	
AREA ASSESSMENT: Edic		Partial survey	Full survey	Asso obs	served (m²):		
	spent surveying				pent / 100 m <sup>2</sup> :		
POP'N COUNT ACCURACY	ACCOUNTS OF SECURITY	Extrapolation			unt method:		
	AND THE RESERVED		alemin administra	(Refer to field	manual for list)	_	
WHAT COUNTED:	Plants 🔲	Clumps 🖺	Clonal sten	ns 🗖 🏢		\$5	
TOTAL POP'N STRUCTURE:	Mature:	Juveniles	: Seedling	8: To	tale:		
Alive	8	9				Area of pop (n	n²):
Dead						Note: Pls record or	ount as numbers
QUADRATS PRESENT:	No.	Size	Data a	ttached 🗖	Total are	(not percentages) a of guadrats (m	and the last section is a second
Summary Quad. Totals: Alive	NO	alze at	Data a	cached _	Total ale	a di quadrats (iii	<i></i>
REPRODUCTIVE STATE:	Cional D	Vegetative 🗖	Photo S	roud Se		lower 🖼	
	ture fruit	Fruit S		-		ige in flower:	36
CONDITION OF PLANTS:	Healthy M	Moderate E	1	Poor 🗖	Sen	scent 🗖	
		000000	e. unit was conducted for				
	*			27.10.000	A CONTRACTOR	72	The second
THREATS - type, agent and					len	rrent Potential	Potential Threat
Eg clearing, too frequent fire, weed, di Rate current and potential threat				nt where releva	M.	(-E) (L-E)	Onset
Estimate time to potential impact						20	(8-L)
•					100		-
					- 1		\ <del></del>
					2 10		0 7 10
					- 1		2 X <del></del>

Please return completed form to Species And Communities Program DBCA,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to Flora Administrative Officer, Species and Communities Program.

Record entered by: Sheet No.: Record Entered in Database D

Opportunition of a		Threatened a	nd Priority		
1.W.1		Flora Repo	rt Form	Versi	ion 1.4 March 2021
IABITAT INFORMATI	ON:				
LANDFORM:	ROCK TYPE:	LOOSE ROCK:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest 🗖	Granite 🗖	(on soil surface; eg	Sand 🔲	Red 🗖	Well drained
HIII 🗆	Dolerite 🗖	gravel, quartz fields)	Sandy loam 🔲	Brown 🗖	Seasonally
Ridge 🔲	Laterite		Loam 🔀	Yellow 🔲	inundated [
Outcrop 🔲	Ironstone 🔲	0-10%	Clay loam 🔲	White	Permanently inundated
Slope 🛭	Limestone 🗖	10-30%	Light clay	Grey 🗖	Tidal E
Flat 🗖	Quartz 🗖	30-50%	Peat 🔲	Black	
Open depression 🔲	Specify other:	50-100%	Specify other:	Specify other:	
Drainage line					
losed depression 🔲	CONTRACTOR	202100000			
Wetland	Specific Landfo (Refer to field manual fo				
ONDITION OF BOIL:	Dry 🗖	Moist 🗖	Waterlogged	Inundated	
EGETATION	N. STOLEN				
LASSIFICATION*:	mixed mallee wood	fland over open mixed sh	rubland		
g. 1. Banksia woodland (B. tonusta, B. ficifolia):	2.				
Open shrubland	3.				
libbertia sp., Acada spp.); isolated clumps of sedges					
(tetragena)	4.				
4. 전 : [1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1					
SPECIES: lither (non-dominant) spp. lease record up to four of the nd Survey Field Handbook g.	idelines – refer to field manua	on layers juith up to thrise domina if for further information and struc	tural formation table.	922	_
PECIES: ther (non-dominant)-spp lease record up to four of the ad Survey Relat Handbook g. ONDITION OF HABITA' OMMENT: IRE HISTORY: Li	ideines -refer to field manus  F: Pristine   set Fire: Season/Montl	Excellent Very go	tural formation table.  od	Degraded Com	pletely degraded
PECIES: ther (non-dominant)-spp lease record up to four of the dosumer field Handbook gu ONDITION OF HABITA' COMMENT:  IRE HISTORY: LI ENCING: OAD SIDE MARKER 8:	idelines - refer to field manus  Pristine  Set Fire: Season/Montl  Not required  Not required	Excellent Very go  Year:  Present Replac	tural formation table.  od Social Good Fire intensity; Higher Frepair Fire intensity Fire intensity Fire intensity Fire intensition Fire inten	Degraded Com	plotely degraded
COMMENT: COM	idelines - refer to field manual  : Pristine  ast Filre: Season/Mont! Not required  Not required  (Please include recommende details of additional	Excellent	tural formation table.  od	Degraded  Com  The Medium  Low  Required  Leng Required  Quarted actions -	No signs of fire
PECIES: ther (non-dominant) app. tease record up to four of the dosvery Field Handbook; condition of HABITAT COMMENT: IRE HISTORY: Le ENCING: COAD SIDE MARKER 8: OAD SIDE MARKER 8: OTHER COMMENTS: Include date. Also inclu	idefines – refer to field manual  Pristine  Bet Fire: Season/Month Not required Not required  Not required  (Please include recommende details of additional  Control Licence Not and local should be recorded above in the season of the season	if to further information and struct  Excellent  Very go  Year:  Present  Replace  Present  Replace  Present  Replace  Present  Replace  Replace  Modelf only observing  g requirements see the Threaten  e OTHER COMMENTS section.	tural formation table.  od  Good  Fire Intensity: His of repair  for reposition  for repositio	Degraded  Com  Required  Leng Required  Quar  ted actions -	In pletely degraded   No signs of fire   ight regid:   intity regid:   o authorisation/ficence is
PECIES: ther (non-dominant) app. tease record up to four of the discrete Field Handbook g. ONDITION OF HABITAT OMMENT: IRE HISTORY: Li ERCING: OAD SIDE MARKER 8: THER COMMENTS: clude date. Also inclu  LORA AUTHORISAT guised. For futther informatic date authorison increase PECIMEN: Collect	idelines – refer to field manual  Pristine  ast Fire: Season/Montl Not required Not required  (Please include recorned de details of additional  ION / LICENCE No: on authorisation and local should be recorded above in to	Excellent Very go  Excellent Replacement R	tural formation table.  od  Good  Fire Intensity: His of repair  for reposition  for repositio	Degraded  Com  Required  Leng Required  Quar  ted actions -	In pletely degraded   No signs of fire   ight regid:   intity regid:   o authorisation/ficence is
EPECIES: Ther (non-dominant) spp. Tease record up to four of the do Suvey Field Handbook g. CONDITION OF HABITAT COMMENT: TIRRE HISTORY: ENCING: ROAD SIDE MARKER 8: OTHER COMMENTS: TOTHER COMMENTS TOTHER	idefines – refer to field manual  Pristine  act Fire: Season/Mont!  Not required  Not required  Please include recommede details of additional  control season and identification and identification and identification and identifications.  WA Herb  PERement No:	Very go	tural formation table.  od  Good  Fire Intensity: His of repair  for reposition  for repositio	Degraded  Com  Required  Leng Required  Quar  ted actions -	No signs of fire the sign
PECIES: ther (non-dominant) spp. sease record up to four of the of Survey Field Handbook g. ONDITION OF HABITAT OMMENT: IRE HISTORY: ENCING: OAD SIDE MARKER 8: THER COMMENT'S: clude date. Also inclu  LORA AUTHORISAT guired. For further information of authorisations licences in PECIMEN: Collect  ODGEMENT: WA h Lodg  TTACHED: Map	idefines - refer to field manuals:  Pristine   ast Fire: Season/Mont!  Not required  Not required  (Please include recommende details of additional   ION / LICENCE No: promauthorisation and learning the state of the second of	Note If only observing grequirements see the Threaten to OTHER COMMENTS section.	tural formation table.  od	Degraded  Com  Required  Leng Required  Quar  ted actions -	In pletely degraded   No signs of fire   the regid:   http://regid:   outfortsation/ficence is

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to Flora Administrative Officer, Species and Communities Program.

Record entered by:

Sheet No.:

Record Entered in Database D

### Appendix 2.2 Eucalyptus merrickiae - SLK 4.84-5.12



### Threatened and Priority

Flora Report Form

Version 1.4 March 2021

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at www.downwa.cov.au/blants-and-primals/threatened-species and communities/threatened-species and

TAXON: Eucalvotus n					
13011113111111111111111111111111111111	nemickiae			<del>creco no. o</del> c	TPFL Pop. No: 16
OBSERVATION DATE:	20/09/2023	CONS	ERVATION STAT	US: T	New population
OBSERVER/S: Kath	erine Walkerde	en, Emma Adams		PHO	ONE
ROLE: Environmental (	Officer, Conser	vation Officer ORG	ANISATION: Shire	of Esperance	
EMAIL: Katwalkerden@	gmail.com		580,470010		
DESCRIPTION OF LOCATION	ON (Provide at least	nearest town/named locality,	nd the distance and direction	on to that place).	5
Circle Valley Road at SLK	4.84- 5.12			3	
				F	teserve No:
DBCA DISTRICT: Esperan	ce	LGA: Espera	nce	Land ma	nager present:
		UTM courds provided, Zone		THOD USED:	770725271 E3 1-375 (247
CDA94 / MCA94 M	ecDegrees 🔲		JTMs 🗵 🤇	SPS Diffe	rential GPS 🔲 Map 🔲
AGD84 / AMG84  LE	at / Northing:	6340076.7		satellites:	Map used:
WGS84 🔲 Lo	ng / Easting:	382161:1		indary polygon tured:	Map scale:
Unknown 🔲	ZONE:	51	Сар	uneu.	
LAND TENURE:		31			
Nature reserve	Timber reserve	Private prope	rty 🗖	Rail reserve	Shire road reserve
National park	State forest	Pastoral lea	se 🔲 MRWA	road reserve	Other Crown reserve
Conservation park	Water reserve	o u	GL 🔲 SLK/Pole 🔚	10	Specify other:
WHAT COUNTED:	Plants  Mature:	Clumps   Juveniles:	Clonal stems  Seedlings:	field manual for list)	ÄV.
Alive	5	3			Area of pop (m²):
570000					Note: Pis record count as numbers
Dead					(not percentages) for database.
QUADRATS PRESENT:	No.	Size	Data attached	☐ Total at	ea of quadrats (m²):
Summary Quad. Totals: Alive			_		
REPRODUCTIVE STATE:	Clonal  ture fruit	Vegetative  Fruit	Flowerbud  Dehisced fruit	10.1000.00.00.00	Flower Stage in flower:
		1001			
CONDITION OF BUANTS.	Administration 1996	Mandacata III	F		
COMMENT: SUDVEY WAS DE	Healthy Manual In R	Moderate   Moderate   nad Reserve, no count wa	Poor	Ser	nescent 🗖
	STATE OF STREET	Moderate  about twa		Ser ion in private prope	nescent 🗖
COMMENT: Survey was of THREATS - type, agent and	nly conducted in R	oad Reserve, no count wa	s conducted for populat	Ser	nescent  rty  urrent   Potential   Potential
COMMENT: Survey was of THREATS - type, agent and Egidearing too frequent fire, weed, of	nly conducted in R i supporting in isease. Refer to field	oad Reserve, no count wa formation: manual for list of threats & ago	s conducted for populations.	Serion in private prope  C  devant.	nescent  rty  urrent   Potential   Potential
COMMENT: Survey was of THREATS - type, agent and	nly conducted in R i supporting inti isease. Refer to field timpact. N=Nii, L=Lo	oad Reserve, no count wa formation: manual to list of threats & ag w. M:-Medium, H:-High, E:-Eid	s conducted for populations. Specify agent where temp	Serion in private prope  C  devant.	rity  urrent Potential Potential Impact Impact Threat
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Please return completed form to Species And Communities Program DBCA,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORD'S: Please forward to Flora Administrative Officer, Species and Communities Program.

Record entered by: Sheet No.: Record Entered in Database D

Commercial of	Biodiversity, and Attractions	Threa	tened ar	nd Priority		
- And Marian		Flo	ra Repo	rt Form	,	Version 1.4 March 20
ABITAT INFORMATI	ON:					
LANDFORM:	ROCK TYPE	: L00	SE ROCK:	SOIL TYPE:	SOIL COLOUR	R: DRAINAG
Crest 🗖	Granite		il surface; eg	Sand 🔲	Red	Well drained
Hill 🗖	Dolerite	gravel,	quartz fields)	Sandy loam	Brown	Seasonally
Ridge 🗖	Laterite		0 400 F	Loam 🛭	Yellow	
Outcrop 🔲	Ironstone		0-10%	Clay loam 🔲	White	Permanently inundated
Slope 🛭	Limestone		10-30% <b>3</b>	Light clay 🗖	Grey	
Flat	Quartz			Peat 🗖	Black	
Open depression 🔲	Specify other	r.	50-100%	Specify other:	Specify other	
Drainage line						
losed depression 🔲			1200 De - 10			
Wetland		<b>dform</b> Elemen ei for additional va	200	3		
ONDITION OF BOIL:	Dry 🗖		. 0	Waterlogged	Inundated	
EGETATION	1. mixed mallee v	and and area	anna minad ab	authors of		
ASSIFICATION*:		voousanu oves	прен пихач ы	ruusdou		
: 1. Banksia woodland (B. erusta, B. Ilictola);	2.					
Open shrubland bbertia sp., Acadia spp.);	3.					
solated clumps of sedges	4					
	7.0					
SSOCIATED PECIES:						
Atetragona) S SOCIATED PECIES: ther (nen-dominant) spp: ease record up to four of the	most representative veg				Structural Formations shou	uki foliow 2009 Australian S
S SOCIATED PECIES: her (non-dominant) spp	most representative veg addines – refer to field m	ionual for further in	ilomization and struc	tural formation table.	Structural Formations shou	uld follow 2009 Australian S
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RECORDS: Please forward to Flora Administrative Officer, Species and Communities Program.

