

## Vegetation, Flora, Fauna and Environmental Considerations, and Targeted Flora Report

Shire of Esperance Strategic Purpose Permit 2021/22  
Site T – Dempster Road SLK 28.48-37.63



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February 2022

## 1 Executive Summary

This 'Vegetation, Flora, Fauna and Environmental Considerations and Targeted Flora Report' has been undertaken in accordance with the 'Environmental Protection Authority (EPA) Technical Guidance, Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia (2016)' as part of the application to the Department of Water and Environmental Regulations (DWER) to clear 4.77 ha of native vegetation for the purpose of road widening.

## 2 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 'Dempster Road SLK 28.48-37.63' project as Site T under the '2021 Strategic Purpose Permit' (Figure 1), for the purpose of road widening.

The proposed works are located approximately 50 km north of Esperance, within the Shire of Esperance managed road reserve of Dempster Road. Specifically, it is located from to Scaddan Road to Norwood Road, at straight line kilometre (SLK) 28.48 to 37.63 (Main Roads 2021). A point within the proposed clearing permit area is -33.458916S, 122.016031E or 408488 m N, 6297489 mE (UTM Zone 51 H, GDA94).

This project involves the re sheeting of an unsealed section of Dempster Road. This road is classified as a local distributor servicing the inner north eastern agricultural region, and is also a school bus route. This section of road has a traffic composition of up to 28% heavy vehicles during peak periods. Aerial photo measurements indicate the current clear width varies from 18 to 20m. The preferred road profile to be utilised is STD00023 A (Appendix 8.3) (22m envelope desirable). In order to minimise clearing required it is believed that the desired improvement can be achieved by reducing the clearing required to 1m either side of the road.



**Figure 1.** Location of clearing permit ‘Site T – Dempster Road SLK 28.48 -37.63’

### 3 Environmental Background

#### 3.1 Scope

The removal of native vegetation to widen roads has the potential to affect a multiple environmental factors.

Possible impacts include;

- Threatened Flora (TF) and Priority Flora (PF).
- Threatened fauna, specifically, potential feeding, nesting and roosting habitat of endangered Carnaby’s Black Cockatoo, *Calyptorhynchus latirostris*.
- Threatened Ecological communities (TEC) and Priority Ecological Communities (PEC), specifically the Environmental Protection and Biodiversity Conservation (EPBC) Act 1999 listed ‘Proteaceae Dominated Kwongan Shrublands of the Southeast Coastal Floristic Province of Western Australia’ (Kwongan) TEC.

Assessing these impacts involves two approaches; desktop study and field survey. The desktop study gathered background information on the target area. The field survey allows for detailed understanding of vegetation communities, targeted flora surveys for possible TF or PF, environmental condition, presence of PEC and TEC, and overall potential impact of clearing.

#### 3.2 Catchment

‘Site T – Dempster Road SLK 28.48 -37.63’ is present within the Bandy Creek catchment area. It is

located approximately 37km from the coast.

### 3.3 Climate

The Esperance climate is described as Mediterranean, characterised by cool wet winters and dry warm summers (BoM 2020). The area receives an average annual rainfall of 618 mm.

### 3.4 Geology

Three geological units were identified within 'Site T – Dempster Road SLK 28.48 -37.63', by Schoknecht et al. (2004). They are described as:

- "Tertiary marine sediments of the Pallinup formation over granite and gneiss bedrock",
- "Tertiary marine sediments of the Palilup formation" and
- "Tertiary sediments. Lacustrine sediments with gypsum and salt in lakes. Bedrock is deep."

### 3.5 Soils

The soil of 'Site T – Dempster Road SLK 28.48 -37.63' is broadly defined as sandy duplex soil (Schnoknecht et al. 2004). Within the area, there has been three soil types recorded. These include:

- Grey deep sandy duplex (gravelly) soils, associated salt lake soils and calcareous loamy earths. Some signs of secondary salinity,
- Grey deep sandy duplex (gravelly) soils with associated pale deep sands and minor grey shallow sandy duplex soils, and
- Alkaline grey deep and shallow sandy duplex soils with associated salt lake soils, pale deep sands and calcareous loamy earths.

### 3.6 Topography

During the field survey, topography was observed to be dominated by Level plain with small playa lakes along incipient saline drainage lines. Using Schnoknecht et al. (2004), the project topography is mapped at a fine scale, traversing 5 topographic areas. These include:

- Gently undulating to undulating plain with many small playas. Lunettes and sand dunes are common on eastern side of lakes
- Level to gently undulating plain with areas of gilgai microrelief. Drainage is generally poorly developed and usually internal
- Gently undulating to undulating plain with few to common small playas
- Level to gently undulating sandplain with sand sheets, internally drained to swamps externally via incipient saline drainage lines

### 3.7 Vegetation

The site is located at the border between two Interim Biogeographic Regionalisation for Australia regions (IBRA; Thackway & Cresswell 1995). The south of the site sits within the Esperance Plains region (Esp2) and Recherche sub-region. The Esperance Plains region is described as "Proteaceae Scrub and Mallee heaths on sandplain overlying Eocene sediments, rich in endemics. Herbfields and heaths (rich in endemics) on abrupt granite and quartzite ranges that rise from the plain. Eucalyptus woodlands occur in gullies and alluvial foot-slopes". The north of the site is located within the Eastern Mallee (Mal01) Interim Biogeographic Regionalisation of Australia (Thackway & Cresswell 1995) region. The Eastern Mallee 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 two vegetation associations (VA) within the 'Site T – Dempster Road SLK 28.48 - 37.63' area (Table 1). Both are well represented within the conservation reserve system.

**Table 1.** Vegetation associations mapped by Beard (1973) within the 'Site T – Dempster Road SLK 28.48 -37.63', and statistics on pre-European remaining areas.

Nt. Acronyms used include Interim Biogeographic Regionalisation of Australia (IBRA), Eastern Mallee bioregion (Mal01), Esperance Plains bioregion (Esp2), local government area (LGA) and International Union of Conservation Nature (IUCN).

<b>Vegetation Association</b>		
Name	Ridely_1516	Esperance_47
Description	Shrublands; mallee scrub, black marlock & Forrest's marlock	Shrublands; tallerack mallee-heath: Eucalyptus open mallee shrubland, Lambertia mixed shrubland and Andersonia mixed heath.
Area mapped within site (ha)	4.32ha	0.45ha
Pre-European extent in IBRA region Mal01 (%)	26.48%	43.58%
Pre-European extent in IBRA region Esp2 (%)	47.34%	15.06%
Pre-European extent in LGA (%)	47.15%	13.42%
Current extent conserved in IUCN area (%)	18.91%	17.68%

### 3.8 Land use

The area directly included in the clearing permit application 'Site T – Dempster Road SLK 28.48 -37.63' is currently intact and vegetated 100m wide (and wider) road reserve, managed by the Shire of Esperance. The current road footprint occupies 18-20m. The surrounding land use is mostly crown land and Mt Ridley Nature Reserve, but also includes Forest Products Commission managed pine plantation, a small gravel reserve and some agricultural land used for cropping. The area is within rural and environmental conservation zoning.

## 4 Methodology

### 4.1 Desktop study

A desktop study was completed prior to any site visit. Geographical Information System (GIS) review existing

- Existing site digital orthophotos, as sourced from LandGate (Scaddan 2015).
- Western Australian Local Government Association's (WALGA) 'Local Government Mapping

(LGMap 2020)' program was used to assess spatial information of geology, topography, soil profiles, native and planted vegetation, water bodies and Interim Biogeographical Regionalisation for Australia (IBRA; Thackway & Cresswell 1995) classification system.

- Data provided by Department of Biodiversity, Conservation and Attractions (DBCA) and Western Australian Herbarium in July/August 2020 was used to assess threatened flora (TF), priority flora (PF), and threatened (TEC) and priority (PEC) ecological communities within 20 km radius of the site. Specifically, spatial data included;
  - WAHerb extract (DBCA 2021f).
  - Threatened and Priority Reporting (TPFL; DBCA 2021d).
  - Esperance District Threatened Flora (DBCA 2021a).
  - TEC and PEC 'Likely to Occur' buffer and boundary areas (DBCA 2021e).
  - Department of Agriculture, Water and the Environment Protected Matters Search Tool
  - Index of Biodiversity Surveys for Assessment (IBSA).
- To assess fauna, the following databases were searched with a 20km buffer from the center of the site (-33.464912, 122.0161597);
  - Department of Biodiversity, Conservation and Attractions (DBCA) and Western Australian Museum (WAM) NatureMap data portal
  - DBCA Threatened and Priority Fauna database
  - BirdLife Australia's Atlas and Birddata datasets
  - Department of Agriculture, Water and the Environment Protected Matters Search Tool
  - Atlas of Living Australia database
  - Index of Biodiversity Surveys for Assessment (IBSA).

#### 4.2 Field investigation: possible ecological impacts

The site was initially inspected on 3/9/2020, by the Shire of Esperance's Environmental Coordinator, Julie Waters and Field Assistant Sophie Wilsher. An assessment of possible ecological impacts included historical clearing, artificial water way constructions, impact of fire regimes, regeneration from disturbance, waterlogging, senescence, weeds, erosion, sedimentation, invasive fauna, *Phytophthora cinnamomi* Dieback, and illegal dumping of rubbish.

Vegetation community was also assessed during the field survey. Broad vegetation types defined by structure and composition were recorded and described. Condition of vegetation was assessed using Keighery (1994) categories, as 'Excellent', 'Very Good', 'Good', 'Degraded' or 'Completely Degraded'. This illustrates how healthy vegetation is, determined by number of dead or dying plants, weed cover and other forms of degradation. 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.

Only a very basic fauna survey was conducted as per EPA (2020) guidelines. Observations of fauna presence, such as call sounds, footprints and scats were also noted, and the area assessed for suitability of endangered Carnaby's Black Cockatoo (*Calyptrorhynchus latirostris*) feeding, roosting and nesting habitat. Additionally, species that corresponded with suitable habitat within 'Site T – Dempster Road SLK 28.48 -37.63' identified in the desktop 20 km radius search were assessed, including Mallee fowl, Carnaby's cockatoo and Hooded Plovers. Field investigation: Assessing Threatened and Priority Ecological Communities

The vegetation communities of 'Site T – Dempster Road SLK 28.48 -37.63' was assessed for the presence a TEC or PEC, specifically 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 32 (DBCA 2021b)' definitions.

### 4.3 Field Investigation: Targeted flora survey

The targeted flora survey was undertaken following the Environmental Protection Authority's (EPA) 'Technical Guidance, Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia (2016)'. The entirety of the proposed impact area was surveyed on foot in mid-spring over four days, between 15/10/2020 and 23/10/2020 by Julie Waters, Shire of Esperance's Environmental Coordinator and Sophie Wilsher and Danika Penson, Field Assistants. Due to the timing, the majority of species were flowering, decreasing the likelihood of missing species. The road was used as a continuous transect. Vegetation up to 3 meters from the edge of the existing road's back-slope was assessed to accurately cover the 22 m width proposed clearing permit area. Suitable associated habitat for TF or PF identified in the desktop study were particularly focused on, and extensively searched. A follow up survey was conducted on 10/9/2022 to specifically target the identification and counting of priority flora including *Astroloma* sp. Grass Patch and *Darwinia* sp. Gibson, and to get another sample of an acacia that was unable to be identified from the poor specimen in 2020. Further follow up counts of PF were undertaken on 21/12/2021 and 7/1/2022 by Shire of Esperance Environmental Officers, Julie Waters and Katherine Walkerden.

Due to the high diversity and complexity of Esperance's flora, all species were recorded to compile an incidental species list (Appendix 8.1). All species unknown in the field were collected and identified exsitu, using keys, WA Herbarium's Florabase (DBCA 2020c), manuals and Esperance District Herbarium, to ensure no TF or PF were missed. Material was collected under Julie Waters' Regulation 61, Biodiversity Conservation Regulations 2018 Licence for Flora Taking, FT61000787. Any species that were unable to be identified were submitted to the WA Herbarium for identification.

Over the course of the 2020 wildflower season, surveyors re-familiarised themselves with key taxonomic indicators and associated habitat, by visiting verified populations of *Stachystemon venosus*, *Conostephium marchoriatum*, *Darwinia* sp. Gibson, *Hydrocotyle astrocarpa*, and *Astroloma* sp. Grass Patch. For other PF or TF species identified in the desktop survey as possible to occur, scans of pressed specimens from the local Esperance District Herbarium were taken into the field. Any flora thought to be TF or PF was formally collected, counted and mapped using a Panasonic FS-G1 Toughpad with the program ROAM or a GPS Garmin GPS64. Specimens were then lodged with the WA Herbarium for formal verification. When PF were confirmed, TPFL forms were completed and submitted to the DBCA's district Conservation Officer, and Species and Communities Branch.

## 5 Results and Discussion

### 5.1 Ecological Impact

#### 5.1.1 Vegetation Communities

Ten vegetation communities were identified within the 'Site T – Dempster Road SLK 28.48 -37.63', as defined by structure and composition (Table 2). The incidental flora list identified a total of 287 species (272 native species) across all vegetation communities. It is believed that the Beard (1973) vegetation associations identified in Section 3.6 are an appropriate match for seven of the vegetation types observed. Two of the nine vegetation communities did not have an appropriate Beard Vegetation Association.

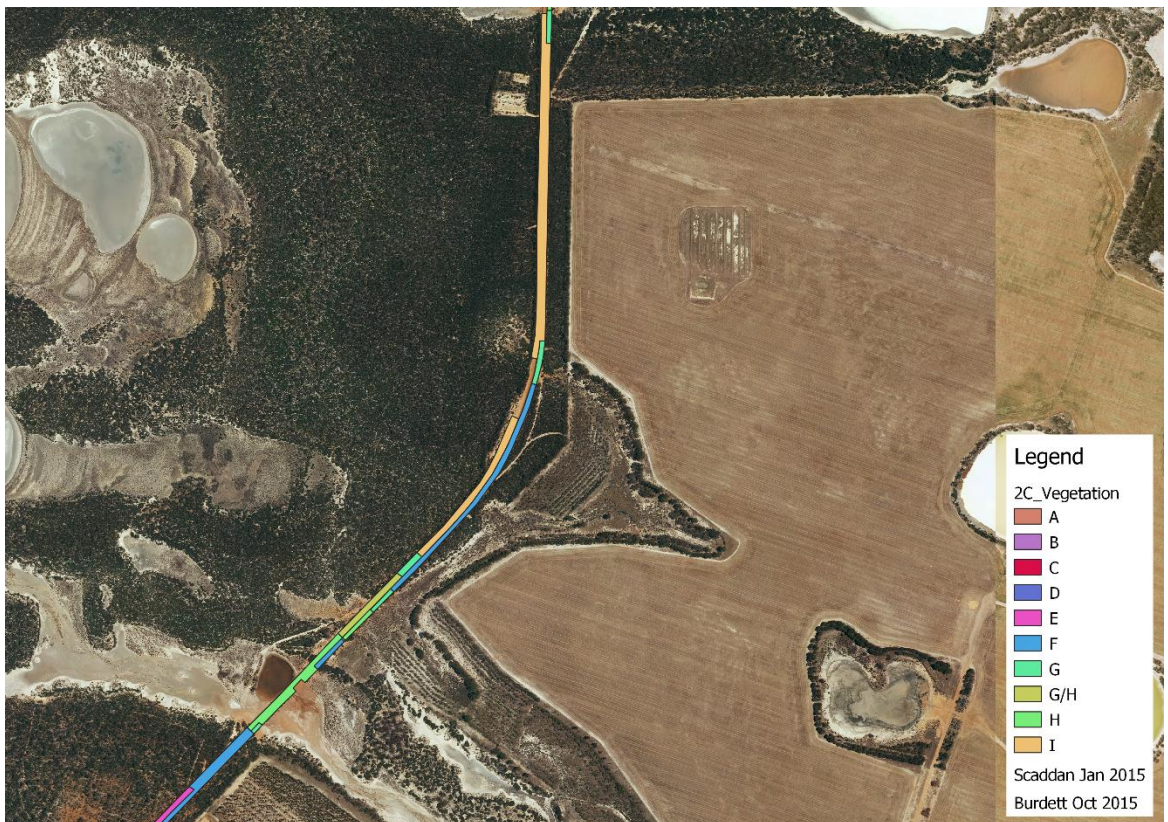


**Table 2.** Vegetation communities identified within proposed 'Site T – Dempster Road SLK 28.48 -37.63' project area.

Type	Description	Figure	Beard Vegetation Association	Area (ha)	Diversity (species)
A	Open <i>Eucalyptus pleurocarpa</i> woodland over diverse Proteaceous shrubland	8	VA 47 - Shrublands; tallerack mallee-heath	0.052	84
B	<i>Banksia speciosa</i> open woodland, over mixed proteaceous shrubland	9	VA 4048 - Shrublands; scrub-heath in the Esperance Plains including Mt Ragged scrub-heath	0.150	93
C	Open <i>Eucalyptus occidentalis</i> and <i>Melaleuca cuticularis</i> woodland over dense Melaleuca shrubland over sedges	10	931 – Medium woodland yate	0.100	40
D	<i>Eucalypts conferruminata</i> woodland over <i>Leptospermum</i> / <i>Rinzia</i> shrubland	11	No Beard vegetation association matching	0.011	40
E	Open <i>Eucalyptus pleurocarpa</i> woodland over <i>Banksia armata</i> low shrubland (Note most of this vegetation type is rehabilitated gravel pit)	12	VA 47 - Shrublands; tallerack mallee-heath	0.050	54
F	Eucalyptus (mallee) semi closed woodland over <i>Banksia media</i> and melaleuca shrubland	13	VA 1516 - Shrublands; mallee scrub, black marlock & Forrest's marlock	0.871	106
G	Closed melaleuca shrubland fringing lakes with scattered mallee	14	VA 41 - Shrublands; teatree scrub	0.300	63
GH	Closed melaleuca shrubland fringing lakes with scattered mallee & samphire			0.198	51
H	Low samphire shrubland	15	No Beard vegetation association matching	0.072	21
I	Dense Eucalyptus (mallee) woodland over melaleuca shrubland	16	VA 519 - Shrublands; mallee scrub, <i>Eucalyptus eremophila</i>	1.551	92



