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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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

1. Incidental Species List
2. Threatened and Priority Flora Report Forms
3. Threatened and Priority Flora Species with the Potential to occur within the Circle Valley Road, SLK 1.32-7.68 Survey Area
4. Threatened and Priority Fauna Species with the Potential to occur within the Circle Valley Road, SLK 1.32-7.68 Survey Area
5. State Threatened and Priority Flora and Fauna definitions
6. Commonwealth Definition of Threatened Flora and Fauna Species
7. State Threatened Ecological Community definitions
8. State Definition of Priority Ecological Communities
9. Commonwealth Definition of Threatened Ecological Communities
10. Categories and Control measures of Declared Pest (Plant) Organisms in Western Australia
11. Definitions of Vegetation Condition Scale
12. Cockatoo foraging habitat scoring template
13. EPBC Act Protected Matters Report

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 communitiy 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.

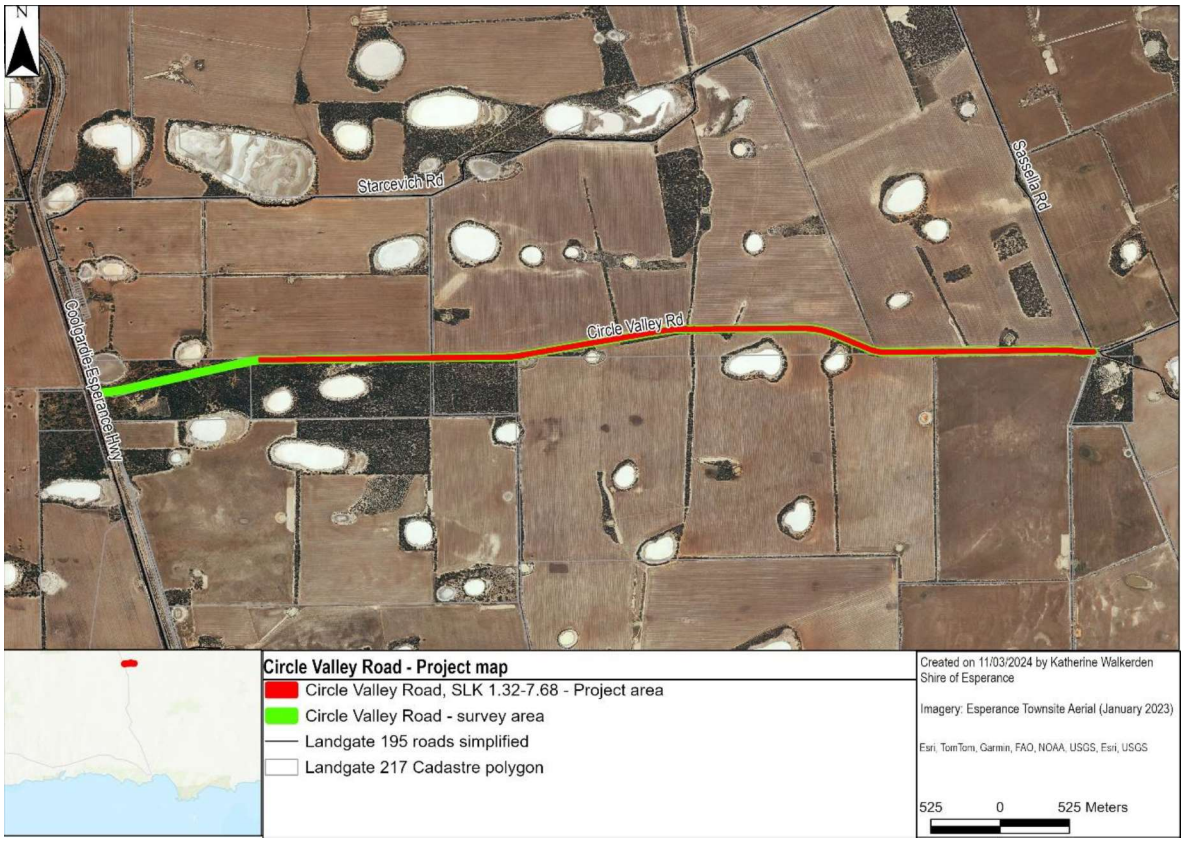

Figure 1. Location of Site C – Circle Valley Road, SLK 1.32-7.68, with original survey area in green.

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 16th 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 25th 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	**Not a constraint.** 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)	**Not a limitation:** 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

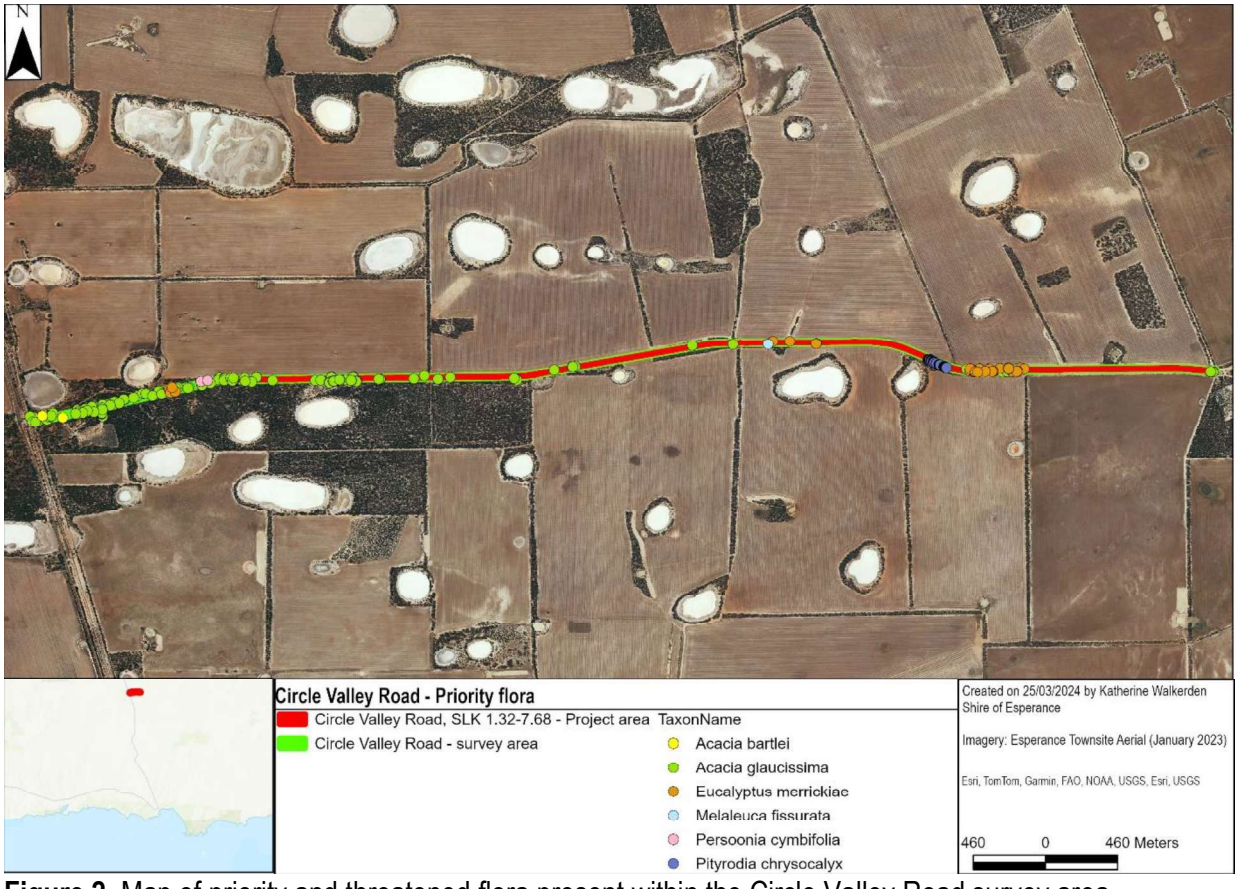

Figure 2. Map of priority and threatened flora present within the Circle Valley Road survey area.

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

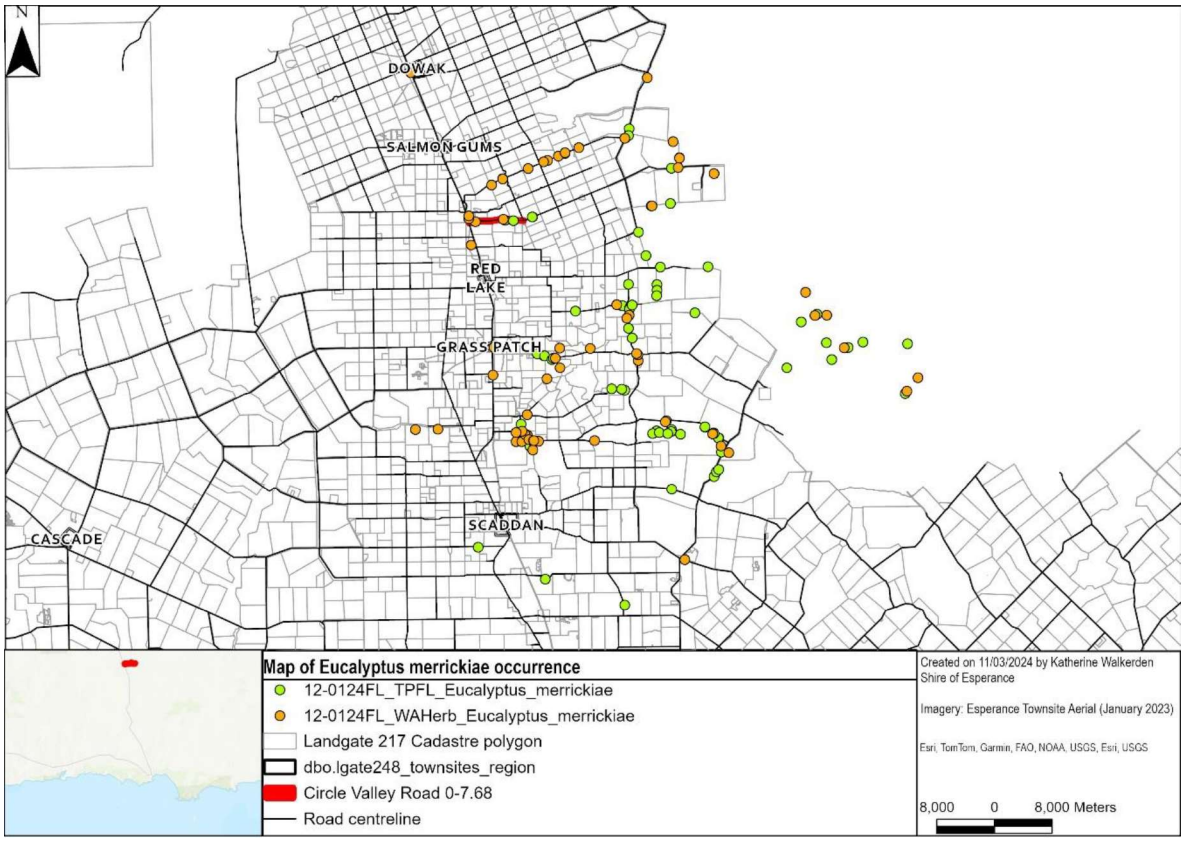

Figure 3. Map of *Eucalyptus merrickiae* occurrence, showing WAH and TPFL datasets (DBCA, 2024a).