Record entered by:

Record Entered in Detabase D

### Appendix 2.3 Eucalyptus merrickiae - SLK 6.12-6.47

	& Priority Flora Repo	r.Form (TPRF) manual	on the DBCA website at	WWW. GOODS WIR DO	ov.au/cients-and-	on mais/freatened-s	pecies and
e form please refer to the Threatened omnunities/forestened-clarits							
TAXON: Eucalyptus m	errickiae				TF	PFL Pop. No:	16B
OBSERVATION DATE:	20/09/2023	CC	ONSERVATION	STATUS:	т	New popul	
		n. Emma Adams	Bapanine na propanine		PHON		
ROLE: Environmental C			RGANISATION:	Shire of Es			
		ation Officer O	MOANISATION.	Shire of Es	perance		
EMAIL: Katwalkerden@	gmail.com						
DESCRIPTION OF LOCATION	ON (Provide at least r	nearest town/named loca	alty, and the distance an	d direction to that	place)C		
Circle Valley Road at SLK	6.12-6.47				- 23		
		Section 18 Administra			Res	erve No:	
DBCA DISTRICT: Esperance	ie .	LGA: Esp	erance		Land manag	ger present: 🖼	
		UTM coords provided, Z		METHOD		23	1020
CDAOX/MCAO4 M	cDegrees 🔲	DegMinSec	UTMs 🔯	GPS [	Differer	ntial GPS 🔲	Map 🔲
AGD84 / AMG84  La	t / Northing: 6	339901.3		No. satelli	les:	Map used:	
	ng / Easting: 3	883287.4		Boundary	polygon	Map scale:	
Unknown	7005			captured:		05 %	
LAND TENURE:	ZONE: 5	27		_			
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	Little Control Language Anti- 2	Environ h	copercy -			COLUMN TO	
National park	State forest I	Pastora	al lease 🔲	MRWA road re	serve 🗖	Other Cro	wn reserve
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Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.su

RECORD'S: Please forward to Flore Administrative Officer, Species and Communities Program.

Report entered by: Sheet No.: Report Entered in Detabase D

- Hallander	nd Attractions				iority			
AUTO-LOCAL		Flor	a Rep	ort Fo	rm		Vens	ion 1.4 March 2021
IABITAT INFORMATIO	ON:							
LANDFORM:	ROCK TYP	E: LOOS	E ROCK:	SOIL	TYPE:	SOIL CO	LOUR:	DRAINAGE:
Crest	Granite		surface; eg juartz fields		Sand 🔲		Red 🔲	Well drained 🛭
Hill	Dolerite	o graver, c	pante neros	Sandy	r loam 🔲	Br	own 🗖	Seasonally
Ridge 🔲	Laterite		0-10%	1	Loam 🔣		ellow 🔲	inundated  Permanently
Outcrop 🔲	Ironstone		10-30%	Clay	y loam 🔲		hite 🔲	inundated
Slope 🔀	Limestone		30-50%	Light	ht clay 🔲		Grey 🔲	Tidal 🔲
Flat 🔲	Quartz	5	0-100%	1	Peat 🔲		lack 🔲	
Open depression	Specify other	er:	1983	Speci	fy other:	Specify	other:	
Drainage line							<u>ll</u> ,	
losed depression	Specific Lar	ndform Element						
Wetland 🗖		ual for additional valu	and the second	10.000000000000000000000000000000000000			_	
ONDITION OF SOIL:	Dry 🗖	Moist		Waterlog	ged 🗖	inundated		
EGETATION	1. mixed mallee	woodland over o	pen mixed	shrubland				
LASSIFICATION*: -  1. Banksia woodland (B.	2.							
tenuata, B. licitolia); Open shrubland								
(bbertie sp., Acadia spp.); Isolated clumps of sedges	3.							
(tetragona)	4.							
SSOCIATED								
PECIES:								
ease record up to four of the of Survey Field Handbook gui ONDITION OF HABITAT OMMENT:	delines – refer to field :	manual for further ink	ormation and	structural formats y good 🔞	Good 🗖	Degraded	□ Con	nw 2009 Australian Sol on pletely degraded
ease record up to four of the od Survey Field Handbook gui ONDITION OF HABITAT OMMENT: IRE HISTORY: La ENCING:	defines - refer to field i : Pristing ist Fire: Season/N Not required [	manual for further into Excellent    Month: Present	Year:	structural formati y good  Fire i	ontable. Good   intensity: H	Degraded gn Medium Required D	Con	No signs of fire
ENCING: OAD SIDE MARKERS:	defines - refer to field in the second set Fire: Season/Medical Not required [	Month:  Fresent  Present	Year: Re	y good Fire i place / reposit	ontable. Good   intensity: H  on	Degraded  gn	Con	npletely degraded
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### Appendix 2.4 Acacia bartlei



### Threatened and Priority Flora Report Form

Version 1.4 March 2021

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For intomation on how to complete the form please refer to the Threatened & Priority Flora Report Form (TFRF) manual on the DBCA website of www.downwa.gov.au/blants-and-animals/hreatened-species-and-communities/h

TAYON AND VOICE					TOCI D N
TAXON: Acacia bartle OBSERVATION DATE:	16/09/202	2 CON	SERVATION ST		TPFL Pop. No:
	0		SERVATION S		New population
OBSERVER/S: Kathe ROLE: Environmental C		den, Julie Waters	ANISATION: 9	PHO Shire of Esperance	NE
EMAIL: Katherine.Walke			ANISATION. 3	onire of Esperance	
30					_
DESCRIPTION OF LOCATION	ON (Provide at leas	st nearest town/hamed locality.	and the distance and o	direction to that place);	
Circle Valley Road at SLK	0.14 (north s	side of road) and at SL	K 0.28 (south s	ide of road).	
13 - 14				R	eserve No:
DBCA DISTRICT: Esperance		LGA: Espera			ager present:
		(If UTM coords provided, Zone		METHOD USED:	
CDA94 / MCA94 M	cDegrees 🔲	_	JTMs 🛭		rential GPS 🔲 Map 🔲
AGD84 / AMG84 D	t / Northing:	6339610.0		No. satellites:	Map used:
WGS84 🔲 Lor	ng / Easting:	377359.6		Boundary polygon captured:	Map scale:
Unknown 🗖	ZONE:	51	- 8	captured:	
LAND TENURE:	ZUNE.	01			
Nature reserve	Timber reserve	Private prope	- D	Rail reserve	Shire road reserv
National park	State forest		The second second	RWA road reserve	Other Crown reserv
Conservation park	Water reserve	(A)	GO C. S. (1995)	Ne to	Specify other:
WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive Dead QUADRAT'S PRESENT: Summary Quad. Totals: Alive	Mature: 2	Juveniles:	Clonal stems Seedlings:  Data attac	Totals:	Area of pop (m²):  Note: Pis record count as num (not percentages) for database as of quadrats. (m²):
REPRODUCTIVE STATE:	Clonal	Vegetative 🗖	Flowerbu	d D	Flower 88
Immai	ture truit. 🔲	Fruit 🛄	Dehisced fru	it 🔲 Percent	age in flower: 100%
CONDITION OF PLANTS:	Healthy 📓	Moderate 🗖	Po	or 🗖 Sen	escent 🗖
THREATS - type, agent and Eg dearing, too frequent fire, weed, of Rate current and potential threat Estimate time to potential impact	sease. Refer to fiel impact: N=NII, L=L	id manual for list of threats & ag low, M=Medium, H=High, E=Ex	neme	here relevant.	prent Potential Poten paot Impaot Thre N-E) (L-E) One (3-
•					
				** _	
				<u> </u>	

Please return completed form to Species And Communities Program DBCA,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au
RECORDS: Please forward to Flora Administrative Officer, Species and Communities Program.
Record entered by:\_\_\_\_\_\_\_ Sheet No.:\_\_\_\_\_\_ Record Entered in Detabase O



## Department of Biodiscretz, Conservation and Attractions Threatened and Priority

discrete and below.		Flora Rep	ort Form	Versi	ion 1.4 March 2021
HABITAT INFORMATI	ON:				
LANDFORM:	ROCK TYPE	E: LOOSE ROCK:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest 🗖	Granite	(on soil surface; eg	Sand	Red 🗖	Well drained
Hill 🗖		<ul> <li>gravel, quartz fields)</li> </ul>		Brown 🗖	Seasonally
Ridge	Laterite		Loam 🖼	Yellow 🔲	inundated
Outcrop	Ironstone	0-10%	Clay loam	White	Permanently
Slope M	Limestone	10-30%	Light clay	Grey 🗖	inundated
Flat 🗖	Quartz	30-50%	Peat	Black	Tidal 🖪
Open depression		50-100%		Specify other:	
Drainage line					
Closed depression		<del></del>	-		
Wetland		dform Element:			
CONDITION OF BOIL:	(Refer to field man	ual for additional values) Moist	Waterlogged	inundated	
	Lity 🔤	NOSE M	materioggen 🔤	THE PERSON NAMED IN	
VEGETATION CLASSIFICATION*:	<ol> <li>Mallee woodia</li> </ol>	nd with sparse Melaleuca s	hrubs		
Eg: 1. Banksia woodland (B.	2.				
attenuata, B. Ilipitola); 2. Open shrubland	3.				
(Hibbertia sp., Acada spp.); 3. Isolated clumps of sedges	3.				
(Mitetragona)	4.				
ASSOCIATED SPECIES:	Eremophila psilo	calyx, Cyathostemon sp., G	Srevillea oligantha		
Other (non-dominant) spp					
COMMENT:	TA 10000001		good 🖼 Good 🗖	0.00	pletely degraded
	ast Fire: Season/N		Fire intensity: Hig	-	No signs of fire
FENCING: ROAD SIDE MARKER 8:	Not required		lace / repair	[REAL PROPERTY ]	ith regid:
ROAD SIDE MARKERS.	Not required	Present 🔲 Rep	lace / reposition	Required 🔲 Quar	ntity req'd:
		commended management a onal data available, and ho		ed actions -	
					-
E I					
no authorisation/licence is requ	used. For further informs	r: FT61000787, FT610007 ation on authorisation and licening r hould be recorded above in the CTI	equirements see the Tryeatened	ants (i.e. no specimens or pla Flora and Wildlife Licensing	
	ctore No:	/A Herb. Regional He		Other:	
LODGEMENT: WA F	ferb ement No:	9783			
ATTACHED: Map	Mudmap P	hoto GIS data 🛭 Fi	ield notes 🗖 💢	Other:	
COPY SENT TO: Re	gional Office	District Office	Other:		
Submitter of Record: Ka	therine Walkerder	Role: Environmental (	Officer Signed:	Date: 08	3/03/2024

### Please return completed form to Species And Communities Program DBCA,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to Flora Administrative Officer, Species and Communities Program.

Record entered by:\_\_\_\_\_\_\_\_ Sheet No.:\_\_\_\_\_\_ Record Entered in Database D



### Threatened and Priority

Flora Report Form

ersion 1.4 March 2021

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at <a href="https://www.doar.wa.gov/eu/black-and-en/mole/threatened-species-and-communities/threatened-species-and-en/mole/threatened-