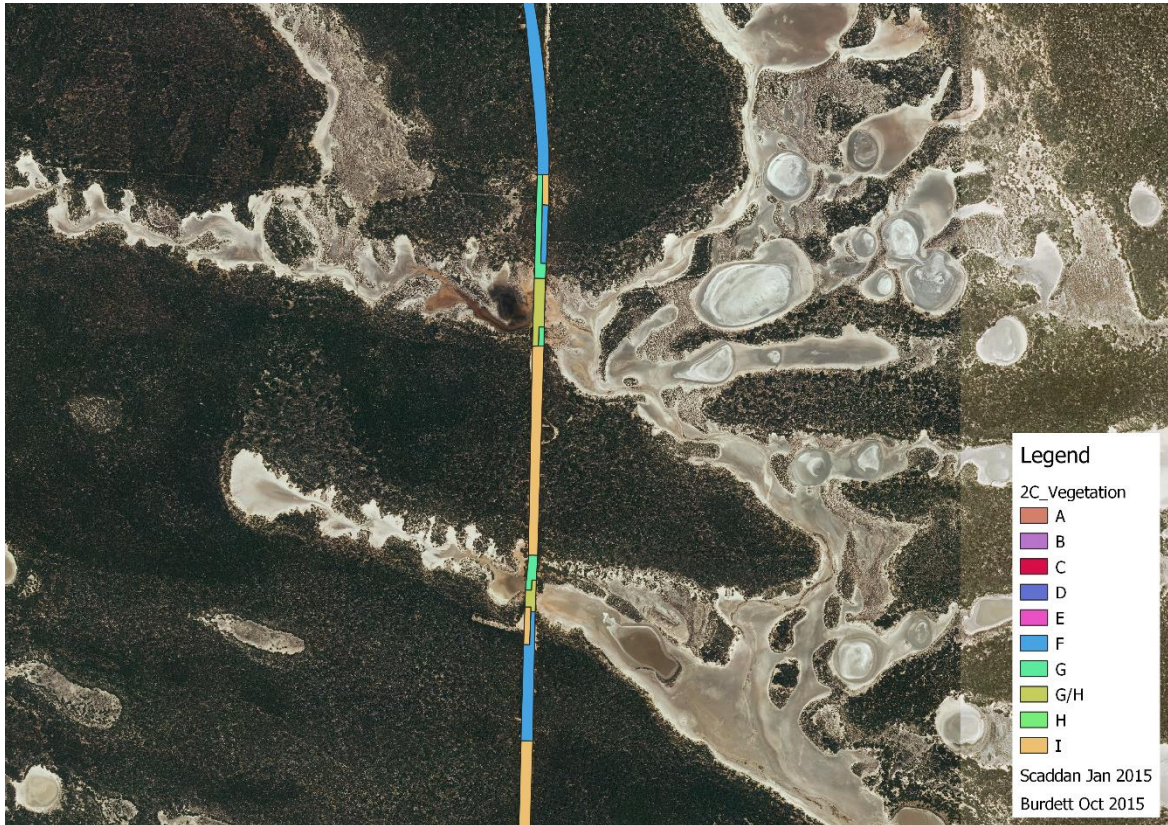
**Figure 2.** Vegetation types within the 'Site T – Dempster Road SLK 28.48 -37.63' area, from SLK 28.48 to 30.52 along Dempster Road.



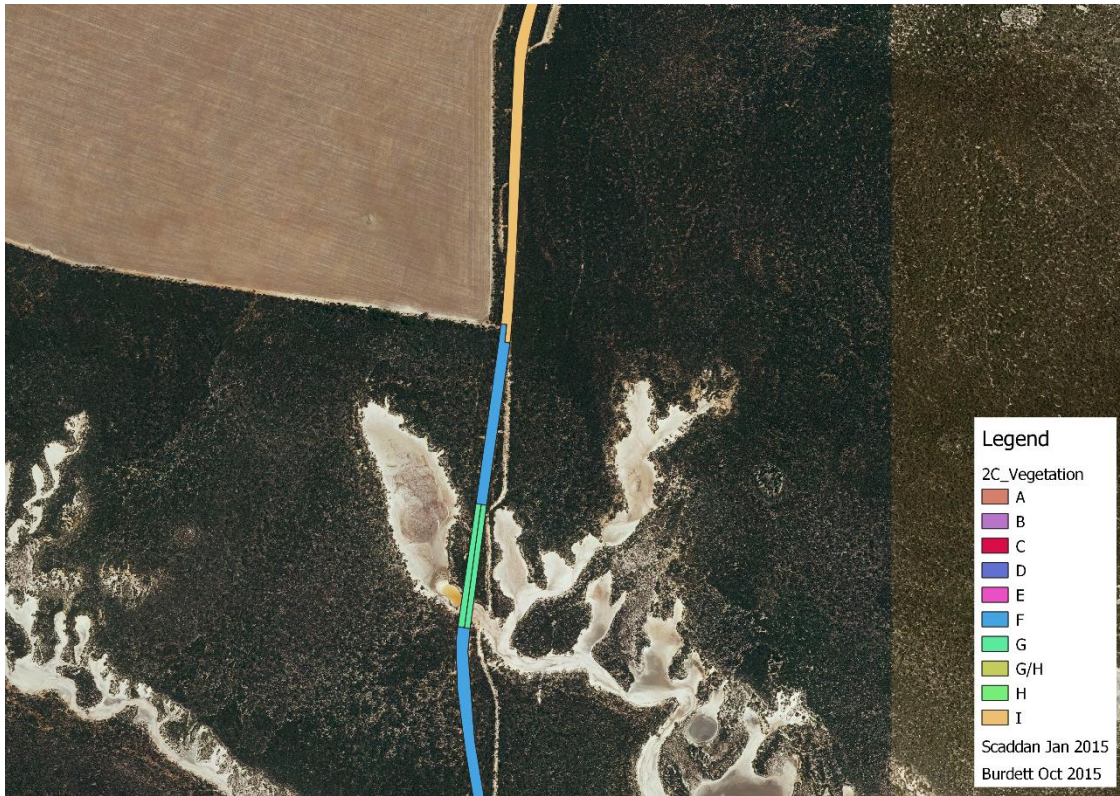
**Figure 3.** Vegetation types within the 'Site T – Dempster Road SLK 28.48 -37.63' area, from SLK 30.52 km to 32.16 along Dempster Road.



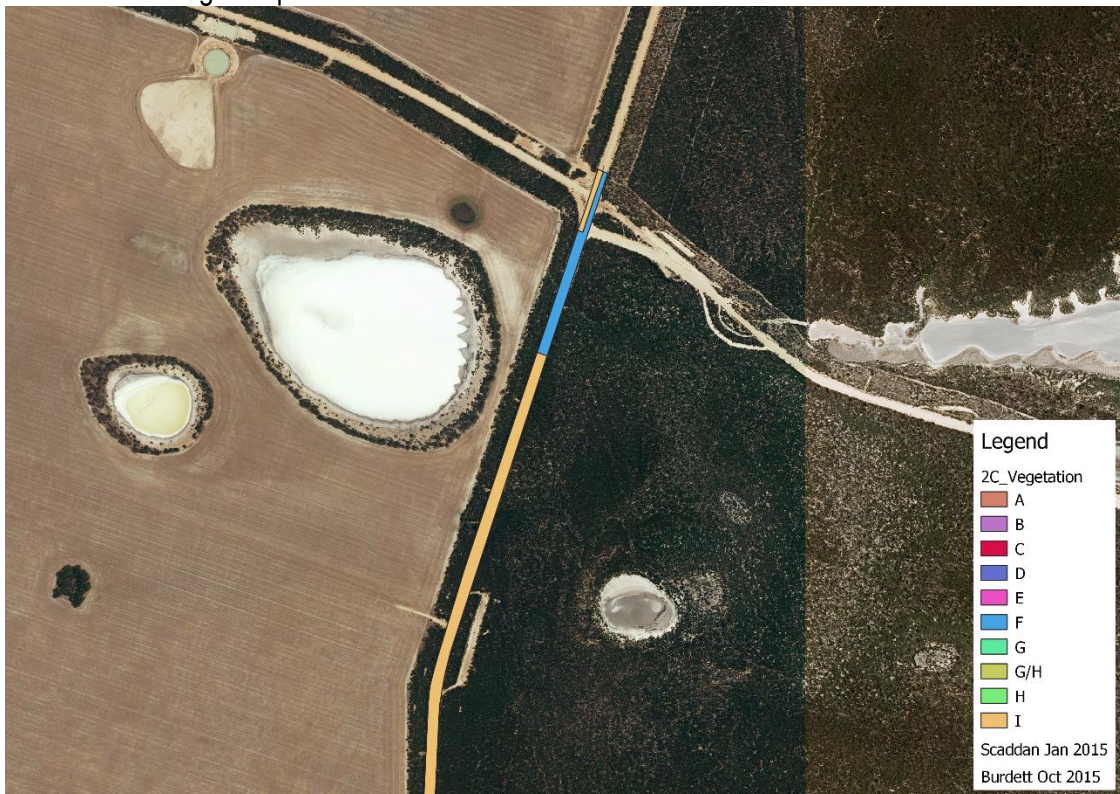
**Figure 4.** Vegetation types within the 'Site T – Dempster Road SLK 28.48 -37.63' area, from SLK 32.16 km to 33.54 along Dempster Road.



**Figure 5.** Vegetation types within the 'Site T – Dempster Road SLK 28.48 -37.63' area, from SLK 33.54 km to 34.82 along Dempster Road.



**Figure 6.** Vegetation types within the 'Site T – Dempster Road SLK 28.48 -37.63' area, from SLK 34.82 km to 36.24 along Dempster Road.



**Figure 7.** Vegetation types within the 'Site T – Dempster Road SLK 28.48 -37.63' area, from SLK 36.24 to 37.63 along Dempster Road.



**Figure 8.** Vegetation type A identified in 'Site T – Dempster Road SLK 28.48 -37.63' project, described as 'Open *Eucalyptus pleurocarpa* woodland over diverse Proteaceous shrubland'.



**Figure 9.** Vegetation type B identified in 'Site T – Dempster Road SLK 28.48 -37.63' project, described as '*Banksia speciosa* open woodland, over mixed proteaceous shrubland'.



**Figure 10.** Vegetation type C identified in 'Site T – Dempster Road SLK 28.48 -37.63' project, described as 'Open *Eucalyptus occidentalis* and *Melaleuca cuticularis* woodland over dense *Melaleuca* shrubland over sedges'.



**Figure 11.** Vegetation type D identified in 'Site T – Dempster Road SLK 28.48 -37.63' project, described as '*Eucalypts conferruminata* woodland over *Leptospermum/Rinzia* shrubland'.



**Figure 12.** Vegetation type E identified in 'Site T – Dempster Road SLK 28.48 -37.63' project, described as 'Open *Eucalyptus pleurocarpa* woodland over *Banksia armata* low shrubland'. Most of this vegetation type is rehabilitated gravel pit.



**Figure 13.** Vegetation type F identified in 'Site T – Dempster Road SLK 28.48 -37.63' project, described as 'Eucalyptus (mallee) semi closed woodland over *Banksia media* and melaleuca shrubland'.



**Figure 14.** Vegetation type G identified in 'Site T – Dempster Road SLK 28.48 -37.63' project, described as 'Closed melaleuca shrubland fringing lakes with scattered mallee'.



**Figure 15.** Vegetation type H identified in 'Site T – Dempster Road SLK 28.48 -37.63' project, described as 'Low samphire shrubland'.





**Figure 16.** Vegetation type I identified in 'Site T – Dempster Road SLK 28.48 -37.63' project, described as 'Dense Eucalyptus (mallee) woodland over melaleuca shrubland'.

## 5.2 Vegetation Condition

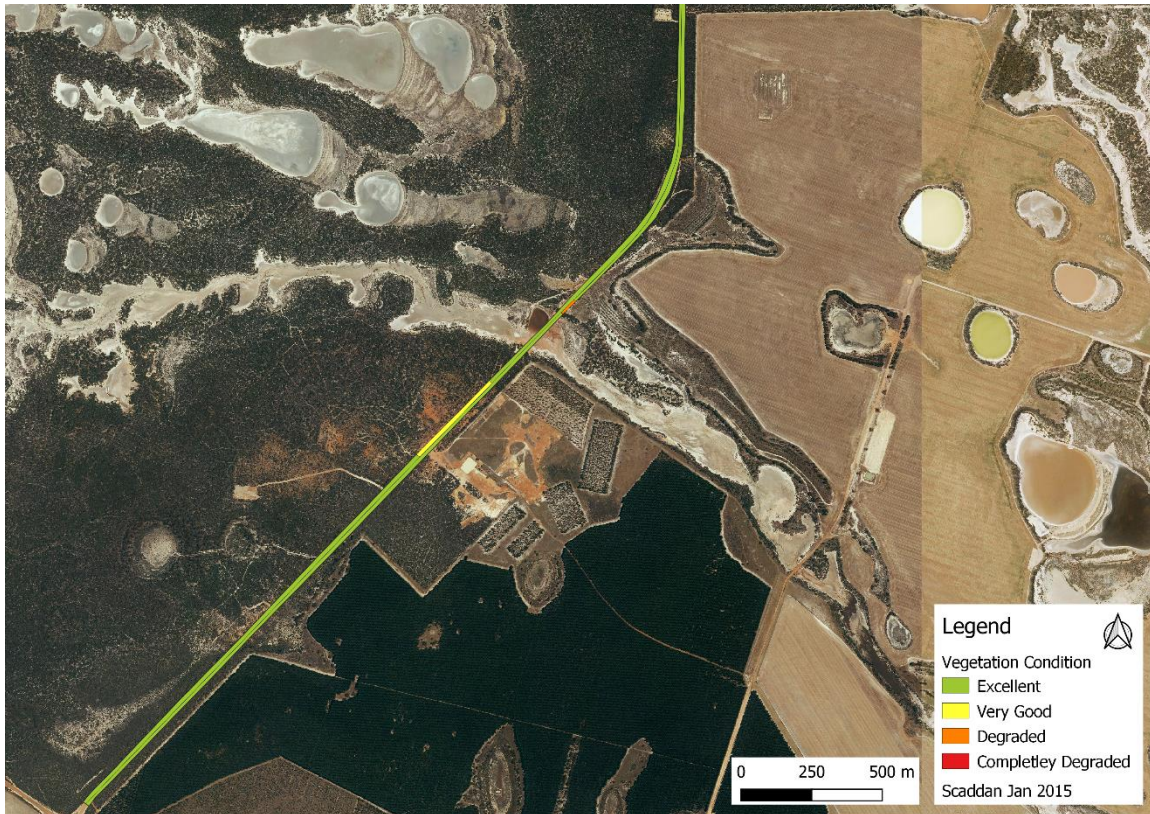
The majority of 'Site T – Dempster Road SLK 28.48 -37.63' was in excellent condition with only a couple of smaller degraded areas from previous disturbance including chaining and gravel extraction activities. Whilst the works do pass over a number of lakes and are likely to have temporary impacts on these lakes, the fact that they already have a road and drainage infrastructure at these sites is unlikely increase the disturbance to natural hydrological regimes of the area. It is also highly unlikely acid sulphate soils will develop, being the incorrect soil type present. No evidence of invasive fauna, such as scats or digging, were observed. However, it is highly likely that foxes, rabbits and feral cats are extensive throughout the area. The entire area is long unburnt with no recorded fire in the area.