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 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 2.9). 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 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 2.10). 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.

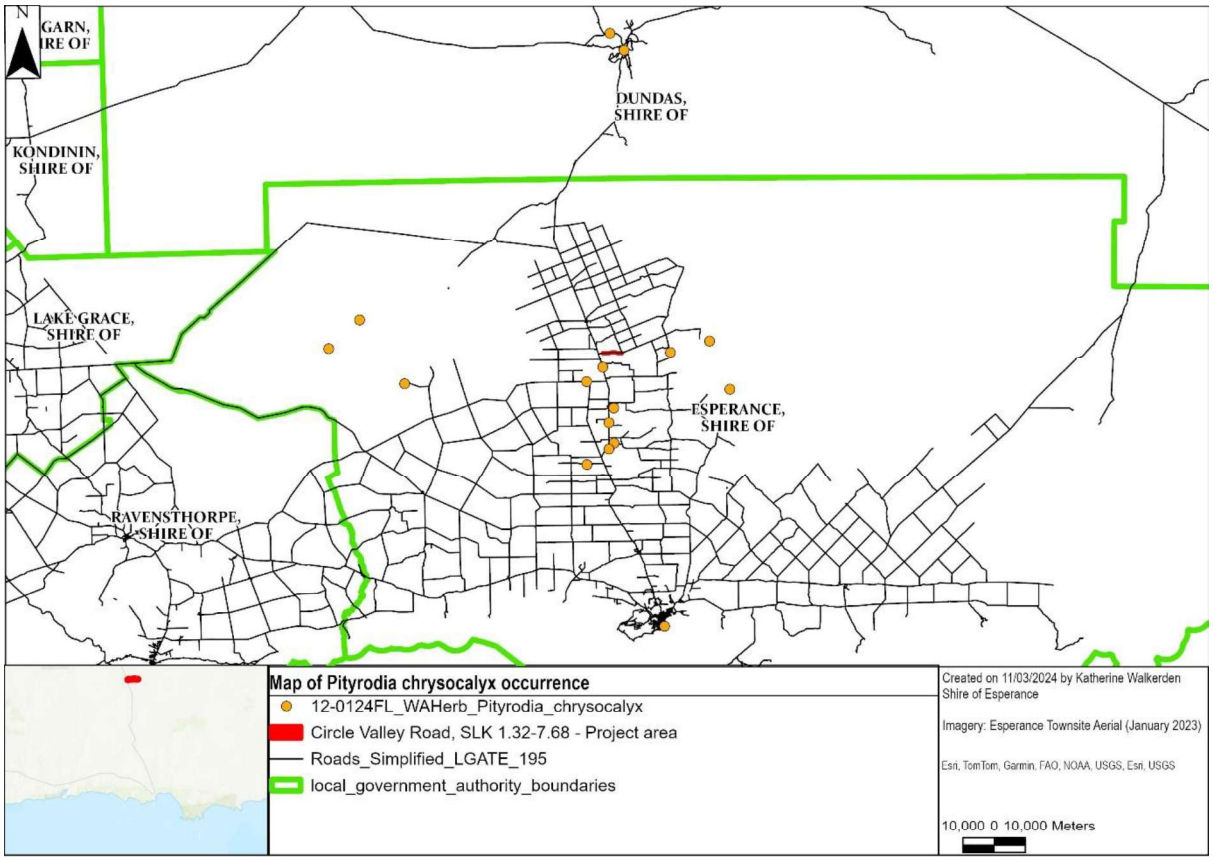

Figure 5. Known records of Priority 3 species *Pityrodia chrysocalyx* across an 136km north to south and 130km west to east geographic range (DBCA, 2024a).

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 Coolgardie-Esperance Highway, about 60 km N of Esperance		Road Reserve	2/10/1981
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.

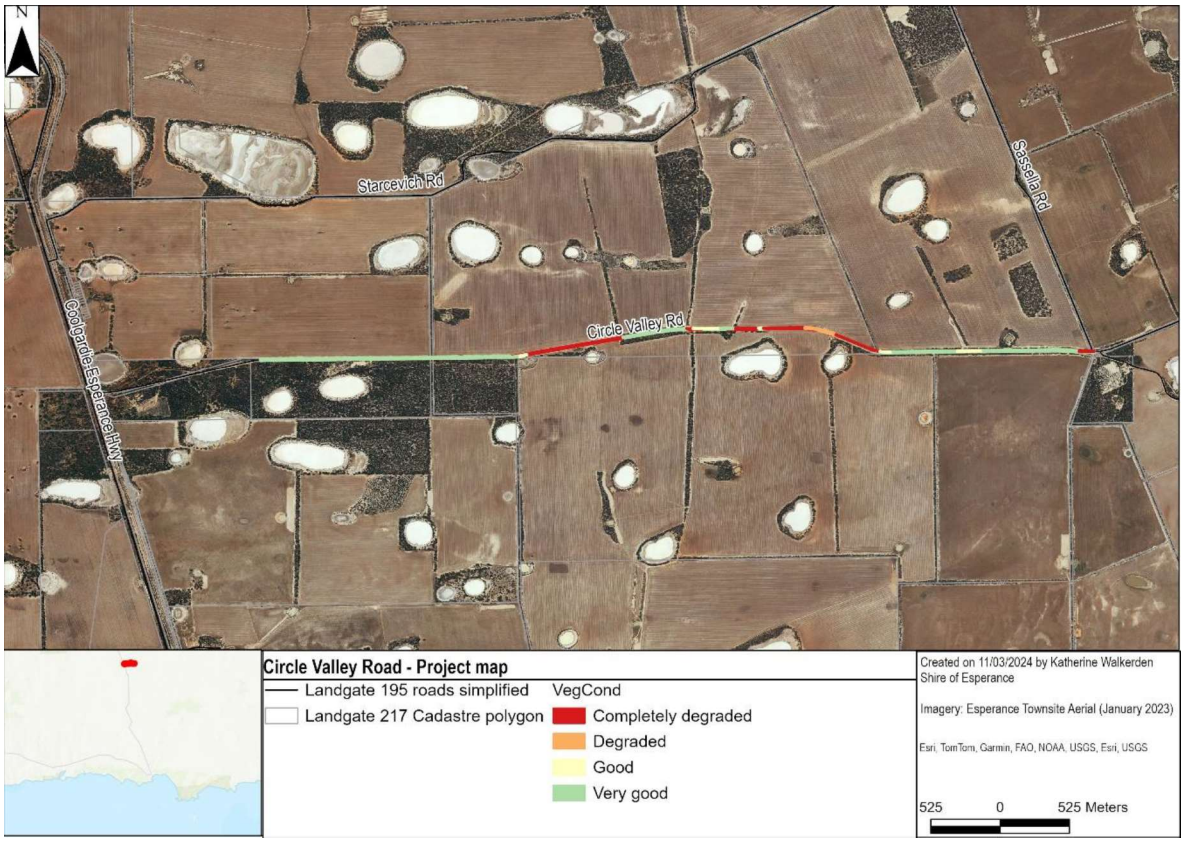

Figure 8. Vegetation condition across 'Site C –Circle Valley Road, SLK 1.32-7.68' project, ranging from a very good to completely degraded condition.

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' experience 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
Experience	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

Family	Taxon	Weed	WA Conservation Status	Herbarium Reference
Aizoaceae	*Carpobrotus modesta*			
Aizoaceae	*Mesembryanthemum crystallinum*	X		
Aizoaceae	*Mesembryanthemum nodiflorum*			
Amaranthaceae	*Pilostylis spathulatus*			
Apiaceae	*Apiaceae effusa*			
Apiaceae	*Bupleurum semicompositum*	X		
Apocynaceae	*Alyxia buxifolia*			
Asparagaceae	*Lomandra effusa*			
Asparagaceae	*Thysanotus patersonii*			
Asphodelaceae	*Asphodelus fistulosus*	X		
Asphodelaceae	*Bulbine semibarbata*			
Asteraceae	*Arctotheca calendula*	X		
Asteraceae	*Asteridea athrixioides*			
Asteraceae	*Blennospora drummondii*			
Asteraceae	*Calotis hispidula*			
Asteraceae	*Centaurea melitensis*	X		
Asteraceae	*Gazania linearis*	X		
Asteraceae	*Monoculus monstrosus*	X		
Asteraceae	*Olearia muelleri*			
Asteraceae	*Olearia sp. eremicola*			
Asteraceae	*Oncosiphon suffruticosum*	X		
Asteraceae	*Onopordum acaulon*	X		
Asteraceae	*Ozothamnus blackallii*			
Asteraceae	*Senecio glossanthus*			
Asteraceae	*Senecio spanomerus*			
Asteraceae	*Siemssenia capillaris*			
Asteraceae	*Sonchus sp.*	X		
Asteraceae	*Tolpis barbata*	X		
Asteraceae	*Vittadinia dissecta var hirta*			
Asteraceae	*Vittadinia gracilis*			
Asteraceae	*Waitzia suaveolens var flava*			
Boraginaceae	*Halgania andromedifolia*			
Brassicaceae	*Brassica tournefortii*	X		
Brassicaceae	*Carrichtera annua*	X		
Brassicaceae	*Sisymbrium orientale*	X		
Cactaceae	*Opuntia stricta*	X		
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*			
Fabaceae	*Acacia patagiata*			
Fabaceae	*Acacia pritzeliana*			
Fabaceae	*Daviesia aphylla*			
Fabaceae	*Dillwynia divaricata*			
Fabaceae	*Senna artemisioides subsp. filifolia*			
Fabaceae	*Senna sp.* Pallinup River			
Fabaceae	*Vicia sp.*	X		
Geraniaceae	*Erodium cicutarium*	X		
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*	X		
Pittosporaceae	*Billardiera coriacea*			
Pittosporaceae	*Billardiera lehmanniana*			
Poaceae	*Aristida contorta*			
Poaceae	*Austrostipa drummondii*			
Poaceae	*Austrostipa elegantissima*			