GDA94 / MGS94									-
OBSERVER/S: Katherine Walkerden ORGANISATION: Shire of Esperance  MAIL: Katherine walkerden@esperance.wa.gob.au  DESCRIPTION OF LOCATION (Provide at least nearest townward locality, and the distance and directon to that place):  Circle Valley Road between SLK 0.06 and SLK 4.58  DECORDINATES: (INUTM coords provided Zeree's ascorregard): DECORDINATES: (INUTM coords provided Zeree's ascorregard				59	-82992299225	******		V. 7. 2. 3. 3. 4.	
ROLE: Environmental officer  EMAIL: Katherine walkerden@esperance.wa.gob.au  DE SCRIPTION OF LOCATION  Provide at least nearest town/nemed locality, and the distance and director to that place):  Circle Valley Road between SLK 0.06 and SLK 4.58  DEGA DISTRICT: Esperance  LGA: LGA: LGA: LGA: LGA: LGA: LGA: LGA:					CONSERVATION	STATUS:	· <del></del>	그 그 아이를 맞았습니다.	15.16
EMAIL: Katherine walkerden@esperance wa.gob.au  DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):  Circle Valley Road between SLK 0.06 and SLK 4.58  DECA DISTRICT: Esperance	경기의 장면 어린 경기가 하였다.		A STATE OF THE STATE OF	en		AND LUMINOS AND		NE 041658	774
DESCRIPTION OF LOCATION (Provides presents intervenemed locality, and the distance and direction to that place):  Circle Valley Road between SLK 0.06 and SLK 4.58  Reserve No:  DBCA DISTRICT: Esperance	KGB <del>LEHEZ</del>			. We this part to Argentia		Shire of E	sperance	60	
Circle Valley Road between SLK 0.06 and SLK 4.58    Reserve No:	MAIL: Katherin	ne.walkerder	n@espera	nce.wa.gob.au	u				
Reserve No:  DBCA DIBTRICT: Esperance	ESCRIPTION OF	LOCATION (	Provide at leas	nearest town/nam	ed locality, and the distance	and direction to the	nat place):		
DBCA DISTRICT: Esperance	Circle Valley Road	d between S	LK 0.06 ar	d SLK 4.58			0.77	F. 123	
DBCA DISTRICT: Esperance								125	
DATUM: COORDINATES: [ITUTM coords provided, Zone is also required] DecDegrees DegMinSec UTMs GPS Differential GPS Map GDA94 / MGA94 Lat / Northing: 6340064 No. satellites: Map used: AGD84 / AMG84 Long / Easting: 381371 Soundary polygon captured: Differential GPS Map used: Unknown ZONE: 51  LAND TENURE: Nature reserve Timber reserve Pastoral lease MRWA road reserve Other Crown res National park Vater reserve Vater reser		5059			-7-7-		Re	eserve No:	
DecDegrees DegMinSec DTMs GPS Differential GPS Map Differential GPS Map used:  adS084 / AMG84 Long / Easting: 381371 Boundary polygon captured: Map used:  WGS44 Long / Easting: 381371 Boundary polygon captured: Map scale:  Unknown ZONE: 51  LAND TENURE:  Nature reserve Timber reserve Private property Rail reserve Differ Grown reservation park State forest Pastoral loase MRWA road reserve Other Grown reservation park State forest Pastoral loase MRWA road reserve Differ Grown reservation park State forest Pastoral loase Conservation park State forest Pastoral survey: Full survey Area observed (m²):  AREA ASSESSMENT: Edge survey Partial survey: Full survey Area observed (m²):  EFFORT: Time spent surveying (minutes): No. of minutes spent / 100 m²:  POP'N COUNT ACCURACY: Actual Extrapolation Estimate Count method: (Refer to field manual for list)  WHAT COUNTED: Plants Clumps Clonal stems Totals: Area of pop (m²):  Alive 158 Area of pop (m²):  Bummary Quad. Totals: Alive Size Data attached Total area of quadrats (m²):  Summary Quad. Totals: Alive Percentage in flower:  Figure Private Percentage in flower:  CONDITION OF PLANTS: Healthy Moderate People Senescent Comment:  First Dehiscod that Percentage in flower:  THREATS - type, agent and supporting information:  Egidearing, too Impact the, wood, disease. Refer to field manual for list of threats & agents. Specify agent where relevant.  First Dehiscod that Dehisco	BCA DISTRICT:	Esperance		LGA:	Esperance		Land man	ager present:	8
GDA94 / MGA94   Lat / Northing: 6340084   No. satellites:	DATUM:		The second secon			METHO	D USED:		
AGD84 / AMG84   Lat / Northing: 034004   No. satellites:   Map used:   WGS84   Long / Easting: 381371   Boundary polygon captured:   Map scale:   Unknown   ZONE: 51   Shire road reserve   Timber reserve   Private property   Rail reserve   Shire road reserve   National park   State forest   Pastoral lease   MRWA road reserve   Other Crown reserve   Other Crown reserve   UCL   SLK/Pole   to   Specify other:    AREA ASSESSMENT: Edge survey   Partial survey   Full survey   Area observed (m²):   EFFORT: Time spent surveying (minutes):   No. of minutes spent / 100 m²;   POP'N COUNT ACCURACY: Actual   Extrapolation   Estimate   Count method:   Great to field manual for list)  WHAT COUNTED:   Plants   Clumps   Clonal stems   TOTAL POP'N STRUCTURE:   Mature:   Juveniles:   Seedlings:   Totals:   Alive   158	CDAOL/MOIO		egrees 🔲	DegMinSec	UTMs 🗵	GPS	■ Differ	ential GPS 🔲	Map 🔲
WGS84 Long / Easting: 381371  Linknown		Lat / N	lorthing:	6340064		No. sate	lites:	Map use	t
Unknown   ZONE: 51  LAND TENURE:  Nature reserve   Timber reserve   Private property   Rail reserve   Shire road reserve   Other Grown reserve   Dead reserve   State forest   Pastoral lease   MRWA road reserve   Other Grown reserve   Other Grown reserve   UCL   SLK/Fole   10   Specify other:  AREA ASSESSMENT: Edge survey   Partial survey   Full survey   Area observed (m²):    EFFORT: Time spent surveying (minutes):   No. of minutes spent / 100 m²:    POP'N COUNT ACCURACY: Actual   Extrapolation   Estimate   Count method: (reter to field manual for lst)  WHAT COUNTED: Plants   Clumps   Clonal stems    TOTAL POP'N STRUCTURE:   Mature: Juveniles: Seedlings: Totals:    Alive   158			Easting:	381371				Map scal	e:
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National park   State forest   Pastoral loase   MRWA road reserve   Other Crown res Conservation park   Water reserve   UCL   SLK/Fole   10   Specify other:  AREA ASSESSMENT: Edge survey   Partial survey   Full survey   Area observed (m²):  EFFORT: Time spent surveying (minutes):   No. of minutes spent / 100 m²:  POP'N COUNT ACCURACY: Actual   Extrapolation   Estimate   Count method:  (Refer to field manual for list)  WHAT COUNTED: Plants   Clumps   Clonal stems    TOTAL POP'N STRUCTURE:   Mature:   Juvenilies: Seedlings: Totals:    Alive   158	AND TENURE:		LUIL.	31					
National park   State forest   Pastoral lease   MRWA road reserve   Other Crown res Conservation park   Water reserve   UCL   SLK/Fole   to   Specify other:  AREA ASSESSMENT: Edge survey   Partial survey   Full survey   Area observed (m²):  EFFORT: Time spent surveying (minutes):   No. of minutes spent / 100 m²:  POP'N COUNT ACCURACY: Actual   Extrapolation   Estimate   Count method:  (Reter to field manual for list)  WHAT COUNTED: Plants   Clumps   Clonal stems    TOTAL POP'N STRUCTURE:   Mature:   Juveniles: Seedlings: Totals:    Alive   158		O Tin	nber reserve	D Pri	vate property	Rail	reserve 🗖	Shin	road reserve
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Dead    Note: Pic record count as (not percentages) for data attached   Total area of quadrats (m²):		3 10	35 4 S. T.			100	tala:	Ĭ.	
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Please return completed form to Species And Communities Program DBCA,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORD 8: Please forward to Flora Administrative Officer, Species and Communities Program.

Record embred by:\_\_\_\_\_\_\_ Sheet No.:\_\_\_\_\_ Record Entered in Detabase D

Department of Commercation	Biodiversity, and Attractions	Threat	ened and	d Priority		
-1.7.1-		Flor	a Report	Form	Vers	sion 1.4 March 2021
ABITAT INFORMATI	ION:					
LANDFORM:	ROCK TY	PE: LOOS	E ROCK:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest	Granite		surface; eg	Sand 🔲	Red 🗖	Well drained
Hill 🗖	Dolerite	gravel, q	uartz fields)	Sandy loam 🔲	Brown 🗖	Seasonally
Ridge 🗖	Laterite		0.400 F	Loam 🗷	Yellow 🔲	inundated 🔲
Outcrop	Ironstone		0-10%	Clay loam	White	Permanently inundated
Slope 🛭	Limestone		10-30%	Light clay	Grey 🗖	Tidal
Flat 🗵	Quart		30-50%	Peat 🗖	Black 🔲	Trong E
Open depression 🔲	Specify of	er: 50	3-100%	Specify other:	Specify other:	
Drainage line						
losed depression 🗖	A	nessenii suntaena	, j.	_		
Wetland	0.0000000000000000000000000000000000000	andform Element: anual for additional valu	nel :			
ONDITION OF SOIL:	Dry E		Santa Control	raterlogged 🔲	Inundated	
EGETATION						
LASSIFICATION*:	-	woodland over o	pen mixed snru	Deanu		
g. 1. Banksia woodland (B. teruata, B. Ilictola);	2.					
Open shrubland libbertia sp., Acadia spp.);	3.					
isolated clumps of sedges	4					
(fetragona)	4					
SSOCIATED	* 10 1					
nd Survey Fleid Handbook g	e most representative v uidelines – refer to field	I manual for further Inlo	mution and structur	al formation table.	tructural Formations should fol	2
SSOCIATED PECIES: ther (non-dominant) spo- lease record up to four of the ad Survey Field Handbook go ONDITION OF HABITA COMMENT:	e most representative v uidelines – refer to field T: Pristine	I manual for further into	wation and structure Very good	al formation table.	Degraded 🗖 Gen	npletely degraded 📓
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Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbcs.wa.gov.au
RECORDS: Please forward to Flora Administrative Officer, Species and Communities Program.
Record entered by:

Sheet No.:

Record Entered in Detabase D

### Appendix 2.6 Acacia glaucissima SLK 6.1 - 6.43

he form please refer to the Threaten communities/himatened-clarits	SOUND TO SHOULD BE SHOULD	association of the said Oliv	the special measure of the second	THE REAL PROPERTY.			
TAXON: Acacia glau	cissima				TPFI	L Pop. No:	
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2000) (1000) (1000) (1000) (1000)	herine Walkerd				HONE	041658774	
ROLE: Environmental			SANISATION: Shire	of Esperanc	e		
EMAIL: Katherine.walk	erden@espera	ince.wa.gob,au					
DESCRIPTION OF LOCAT			and the distance and direction	on to that place).			
Circle Valley Road betwe	en SLK 6.1 an	d SLK 6.43			4.6		
					Reser	ve No	
DBCA DISTRICT: Esperar	nce	LGA: Espen	ance	Land	. 3 17 17 17	present:	-
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AGD84 / AMG84	.at / NorthIng:	6339901		satellites:		Map used:	
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LAND TENURE:	58337714019		7555				
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Please return completed form to Species And Communities Program DBCA,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au
RECORD 5: Please forward to Flora Administrative Officer, Species and Communities Program.
Record entered by: Sheet No.: Record Entered in Database D

Plat Conservation	Biodiversity, and Attractions	Threater	ned an	d Priority			
-Dawella		Flora	Repor	t Form		Version 1.4 N	Aarch 2021
ABITAT INFORMAT	ION:						
LANDFORM:	ROCK TYPE	: LOOSE R	OCK:	SOIL TYPE:	SOIL COLOU	R: DR	AINAGE:
Crest	Granite			Sand 🔲	Red	□ Well	drained 🔲
Hill 🖸	Dolerite	gravel, quart	z fields)	Sandy loam	Brown	☐ Seas	sonally
Ridge E	Laterite			Loam 🛭	Yellow	inun inun	dated
Outcrop	Ironstone		10%	Clay loam	White		nanently
Slope B	Limestone		30% 🔲	Light clay	Grey		dated  Tidal
Flat B		30-	50% 🗖	Peat	Black		ridar 🖺
Open depression	Specify othe	f. 50-1	00%	Specify other:	Specify other		
Drainage line							
losed depression					6.0.		
Wetland	Specific Lan	dform Element:	17	3			
ONDITION OF SOIL:	" (Hefer to field manu	ual for additional values) Moist 📮					
JADITION OF BUIL:	Dry 🖼	MOSI 🖬		Waterlogged 🛄	inundated		
EGETATION LASSIFICATION*:	1. mixed mallee v	voodland over oper	mixed shr	ubland			
1. Banksia woodland (B.	2.						
enuata, B. (licifolia); Open shrubland	-						
libbertia sp., Acadia spp.); isolated clumps of sedges	3.						
(tetragona)	4.						
\$SOCIATED							
PECIES:							
PECIES; ther (non-dominant) spp lease record up to four of th					Structural Formations sho	uld follow 2009 A	ustralian Soli a
PECIES: ther (non-dominant) spp sase record up to four of th d Survey Field Handbooks ONDITION OF HABITA	guidelines — refer to field m			ral formation table.	Shutural Formations sho Degraded 🚨	uld follow 2009 A Completely di	
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RECORDS: Please forward to Flora Administrative Officer, Species and Communities Program.

Record entered by: \_\_\_\_\_\_\_ Sheet No.: \_\_\_\_\_\_ Record Entered in Database D

### Appendix 2.7 Acacia glaucissima

Please complete as much on the form please refer to the Threatene communities threatened clarks		port Form (TPRF) manual o	on the Desta wedshe at	www.dodw.wa.or	THE REAL PROPERTY AND ADDRESS OF THE PARTY AND	entrace/entracens	and the second second
TAXON: Acacia glau	cissima	NO.		dayoo dayaasa	TF	PFL Pop. No	:
OBSERVATION DATE:	21/09/202	3 CO	NSERVATION S	STATUS:	P3	New pop	ulation 🛭
OBSERVER/S: Julie	e Waters	58		10.	PHON	E 0416587	774
ROLE: Environmental		<del> </del>	RGANISATION:	Shire of Es	perance	.65	
EMAIL: Julie.Waters@	esperance.wa.	gov.au					
DESCRIPTION OF LOCAT	ION (Provide at lea	st nearest town/named local	ity, and the distance and	d direction to that	place)C		
Circle Valley Road and S	assella Road i	ntersection.			(7)		
					22.00		-
DBCA DISTRICT: Esperar		LGA: Espe				erve No:	
64 (1.15)		If UTM coords provided, Zo	erance	METHOD	Land manag	er present.	
	ecDegrees	DegMinSec	UTMs 🗷	GPS B		ntial GPS	Map 🔲
GDA94 / MGA94 🔀 L	at / Northing:	6339896.3		No. satelli	100	Map used	Name and Address of the Owner, where
AGD84 / AMG84		204000 0		Boundary			
WGS84 Lo	ong / Easting:	384688.3		captured:		Map scale	:
**************************************	ZONE:	51		<u>i</u> ĝ			
LAND TENURE:							
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National park  Conservation park  AREA ASSESSMENT: Ec  EFFORT: Time POP'N COUNT ACCURAC  WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive Dead  QUADRATS PRESENT: Summary Quad. Totals: Alive REPRODUCTIVE STATE: Imm.  CONDITION OF PLANTS: COMMENT: THREATS - type, agent an Eg dearing, too frequent line, weed, Parte current and potential threa Estimate time to potential impa	State fores Water reserve  ige survey  e spent surveyir  Y: Actual   Plants   Mature:  3  No.   Clonal  ature truit   Healthy   d supporting in disease Refer to the of impact N=NI, L=L	Pastora  Partial survey  partial survey  partial survey  partial survey  partial survey  Extrapolation  Clumps  Juveniles:  Vegetative  Fruit  Moderate  Moderate  formation:  id manual to list of threats 8  ow, Mi-Medium, H-Helpi, E:	Full survey  No. of Estimate  Clonal stems Seedlings:  Data atts  Flowerb Dehisced fi	Area observations of the control of	rved (m²): nt / 100 m²: t method: anual for list)  Total area  Flo Fercentag Senes  Curr	Area of pop Note: Pis record yout percentage of quadrats (  ant pop note percentage of quadrats (  per population forwer  cent potent impac b) (L-E)	(m²):
National park  Conservation park  AREA ASSESSMENT: Ec  EFFORT: Time POP'N COUNT ACCURAC  WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive  Dead  QUADRATS PRESENT:  Summary Quad. Totals: Alive  REPRODUCTIVE STATE: Imms  CONDITION OF PLANTS: COMMENT:  THREATS - type, agent an  Eg dearing, too frequent fire, weed, Rate current and potential threa  Estimate time to potential impa	State fores Water reserve  ige survey  e spent surveyir  Y: Actual   Plants   Mature:  3  No.   Clonal  ature truit   Healthy   d supporting in disease Refer to the of impact N=NI, L=L	Pastora  Partial survey  partial survey  partial survey  partial survey  partial survey  Extrapolation  Clumps  Juveniles:  Vegetative  Fruit  Moderate  Moderate  formation:  id manual to list of threats 8  ow, Mi-Medium, H-Helpi, E:	Full survey  No. of Estimate  Clonal stems Seedlings:  Data atts  Flowerb Dehisced fi	Area observations of the control of	rved (m²):  rved (m²):  rt / 100 m²:  t method: anai for lst)  lis:  Total area  Fic Percentag  Senes  Curr  Imp.  (N-	Area of pop Note: Pis record yout percentage of quadrats (  ant pop note percentage of quadrats (  per population forwer  cent potent impac b) (L-E)	(m²):
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National park Conservation park AREA ASSESSMENT: Ec EFFORT: Time POP'N COUNT ACCURAC WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive Dead QUADRATS PRESENT: Summary Quad. Totals: Alive REPRODUCTIVE STATE: Imms CONDITION OF PLANTS: COMMENT: THREATS - type, agent an Eg dearing, too trequent line, weed. Rupe current and potential three	State fores Water reserve  ige survey  e spent surveyir  Y: Actual   Plants   Mature:  3  No.   Clonal  ature truit   Healthy   d supporting in disease Refer to the of impact N=NI, L=L	Pastora  Partial survey  partial survey  partial survey  partial survey  partial survey  Extrapolation  Clumps  Juveniles:  Vegetative  Fruit  Moderate  Moderate  formation:  id manual to list of threats 8  ow, Mi-Medium, H-Helpi, E:	Full survey  No. of Estimate  Clonal stems Seedlings:  Data atta  Flowerb Dehisced fi	Area observations of the control of	rved (m²):  rved (m²):  rt / 100 m²:  t method: anai for lst)  lis:  Total area  Fic Percentag  Senes  Curr  Imp.  (N-	Area of pop Note: Pis record yout percentage of quadrats (  ant pop note percentage of quadrats (  per population forwer  cent potent impac b) (L-E)	(m²):