**Figure 17 –** Chained firebreak within Vegetation type I.

Quantifying vegetation condition, there is:

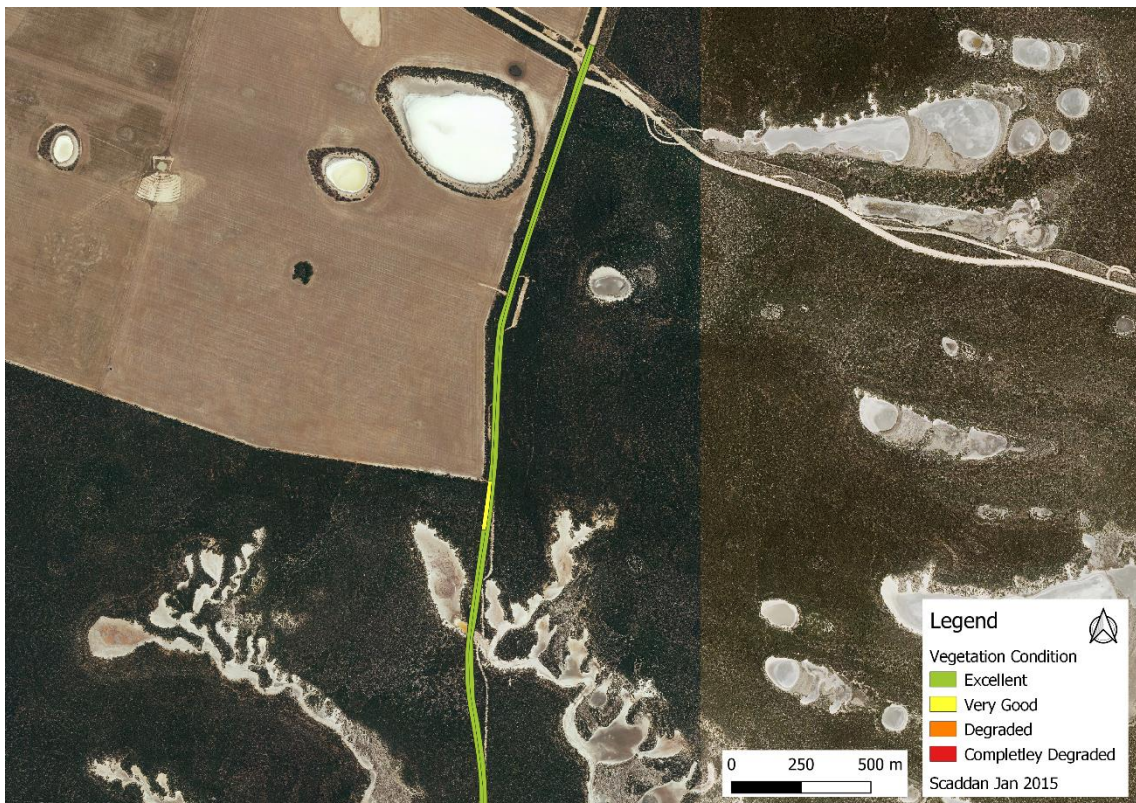
- 4.60 ha of vegetation within a 4.77 ha footprint (96.50%) is in Excellent condition,
- 0.138 ha of vegetation within a 4.77 ha footprint (2.95%) is in Very Good condition
- 0.0164 ha of vegetation within a 4.77 ha footprint (0.35%) is in Degraded condition
- 0.024 ha of vegetation within a 4.77 ha footprint (0.51%) is in Completely Degraded condition



**Figure 18.** Vegetation condition across 'Site T – Dempster Road SLK 28.48 -37.63' project, ranging from Excellent to Degraded condition, due to primarily to degradation from gravel extraction and chaining.



**Figure 19.** Vegetation condition across 'Site T – Dempster Road SLK 28.48 -37.63' project, ranging from Excellent to Completely Degraded condition, due to primarily to degradation from gravel extraction and chaining.



**Figure 20.** Vegetation condition across 'Site T – Dempster Road SLK 28.48 -37.63' project, ranging from Excellent to Very Good condition, due to primarily to degradation from gravel extraction and

There was minimal weed invasion across the entirety of the proposed 'Site T – Dempster Road SLK 28.48 -37.63' area. Overall, 15 invasive species were identified within the project area (Appendix 8.1). Most of these were agricultural weeds at low densities. The most concerning weed was *Leptospermum laevigatum* (Victorian Tea tree) which was present in vegetation type A. This single large plant will be removed prior to works occurring. Due to the relatively weed free area, the Shire of Esperance will follow best practice weed management. Weed management strategies are currently being discussed operationally by the Shire of Esperance include, spraying material stockpiles in agricultural private property prior to use and periodic spraying of road verges for a twelve month period after road construction.



**Figure 21.** This single large plant of *Leptospermum laevigatum* (Victorian Tea tree) which was present in vegetation type A will be removed prior to works occurring within the Site T – Dempster Rd' project area.

Dieback Information Delivery and Management System (DIDMS; GAIA Resources, SCNRM & State NRM 2021) data shows no *Phytophthora cinnamomi* or other *Phytophthora* sp. Dieback sample results

in the immediate area. There were no visual signs of dieback in the project or surrounding area. There were some very old senescing *Banksia speciosa*, but many healthy younger ones. Vegetation types A, B and E are the most susceptible to dieback due to the high number of Proteaceae and Ericaceae species within them. Based on Dieback Management Plans prepared for Shire of Esperance road construction and management projects. 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. However, there is always a possibility that proposed works could spread *P. cinnamomi* dieback along Dempster road.

### 5.3 Threatened and Priority Ecological Communities

The desktop study identified the Environmental Protection and Biodiversity Conservation (EPBC) Act 1999 listed threatened ecological community (TEC) 'Proteaceae Dominated Kwongkan Shrublands of the Southeast Coastal Floristic Province of Western Australia (Kwongkan)' within 'Site T – Dempster Road SLK 28.48 -37.63' project area. No other TEC's or priority ecological communities (PEC) were identified by the desktop study as being within Site T – Dempster Rd' or within a 20 km buffer of the site.

Three vegetation communities, described as; 'A - Open *Eucalyptus pleurocarpa* woodland over diverse Proteaceous shrubland'; 'B – *Banksia speciosa* open woodland, over mixed proteaceous shrubland' and 'E - Open *Eucalyptus pleurocarpa* woodland over *Banksia armata* low shrubland met criteria to be considered as Kwongkan TEC. However, due to degrading factors, only areas within these vegetation communities in excellent and very good condition were considered as Kwongkan TEC (Figure 22). In total, a maximum of 0.213 ha of vegetation within 'Site T – Dempster Road SLK 28.48 -37.63' will be cleared.

The vegetation community described as 'Swamp Yate, *Eucalyptus occidentalis*, woodlands in seasonally inundated clay basins in the South Coast of Western Australia' is listed as a PEC (DBCA 2021b). Within the 'Site T – Dempster Road SLK 28.48 -37.63' project area, vegetation type C was described as 'Open *Eucalyptus occidentalis* and *Melaleuca cuticularis* woodland over dense *Melaleuca* shrubland over sedges'. Scattered *E. occidentalis* were present but did not form a continuous dominant Swamp Yate woodland. A review of all historical aerials also did not show this area containing water. Thus, it is believed vegetation type C is unlikely to meet criteria for this PEC.



**Figure 22.** Vegetation communities of vegetation types A, B and E in very good and excellent condition at the southern end of the 'Site T – Dempster Road SLK 28.48 -37.63' project area met threatened ecological community (TEC) 'Proteaceae Dominated Kwongkan Shrublands of the Southeast Coastal Floristic Province of Western Australia (Kwongkan)'.

#### 5.4 Threatened and Priority Flora

Four threatened flora (TF) and 53 priority flora (PF) were recorded within a 20 km radius of the proposed impact site (Table 3; DBCA 2021f, DBCA 2021d, and DBCA 2021a). Of these, 45 species had suitable known associated habitat that corresponded with vegetation communities and soil type of 'Site T – Dempster Road SLK 28.48 -37.63' project. Confirmed records, indicating known populations, of *Astroloma* sp. Grass Patch, *Darwinia* sp Gibson, *Kunzea salina*, *Austrobaeckea uncinella*, and *Hydrocotyle astrocarpa* were directly located within the clearing permit area.

**Table 3.** Threatened or priority flora identified by the desktop study to be present within a 20 km radius of 'Site T – Dempster Road SLK 28.48 -37.63' project area, using Threatened and Priority Flora Reporting (TPFL; DBCA 2021d), WA Herbarium (DBCA 2021f) and Esperance District Threatened Flora (DBCA 2021a).

Nt. Acronyms used in the table include priority flora (P), threatened flora (TF), and Biodiversity Conservation (BC) Act 2018, Environmental Protection and Biodiversity Conservation (EPBC) Act 1999.

Species	Cons Status	Associated Habitat	Flowering Time	Likely to occur
<i>Anigozanthos bicolor subsp. minor</i>	TF	Sandy, well-watered sites	Aug-Oct	No
<i>Eremophila glabra</i> ssp. Scaddan	TF	Open mallee woodland on grey/brown clay soils – only in the Scaddan area	June & Nov	Yes, known location 568m from project area
<i>Eucalyptus dolichorhyncha</i>	TF	Small area south of Salmon Gums – flats, or slightly rising ground with whitish/yellowish sandy clay soil	Aug – April	Possible
<i>Eucalyptus merrickiae</i>	TF	Sandy, loamy depressions around salt lakes and saline flats – open mallee shrubland with dense scrub underneath	Aug– Dec	Yes
<i>Baeckea</i> sp. Gibson	P1	Brown sandy loam over laterite & granite on moderately exposure hills or cleared bushland	Nov - Dec	Possible
<i>Beyeria physaphylla</i>	P1	Mallee woodlands – only known to Scaddan	July – Aug	Possible
<i>Cyanothamnus baeckeaceus</i> subsp. <i>patulus</i>	P1	Clay-loam in mallee	Mar – Dec	Possible
<i>Darwinia</i> sp. Gibson	P1	Margins of salt lakes and road verges on grey-brown sandy loam and white sand	June-July	Yes
<i>Eucalyptus misella</i>	P1	Away from salt lakes, in heath on white sandplain with gravel high in the profile	November	Unlikely
<i>Eucalyptus</i> sp. Esperance	P1	Only known in four locations – growing on grey, brown sandy loam	Unknown	Unlikely
<i>Goodenia turleyae</i>				
<i>Pimelea pelinos</i>	P1	Sandy clay, salt lakes	Jun-July	Yes
<i>Scaevola archeriana</i>	P1	Sand and sandy clay loam soils, on sandplains and road verges	Dec	Yes
<i>Astroloma</i> sp. Grass Patch	P2	Grey-white fine sand over clay on the margins of salt lakes, associated w myrtaceous shrubs and halophytes	June – Aug	Yes occurs within area
<i>Conostephium uncinatum</i>	P2	Deep sandy soils on the edges of salt lakes, undulating plains and claypans		Yes
<i>Eucalyptus sweedmaniana</i>	P2	Coastal areas (cape Arid), 3 WAHerb records inland	Sporadic – fruit retained so no issue	Possible
<i>Hibbertia turleyana</i>	P2	Sandy soil maybe seasonally inundated in banksia heathland or mallee shrubland (recorded at Helms Arboretum and Gibson, Speddingup East Rd)	July – Sept	Unlikely

<i>Hydrocotyle asterocarpa</i>	P2	Sandy loam soils surrounding margins of salt lakes in low open shrubland in sheltered positions	Winter annual (sept-Nov)	Possibly
<i>Hydrocotyle tuberculata</i> (previously <i>Hydrocotyle decipiens</i> )	P2	Damp, sandy loam soils associated with winter-moist creeklines & drainage areas associated with inland saline lakes	Winter annual (Sept - Nov)	Possibly
<i>Melaleuca eximia</i>	P2	5 locations from the Mt Burdett area, east to Mt Buraminya & Clyde Hill. Sandy soils associated with granite outcrops	Oct – Nov & June	Unlikely
<i>Melaleuca viminea</i> ssp. <i>appressa</i>	P2	Near creeks or wet depressions in clayey soils, possibly associated with granite	Sep/Oct	Unlikely
<i>Pterostylis zebrina</i>	P2	Associated with mallee regions	Sept	Possible
<i>Tecticornia indefessa</i>	P2	Margin of a salt lake in conservation reserve north of Esperance. White to brown/grey sand near the edge of a salt lake	Sep – Oct fruits forming Dec – Jan	Possible
<i>Acacia improcera</i>	P3	Sand, loamy clay on undulating plains & flats	August	Possible
<i>Acacia bartlei</i>	P3	Flat or gently undulating landscape in waterlogged depressions – brown or grey sandy loam or clay loam	Late June – Mid Oct	Possible
<i>Acacia euthyphylla</i>	P3	Grey/white sand or clay loam on the margins of salt lakes, marshes & seasonal swamps	Aug – Sep	Yes
<i>Acacia glaucissima</i>	P3	Sand or clay in flat low-lying areas		Possible
<i>Austrobaecka uncinella</i>	P3	Yellow or white sand, clay loam. Edges of salt lakes, salt creeks, sandplains.	Oct to Nov	Possible, WA herb record in vicinity
<i>Brachyloma mogin</i>	P3	Grey, clayed sand and swamp flats	June	Possible
<i>Comesperma calcicola</i>	P3	Calcareous or semi-saline clay loams & limestones, around saline water	Oct – Dec/Jan	Yes
<i>Conostephium marchantiorum</i>	P3	Grey or light yellow sandy soil in open mallee and shrub heath communities	March, July, Nov	Possible
<i>Dampiera sericantha</i>	P3	Sand, sometimes gravel. Plains. Kwongkan Shrubland	May or Aug to Dec	Yes
<i>Daviesia pauciflora</i>	P3	White or grey sand over laterite or limestone on flats	Oct – Dec/Jan	Yes
<i>Desmocladius biformis</i>	P3	Sand – clay on lateritic soils. dry sites	Sep or Oct	Possible
<i>Eucalyptus foliosa</i>	P3	Sandplain, above saline winter depressions	March – June	Yes
<i>Goodenia laevis</i> ssp. <i>laevis</i>	P3	Scaddan north – Norseman, west to peak Charles & Bremer range ares, east to Mt Haywood	Aug – Dec	Yes
<i>Isopogon alcornis</i>	P3	Grey/brown sandy loams in mallee shrubland.	Oct – Dec & Feb	Possible
<i>Kunzea salina</i>	P3	White sand over clay at margins of salt playa lakes on sand dune rises	Dec – Feb	Yes
<i>Styphelia rotundifolia</i> (was <i>Leucopogon rotundifolius</i> )	P3	<i>Styphelia rotundifolia</i>	Jan – Aug & Nov	Possible