Poaceae	*Avena fatua*	X		
Poaceae	*Hordeum sp.*	X		
Poaceae	*Lolium sp.*	X		
Poaceae	*Rytidosperma setacea*			
Poaceae	*Schismus barbatus*	X		
Poaceae	*Triticum aestivum*	X		
Primulaceae	*Lysimachia arvensis*	X		
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*	X		
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 Biodiversity, Conservation and Attractions

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.dbca.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: Eucalyptus merrickiae — **TPFL Pop. No:**

OBSERVATION DATE: 20/09/2023 — **CONSERVATION STATUS:** T — **New population** ☐

OBSERVER/S: Katherine Walkerden, Julie Waters, Emma Adams — **PHONE**

ROLE: Environmental Officer, Conservation Officer — **ORGANISATION:** Shire of Esperance, DBCA

EMAIL: Katherine.Walkerden@esperance.wa.gov.au

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):

Circle Valley Road at SLK 0.97-1

Reserve No:

DBCA DISTRICT: Esperance — **LGA:** Esperance — Land manager present: ☒

DATUM: GDA94 / MGA94 ☒ | AGD84 / AMG84 ☐ | WGS84 ☐ | Unknown ☐

COORDINATES: (If UTM coords provided, **Zone** is also required) DecDegrees ☐ DegMinSec ☐ UTMs ☒

Lat / Northing: 6339765.6

Long / Easting: 378047.4

ZONE: 51

METHOD USED: GPS ☒ Differential GPS ☐ Map ☐

No. satellites: — Map used: — Boundary polygon captured: ☐ — Map scale:

LAND TENURE:

Nature reserve ☐	Timber reserve ☐	Private property ☐	Rail reserve ☐	Shire road reserve ☒	
National park ☐	State forest ☐	Pastoral lease ☐	MRWA road reserve ☐	Other Crown reserve ☐	
Conservation park ☐	Water 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: (Refer to field manual for list)

WHAT COUNTED: Plants ☐ Clumps ☐ Clonal stems ☐

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:
Alive	8			
Dead				

Area of pop (m²): — Note: Pls record count as numbers (not percentages) for database.

QUADRATS PRESENT: No. — Size — Data attached ☐ — Total area of quadrats (m²):

Summary Quad. Totals: Alive				

REPRODUCTIVE STATE: Clonal ☐ Vegetative ☐ Flowerbud ☒ Flower ☒

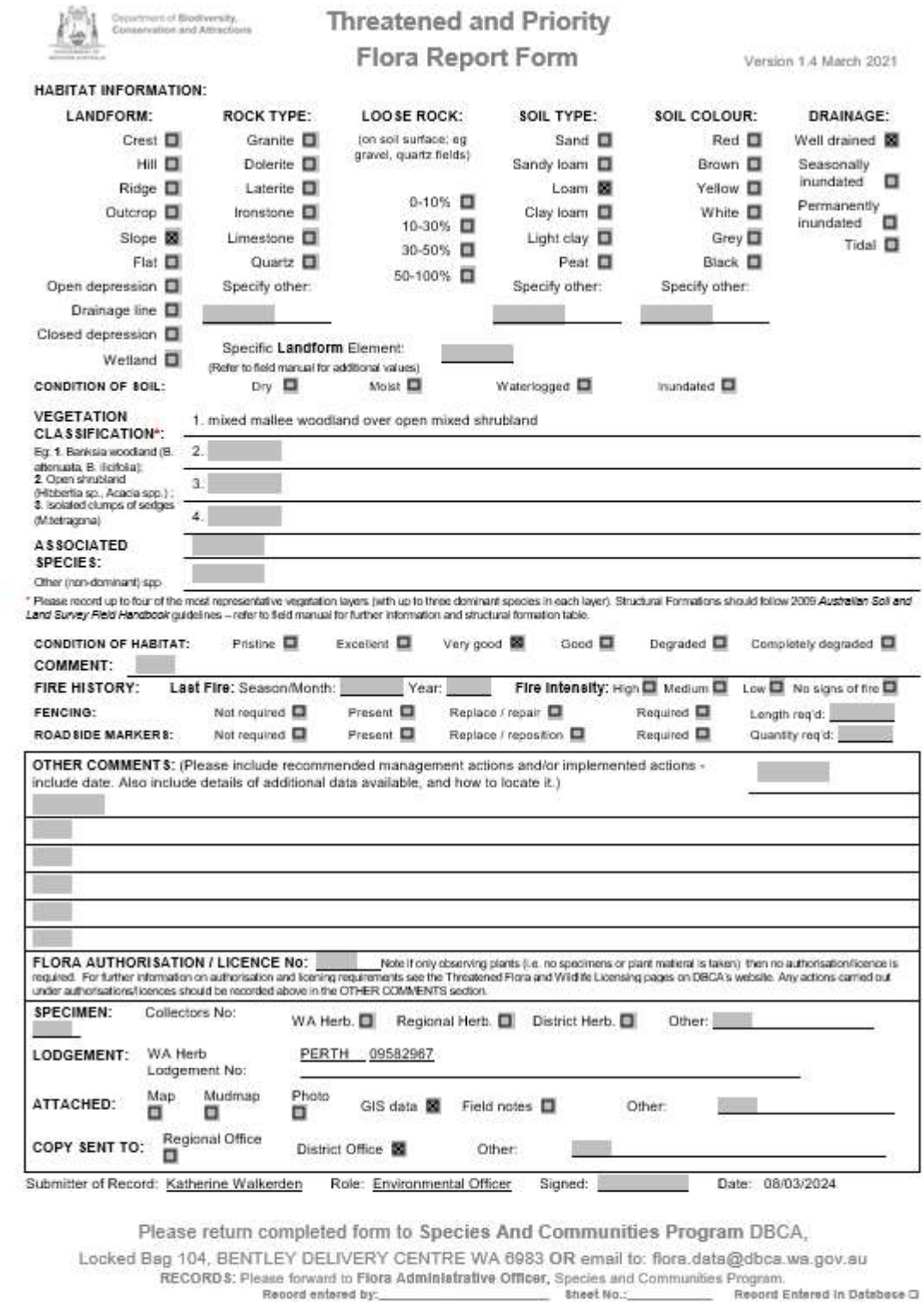
Immature fruit ☐ Fruit ☒ Dehisced fruit ☐ Percentage in flower: ____%

CONDITION OF PLANTS: Healthy ☒ Moderate ☐ Poor ☐ Senescent ☐

COMMENT: Survey was only conducted in Road Reserve, no count was conducted for population in private property

THREATS - type, agent and supporting information: Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. **Specify agent** where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme. Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)	Current Impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
•			
•			
•			

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 ☐



Department of Biodiversity, Conservation and Attractions

Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK: (on soil surface; eg gravel, quartz fields)	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest ☐	Granite ☐	0-10% ☐	Sand ☐	Red ☐	Well drained ☒
Hill ☐	Dolerite ☐	10-30% ☐	Sandy loam ☐	Brown ☐	Seasonally inundated ☐
Ridge ☐	Laterite ☐	30-50% ☐	Loam ☒	Yellow ☐	Permanently inundated ☐
Outcrop ☐	Ironstone ☐	50-100% ☐	Clay loam ☐	White ☐	Tidal ☐
Slope ☒	Limestone ☐		Light clay ☐	Grey ☐	
Flat ☐	Quartz ☐		Peat ☐	Black ☐	
Open depression ☐	Specify other:		Specify other:	Specify other:	
Drainage line ☐					
Closed depression ☐					
Wetland ☐					

Specific **Landform** Element: (Refer to field manual for additional values)

CONDITION OF SOIL: Dry ☐ Moist ☐ Waterlogged ☐ Inundated ☐

VEGETATION CLASSIFICATION*:
1. mixed mallee woodland over open mixed shrubland
2.
3.
4.

Eg. 1. Banksia woodland (B. attenuata, B. ilicifolia); 2. Open shrubland (Hibbertia sp., Acacia spp.); 3. Isolated clumps of sedges (M.tetragona)

ASSOCIATED SPECIES:

Other (non-dominant) spp

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine ☐ Excellent ☐ Very good ☒ Good ☐ Degraded ☐ Completely degraded ☐

COMMENT:

FIRE HISTORY: **Last Fire:** Season/Month: Year: **Fire Intensity:** High ☐ Medium ☐ Low ☐ No signs of fire ☐

FENCING: Not required ☐ Present ☐ Replace / repair ☐ Required ☐ Length req'd:

ROADSIDE MARKERS: Not required ☐ Present ☐ Replace / reposition ☐ Required ☐ Quantity req'd:

OTHER 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: Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: WA Herb. ☐ Regional Herb. ☐ District Herb. ☐ Other:

LODGEMENT: WA Herb Lodgement No: PERTH 09582987

ATTACHED: Map ☐ Mudmap ☐ Photo ☐ GIS data ☒ Field notes ☐ Other:

COPY SENT TO: Regional Office ☐ District Office ☒ Other:

Submitter of Record: Katherine Walkerden Role: Environmental Officer Signed: Date: 08/03/2024

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 ☐

Appendix 2.2 *Eucalyptus merrickiae* - SLK 4.84-5.12

Department of Biodiversity, Conservation and Attractions

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.dbca.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: Eucalyptus merrickiae **TPFL Pop. No:** 16

OBSERVATION DATE: 20/09/2023 **CONSERVATION STATUS:** T **New population** ☐

OBSERVER/S: Katherine Walkerden, Emma Adams **PHONE**

ROLE: Environmental Officer, Conservation Officer **ORGANISATION:** Shire of Esperance

EMAIL: Katwalkerden@gmail.com

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):

Circle Valley Road at SLK 4.84- 5.12

Reserve No:

DBCA DISTRICT: Esperance **LGA:** Esperance Land manager present: ☐

DATUM: GDA94 / MGA94 ☒ AGD84 / AMG84 ☐ WGS84 ☐ Unknown ☐

COORDINATES: (If UTM coords provided, **Zone** is also required) DecDegrees ☐ DegMinSec ☐ UTMs ☒

Lat / Northing: 6340076.7

Long / Easting: 382161.1

ZONE: 51

METHOD USED: GPS ☐ Differential GPS ☐ Map ☐

No. satellites: Map used:

Boundary polygon captured: ☐ Map scale:

LAND TENURE:

Nature reserve ☐ Timber reserve ☐ Private property ☐ Rail reserve ☐ Shire road reserve ☒

National park ☐ State forest ☐ Pastoral lease ☐ MRWA road reserve ☐ Other Crown reserve ☐

Conservation park ☐ Water 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: (Refer to field manual for list)

WHAT COUNTED: Plants ☐ Clumps ☐ Clonal stems ☐

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:
Alive	5			
Dead				

Area of pop (m²):

Note: Pls record count as numbers (not percentages) for database.