		othersity, of Altractions	Т	hrea	aten	ed :	and	Priorit	ty					
1.7.1				Flo	ora F	lep	ort F	orm				Versio	n 1.4 March 2	2021
HABITAT INFOR	MATIO	N:												
LANDFORM	1:	ROCK T	YPE:	LOC	SE RO	CK:		OIL TYPE		SOIL	COLOL	JR:	DRAINAG	E:
Cre	st 🗖	Gran	ite 🔲	(on s	oil surfac	e; eg		Sand			Red		Well drainer	
н	BII 0	Doler	ite 🔲	grave	l, quartz i	leids)	S	andy loam			Brown		Seasonally	
Ride	e o	Later	ite 🔲			2011 <u>ILC</u>		Loam	88		Yellow		inundated	
Outore	op 🗖	Ironsta	ne 🗆			% 🗖		Clay loam			White		Permanent	у
Slor	e 🗵	Limesto	ne 🗖		10-30	187 III		Light clay			Gre	· 🗖	inundated	
8000	at 🗷	Qua	rtz 🔲		30-50	% 🗖	Į.	Peat	-		Black		1102	
Open depression	on D	Specify of	other:		50-100	% 🗖	S	pecify other		Spe	city othe			
Drainage lin										1				
Closed depression	on D						-			_				
Wetlar	nd 🗖		Landform											
CONDITION OF 80	NE:	(Refer to field Dry			st 🗖		Wate	erlogged 🗖		lound	lated 🗖			
		recommended	Sintanayan											
VEGETATION CLASSIFICATION	Nº: -	1. mixed mall	ee woodla	nd ove	r open n	nixed	shrublai	nd						
Eg: 1. Banksia wooda		2.												
attenuata, B. Iliotoka); 2. Open shrubland		3.	1											
(Hibbertia sp., Acada : 3. isolated clumps of si (Mitetragona)		4												
ASSOCIATED	10													
SPECIES:	ees: 30													
Other (non-dominant): Please record up to for	100 miles   100 miles	nort reconsectation	e upostation l	name that	th up to the	na don	innet ener	ine in each in-	and Otros	of and Error	votine ch	nuld tolina	2000 Auchallan	Solf and
Land Survey Field Hand										3005000				
CONDITION OF HA	ABITAT:	Pristine		xcetion		Very	good 🖁	Good		Degra	ded 🗖	Comp	letely degraded	
FIRE HISTORY:	Las	et Fire: Seaso	n/Month:		Year	- 3	F	ire intensit	ty: High	Med Med	ium 🗖	Low 🗖	No signs of fir	re 🗖
FENCING:		Not require	d 🖾	Preser		Rep	lace / rep	air 🔲		Required	0	Lengt	n regid:	
ROAD SIDE MARK	ER8:	Not require		Preser	-102201			estion 🗖		Required	1270		ity regid:	
OTHER COMMER include date. Also									emente	ed action	8-			
														-
														- 8
														- 8
FLORA AUTHOR authorisation/loence is	required	For further inform	nation on aut	verisation	and loan	ng requ	irements:		ened Flo					site.
Any actions carried out SPECIMEN:		ors No:	WA Her	-	Region		_	District He		OB	ner:	66		
			TYPE FIRE	-	nego	iai ne		District File	GID.	- 50	0010			-
LODGEMENT:	WA He Lodge	erb ment No:												
ATTACHED:	Мар	Mudmap	Photo	GIS	data 🛭	Fi	eld note	s 🗖	0	ther:		=		-00
COPY SENT TO:	Reg	ional Office	District	Office	×		Other							-

Submitter of Record: Katherine Walkerden Role: Environmental Officer Signed:

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to Flora Administrative Officer, Species and Communities Program.

Record entered by:\_\_\_\_\_\_\_ Sheet No.:\_\_\_\_\_ Record Entered in Database O

### Appendix 2.8 Melaleuca fissurata

TAXON: Melaleuca fis	surata				TP	FL Pop. No:	
OBSERVATION DATE:	20/09/2023	CON	SERVATION STA	TUS: P3	3	New popular	tion 🗵
OBSERVER/S: Kathe	erine Walkerde	en		107	PHONE	E 041655877	4
ROLE: Environmental C			ANISATION: Shi	re of Espe	erance	8	
EMAIL: Katherine, Walke					-		
DESCRIPTION OF LOCATIO			and the distance and direc	dion to that pla	ace)C		
Circle Valley Road at SLK	4.8 on south s	ide of road.					
					Res	erve No:	
DBCA DISTRICT: Esperanc	e	LGA: Espera	ince		Land manag	er present	
	The state of the s	TUTM coords provided, Zone		ETHOD US			
GDA94 / MGA94 B	t / Northing:	DegMinSec   6340071.4	UTMs 📓	GPS 🔀			Map
AGD84 / AMG84	_	TO A STATE OF THE	<del></del>	o. satellites oundary po	S 233 7 7	Map used:	
WGS84 Lor	ng / Easting: _	381854.9		ptured:		Map scale:	-
LAND TENURE:	ZONE:	51	<u> </u>				
Nature reserve	Timber reserve	Private prop	erty D	Rail reser	ove D	Shire road	d reserve
National park	State forest	34 CONTRACTOR (CONTRACTOR)	ase 🗖 MRW	A road reser	rve 🗖	Other Crown	n reserve
National park Conservation par	Water reserve ge survey  spent surveying	Partial survey F	ase MRW UCL SLK/Pole   ull survey An No. of mini Estimate	to E	ed (m²): / 100 m²: nethod:	Other Crown Specify other:	n reserve
National park Conservation par	Water reserve ge survey  spent surveying	Partial survey F	ase MRW UCL SLK/Pole   ull survey An No. of mini Estimate	ea observe utes spent Count m	ed (m²): / 100 m²: nethod: ar for list)		n reserve
National park Conservation par	Water reserve ge survey  spent surveying Actual  Plants	Partial survey Family F	SEKIPOR  UCL SLKIPOR  UIII survey An  No. of mini  Estimate Forter  Clonal stems	ea observe utes spent Count m to field manus	ed (m²): / 100 m²: nethod: ar for list)	Specify other:	):
National park Conservation park Conservation park Conservation park Conservation park Conservation park Conservation park Count Accuracy WHAT COUNTED:	water reserve ge survey  spent surveying Actual  Plants  Mature:	Partial survey Family F	SEKIPOR  UCL SLKIPOR  UIII survey An  No. of mini  Estimate Forter  Clonal stems	ea observe utes spent Count m to field manus	ed (m²): / 100 m²: nethod: ar for list)	Specify other:	):
National park Conservation pop'n Count Accuracy WHAT COUNTED:  TOTAL POP'N STRUCTURE:  Alive  Dead	water reserve ge survey  spent surveying Actual  Plants  Mature:	Partial survey Family F	SEKIPOR  UCL SLKIPOR  UIII survey An  No. of mini  Estimate Forter  Clonal stems	ea observe utes spent de Count me to field manual  Totale:	ed (m²): / 100 m²; hethod: ar tor list)	Area of pop (m²	):
National park  Conservation park  AREA ASSESSMENT: Edg  EFFORT: Time  POP'N COUNT ACCURACY  WHAT COUNTED:  TOTAL POP'N STRUCTURE:  Alive  Dead  QUADRAT'S PRESENT:	Water reserve ge survey  spent surveying Actual  Plants  Mature: 1	Partial survey Family F	Seedlings:	ea observe utes spent Count m to field manus Totale:	id (m²): / 100 m²; / ethod: in for list) :	Area of pop (m² Note: Pis record oou (not percentages) for of quadrats (m²):	):
National park  Conservation park  AREA ASSESSMENT: Edg  EFFORT: Time  POP'N COUNT ACCURACY  WHAT COUNTED:  TOTAL POP'N STRUCTURE:  Alive  Dead  QUADRATS PRESENT:  Summary Quad. Totals: Alive  REPRODUCTIVE STATE:	Water reserve ge survey spent surveying : Actual  Plants  Mature: 1 No.	Partial survey F  (minutes):  Extrapolation  Clumps  Juveniles:  Size	Seedlings:	ea observe utes spent Count in to field manua Totals:	ed (m²): / 100 m²; / 100 m²; / sethod: ar tor lat) :	Area of pop (m² Note: Pis record oou (not proper lages) for	):
National park  Conservation park  AREA ASSESSMENT: Edg  EFFORT: Time  POP'N COUNT ACCURACY  WHAT COUNTED:  TOTAL POP'N STRUCTURE:  Alive  Dead  QUADRATS PRESENT:  Summary Quad. Totals: Alive  REPRODUCTIVE STATE:  Immat	Water reserve ge survey ge spent surveying : Actual  Plants gent  Mature: 1 No. gent  Clonal gent  Interest  Interes	Partial survey Family F	Seedlings:  Data attache  MRW No. of mini Estimate   (Fools  Clonal stems   Seedlings:	to to to the sea observe utes spent of Count in the field manual Totals:	id (m²): / 100 m²; / ethod: ar tor ist)  Total area  Flo Percentage	Area of pop (m² Note: Pis record oou (not percentages) for of quadrats (m²): wer	):
National park Conservation park Conservation park Conservation park Conservation park Conservation park Conservation park Count Coun	Water reserve ge survey spent surveying : Actual  Plants  Mature: 1 No.	Partial survey F  (minutes):  Extrapolation  Clumps  Juveniles:  Size	Seedlings:	to to to the sea observe utes spent of Count in the field manual Totals:	id (m²): / 100 m²; / ethod: ar tor ist)  Total area  Flo Percentage	Area of pop (m²  Note: Pis record ou (not procritages) for of quadrats (m²):	):
National park  Conservation park  AREA ASSESSMENT: Edg  EFFORT: Time  POP'N COUNT ACCURACY  WHAT COUNTED:  TOTAL POP'N STRUCTURE:  Alive  Dead  QUADRATS PRESENT:  Summary Quad. Totals: Alive  REPRODUCTIVE STATE:  Immat  CONDITION OF PLANTS:  COMMENT:	Water reserve ge survey spent surveying : Actual  Plants  Mature: 1 No.  Live fait  Healthy	Partial survey Family F	Seedlings:  Data attache  MRW No. of mini Estimate   (Fools  Clonal stems   Seedlings:	to to to the sea observe utes spent of Count in the field manual Totals:	ed (m²): / 100 m². / 100 m². inethod: ar tor list)  Total area Florescentage Senese	Area of pop (m²  Note: Pis record our frot prorentages) for of quadrats (m²): wer  e in flower: 100%	):
National park  Conservation park  AREA ASSESSMENT: Edg  EFFORT: Time  POP'N COUNT ACCURACY  WHAT COUNTED:  TOTAL POP'N STRUCTURE:  Alive  Dead  QUADRATS PRESENT:  Bummary Quad. Totals: Alive  REPRODUCTIVE STATE:  Immat  CONDITION OF PLANTS:  COMMENT:  THREATS - type, agent and	Water reserve ge survey spent surveying : Actual  Plants  Mature: 1 No.  Line fait  Healthy  supporting inf	Partial survey Factorial survey Factorial survey Factorial Survey Factorial	See MRW SEK/Pore Full survey An No. of mint Estimate Forter Clonal stems Seedlings:  Data attache Flowerbud Denisced fruit Foor	to to to the control of the control	id (m²): / 100 m²; / ethod: ar tor ist)  Total area  Flo Percentage	Area of pop (m² Note: Pis record ocu (hot percentages) for of quadrats (m²): wer se in flower: 100% cent potential interest impact	):
National park  Conservation park  AREA ASSESSMENT: Edg  EFFORT: Time  POP'N COUNT ACCURACY  WHAT COUNTED:  TOTAL POP'N STRUCTURE:  Alive  Dead  QUADRAT'S PRESENT:  Summary Quad. Totals: Alive  REPRODUCTIVE STATE:  Immat  CONDITION OF PLANTS:  COMMENT:  THREAT'S - type, agent and  Eg dearing, too frequent fire, weed, d  Ratio current and potential threat	Water reserve ge survey spent surveying : Actual  Plants  Mature:  1  No.  Clonal  ture that  Healthy  sease. Forter to field  impact N=Ni, L=Lo	Partial survey Family F	Seedlings:  Data attache  Flowerbud   Dehisded fruit   Poor	to to to the control of the control	ed (m²): / 100 m²; ethod: artorist) : Total area Florentage Senesc	Area of pop (m² Nate: Pis record out (not percentages) for of quadrats (m²): wer se in flower: 100% cent set Potential ant Impact	):
National park  Conservation park  AREA ASSESSMENT: Edg  EFFORT: Time  POP'N COUNT ACCURACY  WHAT COUNTED:  TOTAL POP'N STRUCTURE:  Alive  Dead  QUADRATS PRESENT:  Summary Quad. Totals: Alive  REPRODUCTIVE STATE:  Immat  CONDITION OF PLANTS:  COMMENT:  THREATS - type, agent and  Eg dearing, too frequent fire, weed, d	Water reserve ge survey spent surveying : Actual  Plants  Mature:  1  No.  Clonal  ture that  Healthy  sease. Forter to field  impact N=Ni, L=Lo	Partial survey Family F	Seedlings:  Data attache  Flowerbud   Dehisded fruit   Poor	to to to the control of the control	id (m²): / 100 m²: pethod: ar tor lid)  Total area  Florentag  Senesc	Area of pop (m² Nate: Pis record out (not percentages) for of quadrats (m²): wer se in flower: 100% cent set Potential ant Impact	):
National park Conservation of Plants: Alive Conservation of Plants: Conservation of	Water reserve ge survey spent surveying : Actual  Plants  Mature:  1  No.  Clonal  ture that  Healthy  sease. Forter to field  impact N=Ni, L=Lo	Partial survey Family F	Seedlings:  Data attache  Flowerbud   Dehisded fruit   Poor	to to to the control of the control	id (m²): / 100 m²: pethod: ar tor lid)  Total area  Florentag  Senesc	Area of pop (m² Nate: Pis record out (not percentages) for of quadrats (m²): wer se in flower: 100% cent set Potential ant Impact	):
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National park Conservation Count Accuracy What Counted:  NHAT COUNTED:  TOTAL POP'N STRUCTURE:  Alive Dead  QUADRAT S PRE SENT:  Summary Quad. Totals: Alive REPRODUCTIVE STATE:  Immat  CONDITION OF PLANTS:  COMMENT:  THREAT S - type, agent and Eg dearing, too frequent fire, weed, directly conservation potential threat Estimate time to potential impact	Water reserve ge survey spent surveying : Actual  Plants  Mature:  1  No.  Clonal  ture that  Healthy  sease. Forter to field  impact N=Ni, L=Lo	Partial survey Family F	Seedlings:  Data attache  Flowerbud   Dehisded fruit   Poor	to to to the control of the control	id (m²): / 100 m²: pethod: ar tor lid)  Total area  Florentag  Senesc	Area of pop (m² Nate: Pis record out (not percentages) for of quadrats (m²): wer se in flower: 100% cent set Potential ant Impact	):
National park  Conservation park  AREA ASSESSMENT: Edg  EFFORT: Time  POP'N COUNT ACCURACY  WHAT COUNTED:  TOTAL POP'N STRUCTURE:  Alive  Dead  QUADRATS PRESENT:  Summary Quad. Totals: Alive  REPRODUCTIVE STATE:  Immat  CONDITION OF PLANTS:  COMMENT:  THREATS - type, agent and  Eg dearing, too frequent fire, weed, di  Rate current and potential threat	Water reserve ge survey spent surveying : Actual  Plants  Mature:  1  No.  Clonal  ture that  Healthy  sease. Forter to field  impact N=Ni, L=Lo	Partial survey Family F	Seedlings:  Data attache  Flowerbud   Dehisded fruit   Poor	to to to the control of the control	id (m²): / 100 m²: pethod: ar tor lid)  Total area  Florentag  Senesc	Area of pop (m² Nate: Pis record out (not percentages) for of quadrats (m²): wer se in flower: 100% cent set Potential ant Impact	):