<i>Melaleuca dempta</i>	P3	Dense scrub in sandy soils, swampy areas & on edges of clay pans	Aug	Possible
<i>Microseris scapigera</i>	P3	Sandy soils. Margins of salt lakes, granite rock areas, samphire flats.	Sept-Oct	According to Florabase: This taxon does not occur in WA.
<i>Microseris walteri</i>	P3	Most common Dry open forests – widespread habitat range	Spring – summer	Unlikely
<i>Persoonia cymbifolia</i>	P3	Sandy soils on flats or in rock crevices	Dec – Jan	Possible
<i>Persoonia scabra</i>	P3	Granite or limestone shrublands	Nov – Jan	Possible
<i>Trachymene anisocarpa</i> var. <i>trichocarpa</i>	P3	Fire opportunist, fine windblown clay, mixed with sand often windblown or of larger alluvial grains eroded from granite outcrops	Oct – Dec	Unlikely
<i>Adenanthos ileticos</i>	P4	Sandy rises to the N and NE of Esperance	March, July – Oct, Dec	Possible
<i>Darwinia polycephala</i>	P4	Sand & clay on flats near salt lakes	March/May – July/Sep	Yes
<i>Darwinia</i> sp. Mount Burdett	P4	Open shrub mallee on sandy loams	March or August	Yes
<i>Eremophila serpens</i>	P4	White/grey sand, alluvium, loam. Winter-wet depressions, sub-saline flats, drainage lines, salt lakes.	Sep to Dec or Mar to May	Yes
<i>Eucalyptus dolichorhyncha</i>	P4	Flats or slightly rising ground with whitish to yellowish sandy clay soil. Distribution centred around Grass Patch Salmon Gums area.		Possible
<i>Grevillea baxteri</i>	P4	Sand, sandy loam and granitic loam in low heath to tall open shrubland and open mallee	May – Dec	Yes
<i>Gyrostemon ditrigynus</i>	P4	Sandy/clay loams over limestone, commonly under burnt upper story. Highly adaptable & widespread	Nov– or any time before summer	Yes
<i>Melaleuca fissurata</i>	P4	Shrub mallee or woodland on sand or sandy loam usually over clay or clay loam	July-August	Possible
<i>Myoporum turbinatum</i>	P4	Sandy soils in moist areas – along creeks & rivers, near pools, margins of saline depressions	Jan/Apr – May/Aug – Dec	Possible
<i>Stachystemon vinosus</i>	P4	Sandy duplex and gravelly soils in scrub heath with associated sp, eucalyptus, <i>Hakea cinerea</i> , <i>Banksia media</i>	Sept-Nov	Possible
<i>Thysanotus parviflorus</i>	P4	Grey sand	Oct – Nov	Possible

No TF species were identified within the 'Site T – Dempster Road SLK 28.48 -37.63' clearing footprint. However, the targeted flora survey identified eight PF species, *Astroloma* sp. Grass Patch (P1), *Darwinia* sp. Gibson (P1), *Austrobaeckea uncinella* (P3), *Dampiera sericantha* (P3), *Daviesia pauciflora* (P3), *Kunzea salina* (P3), *Persoonia scabra* (P3) and *Darwinia polycephala* (P4) within the proposed clearing permit footprint. Queries of spatial datasets were requested specifically for these species, to

interrogate impact of proposed works on species sustainability (DBCA 2022a; DBCA 2021f, 2021d, 2021a). *Dampiera sericantha* and *Austrobaecka uncinella* 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 2021f).

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

- *Tecticornia monoformis* KSW0721 Accession 9116
- *Schoenus brevisetis*, KSW0221 Accession 9116
- *Acacia dermatophylla*, KSW2421 Accession 9133
- *Jacksonia racemosa*, KSW0321 Accession 9116
- *Chordifex sphacelatus*, KSW0821 & KSW0521, Accession 9116

One species of *Tecticornia* could not be determined as it was a sterile specimen (KSW0621 Accession 9116), however this specimen was different to P2, *Tecticornia indefessa* (which was the only priority *Tecticornia* identified in the desktop flora survey and unlikely to be this species).



**Figure 23.** Priority 2, *Tecticornia indefessa* (insert) versus *Chenopod* sp 9. Collected from 'Site T – Dempster Road SLK 28.48 -37.63' project.

An incidental collection of a new population of *Isopogon alcornis* was made outside the clearing permit area whilst surveying for another priority species. This specimen was sent to the WA Herbarium (JW03521) Accession 9371 and was confirmed as *Isopogon alcornis* by Mike Hislop on 1/2/2022. No plants were within clearing permit area.

The known population of *Eremophila glabra* subsp. Scaddan on Dempster Road was also visited during the survey. This population is well outside the clearing footprint area and no additional *Eremophila glabra* subsp. Scaddan plants were found within the flora survey.

**PERTH 08273804**

*Eremophila glabra* subsp. Scaddan (C. Turley s.n. 10/11/2005)

Scrophulariaceae

**Plant Description, Notes:** Erect, perennial shrub 1.8 m high x 1.6 m wide. Flowers green - yellow.

**Vegetation:** Low trees, tall shrubland. *Eucalyptus occidentalis*, *Euc. uncinata*, *Euc. leptocalyx*, *Acacia redolens*, *Pimelea cracens*, *Callitris roei*, *Exocarpos sparteus*, *Lomandra effusa*.

**Site Description:** Wetland, bordering wet depression. Brown loam. Damp with good layer of leaf litter.

**Frequency:** 6-20 plants.

**Locality:** VCL on Dempster Road, ca 2 km N of Scaddan Road junction, access from a gravel pit W side Dempster Road, to edge of lake, Scaddan

**Location:** -33.489°, 121.995° (GDA94)

**Location (DMS):** 33° 29' 21.0" S 121° 59' 41.0" E (GDA94)

**State:** WA

**Collector:** Turley, C.D.; Hoggart, R.M. **Coll No:** 1/7-10

**Collection Date:** 31 July 2010

**Conservation Code:** T

#### 5.4.1 *Astroloma* sp Grass Patch, Priority 1

Three specimens of *Astroloma* sp Grass Patch were sent to the WA Herbarium for identification confirmation

- KW120; Accession 8652 (Specimen not retained) It was confirmed as *A. sp* Grass Patch by Mike Hislop on 10/12/2020
- KSW 2121; Accession 9133 It was confirmed as *A. sp* Grass Patch by Mike Hislop on 6/10/2021
- KSW 2321; Accession 9133 It was confirmed as *A. sp* Grass Patch by Mike Hislop on 6/10/2021

Two Threatened and Priority Reporting Forms (TPFL) were completed and sent to Department of Biodiversity, Conservation and Attractions (DBCA) District Flora Conservation Officer and Species and Communities Branch on 15/1/21 and 7/2/2022 (Appendix 8.2). In total four populations were recorded during the survey; three from fringing lake vegetation in Vegetation type G, and one in *Banksia speciosa* woodland Vegetation type B. If proposed works occur, a total of 3 plants will be impacted upon, from a population total of four populations of at least 200 plants.

**Table 4:** Location and impacts to populations of *Astroloma* sp Grass Patch within 'Site T – Dempster

Road SLK 28.48 -37.63' project.

Specimen	Location	Total population	Impact of clearing permit
WA Herb 8366349, 8366330	1.8 km south of Norwood Rd Fringing lake vegetation	Not counted but described on WA herb specimens as "Locally common".	Taking 3 plants
KSW02321 DBCA(EspTF)	3.3km South of Norwood Rd on Dempster Rd Fringing lake vegetation	100+ plants	No plants in impact zone
KW120 and KSW2121	In <i>Banksia speciosa</i> woodland – 700m N of Scaddan/Dempster intersection on Dempster rd	1 plant outside clearing permit area	No plants in impact zone
DBCA(EspTF)	2.7km south of Norwood rd on Dempster Rd Fringing lake vegetation	50 plants. 1 GPS point outside clearing permit area	No plants in impact zone



**Figure 24.** Priority 1, *Astroloma* sp Grass Patch from fringing lake vegetation type G in the northern part of 'Site T – Dempster Road SLK 28.48 -37.63' project.

Prior to this survey, *Astroloma* sp Grass Patch only had two records on TPFL database (DBCA 2022) and six populations in Florabase, (24 records but many duplicates from same populations) a total of eight populations. The Shire of Esperance's additional three populations discovered during these surveys are significant additions. Only two of the previously known populations were in Nature reserves (two of the new populations extend into Nature reserve 27384). It is difficult to know exactly what the

total population size is as much of the population information is old data. It is interesting to note that in all previously recorded instances *Astroloma* sp Grass Patch plants grow in or near fringing salt lake vegetation. The new population corresponding to KW120 and KSW2121 was in *Banksia speciosa* woodland over 400m from the closest lake. According to Annette Wilson (Craig & Coates, 2001) who made a comprehensive survey of salt lakes in the Scaddan-Grass patch region in 1988 *Astroloma* sp. Grass Patch has “both specific habitat requirements and a very restricted range; the sandy lake shores on which this species has been found are rare in the area and it is likely that the populations discovered represent much of the range”. Given the distinctive flowers and length of time the fruit/flowers remain on the plants it is not an easily overlooked species. The species also likely be effected by clearing, salinity and waterlogging. One of the TPFL populations near dam 1km west of the intersection of Dempster and Scaddan Rd describes the location of the plants as being “where it appears the bush may have been scrub rolled a few years ago, or is regenerating following on from the construction of the dam. They were just outside the margin of the mature bush”. It can be inferred from this comment that some disturbance may be beneficial to the recruitment of the species.

**Table 5.** Previously known records of priority 3 species *Astroloma* sp Grass Patch across a 85km geographic range (DBCA 2021f, 2021d, 2021a, 2021c, 2022)

Locality	Tenure	Date	Frequency
Dempster Road, 2 km S of Norwood Road (Reserve A 27384), East of Scaddan (2 Herbarium specimens)	Nature reserve	9/05/2012	locally common.
Cleared line extended off Kau Rock Road. Salt lake 10 km N up cleared Line, Kau Rock Nature Reserve (Multiple WA Herb records)	Nature reserve	8/11/2009	2-5 plants.
South edge of unnamed salt lake 400m-1km N of Ridley Road, 16 km E of Grass Patch. via Starcevic and Ridley Roads	UCL	8/10/2007	locally frequent / 500+ plants
5 km NE of Gibson, 6.2 km E along De Grussa from junction of Coolgardie/Esperance Highway	Shire Road Reserve	29/06/2006	Occasional.
UCL approximately 5.5 km east of Dempster road along gravel road, 24km north of the intersection of Dempster and Scaddan road. Plants found north of the road	UCL	21/12/2018	9
UCL north west of the intersection of Dempster and Scaddan roads, approximately 40km north-west of Esperance. Plants found east of the dam in the UCL which is 1km west of the intersection of Dempster and Scaddan roads.	UCL	21/12/2018	3
Coobidge Creek catchment, on private property N of Boydell's Road, 2.5 km E of Coobidge Creek proper	Private property	22/06/1990	
Lake S of Kent road, which is E of Grass Patch	Private property	20/09/1988	200 plants

#### 5.4.2 *Darwinia* sp. Gibson, Priority 1

Three specimens from two locations of *Darwinia* sp. Gibson was sent to the WA Herbarium for identification confirmation. Location 1 (KW116; Accession 8652 (specimen retained WA Herb 9375481) & KSW 2221; Accession 9133) and Location 2 (KSW 2521; Accession 9133).

The southern one of these populations was a new record and the northern one coincided with PERTH

09375481 At both populations there were 100+ plants. At the northern population 3 plants will be taken as part of the clearing for 'Site T – Dempster Road SLK 28.48 -37.63' project. At the southern population 1 plant will be taken as part of the clearing for 'Site T – Dempster Road SLK 28.48 -37.63' project. A Threatened and Priority Reporting Forms (TPFL) was completed and sent to Department of Biodiversity, Conservation and Attractions (DBCA) District Flora Conservation Officer and Species and Communities Branch on 15/1/21 for the new population (Appendix 8.2).

*Darwinia* sp. Gibson is known from 20 populations spread out over a range of approximately 40 km. It grows on the margins of salt lakes.

**Table 6:** Known populations of Priority 1 species, *Darwinia* sp. Gibson

Locality	Date	Frequency
1 km N along Yates Road from Fleming Grove, E side of road, on shire road verge extending into private property, Esperance	26/07/2010	50+ plants.
2.1km N along Yates Road from Fleming Grove, W side of road	6/7/2006	3 plants
Private Property, Lot 1809. 5.2km W along Fleming Grove rd from junction of Dempster rd.	6/7/2006	20 plants
Scaddan Road, Scaddan	30/06/2012	over 50 plants.
2.4km E of Styles rd on Scaddan Rd	27/7/2010	2 plants
100 m NE along Karl Berg Road, around salt lake on N side of the road, from the intersection of Heywood and Karl Berg Roads	29/05/2013	21 - 50 plants.
3 miles N of Gibson	10/08/1951	
5.6 km N of Scaddan Road on Dempster Road, on N side of lake, E side of road	16/10/2020	10 plants.
20 km SSE of Scaddan, 1.5 km N along Styles Road from junction of Scaddan Road	27/7/2010	40 plants
3.1km north along Styles Rd from Scaddan Rd	27/7/2010	1000+
Styles Rd. 2.6km S along Styles Rd from Norwood Rd intersection	15/10/2020	10 plants
2.1km north along Styles Rd from Scaddan Rd	27/7/2010	50 plants
15 km SE of Scaddan, 10 km W along Speddingup Road from junction of Dempster Road	21/06/2006	occasional, ca 20 plants.
12 km NE of Gibson, road verge, 1 km N along Yates Road from junction of Fleming Grove Road	27/06/2006	locally frequent ca 40 plants.
W side of rail line, between and adjacent to track, 10.5 km NNW of Gibson by rail	1/07/2003	
22.8 km NW along Scaddan Road from junction of Backmans Road, part of Bandy Creek catchment, ca 50 km NW of Condingup	26/05/2005	occasional.
Southern road reserve, c. 500 m W of Coolgardie-Esperance Highway on Boydell Road, 35 km N of Esperance	7/10/2020	15 plants.
On eastern road reserve, c. 51 km N of Esperance townsite, on Styles Road 2.6 km S of Norwood Road	15/10/2020	10 plants
3km W along Griffiths rd from junction of Coolgardie-Esperance rd	6/7/2006	50 plants

Mount Ridley Nature Reserve (27386), Lot 271. "Norwood Nature Reserve". 1.8km S along Dempster rd from junction of Norwood rd, 32km NE of Gibson. [Ca. 27km E of Scaddan]. Shire of Esperance	6/7/2006	100's of plants
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**Figure 25.** Priority 1, *Darwinia* sp. Gibson 'Site T – Dempster Road SLK 28.48 -37.63' project.

#### 5.4.3 *Hydrocotyle asterocarpa* – Priority 2

A known population of *Hydrocotyle asterocarpa* exists on the east side of Dempster road 4.4km north of Scaddan rd. This population was visited on by Julie Waters and Katie White on 23/10/2020. The population was located directly on the lake bed and no plants are within the clearing footprint area. No other new populations of *Hydrocotyle asterocarpa* were discovered during flora surveys. A Threatened and Priority Reporting Form (TPFL) was completed and sent to Department of Biodiversity, Conservation and Attractions (DBCA) District Flora Conservation Officer and Species and Communities Branch on 19/11/2020 (Appendix 8.2).

#### **PERTH 06818951**

##### [Hydrocotyle asterocarpa](#)

Araliaceae

**Vegetation:** *Halosarcia syncarpa*, *Disphyma crassifolium*, *Frankenia cinerea* low heath D, over *Parapholis incurva* very open low grass, over *Hydrocotyle* sp. Truselove, *Isotoma scapigera* open herbs.