QUADRATS PRESENT: No. Size Data attached ☐ Total area of quadrats (m²):

Summary Quad. Totals: Alive				

REPRODUCTIVE STATE: Clonal ☐ Vegetative ☐ Flowerbud ☒ Flower ☒

Immature fruit ☐ Fruit ☒ Dehisced fruit ☐ Percentage in flower: %

CONDITION OF PLANTS: Healthy ☒ Moderate ☐ Poor ☐ Senescent ☐

COMMENT: Survey was only conducted in Road Reserve, no count was conducted for population in private property

THREATS - type, agent and supporting information: Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. **Specify agent** where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme. Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)	Current Impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
•			
•			
•			

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 ☐

Department of Biodiversity, Conservation and Attractions

Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK: (on soil surface; eg gravel, quartz fields)	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest ☐	Granite ☐	0-10% ☐	Sand ☐	Red ☐	Well drained ☒
Hill ☐	Dolerite ☐	10-30% ☐	Sandy loam ☐	Brown ☐	Seasonally inundated ☐
Ridge ☐	Laterite ☐	30-50% ☐	Loam ☒	Yellow ☐	Permanently inundated ☐
Outcrop ☐	Ironstone ☐	50-100% ☐	Clay loam ☐	White ☐	Tidal ☐
Slope ☒	Limestone ☐		Light clay ☐	Grey ☐	
Flat ☐	Quartz ☐		Peat ☐	Black ☐	
Open depression ☐	Specify other:		Specify other:	Specify other:	
Drainage line ☐					
Closed depression ☐					
Wetland ☐					

Specific **Landform** Element: (Refer to field manual for additional values)

CONDITION OF SOIL: Dry ☐ Moist ☐ Waterlogged ☐ Inundated ☐

VEGETATION CLASSIFICATION*:
Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia); 2. Open shrubland (Hibbertia sp., Acacia spp.); 3. Isolated clumps of sedges (M.tetragona)

1. mixed mallee woodland over open mixed shrubland
2.
3.
4.

ASSOCIATED SPECIES:
Other (non-dominant) spp

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine ☐ Excellent ☐ Very good ☒ Good ☐ Degraded ☐ Completely degraded ☐

COMMENT:

FIRE HISTORY: **Last Fire:** Season/Month: _____ Year: _____ **Fire Intensity:** High ☐ Medium ☐ Low ☐ No signs of fire ☐

FENCING: Not required ☐ Present ☐ Replace / repair ☐ Required ☐ Length req'd:

ROADSIDE MARKERS: Not required ☐ Present ☐ Replace / reposition ☐ Required ☐ Quantity req'd:

OTHER 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: ___Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: WA Herb. ☐ Regional Herb. ☐ District Herb. ☐ Other:

LODGEMENT: WA Herb Lodgement No: PERTH 9582991

ATTACHED: Map ☐ Mudmap ☐ Photo ☐ GIS data ☒ Field notes ☐ Other:

COPY SENT TO: Regional Office ☐ District Office ☒ Other:

Submitter of Record: Katherine Walkerden Role: Environmental Officer Signed: Date: 08/03/2024

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 ☐

Appendix 2.3 *Eucalyptus merrickiae* - SLK 6.12-6.47

Department of Biodiversity, Conservation and Attractions

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.dbca.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: Eucalyptus merrickiae **TPFL Pop. No:** 16B

OBSERVATION DATE: 20/09/2023 **CONSERVATION STATUS:** T **New population** ☐

OBSERVER/S: Katherine Walkerden, Emma Adams **PHONE**

ROLE: Environmental Officer, Conservation Officer **ORGANISATION:** Shire of Esperance

EMAIL: Katwalkerden@gmail.com

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):

Circle Valley Road at SLK 6.12-6.47

Reserve No:

DBCA DISTRICT: Esperance **LGA:** Esperance Land manager present: ☒

DATUM: GDA94 / MGA94 ☒ AGD84 / AMG84 ☐ WGS84 ☐ Unknown ☐

COORDINATES: (If UTM coords provided, **Zone** is also required) DecDegrees ☐ DegMinSec ☐ UTMs ☒

Lat / Northing: 6339901.3

Long / Easting: 383287.4

ZONE: 51

METHOD USED: GPS ☐ Differential GPS ☐ Map ☐

No. satellites: Map used:

Boundary polygon captured: ☐ Map scale:

LAND TENURE:

Nature reserve ☐	Timber reserve ☐	Private property ☐	Rail reserve ☐	Shire road reserve ☒
National park ☐	State forest ☐	Pastoral lease ☐	MRWA road reserve ☐	Other Crown reserve ☐
Conservation park ☐	Water 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: (Refer to field manual for list)

WHAT COUNTED: Plants ☐ Clumps ☐ Clonal stems ☐

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:
Alive	27			
Dead				

Area of pop (m²):

Note: Pls record count as numbers (not percentages) for database.

QUADRATS PRESENT: No. Size Data attached ☐ Total area of quadrats (m²):

Summary Quad. Totals: Alive

REPRODUCTIVE STATE: Clonal ☐ Vegetative ☐ Flowerbud ☒ Flower ☒

Immature fruit ☐ Fruit ☒ Dehisced fruit ☐ Percentage in flower: ____%

CONDITION OF PLANTS: Healthy ☒ Moderate ☐ Poor ☐ Senescent ☐

COMMENT: Survey was only conducted in Road Reserve, no count was conducted for population in private property

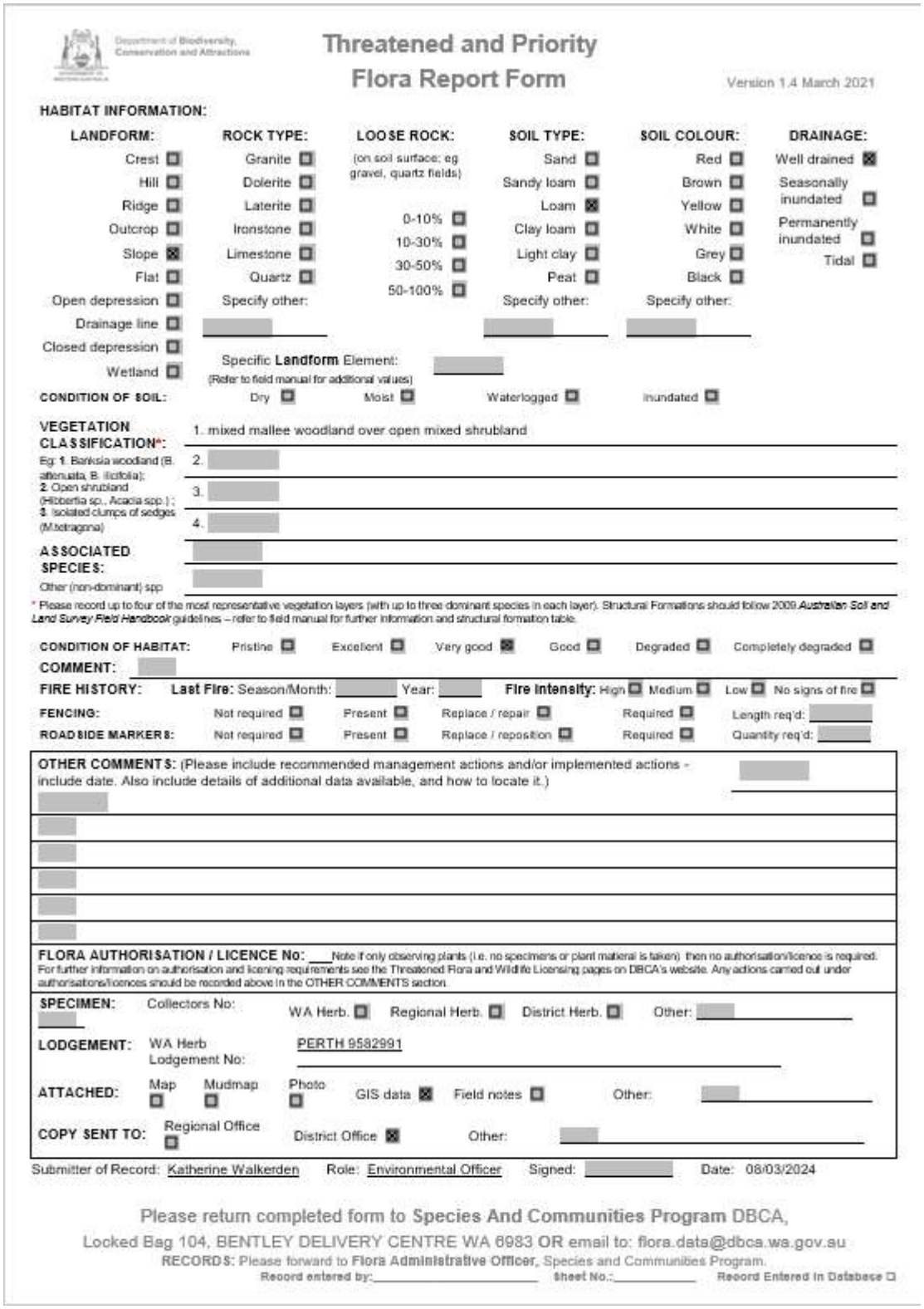
THREATS - type, agent and supporting information: Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. **Specify agent** where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme. Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)	**Current Impact (N-E)**	**Potential Impact (L-E)**	**Potential Threat Onset (S-L)**
•			
•			
•			

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 ☐



Department of Biodiversity, Conservation and Attractions

Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK: (on soil surface: eg gravel, quartz fields)	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest ☐	Granite ☐	0-10% ☐	Sand ☐	Red ☐	Well drained ☒
Hill ☐	Dolerite ☐	10-30% ☐	Sandy loam ☐	Brown ☐	Seasonally inundated ☐
Ridge ☐	Laterite ☐	30-50% ☐	Loam ☒	Yellow ☐	Permanently inundated ☐
Outcrop ☐	Ironstone ☐	50-100% ☐	Clay loam ☐	White ☐	Tidal ☐
Slope ☒	Limestone ☐		Light clay ☐	Grey ☐	
Flat ☐	Quartz ☐		Peat ☐	Black ☐	
Open depression ☐	Specify other:		Specify other:	Specify other:	
Drainage line ☐					
Closed depression ☐					
Wetland ☐					

Specific **Landform** Element: (Refer to field manual for additional values)

CONDITION OF SOIL: Dry ☐ Moist ☐ Waterlogged ☐ Inundated ☐

VEGETATION CLASSIFICATION*:
Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia); 2. Open shrubland (Hibbertia sp., Acacia spp.); 3. Isolated clumps of sedges (Meinagma)

1. mixed mallee woodland over open mixed shrubland
2.
3.
4.