# Lat. # Street College	Sindiversity, and Attractions	Threatened a	nd Priority		
1.8.1		Flora Repo	ort Form	Versi	ion 1.4 March 2021
HABITAT INFORMATI	ON:				
LANDFORM:	ROCK TYPE:	LOOSE ROCK:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest 🗖	Granite	(on soil surface; eg	Sand	Red 🗖	Well drained
Hill 🗖	Dolerite 🔲	gravel, quartz fields)	Sandy loam 🔲	Brown 🔲	Seasonally
Ridge 🔲	Laterite	-	Loam 🔲	Yellow 🔲	inundated 🔲
Outcrop	Ironstone 🔲	0-10%	Clay loam	White	Permanently
Slope 8	Limestone	10-30%	Light clay	Grey 🗖	inundated  Tidal
Flat 🗖	Quartz 🗖	30-50%	Peat	Black	ridai 🚨
Open depression	Specify other:	50-100%	Specify other:	Specify other:	
Drainage line	10 20		1,5% 52	(7 82	
Closed depression	A CONTRACTOR		-		
Wetland	Specific Landforn				
ONDITION OF BOIL:	(Refer to field manual for Dry	additional values) Moist	Waterlogged	Inundated	
	3,500 mm	William Park	maior ogged 🔤	ritintanco sa	
EGETATION LASSIFICATION*:	1.	april od objektor programa	mar-		
g 1. Banksia woodand (B.		th sparse Melaleuca sh	rubs.		
tionusta, B. Hotolia); Open shrubland	-2.				
fibbertia sp., Acadia spp.); isolated clumps of sedges	3.				
Atetragona)	4				
SSOCIATED		- A - A - A - A - A - A			
SPECIES:	Cyathostemon sp., Ac	acia glaucissima, Eucaly	ptus merrickiae.		
Other (non-dominant) spp					
	idelines – refer to field manual		ctural formation table.		
nd Survey Field Handbook gu ONDITION OF HABITAT COMMENT:	F: Pristine	tor further information and stru Excelleral	ood 🛭 Good 🗖	nies Con De	pietely degraded 🗖
nd Survey Field Handbook gu CONDITION OF HABITAT COMMENT: FIRE HISTORY: La	r: Pristine	terfurther Information and stru  Excellent   Very g  Year:	ood S Good G	h Medium D Low	pietely degraded
IN SUMEY FIELD HANDSOOK GEOOD THOMENT: FIRE HISTORY: LETEROING: ROAD SIDE MARKER 8:	r: Pristine   set Fire: Season/Month  Not required  Not required	Excellent	ood Seed □ □ Fire intensity: Higher / repair □ uce / repair □	Required Quar	pietely degraded 🗖
CONDITION OF HABITAT COMMENT: FIRE HISTORY: La FENCING: ROAD SIDE MARKER 8: DITHER COMMENTS: Include date. Also inclu	r: Pristine   ast Fire: Season/Month.  Not required  Not required  (Please include recomm de details of additional of additional of the control of the contr	Fresent Repla Present Repla Pr	Fire Intensity: High size / repair to locate it.)	Required Leng Required Quar ed actions -	no signs of fire upth regid:
COMMENT: COM	Pristine   Bet Fire: Season/Month: Not required  Not required  Please include recomm de details of additional of the details of the d	Fresent Repla Present Repla Present Repla Present Repla Present Repla Present Repla Present Repla ended management activate available, and how  81000788 Note if only thorisation and leaning require recorded above in the OTH	Fire Intensity: High see / repair to locate it.)  The intensity of the int	Required Leng Required Quar Required Quar ed actions -	No signs of fire
COMMENT: COM	set Fire: Season/Month:  Not required  Not required  Not required  Please include recomm de details of additional of the season	Fresent Repla Present Repla Present Repla Present Repla Present Repla Present Repla Present Repla ended management activate available, and how  81000788 Note if only thorisation and leaning require recorded above in the OTH	Fire Intensity: High see / repair to locate it.)  The intensity of the int	Required Leng Required Quar Required Quar ed actions -	no signs of fire upth regid:
CONDITION OF HABITAT COMMENT: FIRE HISTORY: La FENCING: ROAD SIDE MARKER 8: OTHER COMMENTS: Include date. Also inclu  FLORA AUTHORISATI Authorisation license is require key actions carried out under: SPECIMEN: Collect (SW12422) CODGEMENT: WA H	Pristine   Bet Fire: Season/Month: Not required  Not required  Not required  Please include recomm de details of additional of additional of the pristing of t	Fresent Repla Present Repla Present Repla Present Repla Present Repla Present Repla Present Repla ended management activate available, and how  81000788 Note if only thorisation and leaning require recorded above in the OTH	Fire Intensity: High see / repair to locate it.)  The intensity of the int	Required Leng Required Quar Required Quar ed actions -	no signs of fire upth regid:
COMMENT: COMMENTS:	Pristine   Bet Fire: Season/Month: Not required  Not required  Not required  Please include recomm de details of additional of the season of t	Fresent Present Repla Present Repla Present Repla Present Repla Present Repla Repla ended management active available, and how	Fire Intensity: Higher Intensity: Higher Intensity: Higher Intensity: Higher Intensity	Required Leng Required Quar Required Quar ed actions -	no signs of fire upth regid:

### Appendix 2.9 Persoonia cymbifolia

TAXON: Persoonia cyr	mbifolia				TP	FL Pop. No:	
OBSERVATION DATE:	08/03/2024	COM	SERVATION STAT	US: F	3	New popul	ation 🛭
OBSERVER/S: Kathe	erine Walkerder	n, Julie Waters		89	PHONI	E 04165587	74
ROLE: Environmental O			GANISATION: Shire	of Esp	erance		
EMAIL: Katherine.walker	rden@esperano	ce.wa.gov.au			_		
DESCRIPTION OF LOCATIO				on to that g	(ace)C		
Circle Valley Road at SLK 1.17	and 1.21. On no	orthern side of Road.	6				
					Res	erve No:	
DBCA DISTRICT:		LGA:			Land manag	er present:	7.2
	DRDINATES: (III) cDegrees	UTM coords provided, <b>Zon</b> DegMinSec 🔲	DATE OF THE PARTY	THOD U	70-111-11	itial GPS 🗖	Map 🗖
GDA94 / MGA94 🔲		339842	100-2000 1 <del>00</del> 0 1 2000	satellite	10.550	Map used:	wap 🖬
AGD84 / AMG84		773585		indary p	:	- Commission of	7 14
Unknown		78282	cap	tured:		Map scale:	
LAND TENURE:	ZONE: 5	1					
Nature reserve	Timber reserve	Private pro	perty 🗖	Rail res	erve 🗖	Shire ro	ad reserve
National park	State forest	Pastoral i	ease MRWA	road resi	erve 🗖	Caher Croy	wn reserve I
					Control of the last of the las	and the same	
AREA ASSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY	Water reserve   ge survey   spent surveying : Actual	Partial survey  (minutes):  Extrapolation	UCL ■ SLK/Poxe ■ Full survey ■ Area No. of minut Estimate ■ Fixter t	to de services spenicount	ed (m²):	Specify other:	
Conservation park  AREA ASSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY WHAT COUNTED:	Water reserve	Partial survey	Full survey A Area No. of minut Estimate	to de services spenicount	ed (m²): t / 100 m²; method: use for (st)		
Conservation park  AREA ASSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY WHAT COUNTED:	Water reserve	Partial survey (1) (minutes): (2) Extrapolation (1) Clumps (1)	Full survey Area  No. of minut  Estimate Foder t  Clonal stems	a observ es spen Count o field man	ed (m²): t / 100 m²; method: use for (st)		n*):
Conservation park  AREA ASSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY WHAT COUNTED: TOTAL POP'N STRUCTURE:	Water reserve  pe survey  spent surveying  Actual  Plants  Mature:	Partial survey (1) (minutes): (2) Extrapolation (1) Clumps (1)	Full survey Area  No. of minut  Estimate Foder t  Clonal stems	a observ es spen Count o field man	ed (m²): t / 100 m²; method: use for (st)	Area of pop (n	ount as number
Conservation park  AREA ASSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive Dead	Water reserve  pe survey  spent surveying  Actual  Plants  Mature:	Partial survey (1) (minutes): (2) Extrapolation (1) Clumps (1)	Full survey Area  No. of minut  Estimate Foder t  Clonal stems	a observes spen Count to field man	ed (m²): t / 100 m²; t / 100 m²; method: use for (st)	Specify other:	ount as number for database.
Conservation park   AREA ASSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive Dead QUADRATS PRESENT:	Water reserve see survey sees surveying . Actual . Plants . Mature: 2	Partial survey (I) (minutes): (IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Full survey Are:  No. of minut Estimate Fater Clonal stems Seedlings:	a observes spen Count to field man	ed (m²): t / 100 m²; t / 100 m²; method: use for (st)	Area of pop (n Note: Pis record or (not percentages)	ount as number for database.
Conservation park  AREA ASSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive Dead QUADRATS PRESENT: Bummary Quad. Totals: Alive REPRODUCTIVE STATE:	Water reserve see survey sees survey sees surveying . Actual Plants Mature: 2	Partial survey  (minutes):  Extrapolation  Clumps  Juveniles:  Size  Vegetative  Vegetative	Full survey Ares No. of minut Estimate   Clonal stems  Seedlings:  Data attached	a observes spen Count to field man	ed (m²): t / 100 m²; method: uai for (st)	Area of pop (n Note: Pis record or (not percentages) of quadrats (m	ount as number for database.
Conservation park  AREA ASSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive Dead QUADRATS PRESENT: Bummary Quad. Totals: Alive REPRODUCTIVE STATE: Immail	Water reserve serving spent surveying : Actual Plants Mature: 2	Partial survey (a) (minutes): (mi	Full survey Area  No. of minut Estimate  Futer t  Clonal stems  Seedlings:  Data attached  Flowerbud  Dehisced fruit	a observes spen Count of field man	ed (m²):  1 / 100 m²; method: use for list)  Total area  Flo Percentage	Area of pop (n Note: Pis record or (not percentages) of quadrats (m) wer	ount as number for database.
AREA ASSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive Dead QUADRATS PRESENT: Bummary Quad. Totals: Alive REPRODUCTIVE STATE: Immail	Water reserve see survey sees survey sees surveying . Actual . Plants . Mature: 2	Partial survey  (minutes):  Extrapolation  Clumps  Juveniles:  Size  Vegetative  Vegetative	Full survey Ares No. of minut Estimate   Clonal stems  Seedlings:  Data attached	a observes spen Count of field man	ed (m²):  / 100 m²; method: use for list)  Total area  Flo Percentage	Area of pop (n Note: Pis record or (not percentages) of quadrats (m	ount as number for database.
AREA A SSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive Dead QUADRAT'S PRESENT: Summary Quad. Totale: Alive REPRODUCTIVE STATE: Immail CONDITION OF PLANTS: COMMENT:	Water reserve see surveying spent surveying . Actual Plants Mature: 2 No. Clonal Mature truit Mature Mature truit Mature M	Partial survey  (minutes):  Extrapolation  Clumps  Juveniles:  Size  Vegetative  Fruit  Moderate	Full survey Area  No. of minut Estimate  Futer t  Clonal stems  Seedlings:  Data attached  Flowerbud  Dehisced fruit	a observes spen Count of field man	ed (m²): / 100 m²; / method: // m	Area of pop (n Note: Pis record or (not percentages)) of quadrats (m wer  e in flower: 9% cent	ount as number for database. ?):
AREA ASSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive Dead QUADRATS PRESENT: Bummary Quad. Totals: Alive REPRODUCTIVE STATE: Immail CONDITION OF PLANTS: COMMENT: THREATS - type, agent and	Water reserve sees survey sees survey sees surveying sees surveying sees a Actual Mature:    Mature:   2	Partial survey  (minutes):  Extrapolation  Clumps  Juveniles:  Size  Vegetative  Fruit  Moderate   ormation:	Full survey Are. No. of minut Estimate   Clonal stems  Seedlings:  Data attached  Floweroud  Dehisced fruit  Poor	a observes spen Count o field man	ed (m²):  / 100 m²; method: use for list)  Total area  Flo Percentage	Area of pop (n Note: Pis record or (not percentages) of quadrats (m wer  e in flower: 2% cent  ent.   Potential	purit as number for database.  Potentia Threat
Conservation park  AREA ASSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive Dead QUADRATS PRESENT: Bummary Quad. Totals: Alive REPRODUCTIVE STATE: Immat CONDITION OF PLANTS: COMMENT: THREATS - type, agent and Egg dearing too trequent fire, weed, di Rate current and potential threat	Water reserve see survey sees surveying a spent surveying . Actual Plants Mature:  2 No. Clonel unre that Seese Refer to field a impact N=Ni, L=Low	Partial survey   (minutes):   Extrapolation   Clumps   Juveniles:   Size   Vegetative  Fruit   Moderate   market to list of breats & a. M-Medium, H-High, E-E	Full survey Ares No. of minut Estimate   Guter t Clonal stems  Seedlings:  Data attached  Flowerbud  Dehisced fruit  Foor   Foor   Specify agent where betterne	a observes spen Count o field man	ed (m²):  / 100 m²; method: usi for list)  a:  Total area  Flo Percentag Senese	Area of pop (n Note: Pis record or (not percentages) of guadrats (m wer  e in flower: 0% cent  Potential int poot	purit as number for database.  Potentia Threat Onset
Conservation park  AREA ASSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive Dead QUADRAT'S PRESENT: Bummary Quad. Totale: Alive REPRODUCTIVE STATE: Immat CONDITION OF PLANTS: COMMENT: THREAT'S - type, agent and Eg dearing, too frequent fire, weed, di Rate current and potential threat Estimate time to potential impact	Water reserve see survey sees surveying a spent surveying . Actual Plants Mature:  2 No. Clonel unre that Seese Refer to field a impact N=Ni, L=Low	Partial survey   (minutes):   Extrapolation   Clumps   Juveniles:   Size   Vegetative  Fruit   Moderate   market to list of breats & a. M-Medium, H-High, E-E	Full survey Ares No. of minut Estimate   Guter t Clonal stems  Seedlings:  Data attached  Flowerbud  Dehisced fruit  Foor   Foor   Specify agent where betterne	a observes spen Count o field man	ed (m²):  1 / 100 m²; method: usi for list)  3:  Total area  Fig. Percentage Senesc	Area of pop (n Note: Pis record or (not percentages) of guadrats (m wer  e in flower: 0% cent  Potential int poot	purit as number for database.  Potentia Threat
Conservation park  AREA ASSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive Dead QUADRAT'S PRESENT: Bummary Quad. Totale: Alive REPRODUCTIVE STATE: Immat CONDITION OF PLANTS: COMMENT: THREAT'S - type, agent and Eg dearing, too frequent fire, weed, di Rate current and potential threat Estimate time to potential impact	Water reserve see survey sees surveying a spent surveying . Actual Plants Mature:  2 No. Clonel unre that Seese Refer to field a impact N=Ni, L=Low	Partial survey   (minutes):   Extrapolation   Clumps   Juveniles:   Size   Vegetative  Fruit   Moderate   market to list of breats & a M-Medium, H-High, E-E	Full survey Ares No. of minut Estimate   Fuller I Clonal stems  Seedlings:  Data attached  Flowerbud  Dehisced fruit   Foor   Foor   Specify agent where betterne	a observes spen Count o field man	ed (m²):  1 / 100 m²; method: usi for list)  3:  Total area  Fig. Percentage Senesc	Area of pop (n Note: Pis record or (not percentages) of guadrats (m wer  e in flower: 0% cent  Potential int poot	purit as number for database.  Potentia Threat Onset
AREA ASSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive Dead QUADRATS PRESENT: Summary Quad. Totals: Alive REPRODUCTIVE STATE: Immat CONDITION OF PLANTS: COMMENT: THREATS - type, agent and Eg dearing, too frequent five, weed, di Rate current and potential threat Estimate time to potential impact Low population size	Water reserve see survey sees surveying a spent surveying . Actual Plants Mature:  2 No. Clonel unre that Seese Refer to field a impact N=Ni, L=Low	Partial survey   (minutes):   Extrapolation   Clumps   Juveniles:   Size   Vegetative  Fruit   Moderate   market to list of breats & a M-Medium, H-High, E-E	Full survey Ares No. of minut Estimate   Fuller I Clonal stems  Seedlings:  Data attached  Flowerbud  Dehisced fruit   Foor   Foor   Specify agent where betterne	a observes spen Count o field man	ed (m²):  1 / 100 m²; method: usi for list)  3:  Total area  Fig. Percentage Senesc	Area of pop (n Note: Pis record or (not percentages) of guadrats (m wer  e in flower: 0% cent  Potential int poot	purit as number for database.  Potentia Threat Onset
AREA ASSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive Dead QUADRATS PRESENT: Bummary Quad. Totale: Alive REPRODUCTIVE STATE: Immat CONDITION OF PLANTS: COMMENT: THREATS - type, agent and Eg dearing, too frequent five, weed, di Rate current and potential threat Estimate time to potential impact Low population size	Water reserve see survey sees surveying a spent surveying . Actual Plants Mature:  2 No. Clonel unre that Seese Refer to field a impact N=Ni, L=Low	Partial survey   (minutes):   Extrapolation   Clumps   Juveniles:   Size   Vegetative  Fruit   Moderate   market to list of breats & a M-Medium, H-High, E-E	Full survey Ares No. of minut Estimate   Fuller I Clonal stems  Seedlings:  Data attached  Flowerbud  Dehisced fruit   Foor   Foor   Specify agent where betterne	a observes spen Count o field man	ed (m²):  1 / 100 m²; method: usi for list)  3:  Total area  Fig. Percentage Senesc	Area of pop (n Note: Pis record or (not percentages) of guadrats (m wer  e in flower: 0% cent  Potential int poot	purit as number for database.  Potentia Threat Onset
AREA ASSESSMENT: Edg EFFORT: Time POP'N COUNT ACCURACY WHAT COUNTED: TOTAL POP'N STRUCTURE: Alive Dead QUADRATS PRESENT: Summary Quad. Totals: Alive REPRODUCTIVE STATE: Immat CONDITION OF PLANTS: COMMENT: THREATS - type, agent and Eg dearing, too frequent fire, wieed, di Rafe current and potential threat	Water reserve see survey sees surveying a spent surveying . Actual Plants Mature:  2 No. Clonel unre that Seese Refer to field a impact N=Ni, L=Low	Partial survey   (minutes):   Extrapolation   Clumps   Juveniles:   Size   Vegetative  Fruit   Moderate   market to list of breats & a M-Medium, H-High, E-E	Full survey Ares No. of minut Estimate   Fuller I Clonal stems  Seedlings:  Data attached  Flowerbud  Dehisced fruit   Foor   Foor   Specify agent where betterne	a observes spen Count o field man	ed (m²):  1 / 100 m²; method: usi for list)  3:  Total area  Fig. Percentage Senesc	Area of pop (n Note: Pis record or (not percentages) of guadrats (m wer  e in flower: 0% cent  Potential int poot	purit as number for database.  Potentia Threat Onset

FIOR REPORT FORM  Version 1.4 March 2021  HABITAT INFORMATION:  LANDFORM:  Granite   Granite   (Ion soil surface; as gravel, quants fields)   Sandy loam   Brown   Information   Seasonally   Ridge   Laterite   O-lofs   Clay loam   Brown   Seasonally   Ridge   Laterite   O-lofs   Clay loam   White   Seasonally   Slope   Limestone   10-30%   Light clay   Grey   Tital    Outcrep   Ironstone   10-30%   Light clay   Grey   Tital    Open depression   Specify other: Specify		of Biodiver		Threater	ned and	Priority		
Crest   Granite   (no sol surface; eg   Sand   Red   Well drained   Hill   Delerite   (no sol surface; eg   Sand   Red   Well drained   Hill   Delerite   (no sol surface; eg   Sand   Red   Well drained   Hill   Delerite   Hill   Delerite   (no sol surface; eg   Sand   Red   Well drained   Red   Well drained   Color	2000000 N			Flora	Report	Form		Version 1.4 March 2021
Crest   Granite   (on soil surface; eg   Sand   Red   Well drained   Hill   Dolerite   Givent, quantz fields)   Sandy loam   Brown   Seasonaldy   Ridge   Laterite   O-10%   Loam   Yellow   Inundated   Loam   Yellow   Inundated   Loam   Yellow   Inundated   Doubtrop   Ironstone   10-30%   Light clay   Grey   Inundated   Permanently   White   Flat   Quartz   30-50%   Light clay   Grey   Inundated   Permanently   Permanen	HABITAT INFORMA	TION:						
Hill   Dolertie   Gravet, quantz fields)   Sandy loam   Brown   Seasonally inundated   Clay loam   Yellow   Inundated   Clay loam   Yellow   Inundated   Clay loam   White   Slope   Limestone   10-30%   Light clay   Grey   Tital   Clay loam   White   Slope   Limestone   30-50%   Light clay   Grey   Tital   Clay loam   White   Specify other:   Sp	LANDFORM:		ROCK TYPE:	LOOSE R	ock:	SOIL TYPE:	SOIL COLOU	JR: DRAINAGE:
Ridge	Crest		Granite 🔲	(on soil surf	aco; eg	Sand	Red	■ Well drained ■
Ridge   Laterite   0-10%   Clay loam   Yellow   Inundated   Permanently   Clay loam   White   Permanently   Inundated   Permanently   Permanently   Inundated   Permanently   Permanently   Inundated   Permanently   Permanently   Permanently   Inundated   Permanently	Hill		Dolerite 🗖	gravel, quart	z fields)	Sandy loam	Brown	■ Seasonally
Outcrep   Ironstone   0-10%   Clay loam   White   Permanently inundated   Slope   Limestone   30-50%   Peat   Slack   Grey   Tidal   Tidal   Department   Specify other:   Speci	Ridge					Loam 🗷	Yellow	inundated
Slope   Limestone   10-30%   Light clay   Grey   Tridal    Quartz   Sol-50%   Peat   Black    Open depression   Specify other:   Sol-100%   Specify other:    Drainage line   Closed depression   Specify other:   Specify other:   Specify other:    Specify other:   Specify other:   Specify other:   Specify other:    Closed depression   Specify to ded manual treadstoral values    Wetland   Specific Landform Element:    Refer to field manual treadstoral values    Wetland   Specify other:   Specify other:    Specify other:   Specify other:    Specify other:   Specify other:    Specify other   Specify other    Specify other   Specify other:    Specify other   Specify other    Specify other   Specify    Specify other   Specify    Inundated   Inundated    Inundated   Inundated    Inundated   Inundated    Inundated   Inundated    Inundated   Inundated   Inundated    Inundated   Inundated   Inundated    Inundated   Inundated   Inundated    Inundated   Inundated   Inundated    Inundated   Inundated   Inundated    Inundated   Inundated   Inundated    Inundated   Inundated   Inundated    Inundated   Inundated   Inundated    Inundated   Inundated   Inundated    Inundated   Inundated   Inundated    Inundated   Inundated   Inundated   Inundated    Inundated   Inundated   Inundated   Inundated    Inundated   Inundated   Inundated   Inundated    Inundated   Inundated   Inundated   Inundated    Inundated   Inundated   Inundated   Inundated   Inundated   Inundated    Inundated   Inundated   Inundated   Inundated   Inundated    Inundated   Inu			Ironstone 🔲	0-	10% 🔲	Clay loam	White	
Flat   Quartz   \$0.50%   Peat   Black   Open depression   Specify other:   Specify other:		-	Limestone	10-3	30% 🔲			inundated
Open depression   Specify other:   Speci	17		-	30-6	50%	200	- 63	((0a)
Closed depression Wetland DoNDITION OF BOIL: Dry Moist Waterlogger Inundated  Note of the process of the proces			23 CHR 1 1	50-1	00%	Social District		_
Specific Landform Element:   Welland   Waterlogged   Inundated   Waterlogged   Waterlogged   Inundated   Waterlogged   Waterlo			SECTION STREET					77
Wetland  Specific Landform Element: Refer beld manual tradsfloors volus; Dry Moist Waterlogged Injundated Inju				467				
Dry Moist Waterlogged inundated  1. Malleee woodland with sparse Metaleuca shrubs  2. Malleee woodland with sparse Metaleuca shrubs  2. Mallee woodland with sparse Metaleuca shrubs  3. Malleee woodland with sparse Metaleuca shrubs  2. Mallee woodland with sparse Metaleuca shrubs  3. Mallee woodland with sparse Metaleuca shrubs  4. Sociated Charge of sodges  4. Malleee woodland with sparse Metaleuca shrubs  5. Sociated Charge of sodges  4. Malleee woodland with sparse Metaleuca shrubs  5. Sociated Charge of sodges  4. Malleee woodland with sparse Metaleuca shrubs  5. Sociated Charge of sodges  4. Malleee woodland with sparse Metaleuca shrubs  5. Sociated Charge of sodges  4. Malleee woodland with sparse Metaleuca shrubs  5. Sociated Charge of sodges  4. Malleee woodland with sparse Metaleuca shrubs  5. Sociated Charge of sodges  4. Malleee woodland with sparse Metaleuca shrubs  5. Sociated Charge of sodges  6. Malleee woodland with sparse Metaleuca shrubs  5. Sociated Charge of sodges  6. Malleee woodland with sparse Metaleuca shrubs  5. Sociated Charge of sodges  6. Malleee woodland with sparse Metaleuca shrubs  6. Sociated Charge of S	10	m						
LASSIFICATION:  2. Substitute of the process of th						trade and a	terror to the second	
The state of the s	CONDITION OF BOIL:		Dry 🖬	Most 🖨	300	arenogged 🔛	mundated 🚨	
A SOCIATED  Eremophila psilocalys, Cyathostemon sp., Grevillea oligantha  SPECIES:  Discriptionary sp.  Associated charge of edges  Micrograph  Associated charge of edges  Micrograph  Associated by the four of the most representative vegetation bytes (with up to three dominant species in each layer). Shustural Formations should believe 2009 Austrelian Sol at and Survey Feet Handbook guidelines—refer to fed manual for further internation and shustural formation fable.  CONDITION OF HABITAT: Pristine   Excellent   Very good   Good   Degraded   Completely degraded   CONDITION OF HABITAT: Pristine   Excellent   Very good   Good   Degraded   Completely degraded   CONDITION OF HABITAT: Pristine   Excellent   Very good   Good   Degraded   Completely degraded   CONDITION OF HABITAT: Pristine   Excellent   Very good   Good   Degraded   Completely degraded   CONDITION OF HABITAT: Pristine   Excellent   Very good   Good   Degraded   Completely degraded   CONDITION OF HABITAT: Pristine   Excellent   Very good   Good   Degraded   Completely degraded   CONDITION OF HABITAT: Pristine   Excellent   Very good   Good   Degraded   Completely degraded   CONDITION OF HABITAT: Pristine   Excellent   Very good   Good   Degraded   Completely degraded   COMMENT:   Fire Internative; High   Medium   Low   No signs of fire   FERNALD   Regulated   Present   Replace / repair   Required   Length required   CONDITION   Regulated   Present   Replace / repairs   Required   Quantity req d:   CONDITION   Proposition   Pristing   Present   Replace / repairs   Required   Quantity req d:   CONDITION   Proposition   Pristing   P			falleee woodland	with sparse Me	laleuca shrub	s		
## A SOCIATED    Present   Present   Present   Present   Regional / Implemented actions - Include data. Also include details of additional data available, and how to locate it.)    Present   Present   Present   Regional Herb.   District Herb.   Other:		B. 2.						
As SOCIATED  Eremophila psilocalyx, Cyathostemon sp., Grevilles dilganths  SPECIES:  Cher (non-dominard) spp  Please record up to four of the most representative vegetation layers (with up to three dominard spoces in each layer). Shuctural Formations should follow 2009 Australian Sol at and Surey Field Anabody guidelines —refer to field manual for further information and structural formation table.  CONDITION OF HABITAT:  First ine	<ol><li>Open shrubland</li></ol>	3.						
AS SOCIATED SPECIES:    Comparison of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should below 2009 Australian Set and Suvey Field Handbook guidelines – refer to field manual for further intomation and structural formation table.    Comparison of Habitat:	<ol><li>Isolated clumps of sedge</li></ol>	es -						
SPECIES:    Cher (randominard) spp	Hill Hill town	0.00	o a sibila a siba a aba	. Combons	e an Ossaille	a attacantes		
The commentation of the most representative vegetation layers (with up to three dominant spaces in each layer). Shutural Formations should below 2009 Austrelian Soil and Survey Reid Handbook guidelines - refer to field manual for further internation and shutural formation labels.  CONDITION OF HABITAT: Pristine		Ere	mophila psilocaly	k, Gyasnossemo	n sp., Greville	sa oligantna		
CONDITION OF HABITAT: Pristine	Other (non-dominant) spp	AT						
Present  Replace / reposition  Required  Quantity regid:	2011115115							
THER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)  FLORA AUTHORISATION / LICENCE No: FT61000787, FT61000788 Note if only observing plants (i.e. no specimens or plant matteral is taken) then no authorisational conce is required. For further information on authorisation and locating requirements see the Threatened Flora and Wild if e Locating pages on DBCA's website. In the control of t	FIRE HISTORY:			Tale Miles Selection	**************************************	5000		
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Record entered by: Sheet No.: Record Entered in Database D