**Site Description:** Topography: Samphire flat. Soil: Gypsum.

**Locality:** On E side of Dempster Road, 4.4 km N of Scadden Road. Un-named Nature Reserve, c. 22.5 km SW of Mount Ridley. [Plot - ES06]

**Location:** [-33.469°, 122.015°](#) (GDA94)

**Location (DMS):** 33° 28' 6.8" S 122° 0' 55.4" E (GDA94)

**State:** WA

**Collector:** Keighery, G.J.; Gibson, N. **Coll No:** 5362  
**Collection Date:** 11 October 2000  
**Conservation Code:** 2

**Figure 26.** Existing WAHerb record of *Hydrocotyle asterocarpa* outside clearing permit area off Dempster Road

#### 5.4.4 *Austrobaecka uncinella*, Priority 3

The Florabase record from 2012 was confirmed. Three additional new populations were also recorded during the survey from fringing lake vegetation in Vegetation type G in salt lakes further south than this known population. These were sent to the WA Herbarium for identification confirmation (JW03621, JW03721 & JW03821; Accession 9371) with specimen not retained. They were confirmed as *Austrobaecka uncinella* by Mike Hislop on 1/2/2022. A Threatened and Priority report form was sent to Department of Biodiversity, Conservation and Attractions (DBCA) District Flora Conservation Officer and Species and Communities Branch on 18/2/2021 (Appendix 8.2).

#### **PERTH 08489432**

*Austrobaecka uncinella*  
Myrtaceae

**Plant Description, Notes:** Erect shrub, 1.5 m high x 1.2 m wide. Plants fruit.

**Vegetation:** Edges of dense heath. With *Melaleuca hnatukii*, *Austrobaecka uncinella*, *Leucopogon canaliculatus*, *Dielsiodoxa oligarrhenoides*.

**Site Description:** Edges of saline drainage line. Dry white sand.

**Frequency:** Locally common.

**Locality:** Dempster Road, 2 km S of Norwood Road (Reserve A 27384), E of Scaddan

**Location:** -33.441°, 122.019° (GDA94)

**Location (DMS):** 33° 26' 28.4" S 122° 1' 7.3" E (GDA94)

**State:** WA

**Collector:** Hislop, M. **Coll No:** 4192

**Collection Date:** 9 May 2012

**Conservation Code:** 3





**Figure 26.** Priority 3, *Austrobaecka uncinella* common in fringing lake vegetation type G in the northern part of 'Site T – Dempster Road SLK 28.48 -37.63' project.

There are no TPFL records for *Austrobaecka uncinella* however 19 recorded locations on Florabase and all of these apart from one which describes abundance lists it as “locally common”, “common” or “over 50 plants”. *Austrobaecka uncinella* has a range of around 200km and is likely to be a poorly collected species, rather than a rare one.

Only 2 specimens will be impacted upon of a total of at least 200 plants spread over 4 populations. It is worth noting that the suitable habitat extended for kilometres and a full count of population size was not done as part of this survey.

**Table 7.** Known records of priority 3 species *Austrobaecka uncinella* across a 200km geographic range (DBCA 2021c, 2021f).

Locality	Tenure	Date	Frequency
Speddingup Reserve, 90 m NW of causeway on Robins Road	Nature reserve	22/11/2016	locally common; 5 plants per 100 sq m.
Dempster Road, 2 km S of Norwood Road (Reserve A 27384), E of Scaddan	Nature Reserve	9/05/2012	locally common.
Helms Arboretum Maintenance track, sandy sector (about 2 km further on from gravel), Gibson	Forestry Reserve	9/01/2004	over 50 plants.
Lort River crossing on South Coast Highway	State Road Reserve	12/12/2003	

Maintenance Track, Helms Arboretum	Forestry Reserve	10/12/2003	
L1999-28. 4.2 km SE of Esperance, Lake Mullet Nature Reserve,	Nature Reserve	23/11/1999	
100 m N of Mount Ney Road, ca 1 km W of Kau Rock Road, NE of Esperance	Nature Reserve	20/11/1998	locally common.
Corner of Lagoon Road and Kendall Road, Scaddan,	UCL or Shire road Reserve	21/10/1997	uncommon.
11.5 km NW from Mount Ney Road on track to Sheoak Hill (c. 13.5 km NW of Mount Heywood) S side of salt lake on N side of track	UCL	22/05/1993	
19.5 km E of Mount Ridley	Uncertain	9/11/1991	
Location 1800 - Bush ? Scaddan	Uncertain	10/12/1984	
Esperance area, along Fishereies road, c. 8 km NE of Esperance	Uncertain	6/11/1982	
11 miles from Esperance towards Norseman	Uncertain	2/11/1968	
Northern portion of Locality 894, c. 15 km NNW of Young River crossing on Ravensthorpe - Esperance main road (Young River is c. 70 km W of Esperance) Eucla Division, Esperance District	Uncertain	18/10/1968	
2 km Norwood road on Dempster road, Reserve 27386	Nature Reserve	10/1984	locally common; 5 plants per 100 sq m.

#### 5.4.5 *Daviesia pauciflora*, Priority 3

A specimen of *Daviesia pauciflora* was sent to the WA Herbarium for identification confirmation (KW117; Accession 8652 with specimen retained (PERTH 09375511). It was confirmed as *Daviesia pauciflora* by Mike Hislop on 10/12/2020. *Daviesia pauciflora* occurs in two populations within 'Site T – Dempster Road SLK 28.48 -37.63'. The first from the intersection of Scaddan rd for 800m north contained 15 plants of which 10 will be impacted upon by road widening operations. The second population occurred between 1.4-1.7 km north of Scaddan rd and contained 29 plants of which 21 will be impacted upon by road widening operations. Both populations were new records. The majority of plants were in vegetation type A however some were also recorded within vegetation type B. The population counts did not extend into the large tracts of bushland adjacent to the area and due to previous surveys by the Shire north of Scaddan rd, it can be confirmed that these populations are much larger and extend into surrounding bushland.

Two Threatened and Priority Reporting Forms (TPFL) were completed and sent to Department of Biodiversity, Conservation and Attractions (DBCA) District Flora Conservation Officer and Species and Communities Branch on 15 January 2021 (Appendix 8.2). If proposed works occur, a total of 31 plants will be impacted upon, from a population total of at least 44 spread over two populations.



**Figure 27.** Priority 3, *Daviesia pauciflora* at 'Site T – Dempster Road SLK 28.48 -37.63' project.

*Daviesia pauciflora* whilst listed as a Priority 3 species, has 25 known populations over a range of 200km. It grows in sandy soils, and when not flowering is very inconspicuous. In the opinion of Julie Waters, it is most likely a poorly collected species rather than a rare one.

**Table 8.** Known records of priority 3 species *Daviesia pauciflora* across a 200km geographic range (DBCA 2020C, 2020B, 2020A, 2021C).

Locality	Date	Frequency
24 miles E of Esperance	24/11/1964	
Location 1110, ca 40 km ENE of the coast at Stokes Inlet, near western border of Shire of Esperance, Eucla Division	16/10/1968	
Eyre district; 100 km from Esperance along road to Ravensthorpe, 6 km E of Munglinup River crossing	8/01/1979	
62 km W of Esperance along road to Ravensthorpe, 9 km NNE of Barker Inlet	8/01/1979	
2.9 km E of Neds Corner Road on Cascades Road, reserve 31745. ENE of Ravensthorpe.	9/10/1984	
1.5 km SW of Mount Merivale, Eyre Botanical District, Mount Merivale region, Esperance Loc. 2051, 20 km E of Esperance	2/12/1990	Scattered small colonies (collectively common).
Esperance	21/10/1995	Scattered small colonies.
Esperance	28/12/1997	
Esperance	28/12/1997	
Remnant vegetation northern boundary Loc.1878, Windbreak Loc. 1878 (lot 1) ca 1 km SE junction Rhinds Road and Dalyup Road continuation, Quadrat 4, No 34, adj. Q4,	21/09/1998	
E side of Parmango Road, 11.5 km NNE of Condingup, Eyre,	1/10/1998	
2 km E of Condingup and 500 m S of Fisheries Road in VCL to W of gravel road to Condingup Peak	13/10/1998	Scattered.
0.9 km W along Paterson Road from junction of Coolgardie - Esperance roads, 50 m along service track, ca 10 km N of Esperance	11/04/2002	Frequent (100's) occurring in ca 1.5 ha.
4.2 km E along northern farm boundary at N end of Wittenoom Hills Road, 9.5 km NE of Mt Burdett	24/05/2005	Frequent.
Helms Arboretum Bushland	8/11/2009	2-5 plants.
NW corner, Helms Arboretum, Gibson	7/03/2011	2-5 plants.
Speddingup East Road, E of Coolgardie - Esperance Highway	21/04/2011	One only.
Helms Forestry Reserve 23527, Gibson	7/10/2011	2-5 plants.
C. 3.8 km E along a firebreak track from the end of Wittenoom Road, 12 km NW from the boundary of Kau Rock Nature Reserve	4/12/2011	One only.
Neds Corner Road, 1 km N of Mills Road	4/11/2013	10+ plants.
Neds Corner Road, 3 km S of Cascades townsite	12/10/2017	10 plants.
81 km NE of Esperance town site, 18.6 km NE of Condingup satellite town, 520 m NW of Howick - Ridgeland [road] intersection on Howick Road	12/10/2017	2 plants
S side of Merrivale Road, c. 15 km E of Esperance	1/10/2019	1 plant observed.
Dempster Rd North of Scaddan Road	12/11/2020	3 plants
	23/10/2020	44 plants

#### 5.4.6 *Dampiera sericantha*, Priority 3

A specimen of *Dampiera sericantha* was sent to the WA Herbarium for identification confirmation (KW119; Accession 8652 with specimen retained (PERTH 09375546). It was confirmed as *D. sericantha* on 10/12/20 by Michael Hislop. Within 'Site T – Dempster Road SLK 28.48 -37.63', *D. sericantha* occurs from 100 - 750 m north of Dempster Road and Scaddan Road intersection on Dempster Road, on both sides of the road reserve. The plants were in vegetation types A and B. The population counts did not extend into the large tracts of bushland adjacent to the area and it is possible that the population is much larger and extends into surrounding bushland. A Threatened and Priority Reporting Form (TPFL) was completed and sent to Department of Biodiversity, Conservation and Attractions (DBCA) District Flora Conservation Officer and Species and Communities Branch on 15/1/2021 (Appendix 8.2). If proposed works occur, a total of 10 plants will be impacted upon, from a population total of at least 20 plants, these are all located within an existing spoon drain, and are likely to be impacted upon by routine maintenance activities.



**Figure 28.** Priority 3, *Dampiera sericantha* growing in existing spoon drain of 'Site T – Dempster Road SLK 28.48 -37.63' project.



**Figure 29.** Eighteen Priority 3, *Dampiera sericantha* specimens were found to be growing in existing spoon drain within the southern end of the 'Site T – Dempster Road SLK 28.48 -37.63' project area.

*D. sericantha* has a distribution range over 250km. It is only identifiable during spring and early summer when it is flowering, resulting in a short time period it can be recorded. The remainder of the time it is a non-descript herb similar to many other non-threatened species. This has likely contributed to lack of records, being a small window to identify, and the low priority to collect during a time frame when the majority of the south-west is flowering.

It is evident from local observations that *D. sericantha* is a disturbance opportunist and colonizer. Most of the plants located here were in disturbed spoon drains and It is therefore highly likely that after the road reconstruction, it will persist in the newly disturbed back-slope and spoon drains following completion of road works. This is supported by 15 of the 23 locations in the WA Herbarium database record *D. sericantha* being located on road reserves, fence lines, pipe lines or coastal 4WD tracks where disturbance has occurred.

No data was available on *D. sericantha* from the TPFL database, so all records refer to the WA Herbarium database. *D. sericantha* has been recorded 31 times across 23 different locations. Tenure is poorly described with five locations being uninterpretable of conservation security. Three recorded locations are described as being in mining tenements are possibly been lost. Three locations are present in nature reserves and are likely to still be intact populations. The remaining 15 populations are present in road reserves, fence lines, pipe lines or coastal 4WDing tracks, and are therefore possible lost via road developments or maintenance. Nine records of *D. sericantha* were prior to 2000, with two locations in nature reserves been verified as existing since then.

#### 5.4.7 *Kunzea salina*, Priority 3

Three previously recorded populations of *Kunzea salina* were recorded from 'Site T – Dempster Road SLK 28.48 -37.63' project.

**PERTH 03026620**[Kunzea salina](#)

Myrtaceae

**Plant Description, Notes:** Spreading shrub, 15cm tall x 60cm broad. Frequent.**Vegetation:** N side of salt pan, 200m W of road. Frequent in narrow band between Halosarcia zone and dense heath (0.5m) with *Melaleuca acuminata*.**Site Description:** Loamy sand over clay.**Locality:** 2.5 km N of Scaddan East Rd on Dempster Rd; ESE of Scaddan.**Location:** [-33.492°, 122.000°](#) (GDA94)**Location (DMS):** 33° 29' 30.0" S 122° 0' 0.0" E (GDA94)**State:** WA**Collector:** Craig, G.F. **Coll No:** 2220**Collection Date:** 25 September 1992**Conservation Code:** 3**PERTH 03026523**[Kunzea salina](#)

Myrtaceae

**Plant Description, Notes:** Abundant; 1,000+ plants.**Vegetation:** Low heath and tall grass (<0.8m). Associated with *Melaleuca acuminata*.**Site Description:** Dark grey loamy sand over clay; moist. N side of salt lake on E side of road.**Locality:** 5.7 km N of Scaddan East Rd on Dempster Rd; E of Scaddan. Nature Reserve.**Location:** [-33.454°, 122.017°](#) (GDA94)**Location (DMS):** 33° 27' 15.0" S 122° 1' 0.0" E (GDA94)**State:** WA**Collector:** Craig, G.F. **Coll No:** 2224**Collection Date:** 25 September 1992**Conservation Code:** 3**PERTH 01019325**[Kunzea salina](#)

Myrtaceae

**Vegetation:** Shrub mallee 1.5-2 m (10-30%) and shrubs <0.5 m (30-70%).**Site Description:** Intermittent salt creek, deep sand on edges, sand on clay in creek bed.**Locality:** 2 km south of Norwoods road on Dempster road, reserve 27386 [Ca 28 km E of Scaddan].**Location:** [-33.436°, 122.005°](#) (GDA94)**Location (DMS):** 33° 26' 10.8" S 122° 0' 19.8" E (GDA94)**State:** WA**Collector:** Burgman, M.A. **Coll No:** 4355**Collection Date:** Oct 1984**Conservation Code:** 3

In addition to these three locations, *Kunzea salina* was recorded from four new locations during the flora survey. Given the proximity of these to the existing populations no specimens were sent to WA Herbarium. If proposed works occur, a total of 8 plants will be impacted upon out of a total population

size of over 1000 plants.



**Figure 30.** Priority 3, *Kunzea salina* within 'Site T – Dempster Road SLK 28.48 -37.63' with WA Herbarium data showing pre-existing populations and specimens found during the flora survey.

*Kunzea salina* has a wide distribution over a 100km range. Most of the population data is old and it's difficult to know an exact population size. There are extensive chains of lake systems which are poorly surveyed, especially in the eastern parts of its range. Due to the similarity of *Kunzea salina* to other Myrtaceous species it is likely to be a poorly collected species, rather than a rare one. *Kunzea salina* is likely to be very common throughout these lake systems and impacting eight individual plants is unlikely to be significant.

**Table 8:** Known records of Priority 3, *Kunzea salina* from a 100km range

Locality	Date	Frequency
S of Truslove on reserve 27983 (8.6 km from N end, along central track) [Near Truslove]	8/02/1977	
10 km W of Wittenoom Hills, NE Esperance.	15/01/1978	Common in band around edges dry salt lake.
At junction of Lagoon and Kendall Roads, Scaddan	10/11/1992	
2 km S of Norwood road on Dempster road, reserve 27386 [Ca 28 km E of Scaddan].	Oct 1984	
6 km NE of Mount Heywood, ca 90 km NE of Esperance	9/11/1980	Scattered.