ASSOCIATED SPECIES:
Other (non-dominant) spp

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine ☐ Excellent ☐ Very good ☒ Good ☐ Degraded ☐ Completely degraded ☐

COMMENT:

FIRE HISTORY: **Last Fire:** Season/Month: Year: **Fire Intensity:** High ☐ Medium ☐ Low ☐ No signs of fire ☐

FENCING: Not required ☐ Present ☐ Replace / repair ☐ Required ☐ Length req'd:

ROADSIDE MARKERS: Not required ☐ Present ☐ Replace / reposition ☐ Required ☐ Quantity req'd:

OTHER 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: Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: WA Herb. ☐ Regional Herb. ☐ District Herb. ☐ Other:

LODGEMENT: WA Herb Lodgement No: PERTH 9582991

ATTACHED: Map ☐ Mudmap ☐ Photo ☐ GIS data ☒ Field notes ☐ Other:

COPY SENT TO: Regional Office ☐ District Office ☒ Other:

Submitter of Record: Katherine Walkerden Role: Environmental Officer Signed: Date: 08/03/2024

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 ☐

Appendix 2.4 *Acacia bartlei*

Department of Biodiversity, Conservation and Attractions

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 (TFRF) manual on the DBCA website at www.dbca.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: Acacia bartlei **TPFL Pop. No:**

OBSERVATION DATE: 16/09/2022 **CONSERVATION STATUS:** P3 **New population** ☒

OBSERVER/S: Katherine Walkerden, Julie Waters **PHONE**

ROLE: Environmental Officer **ORGANISATION:** Shire of Esperance

EMAIL: Katherine.Walkerden@esperance.wa.gov.au

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):

Circle Valley Road at SLK 0.14 (north side of road) and at SLK 0.26 (south side of road).

Reserve No:

DBCA DISTRICT: Esperance **LGA:** Esperance Land manager present: ☒

DATUM: GDA94 / MGA94 ☒ AGD84 / AMG84 ☐ WGS84 ☐ Unknown ☐

COORDINATES: (If UTM coords provided, **Zone** is also required) DecDegrees ☐ DegMinSec ☐ UTMs ☒

Lat / Northing: 6339610.0

Long / Easting: 377359.6

ZONE: 51

METHOD USED: GPS ☐ Differential GPS ☐ Map ☐

No. satellites: Map used:

Boundary polygon captured: ☐ Map scale:

LAND TENURE:

Nature reserve ☐ Timber reserve ☐ Private property ☐ Rail reserve ☐ Shire road reserve ☒

National park ☐ State forest ☐ Pastoral lease ☐ MRWA road reserve ☐ Other Crown reserve ☐

Conservation park ☐ Water 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: (Refer to field manual for list)

WHAT COUNTED: Plants ☒ Clumps ☐ Clonal stems ☐

TOTAL POP'N STRUCTURE:	**Mature:**	**Juveniles:**	**Seedlings:**	**Totals:**
Alive	2			
Dead				

Area of pop (m²): Note: Pls record count as numbers (not percentages) for database.

QUADRATS PRESENT: No. Size Data attached ☐ Total area of quadrats (m²):

Summary Quad. Totals: Alive

REPRODUCTIVE STATE: Clonal ☐ Vegetative ☐ Flowerbud ☐ Flower ☒

Immature fruit ☐ Fruit ☐ Dehisced fruit ☐ Percentage in flower: 100%

CONDITION OF PLANTS: Healthy ☒ Moderate ☐ Poor ☐ Senescent ☐

COMMENT:

THREATS - type, agent and supporting information: Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. **Specify agent** where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme. Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)	**Current Impact (N-E)**	**Potential Impact (L-E)**	**Potential Threat Onset (S-L)**
•			
•			
•			

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 ☐

Department of Biodiversity, Conservation and Attractions

Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK: (on soil surface; eg gravel, quartz fields)	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest ☐	Granite ☐	0-10% ☐	Sand ☐	Red ☐	Well drained ☐
Hill ☐	Dolerite ☐	10-30% ☐	Sandy loam ☐	Brown ☐	Seasonally inundated ☐
Ridge ☐	Laterite ☐	30-50% ☐	Loam ☒	Yellow ☐	Permanently inundated ☐
Outcrop ☐	Ironstone ☐	50-100% ☐	Clay loam ☐	White ☐	Tidal ☐
Slope ☒	Limestone ☐		Light clay ☐	Grey ☐	
Flat ☐	Quartz ☐		Peat ☐	Black ☐	
Open depression ☐	Specify other:		Specify other:	Specify other:	
Drainage line ☐					
Closed depression ☐					
Wetland ☐					

Specific **Landform** Element: (Refer to field manual for additional values)

CONDITION OF SOIL: Dry ☒ Moist ☐ Waterlogged ☐ Inundated ☐

VEGETATION CLASSIFICATION*:
Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia); 2. Open shrubland (Hibbertia sp., Acacia scp.) ; 3. Isolated clumps of sedges (M.tetragona)

1. Mallee woodland with sparse Melaleuca shrubs
2.
3.
4.

ASSOCIATED SPECIES: Eremophila psilocalyx, Cyathostemon sp., Grevillea oligantha

Other (non-dominant) spp

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine ☐ Excellent ☐ Very good ☒ Good ☐ Degraded ☐ Completely degraded ☐

COMMENT:

FIRE HISTORY: **Last Fire:** Season/Month: Year: **Fire Intensity:** High ☐ Medium ☐ Low ☐ No signs of fire ☒

FENCING: Not required ☐ Present ☐ Replace / repair ☐ Required ☐ Length req'd:

ROADSIDE MARKERS: Not required ☐ Present ☐ Replace / reposition ☐ Required ☐ Quantity req'd:

OTHER 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 material is taken) then no authorisation/licence is required. For further information on authorisation and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: KSW 14922 WA Herb. ☒ Regional Herb. ☐ District Herb. ☐ Other:

LODGEMENT: WA Herb Lodgement No: 9783

ATTACHED: Map ☐ Mudmap ☐ Photo ☐ GIS data ☒ Field notes ☐ Other:

COPY SENT TO: Regional Office ☐ District Office ☒ Other:

Submitter of Record: Katherine Walkerden Role: Environmental Officer Signed: Date: 08/03/2024

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 ☐

Appendix 2.5 *Acacia glaucissima* – SLK 0.06-4.58

Department of Biodiversity, Conservation and Attractions

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.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: Acacia glaucissima **TPFL Pop. No:**

OBSERVATION DATE: 20/09/2022 **CONSERVATION STATUS:** P3 **New population** ☒

OBSERVER/S: Katherine Walkerden **PHONE** 041658774

ROLE: Environmental officer **ORGANISATION:** Shire of Esperance

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

Reserve No:

DBCA DISTRICT: Esperance **LGA:** Esperance Land manager present: ☒

DATUM: GDA94 / MGA94 ☐ AGD84 / AMG84 ☐ WGS84 ☒ Unknown ☐

COORDINATES: (If UTM coords provided, **Zone** is also required) DecDegrees ☐ DegMinSec ☐ UTMs ☒

Lat / Northing: 6340064

Long / Easting: 381371

ZONE: 51

METHOD USED: GPS ☒ Differential GPS ☐ Map ☐

No. satellites: Map used:

Boundary polygon captured: ☐ Map scale:

LAND TENURE:

Nature reserve ☐ Timber reserve ☐ Private property ☐ Rail reserve ☐ Shire road reserve ☒

National park ☐ State forest ☐ Pastoral lease ☐ MRWA road reserve ☐ Other Crown reserve ☐

Conservation park ☐ Water 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: (Refer to field manual for list)

WHAT COUNTED: Plants ☐ Clumps ☐ Clonal stems ☐

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:
Alive	158			
Dead				

Area of pop (m²):

Note: Pls record count as numbers (not percentages) for database.