### Appendix 2.10 Pityrodia chrysocalyx

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		ance.wa.gov.au		CT1.1 SCI 50755 5256			
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Please return completed form to Species And Communities Program DBCA

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RECORDS: Please forward to Flors Administrative Officer, Species and Communities Program.

Record entered by: Sheet No.: Record Entered in Database O

Compartment of t		Threatened a	nd Priority		
-E-F-1		Flora Repo	rt Form	Versi	ion 1.4 March 2021
HABITAT INFORMATI	ON:				
LANDFORM:	ROCK TYPE:	LOOSE ROCK:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest 🗖	Granite 🔲		Sand 🛭	Red 🗖	Well drained 🛭
Hill 🗖	Dolerite 🔲	gravel, quartz fields)	Sandy loam 🔲	Brown 🗖	Seasonally
Ridge 🔲	Laterite 🔲		Loam 🔲	Yellow 🗖	inundated
Outcrop 🗖	Ironstone 🔲	0-10%	Clay Joam 🔲	White	Permanently inundated
Slope	Limestone 🔲	30-50%	Light clay 🗖	Grey 🗖	Tidal 🔲
Flat 🗖	Quartz 🔲	50-100%	Peat 🗖	Black	
Open depression 🔲	Specify other:	ou-room 🚨	Specify other:	Specify other:	
Drainage line		_			
losed depression 🔲	Specific Landf	orm Element:	12 22		
Wetland	(Refer to field manual		_		
ONDITION OF SOIL:	Dry 🗖	Most 🗖	Waterlogged	Inundated	
EGETATION LASSIFICATION*:	1. mixed mallee wo	odland over open shrublan	d		
1. Banksia woodland (B.	2				
ienuata, B. (Edfolia); Open shrubland	3.				
(bbertia sp., Adada spp.) ; Isolated clumps of sedges (fictragona)	4				
\$ SOCIATED PECIES:					
Ther (non-dominant) spo					
ONDITION OF HABITA		ual for further information and struc Excellent		Degraded	pletely degraded
IRE HISTORY: L	ast Fire: Season/Mon	th: Year:	Fire Intensity: Hig	h 🖸 Medium 🚨 Low 🕻	No signs of fire 🚾
ENCING:	Not required		se / repair 🔲		pth regid:
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Record entered by:

Record Entered In Detabase C

# Appendix 3: Description of Threatened and Priority Flora Species with the Potential to occur within the original Circle Valley Road, SLK 0 - 7.68 Survey Area

Threatened or priority flora identified by the desktop study to be present within a 20 km radius of 'Site C – Circle Valley Road, SLK 0 - 7.68' project area, using Threatened and Priority Flora Reporting (TPFL; DBCA 2022c), WA Herbarium (DBCA 2022d) and Esperance District Threatened Flora (DBCA 2022a). Nt. Acronyms used in the table include priority flora (P), threatened flora (TF), Biodiversity Conservation (BC) Act 2018, Environmental Protection and Biodiversity Conservation (EPBC) Act 1999, critically

endangered (CN) and endangered (EN).

Species	Conservation Status	Associated Habitat	Likely to occur	Distance from site (km)
Eremophila lactea	Т	Associated with burned areas in Mallee woodland of the Grass Patch area.	No	18.15
Eucalyptus merrickiae	Т	Associated with margin of salt lakes	Yes	0.00
Angianthus sp. Salmon Gums	P1	Grey clayey sand, yellow clay, deep sand. Edge of salt lakes and valleys	Yes	19.98
Aotus lanea	P1	Grey clayey sand, yellow clay, deep sand. Edge of salt lakes and valleys	Yes	8.26
Cyathostemon sp. Esperance (A. Fairall 2431)	P1	Only two records – salt lake and sandy gravel.	Yes	14.94
Acacia amyctica	P2	Salmon Gums area on well-drained loams and sandy clay plains with Eucalyptus flocktoniae low woodland	Yes	12.16
Aotus sp. Dundas (M.A. Burgman 2835)	P2	Variety of associated habitat - Upslope from salt lake, sandplain, limestone, recent disturbance.	Yes	2.71
Conostephium uncinatum	P2	Various habits - Deep sandy soils, edge of salt lakes, undulating plains, claypans. Most records associated with salt lakes.	Yes	10.88
Halgania sp. Peak Eleanora	P2	Salmon Gums area. Loamy sand. Undulating plains.	Yes	16.18
Pimelea halophila	P2	North of Salmon gums. White/grey sand. Associated with Salt lakes.	Yes	14.40
Stenanthera lacssilaria	P2	Grey-white fine sand over clay on the margins of salt lakes, associated w myrtaceous shrubs and halophytes	Yes	16.91
Thysanotus brachyantherus	P2	Associated with margin of salt lakes. Clay over limestone or loam	Yes	17.57

A! - ldl-!	ח	Flat as weather and dather	NI-	0.50
Acacia bartlei	P3	Flat or gently undulating landscapes, waterlogged depression in brown/grey sandy loam or clay loam. Commonly associated with Eucalyptus	No	0.59
		occidentalis.		
Acacia glaucissima	P3	Salmon Gums on open low/Mallee woodland with dwarf scrub or low heath.	Yes	8.01
Acacia improcera	P3	Salmon Gums area on Sand, loamy clay, clay soils. Undulating plains, flats	Yes	9.22
Bossiaea spinosa	P3	Vast majority of records to the west - Gravelly sandy soils, undulating plains.	Yes	12.02
Conostephium marchantiorum	P3	White/grey sand. Plains, creek lines, edges of salt lakes.	Yes	10.07
Cyathostemon sp. Salmon Gums (B. Archer 769)	P3	Various soils - orange sand, white sandy, sandy clay over granite, light brown clay, saline soils. Various habitats – flats, dry river beds, claypans	Yes	15.29
Eremophila chamaephila	P3	Open mallee woodland with limestone	Yes	10.67
Eremophila compressa	P3	Grass Patch area, open woodland with red brown clay, clay loam, sandy lam on undulating plains	Yes	11.22
Eucalyptus creta	P3	Mallee country preferring heavy brown clay loam. Normally dominant.	Yes	16.49
Eucalyptus histophylla	P3	Salmon Gums area. Sandy loam on granite or laterite. Granite outcrops.	No	7.84
Goodenia laevis subsp. laevis	P3	Woodland with Melaleuca shrubland. Prefers limestone or white clay loam. Associated with disturbance	Yes	17.54
Lepidium fasciculatum	P3	Open Mallee with mid-dense heath. Undulating sandplains. Scattered distribution all over Australia. Semi-arid areas	Yes	10.56
Pityrodia chrysocalyx	P3	Salmon Gums area. Sandplains with yellow sands. Associated with Eucalyptus Mallee woodlands with Banksia media and Hakea sp.	Yes	4.65
Adenanthos ileticos	P4	Salmon Gums area – sandy soil, open woodland with various Eucalyptus species	Yes	1.78
Caladenia voigtii	P4	Salmon Gums area - Yellow sand.  Margins of salt lakes, granite	Yes	0.59

		outcrops.		
Darwinia polycephala	P4	Sand & clay on flats near salt lakes.	Yes	15.45
Eucalyptus dolichorhyncha	P4	Small areas south of Salmon gums flats or slightly rising ground with whitish to yellowish sandy clay soil	No	10.35
Grevillea aneura	P4	Prefers shrubby heathland with an acid sandy soil usually overlaying heavier soils. Associated with highly diverse Proteaceous shrublands.	No	9.25
Gyrostemon ditrigynus	P4	Grows on sand, sandy clay and loam. Plains and low ironstone ridges. Low rain fall zone. Recently burned areas.	No	15.30
Melaleuca fissurata	P4	Shrub mallee or woodland on sand or sandy loam usually over clay or clay loam	Yes	19.09

# Appendix 4: Description of Threatened and Priority Fauna Species with the Potential to occur within the Circle Valley Road, SLK 0 - 7.68 Survey Area

Threatened or priority Fauna identified by the desktop study to be present within a 20 km radius of 'Site C - Circle Valley Road, SLK 0 - 7.68' project area using the DBCA Threatened and Priority Fauna dataset (DBCA, 2022e) and using the EPBC Act Protected Matters Report.

Nt. Acronyms used in the table include critically endangered (CR) and endangered (EN), Vulnerable (VU), other specially protected (OS), Priority (P), Migratory

Scientific Name	Common Name	WA	EPBC	Distan	EPBC	Habitat	Likely to
		cons.	status	ce	protected		occur
		status		(km)	matters tool		
Botaurus poiciloptilus	Australasian Bittern		EN		×	Densely vegetated wetlands.	No No
Calidris ferruginea	Curlew Sandpiper		SR		×	Intertidal mudflats in sheltered coastal	8 8
						areas, such as estuaries, bays, inlets and	
						lagoons, and also around non-tidal swamps,	
						lakes and lagoons near the coast, and	
						ponds in saltworks and sewage farms.	
Calyptorhynchus	Carnaby's cockatoo	EN	EN	14.15	X	Uncleared and remnant areas of	No
latirostris						woodland, shrubland and kwonkgan heath	
						dominated by proteaceous species. They	
						breed in the semiarid and subhumid interior	
						eucalypt woodlands, principally dominated	
						by Salmon Gum Eucalyptus salmonophloia	
						or Wandoo Eucalyptus wandoo.	
Cereopsis	Cape Barren Goose		N۸		X	It occurs on offshore islands and rocks, and	No
novaehollandiae grisea	(south-western),					at adjacent sites on the mainland. It inhabits	
	Recherche Cape					grasslands and low fields of succulent herbs	
	Barren Goose					(comprised of Carpobrotus sp.), and	
						occasionally occurs in open areas in taller	
						and denser vegetation.	