10 km N of Gibson	12/12/1985	Frequent in patches.
6.6 km S of Logans Road on Dingo Rock - Mount Ridley track, c. 16 km S of Dingo Rock	22/05/1993	1000+ plants.
1 km S of Truslove Road on Swan Lagoon Road, Truslove Nature Reserve	22/09/1992	
Corner of Norseman Road and Boydells Road, ca 10 m km N of Gibson, Roe District,	21/10/1997	locally common.
Corner of Lagoon Road and Kendall Road, Scaddan, Roe District,	21/10/1997	common.
Corner Boydells Road and Esperance to Coolgardie Highway, N of Esperance, SW corner	15/01/2004	ca 30 plants.
24.1 km SW of Clyde Rd on Mt Ney Rd (ca. 5 km NNE of Mt Heywood).	21/05/1993	Abundant, 1,000+ seedlings post-fire Jan.1991.
Corner of Lagoon and Kendall Roads on E side of junction at N side of small salt lake	15/01/2004	50+ plants.
Helms Arboretum maintenance track, 10 m across track from 8/104	9/01/2004	
Helms Forestry Reserve 23527, NW of population on maintenance track, Gibson	4/12/2011	6-20 plants.
Ridley Nature Reserve by salt lake, ca 17 km E of Grass Patch	16/01/2004	1000's plants.
Helms Arboretum maintenance track, ca 2 km beyond gravel surface track (10 m across from 5/104 collection)	9/01/2004	2-5 plants.
Maintenance Track, Helms Arboretum	10/12/2003	
Speddingup Reserve, 90 m NW of causeway on Robins Road	22/11/2016	locally common.
5.7 km N of Scaddan East Rd on Dempster Rd; E of Scaddan. Nature Reserve.	25/09/1992	1,000+ plants.
2.5 km N of Scaddan East Rd on Dempster Rd; ESE of Scaddan.	25/09/1992	Frequent.
24.1 km SW of Clyde Rd on Mount Ney Rd (ca 5 km NNE of Mount Heywood)	21/05/1993	Abundant, 1,000+ plants.



**Figure 31.** Priority 3, *Kunzea salina* growing in fringing lake vegetation of 'Site T – Dempster Road SLK 28.48 -37.63' project.

#### 5.4.8 *Persoonia scabra*, Priority 3

Three specimens of *Persoonia scabra* were sent to the WA Herbarium for identification confirmation (KW121, KW122, KW124 Accession 8652 with one specimen retained). All were confirmed as *Persoonia scabra* by Mike Hislop on 10/12/2021. Three Threatened and Priority Reporting Forms (TPFL) were completed and sent to Department of Biodiversity, Conservation and Attractions (DBCA) District Flora Conservation Officer and Species and Communities Branch on 15/1/2021. If proposed works occur, 8 plants will be impacted upon, from a population total of 13. There was a total of 5 small populations found within the site, all with at least 800 metres separating them.

There was a total of 20 prior Herbarium records for this species, nine of these records were secure in National Parks. *Persoonia scabra* has a wide range spanning over 250km East to West, with populations recorded in the Shire of Esperance and Ravensthorpe. The largest population had a total of 15 plants listed with most populations having between 1-5 plants, similar to that seen within the survey area. Soil in the previous records were frequently sand or sand over gravel with several specimens in rehabilitated gravel pits. Previous records were also frequently for Mixed Mallee shrublands consistent with parts of the site.



**Figure 32.** Thirteen Priority 3, *Persoonia scabra* specimens were found to be growing along the 'Site T – Dempster Road SLK 28.48 -37.63' project area



**Figure 33.** Priority 3, *Persoonia scabra* growing in 'Site T – Dempster Road SLK 28.48 -37.63' project.

**Table 9:** Known records of Priority 3, *Persoonia scabra* from a 100km range

Locality	Tenure	Date	Frequency
86 km E of Esperance, 24 km E of Condingup on Henkes Road, c. 4.3 km E of Howick Road intersection	Shire Road Reserve	8/10/2020	
44-290 m W of Coolgardie-Esperance Highway on Boydell Road, southern road reserve, 35 km N of Esperance	Shire Road Reserve	7/10/2020	5 plants.
On Norwood Road from intersection of Dempster Road to 20 m E, 28 km E of Scaddan, c. 50 km NNE of Esperance townsite	Shire Road Reserve	10/09/2019	> 3 plants.
Cape Le Grand National Park, proposed Lucky Bay redevelopment site	National Park	15/09/2014	
3.4 km NW from the northwestern boundary of Kau Rock Nature Reserve	UCL	3/11/2013	1 plant.
Helms Forestry Reserve 23527, bushland slashed access track travelling SE to S boundary	Timber Reserve	2/01/2012	2-5 plants.
New Island Bay, 2.3 km W of Hellfire Bay carpark, 1.9 km SE of Mt Le Grand summit, 7.1 km WSW of Lucky Bay campsite, Cape Le Grand National Park, 29 km SE of Esperance township, Esperance Plains IBRA bioregion	National Park	26/11/2011	occasional, 1 plant seen.
2.1 km W of Hellfire Bay carpark, 1.9 km SE of Mt Le Grand summit, 7.0 km WSW of Lucky Bay campsite, Cape Le Grand National Park, 29 km SE of Esperance township, Esperance Plains IBRA bioregion	National Park	26/11/2011	occasional, 1 plant seen.
New Island Bay, 2.5 km WSW of Hellfire Bay carpark, 1.8 km SE of Mt Le Grand summit, 7.4 km WSW of Lucky Bay campsite, Cape Le Grand National Park, 28 km SE of Esperance township, Esperance Plains IBRA bioregion	National Park	21/10/2011	occasional, 4 plants and 2 seedlings seen.
86.8 km E of Lake King General Store along Norseman Lake King track. Roe District	National Park	31/12/2001	15 plants noted.
26.5 km N of Condingup. Corner of Coolinup Road and Howick Road, NE of Esperance,	Shire Road reserve	31/12/1995	
W end of Dunns beach	National Park	2/12/1992	
5.5 km SW of Mount Ridley	UCL	7/12/1991	
35.5 km due ENE of Muckinwobert Rock 6.21 km NE of Melaleuca Road on West Point Road	Shire Road Reserve	30/09/1984	
23.5 km due SSE of Kau Rocks, 3.1 km NE of intersection 3 on Condingup Road	Shire Road Reserve	2/09/1984	
12 km SW of Mount Buraminya, ca 40 km WNW of Mount Ragged	UCL	8/11/1980	a single plant.
42 km NE of Swallow Rock, Frank Hann National Park, ca 83 km NE of Lake King	National Park	21/08/1980	
32 km NE of Swallow Rock, Frank Hann National Park, ca 84 km ENE of Lake King	National Park	1/08/1980	
72 km W of Salmon Gums	Uncertain, no accurate geographic details	11/11/1979	
Frank Hann National Park	National Park	4/08/1978	

## 5.5 Fauna

Within a 20 km radius of the 'Site T – Dempster Road SLK 28.48 -37.63', three species of threatened fauna or priority fauna have been recorded (Table 10). All three species have suitable habitat within the proposed clearing permit area.

**Table 10.** Potential threatened, priority and protected under international agreement fauna recorded within a 20 km radius of the proposed 'Site T – Dempster Road SLK 28.48 -37.63'.

Nt. Acronyms used include priority (P), Endangered (EN) and Vulnerable (VU).

Scientific Name	Common Name	Conservation Status	Likelihood of occurring	Associated habitat
<i>Calyptorhynchus latirostris</i>	Carnaby's cockatoo	EN	Possible Foraging	Inhabits native woodlands dominated by eucalypts such as Wandoo and Salmon Gum, as well as nearby heathlands.
<i>Leipoa ocellata</i>	Malleefowl	VU	Possible	Semi-arid shrublands and low woodlands dominated by mallee and/or acacia
<i>Thinornis rubricollis</i>	Hooded plover, hooded dotterel	P4	Possible	Beaches with large amounts of beach-washed seaweed. They also occur on inland salt lakes.



**Figure 34.** *Ctenophorus maculatus* seen in the field during flora surveys at 'Site T – Dempster Road SLK 28.48 -37.63'

### 5.5.1 Carnaby's Black Cockatoo, *Calyptorhynchus latirostris*, Threatened Fauna

Carnaby's Black Cockatoo's are unlikely to nest or roost within the 'Site T – Dempster Road SLK 28.48 -37.63' project area, as there are no large trees are present with hollows. A large well established *Pinus pinaster* plantation exists to the east of the southern portion of 'Site T – Dempster Road SLK 28.48 - 37.63'. Carnaby's are likely to use this area for roosting and feeding and may also opportunistically feed in the southern portions of 'Site T – Dempster Road SLK 28.48 -37.63' in vegetation A, B and E which contain high numbers of proteaceous species.

### 5.5.2 Malleefowl, *Leipoa ocellata*, Threatened fauna

Malleefowl are known to require thick Mallee shrubland and woodlands dominated by Melaleuca or Acacia understorey. Sandy area with large amounts of leaf litter are required for breeding. Vegetation type F and I likely provide suitable habitat for the Malleefowl. These areas are unburned and would provide suitable organic material for Malleefowl breeding mounds. However no evidence of use by Malleefowl were seen (i.e. breeding mounds) and foxes which have contributed to the decline of the Malleefowl were present at the site, leaving the project less suitable for use.

### 5.5.3 Hooded plover, *Thinornis rubricollis*, Priority Four Fauna

The western subspecies of the Hooded Plover breeds on the shores of inland salt lakes and in coastal habitats. On salt lakes, Hooded Plovers mainly feed on sand and shell banks, open mud, salt-covered mud and areas covered in shallow water. It is possible that Hooded Plovers inhabit the salt lakes that 'Site T – Dempster Road SLK 28.48 -37.63' intersects, however no Hooded Plovers were observed during the surveys.

## 6 Conclusion; assessment of Department of Water and Environmental Regulations clearing principles

The 'Site T – Dempster Road SLK 28.48 -37.63' 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).

**Table 11.** Shire of Esperance Assessment against Clearing Principles of the proposed 'Site T – Dempster Road SLK 28.48 -37.63'.

Assessment against Clearing Principles	Conclusion
Principle (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.	Biodiversity at this site is high with 276 native species recorded over nine vegetation types.

<p>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.</p>	<p>The southern portion of the site contains vegetation used as opportunistic foraging habitat for Carnaby's Black Cockatoo due to the presence of Proteaceous species. No nesting or roosting habitat is present.</p> <p>The Hooded Plover had suitable habitat within and immediately surrounding the survey area. Large areas of pristine salt lakes will remain untouched surrounding the survey area.</p> <p>The Malleefowl had potentially suitable habitat within vegetation types F and I, however large swathes of this vegetation will remain untouched by the project.</p> <p>None of these species were observed during the surveys.</p>
<p>Principle (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.</p>	<p>Seven priority species were observed in the project area. In all cases clearing only effects a small portion of the population and there is plenty of unsurveyed habitat outside the surveyed distribution where more plant are likely to exist.</p>
<p>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.</p>	<p>Vegetation types A, B and E contained the Proteaceae Dominated Kwongkan Shrubland TEC, constituting a maximum of 0.213ha being cleared. No other TEC or PEC were present in the area.</p>
<p>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.</p>	<p>The intact and vegetated 100m wide (and wider) Dempster Road reserve is adjacent to crown land and Mt Ridley Nature Reserve and as such is well represented outside the clearing permit footprint.</p>
<p>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.</p>	<p>The permit crosses numerous salt lakes and winter wet areas of Yates (<i>Eucalyptus occidentalis</i>). These areas are already disturbed by the existing road and the additional impact to these riparian and wetland areas is negligible.</p>
<p>Principle (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.</p>	<p>Due to the large extent of pristine and excellent condition native vegetation surrounding the project area the project is unlikely to have any significant impact.</p>
<p>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.</p>	<p>The closest conservation reserve is Mount Ridley Nature Reserve (27386). This project is unlikely to have any additional impacts to this reserve.</p>
<p>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.</p>	<p>Due to the large extent of pristine and excellent condition native vegetation surrounding the project area the project is unlikely to have any significant impact. There may be temporary impacts to water quality during construction when culverts over salt lakes are being upgraded.</p>
<p>Principle (j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.</p>	<p>Due to the large extent of pristine and excellent condition native vegetation surrounding the project area the project is unlikely to have any significant impact.</p>

## 7 References

Adams E. (2012), *Shire of Esperance Threatened and Priority Flora: Field guide*, unpublished for the Department of Environment and Conservation

Beard J.S. (1973), *The vegetation of the Esperance and Malcom areas, Western Australia, 1:250 000 series*, Vegmap Publications Perth

Bureau of Meteorology (2020), *Esperance climate*, Commonwealth of Australia, <<http://www.bom.gov.au/>>

Commonwealth of Australia (2014), *Approved Conservation Advice for Proteaceae Dominated Kwongkan Shrublands of the southeast coastal floristic province of Western Australia*, Department of Agriculture, Water and the Environment, <<http://www.environment.gov.au/biodiversity/threatened/communities/pubs/126-conservation-advice.pdf>>

Commonwealth of Australia, *Environmental Protection and Biodiversity Conservation Act 1999* (Cth), <<https://www.legislation.gov.au/Details/C2019C00275>>

Craig, G. and Coates, D (2001) Declared Rare and poorly known flora in the Esperance District, Wildlife Management Program No 21, Department of Conservation and Land Management.

Department of Biodiversity, Conservation and Attractions (2022a), *Astroloma sp. Grass Patch; Darwinia sp. Gibson; Isopogon alpicornis, Kunzea salina and Persoonia scabra*, *Western Australian Herbarium and Threatened and Priority Reporting (TPFL) spatial extracts, 04-0222FL*, Government of Western Australia. [X date obtained]

Department of Biodiversity, Conservation and Attractions (2021a), *Esperance District Threatened and Priority Flora spatial dataset*, Government of Western Australia [11/11/2021]

Department of Biodiversity, Conservation and Attractions (2021b), *Priority Ecological Communities for Western Australia Version 32*, Government of Western Australia

Department of Biodiversity, Conservation and Attractions (2021c) *Florabase*, The Flora of Western Australia Online (and collections housed at the WA Herbarium). <<https://florabase.dpaw.wa.gov.au/search/advanced.>>

Department of Biodiversity, Conservation and Attractions (2021d), *Threatened and Priority Flora Database (TPFL) spatial dataset, 0-0921FL*, Government of Western Australia. [8/9/2021]

Department of Biodiversity, Conservation and Attractions (2021e), *Threatened Ecological Communities and Priority Ecological Communities Search Results, for Boundaries and Buffers, 15\_1121EC*, Government of Western Australia. [11/11/2021].

Department of Biodiversity, Conservation and Attractions (2021f), *Western Australia Herbarium spatial dataset, 0-0921FL*, Government of Western Australia. [8/9/2021]

Department of Biodiversity, Conservation and Attractions and Western Australian Museum (2020), *NatureMap*, Government of Western Australia. <<https://naturemap.dbca.wa.gov.au/>>



Department of Parks and Wildlife (2017), *2016 Statewide Vegetation Statistics (formerly the CAR Reserve Analysis – Full Report)*, Government of Western Australia

Department of Water and Environmental Regulations (2019), *Procedure: Native vegetation clearing permits, Application, assessment, and management requirements under Part V Division 2 of the Environmental Protection Act 1986*, Government of Western Australia. [October 2019]. < <https://dwer.wa.gov.au/sites/default/files/Procedure Native vegetation clearing permits v1.PDF>>

Environmental Protection Authority (EPA) (2016), Technical Guidance, Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia, Government of Western Australia. < <http://www.epa.wa.gov.au/policies-guidance/technical-guidance-flora-and-vegetation-surveys-environmental-impact-assessment>>

Environmental Protection Authority 2020, Technical Guidance – Terrestrial vertebrate fauna surveys for Environmental Impact Assessment, EPA, Western Australia. <[https://www.epa.wa.gov.au/sites/default/files/Policies\\_and\\_Guidance/EPA-Technical-Guidance-Vertebrate-Fauna-Surveys.pdf](https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA-Technical-Guidance-Vertebrate-Fauna-Surveys.pdf)>

GAIA Resources, State NRM and South Coast Natural Resource Management (2020), *Dieback Information Delivery and Management Service, DIDMS*. < <https://didms.gaiaresources.com.au/>>

Keighery, B.J. (1994). *Bushland plant survey. A guide to plant community survey for the community*.

Main Roads of Western Australia (2021), *Standard Line Kilometres online application*, Government of Western Australia. < <https://mrapps.mainroads.wa.gov.au/gpsslk>>

Schoknecht, N., Tille, P. and Purdie, B. (2004) *Soil Landscape Mapping in south-western Australia*, Resource management Technical report 20, Department of Agriculture WA.