QUADRATS PRESENT: No. Size Data attached ☐ Total area of quadrats (m²):

Summary Quad. Totals: Alive				

REPRODUCTIVE STATE: Clonal ☐ Vegetative ☐ Flowerbud ☐ Flower ☒

Immature fruit ☐ Fruit ☐ Dehisced fruit ☐ Percentage in flower: ____%

CONDITION OF PLANTS: Healthy ☒ Moderate ☐ Poor ☐ Senescent ☐

COMMENT:

THREATS - type, agent and supporting information: Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. **Specify agent** where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme. Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)	Current impact (N-E)	Potential impact (L-E)	Potential Threat Onset (S-L)
• Road maintenance activities	L	L	
• Road upgrade	N	L	M
•			

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 ☐

Department of Biodiversity, Conservation and Attractions

Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK: (on soil surface; eg gravel, quartz fields)	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest ☐	Granite ☐	0-10% ☐	Sand ☐	Red ☐	Well drained ☐
Hill ☐	Dolerite ☐	10-30% ☐	Sandy loam ☐	Brown ☐	Seasonally inundated ☐
Ridge ☐	Laterite ☐	30-50% ☐	Loam ☒	Yellow ☐	Permanently inundated ☐
Outcrop ☐	Ironstone ☐	50-100% ☐	Clay loam ☐	White ☐	Tidal ☐
Slope ☒	Limestone ☐		Light clay ☐	Grey ☐	
Flat ☒	Quartz ☐		Peat ☐	Black ☐	
Open depression ☐	Specify other:		Specify other:	Specify other:	
Drainage line ☐					
Closed depression ☐					
Wetland ☐					

Specific **Landform** Element: (Refer to field manual for additional values)

CONDITION OF SOIL: Dry ☐ Moist ☐ Waterlogged ☐ Inundated ☐

VEGETATION CLASSIFICATION*:
Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia); 2. Open shrubland (Hibbertia sp., Acacia spp.); 3. Isolated clumps of sedges (M.tetragona)

1. mixed mallee woodland over open mixed shrubland
2.
3.
4.

ASSOCIATED SPECIES:
Other (non-dominant) spp

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine ☐ Excellent ☐ Very good ☒ Good ☒ Degraded ☐ Completely degraded ☒

COMMENT:

FIRE HISTORY: **Last Fire:** Season/Month: Year: **Fire Intensity:** High ☐ Medium ☐ Low ☐ No signs of fire ☐

FENCING: Not required ☒ Present ☐ Replace / repair ☐ Required ☐ Length req'd:

ROADSIDE MARKERS: Not required ☒ Present ☐ Replace / reposition ☐ Required ☐ Quantity req'd:

OTHER 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: FT61000788 Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: KSW 12722 Collectors No: WA Herb. ☐ Regional Herb. ☐ District Herb. ☐ Other:

LODGEMENT: WA Herb Lodgement No: 9740

ATTACHED: Map ☐ Mudmap ☐ Photo ☐ GIS data ☒ Field notes ☐ Other:

COPY SENT TO: Regional Office ☐ District Office ☒ Other:

Submitter of Record: Katherine Walkerden Role: Environmental Officer Signed: Date: 08/03/2024

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 ☐

Appendix 2.6 *Acacia glaucissima* SLK 6.1 - 6.43

Department of Biodiversity, Conservation and Attractions

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.dbca.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: Acacia glaucissima **TPFL Pop. No:**

OBSERVATION DATE: 20/09/2022 **CONSERVATION STATUS:** P3 **New population** ☒

OBSERVER/S: Katherine Walkerden **PHONE** 041658774

ROLE: Environmental officer **ORGANISATION:** Shire of Esperance

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 6.1 and SLK 6.43

Reserve No:

DBCA DISTRICT: Esperance **LGA:** Esperance Land manager present: ☒

DATUM: GDA94 / MGA94 ☒ AGD84 / AMG84 ☐ WGS84 ☐ Unknown ☐

COORDINATES: (If UTM coords provided, **Zone** is also required) DecDegrees ☐ DegMinSec ☐ UTMs ☒

Lat / Northing: 6339901

Long / Easting: 383356.7

ZONE: 51

METHOD USED: GPS ☒ Differential GPS ☐ Map ☐

No. satellites: Map used:

Boundary polygon captured: ☐ Map scale:

LAND TENURE:

Nature reserve ☐ National park ☐ Conservation park ☐ Timber reserve ☐ State forest ☐ Water reserve ☐ Private property ☐ Pastoral lease ☐ UCL ☐ Rail reserve ☐ MRWA road reserve ☐ SLK/Pole ____ to ____ Shire road reserve ☒ Other Crown reserve ☐ 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:	Juveniles:	Seedlings:	Totals:
Alive	6			
Dead				

Area of pop (m²): Note: Pls record count as numbers (not percentages) for database.

QUADRATS PRESENT: No. Size Data attached ☐ Total area of quadrats (m²):

Summary Quad. Totals: Alive

REPRODUCTIVE STATE: Clonal ☐ Vegetative ☐ Flowerbud ☐ Flower ☒ Immature fruit ☐ Fruit ☐ Dehisced fruit ☐ Percentage in flower: %

CONDITION OF PLANTS: Healthy ☒ Moderate ☐ Poor ☐ Senescent ☐

COMMENT:

THREATS - type, agent and supporting information: Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. **Specify agent** where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme. Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)	Current Impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Road maintenance activities	L	L	
•			
•			

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** ☐

Department of Biodiversity, Conservation and Attractions

Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK: (on soil surface; eg gravel, quartz fields)	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest ☐	Granite ☐	0-10% ☐	Sand ☐	Red ☐	Well drained ☐
Hill ☐	Dolerite ☐	10-30% ☐	Sandy loam ☐	Brown ☐	Seasonally inundated ☐
Ridge ☐	Laterite ☐	30-50% ☐	Loam ☒	Yellow ☐	Permanently inundated ☐
Outcrop ☐	Ironstone ☐	50-100% ☐	Clay loam ☐	White ☐	Tidal ☐
Slope ☒	Limestone ☐		Light clay ☐	Grey ☐	
Flat ☒	Quartz ☐		Peat ☐	Black ☐	
Open depression ☐	Specify other:		Specify other:	Specify other:	
Drainage line ☐					
Closed depression ☐					
Wetland ☐					

Specific **Landform** Element: (Refer to field manual for additional values)

CONDITION OF SOIL: Dry ☒ Moist ☐ Waterlogged ☐ Inundated ☐

VEGETATION CLASSIFICATION*:
Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia); 2. Open shrubland (Hibbertia sp., Acacia spp.); 3. Isolated clumps of sedges (M.tetragona)

1. mixed mallee woodland over open mixed shrubland
2.
3.
4.

ASSOCIATED SPECIES:
Other (non-dominant) spp

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine ☐ Excellent ☐ Very good ☒ Good ☒ Degraded ☐ Completely degraded ☐

COMMENT:

FIRE HISTORY: **Last Fire:** Season/Month: _____ Year: _____ **Fire Intensity:** High ☐ Medium ☐ Low ☐ No signs of fire ☐

FENCING: Not required ☒ Present ☐ Replace / repair ☐ Required ☐ Length req'd:

ROADSIDE MARKERS: Not required ☒ Present ☐ Replace / reposition ☐ Required ☐ Quantity req'd:

OTHER 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: FT61000788 Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: WA Herb. ☐ Regional Herb. ☐ District Herb. ☐ Other:

LODGEMENT: WA Herb Lodgement No:

ATTACHED: Map ☐ Mudmap ☐ Photo ☐ GIS data ☒ Field notes ☐ Other:

COPY SENT TO: Regional Office ☐ District Office ☒ Other:

Submitter of Record: Katherine Walkerden Role: Environmental Officer Signed: Date: 08/03/2024

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 ☐

Appendix 2.7 *Acacia glaucissima*

Department of Biodiversity, Conservation and Attractions

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.dbca.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: Acacia glaucissima **TPFL Pop. No:**

OBSERVATION DATE: 21/09/2023 **CONSERVATION STATUS:** P3 **New population** ☒

OBSERVER/S: Julie Waters **PHONE** 041658774

ROLE: Environmental Coordinator **ORGANISATION:** Shire of Esperance

EMAIL: Julie.Waters@esperance.wa.gov.au

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):

Circle Valley Road and Sassella Road intersection.

Reserve No:

DBCA DISTRICT: Esperance **LGA:** Esperance Land manager present: ☒

DATUM:
GDA94 / MGA94 ☒
AGD84 / AMG84 ☐
WGS84 ☐
Unknown ☐

COORDINATES: (If UTM coords provided, **Zone** is also required)
DecDegrees ☐ DegMinSec ☐ UTMs ☒
Lat / Northing: 6339896.3
Long / Easting: 384688.3
ZONE: 51

METHOD USED:
GPS ☒ Differential GPS ☐ Map ☐
No. satellites: Map used:
Boundary polygon captured: ☐ Map scale:

LAND TENURE:
Nature reserve ☐ Timber reserve ☐ Private property ☐ Rail reserve ☐ Shire road reserve ☒
National park ☐ State forest ☐ Pastoral lease ☐ MRWA road reserve ☐ Other Crown reserve ☐
Conservation park ☐ Water 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: (Refer to field manual for list)

WHAT COUNTED: Plants ☐ Clumps ☐ Clonal stems ☐

TOTAL POP'N STRUCTURE:	**Mature:**	**Juveniles:**	**Seedlings:**	**Totals:**
Alive	3			
Dead				

Area of pop (m²):
Note: Pls record count as numbers (not percentages) for database

QUADRATS PRESENT: No. Size Data attached ☐ Total area of quadrats (m²):

Summary Quad. Totals: Alive				

REPRODUCTIVE STATE: Clonal ☐ Vegetative ☐ Flowerbud ☐ Flower ☒
Immature fruit ☐ Fruit ☐ Dehisced fruit ☐ Percentage in flower: %

CONDITION OF PLANTS: Healthy ☒ Moderate ☐ Poor ☐ Senescent ☐

COMMENT:

THREATS - type, agent and supporting information: Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. **Specify agent** where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme. Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)	**Current Impact (N-E)**	**Potential Impact (L-E)**	**Potential Threat Onset (S-L)**
•	L	L	
•			
•			

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** ☐

Department of Biodiversity, Conservation and Attractions

Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK: (on soil surface; eg gravel, quartz fields)	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest ☐	Granite ☐	0-10% ☐	Sand ☐	Red ☐	Well drained ☐
Hill ☐	Dolerite ☐	10-30% ☐	Sandy loam ☐	Brown ☐	Seasonally inundated ☐
Ridge ☐	Laterite ☐	30-50% ☐	Loam ☒	Yellow ☐	Permanently inundated ☐
Outcrop ☐	Ironstone ☐	50-100% ☐	Clay loam ☐	White ☐	Tidal ☐
Slope ☒	Limestone ☐		Light clay ☐	Grey ☐	
Flat ☒	Quartz ☐		Peat ☐	Black ☐	
Open depression ☐	Specify other:		Specify other:	Specify other:	
Drainage line ☐					
Closed depression ☐					
Wetland ☐					

Specific **Landform** Element: (Refer to field manual for additional values)

CONDITION OF SOIL: Dry ☒ Moist ☐ Waterlogged ☐ Inundated ☐

VEGETATION CLASSIFICATION*:
Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia); 2. Open shrubland (Hibbertia sp., Acacia scp.) ; 3. Isolated clumps of sedges (M.tetragona)

1. mixed mallee woodland over open mixed shrubland
2.
3.
4.