Yes	Yes	Yes	O	0
<del>&gt;</del>	>	>	0 N	No
Historically inhabited a wide range of habitats, but today it survives mostly in Jarrah Eucalyptus marginata forests and woodlands, mallee shrublands and heathlands.	The distribution of this species is restricted largely to areas of the highest annual average temperatures where there is an average annual rainfall of less than 500 mm. It favours lightly timbered and untimbered lowland plains that are crossed by tree-lined watercourses. It uses the abandoned nests of other bird species, particularly corvids.	Most habitats, from rainforests to the arid zone, and at most altitudes, from the coast to alpine areas. It requires abundant prey and secure nest sites, and prefers coastal and inland cliffs or open woodlands near water, and may even be found nesting on high city buildings.	Malleefowl are found in arid and semi-arid areas dominated by mallee eucalypts on sandy soils. They are known to also occur in Mulga (Acacia aneura), Broombush (Melaleuca uncinata), Scrub Pine (Callitris verucosa), Eucalyptus woodlands and coastal heathlands. Malleefowl require abundant leaf litter and a sandy substrate for the successful construction of nest mounds.	Coastal mudflats and estuaries.
×	×		×	×
6.37		19.46	6.05	
۸۸	ΛΛ		ΠΛ	CR
ΛΛ		SO	ΛΛ	
Chuditch, western quoll	Grey Falcon	Peregrine falcon	Malleefowl	Eastern Curlew, Far Eastern Curlew
Dasyurus geoffroii	Falco hypoleucos	Falco peregrinus	Leipoa ocellata	Numenius madagascariensis

Pezoporus occidentalis   Night Parrot	Night Parrot		EN		×	Spinifex grasslands in stony or sandy areas	No
						and samphire and chenopod associations on floodplains, salt lakes and clay pans. Suitable habitat is characterized by the	
						presence of large and dense clumps of	
						Spinifex, and it may prefer mature spinifex	
						that is long and unburnt.	
Platycercus icterotis	Western rosella	b4		8.02		Open eucalypt forest and timbered areas,	Yes
xanthogenys	(inland)					including cultivated land and orchards. The	
						xanthogenys subspecies is found in drier	
						woodland, with a heath understorey.	
Thinornis rubricollis	Hooded plover, hooded   P4	P4		0.72		Freshwater lakes, freshwater marshes, coastal	No
	dotterel					saline lagoons, and sandy beaches	

### **Appendix 5: State Threatened and Priority Flora and Fauna Definitions**

Category	Definition
T – Threatened	Taxa that have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such (Schedules 1 to 4 of the Wildlife Conservation (Rare Flora) Notice under the WC Act). Threatened flora are further ranked by the DBCA to align with IUCN Red List categories and criteria:  CR: Critically Endangered – considered to be facing an extremely high risk of extinction in the wild (Schedule 1);  EN: Endangered – considered to be facing a very high risk of extinction in the wild (Schedule 2); or  VU: Vulnerable – considered to be facing a high risk of extinction in the wild (Schedule 3).  EX: Presumed Extinct – taxa that have been adequately searched for and there is no reasonable doubt that the last individual has died (Schedule 4)
P1 – Priority 1 (Poorly known taxa)	Taxa that are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, Westrail and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation.  Taxa may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.
P2 – Priority 2 (Poorly known taxa)	Taxa that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc.  Taxa may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes.
P3 – Priority 3 (Poorly known taxa)	Taxa that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat.  Taxa may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.
P4 – Priority 4 (Rare, Near Threatened and other taxa in need of monitoring)	<ol> <li>Rare - Taxa 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.</li> <li>Near Threatened - Taxa that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.</li> <li>Taxa that have been removed from the list of threatened species during the past five years for reasons other than taxonomy</li> </ol>

# Appendix 6: Commonwealth Definition of Threatened Flora and Fauna Species (Environment Protection and Biodiversity Conservation, EPBC Act 1999)

Category Code	Category
Ex	Extinct
	Taxa which at a particular time if, at that time, there is no reasonable doubt that the
	last member of the species has died.
ExW	Extinct in the Wild
	Taxa which is known only to survive in cultivation, in captivity or as a naturalised
	population well outside its past range; or it has not been recorded in its known
	and/or expected habitat, at appropriate seasons, anywhere in its past range, despite
	exhaustive surveys over a time frame appropriate to its life cycle and form.
CE	Critically Endangered
	Taxa which at a particular time if, at that time, it is facing an extremely high risk of
	extinction in the wild in the immediate future, as determined in accordance with the
_	prescribed criteria.
E	Endangered
	Taxa which is not critically endangered and it is facing a very high risk of extinction
	in the wild in the immediate or near future, as determined in accordance with the
V	prescribed criteria.
V	Vulnerable  Take which is not critically and approved or and approved and is facing a high risk of
	Taxa which is not critically endangered or endangered and is facing a high risk of
	extinction in the wild in the medium-term future, as determined in accordance with
CD	the prescribed criteria.  Conservation Dependent
CD	•
	Taxa which at a particular time if, at that time, the species is the focus of a specific conservation program, the cessation of which would result in the species becoming
	vulnerable, endangered or critically endangered within a period of 5 years.
	vullierable, endangered of chilically endangered within a period of 5 years.

### **Appendix 7: State Definition of Threatened Ecological Communities**

Category Code	Category
PTD	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:  (i) records within the last 50 years have not been confirmed despite thorough searches or known likely habitats or;  (ii) all occurrences recorded within the last 50 years have since been destroyed.
CE	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:  (i) 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;  (ii) The current distribution is limited ie. highly restricted, having very few small or isolated occurrences, or covering a small area;  (iii) The ecological community is highly modified with potential of being rehabilitated in the immediate future.
E	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:  (i) 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;  (ii) The current distribution is limited ie. highly restricted, having very few small or isolated occurrences, or covering a small area;  (iii) The ecological community is highly modified with potential of being rehabilitated in the short term future.
V	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:  (i) The ecological community exists largely as modified occurrences that are likely to be able to be substantially restored or rehabilitated;  (ii) The ecological community may already be modified and would be vulnerable to threatening process, and restricted in range or distribution;  (iii) The ecological community may be widespread but has potential to move to a higher threat category due to existing or impending threatening processes.

### **Appendix 8: State Definition of Priority Ecological Communities**

Category Code	Category
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, unallocated Crown land, water reserves, etc.) and not under imminent threat of destruction or degradation.
P3	Poorly known ecological communities  (i) 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:  (ii) 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;  (iii) 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 9: Commonwealth Definition of Threatened Ecological Communities**

Three categories exist for listing threatened ecological communities under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

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

### Appendix 10: Categories and Control of Declared (Plant) Pests in Western Australia

### Control Category

### C1 (Exclusion)

'(a) Category 1 (C1) — Exclusion: if in the opinion of the Minister introduction of the declared pest into an area or part of an area for which it is declared should be prevented'

Pests will be assigned to this category if they are not established in Western Australia and control measures are to be taken, including border checks, in order to prevent them entering and establishing in the State.

### C2 (Eradication)

'(b) Category 2 (C2) — Eradication: if in the opinion of the Minister eradication of the declared pest from an area or part of an area for which it is declared is feasible'.

Pests will be assigned to this category if they are present in Western Australia in low enough numbers or in sufficiently limited areas that their eradication is still a possibility.

### C3 (Management)

- '(c) Category 3 (C3) Management: if in the opinion of the Minister eradication of the declared pest from an area or part of an area for which it is declared is not feasible but that it is necessary to
  - (i) alleviate the harmful impact of the declared pest in the area; or
  - (ii) reduce the number or distribution of the declared pest in the area; or
  - (iii) prevent or contain the spread of the declared pest in the area.'

Pests will be assigned to this category if they are established in Western Australia but it is feasible, or desirable, to manage them in order to limit their damage. Control measures can prevent a C3 pest from increasing in population size or density or moving from an area in which it is established into an area which currently is free of that pest.

### **Control Measures**

In relation to a category 1 declared pest, the owner or occupier of land in an area for which an

organism is a declared pest or a person who is conducting an activity on the land must take such

- of the control measures specified in subregulation
- (1) as are reasonable and necessary to destroy,

prevent or eradicate the declared pest.

In relation to a category 2 declared pest, the owner or occupier of land in an area for which an

organism is a declared pest or a person who is conducting an activity on the land must take such

- of the control measures specified in subregulation
- (1) as are reasonable and necessary to destroy,

prevent or eradicate the declared pest.

In relation to a category 3 declared pest, the owner or occupier of land in an area for which an organism is a declared pest or a person who is conducting an activity on the land must take such of the control measures specified in subregulation

- (1) as are reasonable and necessary to
  - (a) alleviate the harmful impact of the declared pest in the area for which it is declared: or
  - (b) reduce the number or distribution of the declared pest in the area for which it is declared; or
  - (c) prevent or contain the spread of the declared pest in the area for which it is declared.

# **Appendix 11: Definition of Vegetation Condition Scale**For the south west and interzone botanical provinces

Condition Rating Description	Condition Rating Description
Pristine (1)	Pristine or nearly so, no obvious signs of disturbance
Excellent (2)	Vegetation structure intact; disturbance affecting individual species;
	weeds are non-aggressive species.
Very Good (3)	Vegetation structure altered; obvious signs of disturbance for
	example, disturbance to vegetation structure caused by repeated
	fires; the presence of some more aggressive weeds; dieback;
	logging; & grazing.
Good (4)	Vegetation structure significantly altered by very obvious signs of
	multiple disturbances. Retains basic vegetation structure or ability to
	regenerate it. For example, disturbance to vegetation structure
	caused by very frequent fires; the presence of some very
	aggressive weeds at high density; partial clearing; dieback; &
D 1 1 (5)	grazing
Degraded (5)	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition
	without intensive management. For example, disturbance to
	vegetation structure caused by very frequent fires; the presence of
	very aggressive weeds; partial clearing; dieback; &grazing.
Completely Degraded (6)	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 or
	shrubs.

### Appendix 12: Carnaby's Cockatoo foraging habitat scoring template

Adapted from Tables A1 and A2 of Department of Agriculture, Water and the Environment (2022)

Starting score	Carnaby's Cod	ckatoo
10	woodland, dom Dryandra spp.) and forest that along roadside vegetation.	e of 10 if your site is native shrubland, kwongan heathland or inated by proteaceous plant species such as <i>Banksia</i> spp. (including , <i>Hakea</i> spp. and <i>Grevillea</i> spp., as well as native eucalypt woodland contains foraging species, within the range of the species, including s and parkland cleared areas. Also includes planted native applies to sites equal to or larger than 1 hectare in size.
Attribute	Subtractions	Context adjustor (attributes reducing functionality of foraging habitat)
Foraging potential	-2	<b>Subtract 2</b> from your score if there is no evidence of feeding debris on your site.
Connectivity	-2	<b>Subtract 2</b> from your score if you have evidence to conclude that there is no other foraging habitat within 1km of your site.
Proximity to breeding	-2	<b>Subtract 2</b> if you have evidence to conclude that your site is more than 12km from breeding habitat.
Proximity to roosting	-1	<b>Subtract 1</b> if you have evidence to conclude that your site is more than 20km from a known night roosting habitat.
Impact from significant plant disease	-1	<b>Subtract 1</b> if your site has disease present (e.g. <i>Phytophthora</i> spp. or Marri canker) and the disease is preferred food plants present.
Total score	Enter score	
Other considerations for assessment of foraging habitat	all plant specie - The distribution impact site Site degradati - The fire histor - Landscape chapted in the distribution breeding habitation - The location foraging habitation	
Appraisal	on the impact s the score. It she resources (e.g.	r habitat score, you should provide an overall appraisal of the habitat ite and within 20km of the impact area to clearly explain and justify buld include discussion on the foraging habitat's proximity to other exact distance to proximate resources), frequency of use of , the degree of evidence and description of vegetation type and

Appendix 13: EPBC Act Protected Matters Report

Listed Threatened Ecological Communities

		Presence		
Community Name	Threatened Category	Rank	Text	Buffer Status
Proteaceae Dominated Kwongkan Shrublands of the Southeast Coastal Floristic Province of	Endangered	Мау	Community may occur within area	In feature area

# Listed Threatened Species

Scientific Name	Common Name	Class	Simple Presence	Threatened Category	Migratory Status
Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew	Bird	May	ndangered	Migratory
Calidris ferruginea	Curlew Sandpiper	Bird	May	Critically Endangered	Migratory
Pezoporus occidentalis	Night Parrot	Bird	May	Endangered	
Eremophila lactea	Milky Emu Bush	Plant	Likely	Endangered	
Botaurus poiciloptilus   Australasian Bittern	Australasian Bittern	Bird	May	Endangered	
Anigozanthos bicolor   Little Kangaroo Paw subsp. minor   Two-coloured	Little Kangaroo Paw, Two-coloured	Plant	Likely	Endangered	

	Kangaroo Paw, Small Two-colour Kangaroo Paw				
Ricinocarpos trichophorus	Barrens Wedding Bush	Plant	Мау	Endangered	
Zanda latirostris	Camaby's Black Cockatoo, Short- billed Black-cockatoo	Bird	Likely	Endangered (listed as Calyptorhynchus latirostris)	
Falco hypoleucos	Grey Falcon	Bird	May	Vulnerable	
Cereopsis novaehollandiae grisea	Cape Barren Goose (south-western), Recherche Cape Barren Goose	Bird	Likely	Vulnerable	
Leipoa ocellata	Malleefowl	Bird	Likely	Vulnerable	
Eucalyptus merrickiae	Goblet Mallee	Plant	Known	Vulnerable	
Dasyurus geoffroii	Chuditch, Western Quoll	Mammal	Known	Vulnerable	