Thackway R, Cresswell ID, Shorthouse D, Ferrier S, Hagar T, Pressey T, Wilson P, Fleming M, Howe D, Morgon G, Young P, Copley P, Peters D, Wells P, Miles I, Parkes D, McKenzie N, Thackway R, Kitchin M & Bullen F (1995), *Interim Biogeographic Regionalisation for Australia: A framework for setting priorities in the National Reserves System Cooperative Program*, Australia Nature Conservation Agency. < <https://www.environment.gov.au/system/files/resources/4263c26f-f2a7-4a07-9a29-b1a81ac85acc/files/ibra-framework-setting-priorities-nrs-cooperative-program.pdf> >

Western Australian Government, *Biodiversity Conservation Act 2018*. < [https://www.legislation.wa.gov.au/legislation/statutes.nsf/law\\_s50938.html](https://www.legislation.wa.gov.au/legislation/statutes.nsf/law_s50938.html)>

Western Australian Government, *Landgate*, < <https://www0.landgate.wa.gov.au/>>

Western Australia Local Government Association (WALGA), *Local Government Mapping spatial database*.

## 8 Appendix

### 8.1 Incidental species list

Family	Genus	Species	Common Name	Weed	Cons Stat	Vegetation Type										
						A	B	C	D	E	F	G	G/H	H	I	
Aizoaceae	<i>Carpobrotus</i>	<i>modestus</i>	Pigface				X				X					X
Aizoaceae	<i>Disphyma</i>	<i>crassifolium ssp. clavellatum</i>	Round-leaved Pigface									X				
Amaranthaceae	<i>Ptilotus</i>	<i>spathulatus</i>										X				
Apiaceae	<i>Platysace</i>	<i>effusa</i>	Youlk, Native Carrot				X									
Araliaceae	<i>Trachymene</i>	<i>pilosa</i>										X				
Asparagaceae	<i>Laxmannia</i>	<i>brachyphylla</i>	Stilted Paper-lily			X			X							
Asparagaceae	<i>Lomandra</i>	<i>hastilis</i>				X	X									
Asparagaceae	<i>Lomandra</i>	<i>mucronata</i>								X		X				
Asparagaceae	<i>Lomandra</i>	<i>micrantha</i>	Small-flower Mat-rush							X	X					
Asparagaceae	<i>Thysanotus</i>	<i>patersonii</i>											X			X
Asparagaceae	<i>Thysanotus</i>	<i>parviflorus</i>						X								
Asparagaceae	<i>Thysanotus</i>	<i>sparteus</i>								X						
Asteraceae	<i>Arctotheca</i>	<i>calendula</i>	Cape Weed, Cape Dandelion	X		X	X	X	X							X
Asteraceae	<i>Argentipallium</i>	<i>tephrodes</i>									X			X		
Asteraceae	<i>Brachyscome</i>	<i>perpusilla</i>														X
Asteraceae	<i>Conyza</i>	<i>bonariensis</i>	Fleabane	X										X		X
Asteraceae	<i>Cotula</i>	<i>coronopifolia</i>	Waterbuttons	X												
Asteraceae	<i>Hypochaeris</i>	<i>radicata</i>	Flat Weed	X		X						X				
Asteraceae	<i>Podolepis</i>	<i>capillaris</i>	Wiry Podolepis,				X									

Asteraceae	<i>Pogonolepis</i>	<i>muelleriana</i>												X		
Asteraceae	<i>Pseudognaphalium</i>	<i>luteoalbum</i>	Jersey Cudweed	X												X
Asteraceae	<i>Senecio</i>	<i>spanomerus</i>												X		
Asteraceae	<i>Sonchus</i>	<i>oleraceus</i>				X					X	X	X			
Asteraceae	<i>Ursinia</i>	<i>anthemoides</i>	Solar Fire	X		X	X	X								
Asteraceae	<i>Vittadinia</i>	<i>dissecta var. hirta</i>														X
Boraginaceae	<i>Halgania</i>	<i>andromedifolia</i>									X					X
Brassicaceae	<i>Raphanus</i>	<i>raphanistrum</i>	Wild Radish	X												X
Campanulaceae	<i>Isotoma</i>	<i>scapigera</i>	Long-scaped Isotome											X		
Casuarinaceae	<i>Allocasuarina</i>	<i>acuaria</i>					X									
Casuarinaceae	<i>Allocasuarina</i>	<i>humilis</i>	Dwarf Sheoak							X	X					
Casuarinaceae	<i>Allocasuarina</i>	<i>acutivalvis</i>								X						
Casuarinaceae	<i>Allocasuarina</i>	<i>thyoides</i>				X					X					
Chenopodiaceae	<i>Atriplex</i>	<i>semibaccata</i>	Berry Saltbush				X									
Chenopodiaceae	<i>Didymanthus</i>	<i>roei</i>												X		
Chenopodiaceae	<i>Enchylaena</i>	<i>tomentosa</i>	Barrier Saltbush					X					X			
Chenopodiaceae	<i>Maireana</i>	<i>oppositifolia</i>											X		X	
Chenopodiaceae	<i>Rhagodia</i>	<i>crassifolia</i>														X
Chenopodiaceae	<i>Rhagodia</i>	<i>preissii</i>												X		
Chenopodiaceae	<i>Tecticornia</i>	<i>lylei</i>											X	X		
Chenopodiaceae	<i>Tecticornia</i>	<i>syncarpa</i>					X						X	X		
Chenopodiaceae	<i>Tecticornia</i>	<i>sp.</i>									X	X	x	X		
Chenopodiaceae	<i>Threlkeldia</i>	<i>diffusa</i>	Coast Bonefruit				X							X		
Convolvulaceae	<i>Wilsonia</i>	<i>humilis</i>	Silky Wilsonia				X							X	X	
Crassulaceae	<i>Crassula</i>	<i>exserta</i>												X		
Cupressaceae	<i>Callitris</i>	<i>roei</i>	Roe's Cypress Pine							X						
Cyperaceae	<i>Caustis</i>	<i>dioica</i>	Puzzle Grass			X	X		X	X						
Cyperaceae	<i>Gahnia</i>	<i>ancistrophylla</i>	Hooked-leaf Saw				X				X	X	X			X

			Sedge														
Cyperaceae	<i>Lepidosperma</i>	<i>squamatum</i>						X				X					
Cyperaceae	<i>Lepidosperma</i>	<i>sp.</i>				X	X	X		X	X	X					X
Cyperaceae	<i>Mesomelaena</i>	<i>stygia ssp. stygia</i>					X			X	X						
Cyperaceae	<i>Schoenus</i>	<i>caespititius</i>				X			X								
Cyperaceae	<i>Schoenus</i>	<i>sesquispiculus</i>					X			X				X			
Dilleniaceae	<i>Hibbertia</i>	<i>exasperata</i>									X				X	X	
Dilleniaceae	<i>Hibbertia</i>	<i>oligantha</i>					X		X	X	X	X					X
Dilleniaceae	<i>Hibbertia</i>	<i>pungens</i>										X					
Dilleniaceae	<i>Hibbertia</i>	<i>gracilipes</i>				X	X			X							
Ericaceae	<i>Andersonia</i>	<i>macranthera</i>				X											
Ericaceae	<i>Andersonia</i>	<i>parvifolia</i>							X	X							
Ericaceae	<i>Astroloma</i>	<i>sp. Grass Patch</i>		P1			X					X					
Ericaceae	<i>Conostephium</i>	<i>papillosum</i>				X		X	X		X			X			X
Ericaceae	<i>Conostephium</i>	<i>drummondii</i>					X										
Ericaceae	<i>Dielsiodoxa</i>	<i>oligarrhenoides</i>															
Ericaceae	<i>Leucopogon</i>	<i>obtusatus</i>															X
Ericaceae	<i>Leucopogon</i>	<i>canaliculatus</i>										X					X
Ericaceae	<i>Leucopogon</i>	<i>sp. Mt Heywood</i>										X	X				
Ericaceae	<i>Leucopogon</i>	<i>sp. Coujinup</i>				X				X							
Ericaceae	<i>Lissanthe</i>	<i>rubicunda</i>															X
Ericaceae	<i>Lysinema</i>	<i>ciliatum</i>				X	X		X	X	X						
Ericaceae	<i>Styphelia</i>	<i>lissanthoides</i>				X											
Ericaceae	<i>Styphelia</i>	<i>subulata</i>										X					X
Ericaceae	<i>Styphelia</i>	<i>sp. South Coast</i>				X	X										
Ericaceae	<i>Styphelia</i>	<i>intertexta</i>															X
Euphorbiaceae	<i>Monotaxis</i>	<i>paxii</i>					X										
Euphorbiaceae	<i>Stachystemon</i>	<i>polyandrus</i>				X			X								
Fabaceae	<i>Acacia</i>	<i>mutabilis</i>															X

Fabaceae	<i>Acacia</i>	<i>saligna</i>	Orange Wattle			X	X	X							
Fabaceae	<i>Acacia</i>	<i>gonophylla</i>					X	X	X	X	X	X		X	X
Fabaceae	<i>Acacia</i>	<i>maxwellii</i>									X	X			X
Fabaceae	<i>Acacia</i>	<i>patagiata</i>									X	X	X	X	X
Fabaceae	<i>Acacia</i>	<i>crispula</i>					X		X						
Fabaceae	<i>Acacia</i>	<i>fragilis</i>								X	X				
Fabaceae	<i>Acacia</i>	<i>mutabilis</i> subsp. <i>mutabilis</i>											X		X
Fabaceae	<i>Acacia</i>	<i>pachyphylla</i>									X				
Fabaceae	<i>Acacia</i>	<i>pritzeliana</i>					X				X				X
Fabaceae	<i>Acacia</i>	<i>sorophylla</i>									X				
Fabaceae	<i>Acacia</i>	<i>cyclops</i>	Coastal Wattle			X	X								X
Fabaceae	<i>Acacia</i>	<i>lasiocarpa</i> var. <i>bracteolata</i>						X							
Fabaceae	<i>Aotus</i>	<i>sp. Esperance</i>				X	X	X	X		X		X		
Fabaceae	<i>Bossiaea</i>	<i>leptacantha</i>									X				X
Fabaceae	<i>Chorizema</i>	<i>obtusifolium</i>				X	X		X						
Fabaceae	<i>Daviesia</i>	<i>teretifolia</i>				X		X	X	X	X				
Fabaceae	<i>Daviesia</i>	<i>aphylla</i>									X				X
Fabaceae	<i>Daviesia</i>	<i>pauciflora</i>		P3		X	X								
Fabaceae	<i>Dillwynia</i>	<i>sp. Mallee</i>													X
Fabaceae	<i>Gastrolobium</i>	<i>parviflorum</i>						X			X				
Fabaceae	<i>Gastrolobium</i>	<i>spinosum</i>	Prickly Poison												X
Fabaceae	<i>Gompholobium</i>	<i>baxteri</i>						X			X	X			X
Fabaceae	<i>Gompholobium</i>	<i>knightianum</i>							X						
Fabaceae	<i>Jacksonia</i>	<i>nematoclada</i>				X									
Fabaceae	<i>Jacksonia</i>	<i>alata</i>								X					
Fabaceae	<i>Jacksonia</i>	<i>venosa</i>				X									
Fabaceae	<i>Jacksonia</i>	<i>condensata</i>									X		X		

Fabaceae	<i>Pultenaea</i>	<i>barbata</i>				X	X										
Fabaceae	<i>Pultenaea</i>	<i>elachista</i>									X						
Fabaceae	<i>Pultenaea</i>	<i>purpurea</i>										X					
Fabaceae	<i>Templetonia</i>	<i>sulcata</i>	Centipede Bush								X						
Frankeniaceae	<i>Frankenia</i>	<i>tetrapetala</i>	Four Petaled Frankenia												X		
Goodeniaceae	<i>Cooperookia</i>	<i>strophiolata</i>						X			X	X				X	X
Goodeniaceae	<i>Dampiera</i>	<i>parvifolia</i>	Many-bracted Dampiera				X				X						
Goodeniaceae	<i>Dampiera</i>	<i>sericantha</i>			P3	X	X		X								
Goodeniaceae	<i>Dampiera</i>	<i>lavandulacea</i>									X						
Goodeniaceae	<i>Goodenia</i>	<i>concinna</i>	Elegant Goodenia								X						
Goodeniaceae	<i>Goodenia</i>	<i>incana</i>	Hoary Goodenia			X	X		X						X		
Goodeniaceae	<i>Goodenia</i>	<i>pterigosperma</i>					X			X	X						
Goodeniaceae	<i>Goodenia</i>	<i>scapigera</i>	White Goodenia			X			X	X	X						
Goodeniaceae	<i>Lechenaultia</i>	<i>formosa</i>	Red Devil, Red Lechenaultia												X		
Goodeniaceae	<i>Scaevola</i>	<i>archeriana</i>									X						
Goodeniaceae	<i>Scaevola</i>	<i>strophiolata</i>															X
Haemodoraceae	<i>Conostylis</i>	<i>phathyrantha</i>							X								
Haloragaceae	<i>Glischrocaryon</i>	<i>angustifolium</i>				X	X	X			X	X					X
Hemerocallidaceae	<i>Dianella</i>	<i>brevicaulis</i>													X		X
Hemerocallidaceae	<i>Dianella</i>	<i>revoluta</i>	Flax Lilly						X								
Iridaceae	<i>Moraea</i>	<i>setifolia</i>		X											X		
Iridaceae	<i>Patersonia</i>	<i>occidentalis</i>	Smooth Purple Flag												X		
Iridaceae	<i>Patersonia</i>	<i>lantana</i>	Woolly Patersonia			X	X			X							
Juncaginaceae	<i>Triglochin</i>	<i>mucronata</i>													X		
Lamiaceae	<i>Microcorys</i>	<i>subcanescens</i>					X		X								
Lamiaceae	<i>Westringia</i>	<i>rigida</i>	Stiff Westringia														X

Lauraceae	<i>Cassytha</i>	<i>melantha</i>	Large Dodder-laurel									X					X
Lauraceae	<i>Cassytha</i>	<i>racemosa</i>	Dodder Laurel									X					
Loganiaceae	<i>Logania</i>	<i>micrantha</i>					X										
Loganiaceae	<i>Logania</i>	<i>stenophylla</i>															X
Malvaceae	<i>Lasiopetalum</i>	<i>sp. Mt Ragged</i>										X	X				X
Malvaceae	<i>Lawrenzia</i>	<i>squamata</i>												X	X		
Myrtaceae	<i>Baeckea</i>	<i>latens</i>					X		X	X	X						
Myrtaceae	<i>Austrobaeckea</i>	<i>uncinella</i>			P3							X	X				
Myrtaceae	<i>Beaufortia</i>	<i>empetrifolia</i>	South Coast Beaufortia			X	X		X								
Myrtaceae	<i>Beaufortia</i>	<i>micrantha</i>	Little Bottlebrush			X	X		X	X							
Myrtaceae	<i>Calothamnus</i>	<i>gracilis</i>	One-sided Bottle Bush			X	X	X				X					
Myrtaceae	<i>Calytrix</i>	<i>duplistipulata</i>										X					
Myrtaceae	<i>Calytrix</i>	<i>leschenaultii</i>										X					
Myrtaceae	<i>Calytrix</i>	<i>decandra</i>	Pink Starflower			X	X		X								
Myrtaceae	<i>Chamelaucium</i>	<i>megalopetalum</i>	Large Waxflower			X	X		X	X							
Myrtaceae	<i>Conothamnus</i>	<i>aureus</i>				X	X										
Myrtaceae	<i>Cyathostemon</i>	<i>blackettii</i>											X				X
Myrtaceae	<i>Cyathostemon</i>	<i>ambiguus</i>				X	X	X		X	X	X					X
Myrtaceae	<i>Darwinia</i>	<i>vestita</i>	Pom-pom Darwinia									X	X	X			X
Myrtaceae	<i>Darwinia</i>	<i>sp. Gibson</i>			P1							X		X			
Myrtaceae	<i>Eucalyptus</i>	<i>halophila</i>				X											X
Myrtaceae	<i>Eucalyptus</i>	<i>platypus</i>	Moort				X										
Myrtaceae	<i>Eucalyptus</i>	<i>tumida</i>								X							
Myrtaceae	<i>Eucalyptus</i>	<i>conglobata</i> ssp. <i>conglobata</i>															X
Myrtaceae	<i>Eucalyptus</i>	<i>forrestiana</i>	Fuschia Gum									X					X
Myrtaceae	<i>Eucalyptus</i>	<i>angulosa</i>	Ridge-fruited Mallee				X						X				