ASSOCIATED SPECIES:
Other (non-dominant) spp

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine ☐ Excellent ☐ Very good ☒ Good ☐ Degraded ☐ Completely degraded ☐

COMMENT:

FIRE HISTORY: **Last Fire:** Season/Month: Year: **Fire Intensity:** High ☐ Medium ☐ Low ☐ No signs of fire ☐

FENCING: Not required ☒ Present ☐ Replace / repair ☐ Required ☐ Length req'd:

ROADSIDE MARKERS: Not required ☒ Present ☐ Replace / reposition ☐ Required ☐ Quantity req'd:

OTHER 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: FT61000788 Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: WA Herb. ☐ Regional Herb. ☐ District Herb. ☐ Other:

LODGEMENT: WA Herb Lodgement No:

ATTACHED: Map ☐ Mudmap ☐ Photo ☐ GIS data ☒ Field notes ☐ Other:

COPY SENT TO: Regional Office ☐ District Office ☒ Other:

Submitter of Record: Katherine Walkerden Role: Environmental Officer Signed: Date: 08/03/2024

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 ☐

Appendix 2.8 *Melaleuca fissurata*

Department of Biodiversity, Conservation and Attractions

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.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: Melaleuca fissurata **TPFL Pop. No:**

OBSERVATION DATE: 20/09/2023 **CONSERVATION STATUS:** P3 **New population** ☒

OBSERVER/S: Katherine Walkerden **PHONE** 0416558774

ROLE: Environmental Officer **ORGANISATION:** Shire of Esperance

EMAIL: Katherine.Walkerden@esperance.wa.gov.au

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):

Circle Valley Road at SLK 4.8 on south side of road.

Reserve No:

DBCA DISTRICT: Esperance **LGA:** Esperance Land manager present: ☒

DATUM: GDA94 / MGA94 ☒ AGD84 / AMG84 ☐ WGS84 ☐ Unknown ☐

COORDINATES: (If UTM coords provided, Zone is also required) DecDegrees ☐ DegMinSec ☐ UTMs ☒

Lat / Northing: 6340071.4

Long / Easting: 381854.9

ZONE: 51

METHOD USED: GPS ☒ Differential GPS ☐ Map ☐

No. satellites: Map used:

Boundary polygon captured: ☐ Map scale:

LAND TENURE:

Nature reserve ☐	Timber reserve ☐	Private property ☐	Rail reserve ☐	Shire road reserve ☒
National park ☐	State forest ☐	Pastoral lease ☐	MRWA road reserve ☐	Other Crown reserve ☐
Conservation park ☐	Water 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: (Refer to field manual for list)

WHAT COUNTED: Plants ☐ Clumps ☐ Clonal stems ☐

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:
Alive	1			
Dead				

Area of pop (m²):

Note: Pls record count as numbers (not percentages) for database.

QUADRATS PRESENT: No. Size Data attached ☐ Total area of quadrats (m²):

Summary Quad. Totals: Alive				

REPRODUCTIVE STATE: Clonal ☐ Vegetative ☐ Flowerbud ☐ Flower ☒

Immature fruit ☐ Fruit ☐ Dehisced fruit ☐ Percentage in flower: 100%

CONDITION OF PLANTS: Healthy ☒ Moderate ☐ Poor ☐ Senescent ☐

COMMENT:

THREATS - type, agent and supporting information: Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. **Specify agent** where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme. Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)	Current Impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
•			
•			
•			

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 ☐

Department of Biodiversity, Conservation and Attractions

Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK: (on soil surface; eg gravel, quartz fields)	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest ☐	Granite ☐	0-10% ☐	Sand ☐	Red ☐	Well drained ☐
Hill ☐	Dolerite ☐	10-30% ☐	Sandy loam ☐	Brown ☐	Seasonally inundated ☐
Ridge ☐	Laterite ☐	30-50% ☐	Loam ☐	Yellow ☐	Permanently inundated ☐
Outcrop ☐	Ironstone ☐	50-100% ☐	Clay loam ☐	White ☐	Tidal ☐
Slope ☒	Limestone ☐		Light clay ☐	Grey ☐	
Flat ☐	Quartz ☐		Peat ☐	Black ☐	
Open depression ☐	Specify other:		Specify other:	Specify other:	
Drainage line ☐					
Closed depression ☐					
Wetland ☐					

Specific **Landform** Element: (Refer to field manual for additional values)

CONDITION OF SOIL: Dry ☐ Moist ☐ Waterlogged ☐ Inundated ☐

VEGETATION CLASSIFICATION*: Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia); 2. Open shrubland (Hibbertia sp., Acacia spp.); 3. Isolated clumps of sedges (M.tetragona)

1. Malleee woodland with sparse Melaleuca shrubs.
2.
3.
4.

ASSOCIATED SPECIES: Cyathostemon sp., Acacia glaucissima, Eucalyptus merrickiae.

Other (non-dominant) spp

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine ☐ Excellent ☐ Very good ☒ Good ☐ Degraded ☐ Completely degraded ☐

COMMENT:

FIRE HISTORY: **Last Fire:** Season/Month: Year: **Fire Intensity:** High ☐ Medium ☐ Low ☐ No signs of fire ☐

FENCING: Not required ☐ Present ☐ Replace / repair ☐ Required ☐ Length req'd:

ROADSIDE MARKERS: Not required ☐ Present ☐ Replace / reposition ☐ Required ☐ Quantity req'd:

OTHER 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: FT61000788 Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: KSW12422 WA Herb. ☒ Regional Herb. ☐ District Herb. ☐ Other:

LODGEMENT: WA Herb Lodgement No: 9740

ATTACHED: Map ☐ Mudmap ☐ Photo ☐ GIS data ☒ Field notes ☐ Other:

COPY SENT TO: Regional Office ☐ District Office ☒ Other:

Submitter of Record: Katherine Walkerden Role: Environmental Officer Signed: Date: 08/03/2024

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 ☐

Appendix 2.9 *Persoonia cymbifolia*

Department of Biodiversity, Conservation and Attractions

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.dbca.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: Persoonia cymbifolia **TPFL Pop. No:**

OBSERVATION DATE: 08/03/2024 **CONSERVATION STATUS:** P3 **New population** ☒

OBSERVER/S: Katherine Walkerden, Julie Waters **PHONE** 0416558774

ROLE: Environmental Officer and coordinator **ORGANISATION:** Shire of Esperance

EMAIL: Katherine.walkerden@esperance.wa.gov.au

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):

Circle Valley Road at SLK 1.17 and 1.21. On northern side of Road.

Reserve No:

DBCA DISTRICT: **LGA:** Land manager present: ☐

DATUM: GDA94 / MGA94 ☐ AGD84 / AMG84 ☐ WGS84 ☐ Unknown ☐

COORDINATES: (If UTM coords provided, **Zone** is also required) DecDegrees ☐ DegMinSec ☐ UTMs ☒

Lat / Northing: 6339842

Long / Easting: 378282

ZONE: 51

METHOD USED: GPS ☒ Differential GPS ☐ Map ☐

No. satellites: Map used:

Boundary polygon captured: ☐ Map scale:

LAND TENURE:

Nature reserve ☐ Timber reserve ☐ Private property ☐ Rail reserve ☐ Shire road reserve ☒

National park ☐ State forest ☐ Pastoral lease ☐ MRWA road reserve ☐ Other Crown reserve ☐

Conservation park ☐ Water 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: (Refer to field manual for list)

WHAT COUNTED: Plants ☐ Clumps ☐ Clonal stems ☐

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:
Alive	2			
Dead				

Area of pop (m²):

Note: Pls record count as numbers (not percentages) for database.

QUADRATS PRESENT: No. Size Data attached ☐ Total area of quadrats (m²):

Summary Quad. Totals: Alive				

REPRODUCTIVE STATE: Clonal ☐ Vegetative ☐ Flowerbud ☐ Flower ☐

Immature fruit ☐ Fruit ☒ Dehisced fruit ☐ Percentage in flower: 0%

CONDITION OF PLANTS: Healthy ☒ Moderate ☐ Poor ☐ Senescent ☐

COMMENT:

THREATS - type, agent and supporting information: Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. **Specify agent** where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme. Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)	Current Impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Low population size			
•			
•			

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 ☐

Department of Biodiversity, Conservation and Attractions

Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK: (on soil surface; eg gravel, quartz fields)	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest ☐	Granite ☐	0-10% ☐	Sand ☐	Red ☐	Well drained ☐
Hill ☐	Dolerite ☐	10-30% ☐	Sandy loam ☐	Brown ☐	Seasonally inundated ☐
Ridge ☐	Laterite ☐	30-50% ☐	Loam ☒	Yellow ☐	Permanently inundated ☐
Outcrop ☐	Ironstone ☐	50-100% ☐	Clay loam ☐	White ☐	Tidal ☐
Slope ☐	Limestone ☐		Light clay ☐	Grey ☐	
Flat ☒	Quartz ☐		Peat ☐	Black ☐	
Open depression ☐	Specify other:		Specify other:	Specify other:	
Drainage line ☐					
Closed depression ☐					
Wetland ☐					

Specific **Landform** Element: (Refer to field manual for additional values)

CONDITION OF SOIL: Dry ☐ Moist ☐ Waterlogged ☐ Inundated ☐

VEGETATION CLASSIFICATION*:
Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia); 2. Open shrubland (Hibbertia sp., Acacia spp.); 3. Isolated clumps of sedges (M.tetragona)

1. Malleee woodland with sparse Melaleuca shrubs
2.
3.
4.

ASSOCIATED SPECIES:
Other (non-dominant) spp: Eremophila psilocalyx, Cyathostemon sp., Grevillea oligantha

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine ☐ Excellent ☐ Very good ☒ Good ☐ Degraded ☐ Completely degraded ☐

COMMENT:

FIRE HISTORY: **Last Fire:** Season/Month: Year: **Fire Intensity:** High ☐ Medium ☐ Low ☐ No signs of fire ☒

FENCING: Not required ☐ Present ☐ Replace / repair ☐ Required ☐ Length req'd:

ROADSIDE MARKERS: Not required ☐ Present ☐ Replace / reposition ☐ Required ☐ Quantity req'd:

OTHER 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 material is taken) then no authorisation/licence is required. For further information on authorisation and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: KSW 12622 Collectors No: WA Herb. ☒ Regional Herb. ☐ District Herb. ☐ Other:

LODGEMENT: WA Herb Lodgement No: 9740

ATTACHED: Map ☐ Mudmap ☐ Photo ☐ GIS data ☒ Field notes ☐ Other:

COPY SENT TO: Regional Office ☐ District Office ☒ Other:

Submitter of Record: Katherine Walkerden Role: Environmental Officer Signed: Date: 08/03/2024

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 ☐

Appendix 2.10 *Pityrodia chrysocalyx*

Department of Biodiversity, Conservation and Attractions

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.dbca.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: Pityrodia chrysocalyx **TPFL Pop. No:**

OBSERVATION DATE: 21/09/2024 **CONSERVATION STATUS:** P3 **New population** ☐

OBSERVER/S: Julie Waters and Katherine Walkerden **PHONE** 90831519

ROLE: Environemtnal Coordinator and Environmental Officer **ORGANISATION:** Shire of Esperance

EMAIL: Katherine.Walkerden@esperance.wa.gov.au

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):

Circle Valley Road between SLK 5.85 and 5.97

Reserve No:

DBCA DISTRICT: Esperance **LGA:** Esperance Land manager present: ☒

DATUM: GDA94 / MGA94 ☒ AGD84 / AMG84 ☐ WGS84 ☐ Unknown ☐

COORDINATES: (If UTM coords provided, **Zone** is also required) DecDegrees ☐ DegMinSec ☐ UTMs ☒

Lat / Northing: 6339944

Long / Easting: 382944

ZONE: 51

METHOD USED: GPS ☒ Differential GPS ☐ Map ☐

No. satellites: Map used:

Boundary polygon captured: ☐ Map scale:

LAND TENURE:

Nature reserve ☐ Timber reserve ☐ Private property ☐ Rail reserve ☐ Shire road reserve ☒

National park ☐ State forest ☐ Pastoral lease ☐ MRWA road reserve ☐ Other Crown reserve ☐

Conservation park ☐ Water 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: (Refer to field manual for list)

WHAT COUNTED: Plants ☐ Clumps ☐ Clonal stems ☐

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:
Alive	165			
Dead				

Area of pop (m²):

Note: Pls record count as numbers (not percentages) for database.

QUADRATS PRESENT: No. Size Data attached ☐ Total area of quadrats (m²):

Summary Quad. Totals: Alive				

REPRODUCTIVE STATE: Clonal ☐ Vegetative ☐ Flowerbud ☐ Flower ☐

Immature fruit ☐ Fruit ☐ Dehisced fruit ☐ Percentage in flower: ____%

CONDITION OF PLANTS: Healthy ☐ Moderate ☐ Poor ☐ Senescent ☐

COMMENT:

THREATS - type, agent and supporting information: Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. **Specify agent** where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme. Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)	Current Impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Road upgrade project and regular roadmaintenance.	N-L	L	M
•			
•			

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 ☐

Department of Biodiversity, Conservation and Attractions

Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK: (on soil surface; eg gravel, quartz fields)	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest ☐	Granite ☐	0-10% ☐	Sand ☒	Red ☐	Well drained ☒
Hill ☐	Dolerite ☐	10-30% ☐	Sandy loam ☐	Brown ☐	Seasonally inundated ☐
Ridge ☐	Laterite ☐	30-50% ☐	Loam ☐	Yellow ☐	Permanently inundated ☐
Outcrop ☐	Ironstone ☐	50-100% ☐	Clay loam ☐	White ☐	Tidal ☐
Slope ☐	Limestone ☐		Light clay ☐	Grey ☐	
Flat ☐	Quartz ☐		Peat ☐	Black ☐	
Open depression ☐	Specify other:		Specify other:	Specify other:	
Drainage line ☐					
Closed depression ☐					
Wetland ☐					

Specific **Landform** Element: (Refer to field manual for additional values)

CONDITION OF SOIL: Dry ☐ Moist ☐ Waterlogged ☐ Inundated ☐

VEGETATION CLASSIFICATION*:
Eg. 1. Banksia woodland (B. attenuata, B. ilicifolia); 2. Open shrubland (Hibbertia sp., Acacia spp.); 3. Isolated clumps of sedges (M.tetragona)

1. mixed mallee woodland over open shrubland
2.
3.
4.

ASSOCIATED SPECIES:
Other (non-dominant) spp

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine ☐ Excellent ☐ Very good ☒ Good ☐ Degraded ☐ Completely degraded ☐

COMMENT:

FIRE HISTORY: **Last Fire:** Season/Month: Year: **Fire Intensity:** High ☐ Medium ☐ Low ☐ No signs of fire ☒

FENCING: Not required ☒ Present ☐ Replace / repair ☐ Required ☐ Length req'd:

ROADSIDE MARKERS: Not required ☒ Present ☐ Replace / reposition ☐ Required ☐ Quantity req'd:

OTHER 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 Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: KSW 13422 WA Herb. ☒ Regional Herb. ☐ District Herb. ☐ Other:

LODGEMENT: WA Herb Lodgement No: 9740

ATTACHED: Map ☐ Mudmap ☐ Photo ☐ GIS data ☒ Field notes ☐ Other:

COPY SENT TO: Regional Office ☐ District Office ☒ Other:

Submitter of Record: Katherine Walkerden Role: Environemntal Officer Signed: Date: 08/03/2024

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 ☐

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	T	Associated with burned areas in Mallee woodland of the Grass Patch area.	No	18.15
Eucalyptus merrickiae	T	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

Acacia bartlei	P3	Flat or gently undulating landscapes, waterlogged depression in brown/grey sandy loam or clay loam. Commonly associated with Eucalyptus occidentalis.	No	0.59
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 (MI).

Scientific Name	Common Name	WA cons. status	EPBC status	Distance (km)	EPBC protected matters tool	Habitat	Likely to occur
Botaurus poiciloptilus	Australasian Bittern		EN		X	Densely vegetated wetlands.	No
Calidris ferruginea	Curlew Sandpiper		CR		X	Intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms.	No
Calyptorhynchus latirostris	Carnaby's cockatoo	EN	EN	14.15	X	Uncleared and remnant areas of 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.	No
Cereopsis novaehollandiae grisea	Cape Barren Goose (south-western), Recherche Cape Barren Goose		VU		X	It occurs on offshore islands and rocks, and at adjacent sites on the mainland. It inhabits grasslands and low fields of succulent herbs (comprised of Carpobrotus sp.), and occasionally occurs in open areas in taller and denser vegetation.	No

Dasyurus geoffroii	Chuditch, western quoll	VU	VU	6.37	X	Historically inhabited a wide range of habitats, but today it survives mostly in Jarrah Eucalyptus marginata forests and woodlands, mallee shrublands and heathlands.	Yes
Falco hypoleucos	Grey Falcon		VU		X	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.	Yes
Falco peregrinus	Peregrine falcon	OS		19.46		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.	Yes
Leipoa ocellata	Malleefowl	VU	VU	6.05	X	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 verrucosa), Eucalyptus woodlands and coastal heathlands. Malleefowl require abundant leaf litter and a sandy substrate for the successful construction of nest mounds.	No
Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew		CR		X	Coastal mudflats and estuaries.	No

Pezoporus occidentalis	Night Parrot		EN		X	Spinifex grasslands in stony or sandy areas 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.	No
Platycercus icterotis xanthogenys	Western rosella (inland)	P4		8.02		Open eucalypt forest and timbered areas, including cultivated land and orchards. The xanthogenys subspecies is found in drier woodland, with a heath understorey.	Yes
Thinornis rubricollis	Hooded plover, hooded dotterel	P4		0.72		Freshwater lakes, freshwater marshes, coastal saline lagoons, and sandy beaches	No

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)	**1. 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. **2. 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. **3.** Taxa that have been removed from the list of threatened species during the past five years for reasons other than taxonomy

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 prescribed criteria.
V	**Vulnerable** 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 the prescribed criteria.
CD	**Conservation Dependent** 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.

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	Control Measures
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.	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.
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.	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.
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.	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; & 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 Cockatoo**	
10	**Start at a score of 10** if your site is native shrubland, kwongan heathland or woodland, dominated by proteaceous plant species such as *Banksia* spp. (including *Dryandra* spp.), *Hakea* spp. and *Grevillea* spp., as well as native eucalypt woodland and forest that contains foraging species, within the range of the species, including along roadsides and parkland cleared areas. Also includes planted native vegetation. ***This tool only 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**	**Subtract 2** from your score if there is no evidence of feeding debris on your site.
Connectivity	**-2**	**Subtract 2** 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**	**Subtract 2** if you have evidence to conclude that your site is more than 12km from breeding habitat.
Proximity to roosting	**-1**	**Subtract 1** 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**	**Subtract 1** if your site has disease present (e.g. *Phytophthora* spp. or Marri canker) and the disease is preferred food plants present.
Total score	**Enter score**	
Other considerations for assessment of foraging habitat	- The presence, extent and density (including foliage cover and flowering density) of all plant species that provide foraging, including non-native food sources used - The distribution and size of foraging habitat in proximity (e.g. up to 12 km) to the impact site. - Site degradation (such as cleared, disturbed or degraded areas). - The fire history of the impact site. - Landscape characteristics around the impact site, including details of roosting and breeding habitat in proximity (e.g. up to 20km for roosting and 12km for breeding); and - The location and details of watering points that could support the use of the foraging habitat.	
Appraisal	To support your habitat score, you should provide an overall appraisal of the habitat on the impact site and within 20km of the impact area to clearly explain and justify the score. It should include discussion on the foraging habitat's proximity to other resources (e.g. exact distance to proximate resources), frequency of use of proximate sites, the degree of evidence and description of vegetation type and condition.	

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 Western Australia	Endangered	May	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	Critically Endangered	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	Bird	May	Endangered	
Anigozanthos bicolor subsp. minor	Little Kangaroo Paw, Two-coloured	Plant	Likely	Endangered	

	Kangaroo Paw, Small Two-colour Kangaroo Paw				
Ricinocarpos trichophorus	Barrens Wedding Bush	Plant	May	Endangered	
Zanda latirostris	Carnaby'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	