Myrtaceae	<i>Eucalyptus</i>	<i>aspratilis</i>									X				
Myrtaceae	<i>Eucalyptus</i>	<i>lehmannii</i>	Bushy Yate					X							
Myrtaceae	<i>Eucalyptus</i>	<i>occidentalis</i>	Swamp yate				X								
Myrtaceae	<i>Eucalyptus</i>	<i>pleurocarpa</i>	Tallerack		X	X		X	X	X					X
Myrtaceae	<i>Eucalyptus</i>	<i>rigens</i>	Saltlake Mallee			X			X	X	X	X			X
Myrtaceae	<i>Eucalyptus</i>	<i>conglobata</i> ssp. <i>conglobata</i>								X					
Myrtaceae	<i>Eucalyptus</i>	<i>incrassata</i>	Ridge-fruited Mallee							X					X
Myrtaceae	<i>Eucalyptus</i>	<i>kessellii</i> ssp. <i>kessellii</i>				X			X	X					
Myrtaceae	<i>Eucalyptus</i>	<i>leptocalyx</i>	Hopetoun Mallee							X		X			X
Myrtaceae	<i>Eucalyptus</i>	<i>quadrans</i>	Cascade Mallee												X
Myrtaceae	<i>Eucalyptus</i>	<i>tumida</i>				X				X					X
Myrtaceae	<i>Eucalyptus</i>	<i>uncinata</i>	Hook-leaved Mallee			X				X					X
Myrtaceae	<i>Eucalyptus</i>	<i>utilis</i>	Coastal Moort			X									
Myrtaceae	<i>Kunzea</i>	<i>salina</i>			P3						X	X			X
Myrtaceae	<i>Leptospermum</i>	<i>oligandrum</i>				X	X		X	X					
Myrtaceae	<i>Leptospermum</i>	<i>spinescens</i>	Spiny Tea Tree			X	X								
Myrtaceae	<i>Leptospermum</i>	<i>laevigatum</i>	Victorian Tea Tree	X		X									
Myrtaceae	<i>Melaleuca</i>	<i>pulchella</i>	Crab Claw Melaleuca				X	X		X	X	X			X
Myrtaceae	<i>Melaleuca</i>	<i>brevifolia</i>						X		X	X	X	X		
Myrtaceae	<i>Melaleuca</i>	<i>plumosa</i>				X	X	X		X	X			X	X
Myrtaceae	<i>Melaleuca</i>	<i>pentagona</i> var. <i>latifolia</i>				X				X	X		X		
Myrtaceae	<i>Melaleuca</i>	<i>rigidifolia</i>								X					
Myrtaceae	<i>Melaleuca</i>	<i>glaberrima</i>					X			X					X
Myrtaceae	<i>Melaleuca</i>	<i>johnsonii</i>						X							
Myrtaceae	<i>Melaleuca</i>	<i>tuberculata</i> var <i>macrophylla</i>								X					
Myrtaceae	<i>Melaleuca</i>	<i>brophyi</i>									X	X			X



Myrtaceae	<i>Melaleuca</i>	<i>cuticularis</i>	Saltwater Paper Bark				X	X									
Myrtaceae	<i>Melaleuca</i>	<i>calycina</i>															X
Myrtaceae	<i>Melaleuca</i>	<i>calcicola</i>								X	X						X
Myrtaceae	<i>Melaleuca</i>	<i>hnatiukii</i>								X	X						
Myrtaceae	<i>Melaleuca</i>	<i>podocarpa</i>								X							X
Myrtaceae	<i>Melaleuca</i>	<i>linguiformis</i>										X					
Myrtaceae	<i>Melaleuca</i>	<i>striata</i>				X	X			X							
Myrtaceae	<i>Melaleuca</i>	<i>uncinata</i>									X						X
Myrtaceae	<i>Melaleuca</i>	<i>undulata</i>									X						X
Myrtaceae	<i>Melaleuca</i>	<i>thyoides</i>										X	X				
Myrtaceae	<i>Melaleuca</i>	<i>pentagona var latifolia</i>															
Myrtaceae	<i>Oxymyrrhine</i>	<i>gracilis</i>					X										
Myrtaceae	<i>Phymatocarpus</i>	<i>maxwellii</i>					X	X			X	X					X
Myrtaceae	<i>Rinzia</i>	<i>icosandra</i>	Recherche Mainland Rinzia			X			X		X	X					
Myrtaceae	<i>Rinzia</i>	<i>dimorphandra</i>	Esperance Rinzia			X											
Myrtaceae	<i>Taxandria</i>	<i>spathulata</i>				X											
Myrtaceae	<i>Verticordia</i>	<i>inclusa</i>				X											
Myrtaceae	<i>Verticordia</i>	<i>eriocephala</i>	Common Cauliflower				X										
Myrtaceae	<i>Verticordia</i>	<i>minutiflora</i>								X							
Myrtaceae	<i>Verticordia</i>	<i>roei ssp. roei</i>				X	X		X	X	X						
Myrtaceae	<i>Verticordia</i>	<i>plumosa var. grandiflora</i>				X					X	X	X				X
Orchidaceae	<i>Microtis</i>	<i>media</i>	Tall Mignonette Orchid											X			
Pittosporaceae	<i>Billardiera</i>	<i>lehmanniana</i>	Kurup			X	X	X	X	X	X	X	X	X	X		X
Pittosporaceae	<i>Billardiera</i>	<i>coriacea</i>										X					
Pittosporaceae	<i>Cheiranthra</i>	<i>filifolia</i>															X

Poaceae	<i>Austrostipa</i>	<i>acrociliata</i>										X		X	
Poaceae	<i>Austrostipa</i>	<i>sp.</i>				X				X			X		
Poaceae	<i>Avena</i>	<i>fatua</i>	Wild Oats	X		X	X	X							
Poaceae	<i>Ehrharta</i>	<i>calycina</i>	Perennial Veldt Grass	X			X								
Poaceae	<i>Eragrostis</i>	<i>curvula</i>	Love Grass	X			X								
Poaceae	<i>Eragrostis</i>	<i>dielsii</i>	Mallee Lovegrass											X	
Poaceae	<i>Hordeum</i>	<i>murinum</i>	Barley Grass	X				X							X
Poaceae	<i>Lolium</i>	<i>perenne</i>	Perennial Ryegrass	X		X	X						X		X
Poaceae	<i>Neurachne</i>	<i>alopecuroidea</i>	Foxtail Mulga Grass			X	X		X	X	X				
Poaceae	<i>Parapholis</i>	<i>incurva</i>		X		X									
Poaceae	<i>Rytidosperma</i>	<i>acerosum</i>									X	X			X
Poaceae	<i>Triticum</i>	<i>aestivum</i>	Wheat										X		
Polygalaceae	<i>Comesperma</i>	<i>spinosum</i>	Spiny Milkwort							X					X
Polygalaceae	<i>Comesperma</i>	<i>integerrimum</i>				X		X				X		X	X
Polygonaceae	<i>Muehlenbeckia</i>	<i>adpressa</i>	Climbing Ilignum									X			
Primulaceae	<i>Lysimachia</i>	<i>arvensis</i>	Scarlet Pimpernel			X	X								X
Proteaceae	<i>Adenanthos</i>	<i>cuneatus</i>	Jug Flower			X	X		X						
Proteaceae	<i>Banksia</i>	<i>repens</i>	Creeping Banksia			X	X		X	X					
Proteaceae	<i>Banksia</i>	<i>nutans</i>	Nodding Banksia			X	X			X					
Proteaceae	<i>Banksia</i>	<i>armata</i>	Prickly Dryandra				X			X					
Proteaceae	<i>Banksia</i>	<i>media</i>	Sandplain Banksia			X				X	X				
Proteaceae	<i>Banksia</i>	<i>obtusata</i>	Shining Honeypot			X					X				
Proteaceae	<i>Banksia</i>	<i>speciosa</i>	Showy Banksia, Esperance Banksia				X								
Proteaceae	<i>Banksia</i>	<i>pulchella</i>	Teasle Banksia			X	X								
Proteaceae	<i>Banksia</i>	<i>obovata</i>	Wedge leaf Dryandra			X	X		X	X					
Proteaceae	<i>Banksia</i>	<i>pteridifolia</i>	Tangled Honeypot			X	X								

Proteaceae	<i>Conospermum</i>	<i>leianthum</i>				X	X									
Proteaceae	<i>Grevillea</i>	<i>plurijuga ssp. superba</i>	Comb Leaf Grevillea				X				X					X
Proteaceae	<i>Grevillea</i>	<i>pauciflora subsp. psilophylla</i>					X		X	X	X	X				X
Proteaceae	<i>Grevillea</i>	<i>unknown</i>								X						
Proteaceae	<i>Hakea</i>	<i>cinerea</i>	Ashy Hakea			X		X	X	X	X	X				X
Proteaceae	<i>Hakea</i>	<i>corymbosa</i>	Cauliflower Hakea			X				X						
Proteaceae	<i>Hakea</i>	<i>pandanicarpa</i>	Cricket Ball Hakea			X				X						
Proteaceae	<i>Hakea</i>	<i>nitida</i>	Frog Hakea				X									
Proteaceae	<i>Hakea</i>	<i>lissocarpha</i>	Honey Bush				X									
Proteaceae	<i>Hakea</i>	<i>prostrata</i>	Harsh Hakea			X										
Proteaceae	<i>Hakea</i>	<i>obliqua</i>	Needles and corks			X	X			X						
Proteaceae	<i>Hakea</i>	<i>laurina</i>	Pin Cushion Hakea				X									X
Proteaceae	<i>Hakea</i>	<i>adnata</i>						X			X	X		X	X	
Proteaceae	<i>Hakea</i>	<i>commutata</i>														X
Proteaceae	<i>Hakea</i>	<i>nitida</i>	Frog Hakea							X						
Proteaceae	<i>Isopogon</i>	<i>polycephalus</i>	Clustered Conehead			X	X			X	X					
Proteaceae	<i>Persoonia</i>	<i>scabra</i>					X									X
Proteaceae	<i>Petrophile</i>	<i>teretifolia</i>	Pixie Mops			X	X		X		X					
Proteaceae	<i>Petrophile</i>	<i>fastigiata</i>								X						
Proteaceae	<i>Petrophile</i>	<i>squamata ssp. Northern</i>								X						
Proteaceae	<i>Petrophile</i>	<i>teretifolia</i>								X						
Proteaceae	<i>Stirlingia</i>	<i>anethifolia</i>				X	X									
Proteaceae	<i>Synaphea</i>	<i>oligantha</i>				X				X						
Restionaceae	<i>Chordifex</i>	<i>sphacelatus</i>					X		X							
Restionaceae	<i>Desmocladus</i>	<i>myriocladus</i>						X								

Restionaceae	<i>Hypolaena</i>	<i>humilis</i>						X			X	X	X	X	
Restionaceae	<i>Lepidobolus</i>	<i>chaetocephalus</i>	Bristle-headed Chaff Rush			X	X		X	X					
Restionaceae	<i>Chordifex</i>	<i>sphacelatus</i>				X	X				X				
Rhamnaceae	<i>Pomaderris</i>	<i>rotundifolia</i>									X				X
Rhamnaceae	<i>Spyridium</i>	<i>minutum</i>													X
Rhamnaceae	<i>Spyridium</i>	<i>mucronatum</i> ssp. <i>mucronatum</i>									X				X
Rutaceae	<i>Boronia</i>	<i>fabianooides</i> ssp. <i>fabianooides</i>													X
Rutaceae	<i>Boronia</i>	<i>inornata</i>	Desert Boronia								X	X			X
Rutaceae	<i>Boronia</i>	<i>crassifolia</i>									X				
Rutaceae	<i>Cyanothamnus</i>	<i>ramosus</i> ssp. <i>anethifolius</i>				X									
Rutaceae	<i>Cyanothamnus</i>	<i>baeckeaceus</i> ssp. <i>baeckeaceus</i>									X				X
Rutaceae	<i>Microcybe</i>	<i>pauciflora</i>									X				X
Rutaceae	<i>Microcybe</i>	<i>multiflora</i> ssp. <i>multiflora</i>									X	X			
Rutaceae	<i>Nematolepis</i>	<i>phebaliooides</i>										X			X
Rutaceae	<i>Phebalium</i>	<i>lepidotum</i>									X				X
Santalaceae	<i>Exocarpos</i>	<i>sparteus</i>	Native Cherry				X				X	X			X
Santalaceae	<i>Exocarpos</i>	<i>aphyllus</i>	Leafless Ballart												X
Santalaceae	<i>Leptomeria</i>	<i>pachyclada</i>									X				X
Santalaceae	<i>Santalum</i>	<i>acuminatum</i>	Quandong					X							
Sapindaceae	<i>Dodonaea</i>	<i>caespitosa</i>											X		
Sapindaceae	<i>Dodonaea</i>	<i>amblyophylla</i>									X			X	X
Stylidiaceae	<i>Stylidium</i>	<i>repens</i>	Matted Triggerplant			X									
Thymelaeaceae	<i>Pimelea</i>	<i>brevifolia</i> ssp. <i>brevifolia</i>									X		X		

Thymelaeaceae	<i>Pimelea</i>	<i>cracens</i>									X			
Thymelaeaceae	<i>Pimelea</i>	<i>angustifolia</i>						X						

## 8.2 TPFL Forms

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 <http://dpaw.wa.gov.au> under Standard Report Forms

TAXON: <u>Astroloma sp. Grass Patch</u>	TPFL Pop. No: <u>        </u>
OBSERVATION DATE: <u>30/10/20</u>	CONSERVATION STATUS: <u>P2</u> New population <input checked="" type="checkbox"/>
OBSERVER/S: <u>Julie Waters and Sophie Willsher</u>	PHONE: <u>9083 1518</u>
ROLE: <u>Environmental Officers</u>	ORGANISATION: <u>Shire of Esperance</u>

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): ~47 km north of Esperance  
townsite. ~20 km east of Scaddan townsite. On Dempster Rd, located 700 m of Scaddan Rd and Dempster Rd intersection  
On eastern side of road reserve

DBC DISTRICT: <u>Suth Coast</u>	LGA: <u>Esperance</u>	Land manager present: <input type="checkbox"/>
DATUM:	COORDINATES: (If UTM coords provided, Zone is also required)	METHOD USED:
GDA84 / MGA94 <input checked="" type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	GPS <input type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: <u>6293472 m N</u>	No. satellites: <u>        </u> Map used: <u>        </u>
WGS84 <input type="checkbox"/>	Long / Easting: <u>406900 m E</u>	Boundary polygon captured: <input type="checkbox"/> Map scale: <u>        </u>
Unknown <input type="checkbox"/>	ZONE: <u>51 H</u>	
LAND TENURE:		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole <u>        </u> to <u>        </u>
		Rail reserve <input type="checkbox"/> Shire road reserve <input checked="" type="checkbox"/>
		MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
		Specify other: <u>        </u>

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/>	Area observed (m <sup>2</sup> ): <u>        </u>
EFFORT: Time spent surveying (minutes): <u>        </u>	No. of minutes spent / 100 m <sup>2</sup> : <u>30</u>
POP'N COUNT ACCURACY: Actual <input checked="" type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: <u>        </u>
(Refer to field manual for list)	
WHAT COUNTED: Plants <input type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
TOTAL POP'N STRUCTURE:	
	Mature: <u>        </u> Juveniles: <u>        </u> Seedlings: <u>        </u> Totals: <u>        </u>
Alive	<u>1</u> <u>        </u> <u>        </u> <u>        </u> Area of pop (m <sup>2</sup> ): <u>        </u>
Dead	<u>        </u> <u>        </u> <u>        </u> <u>        </u>
Note: Pls record count as numbers (not percentages) for database.	
QUADRATS PRESENT: No. <u>        </u> Size <u>        </u> Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): <u>        </u>
Summary Quad. Totals: Alive	<u>        </u> <u>        </u> <u>        </u> <u>        </u>
REPRODUCTIVE STATE:	
Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input type="checkbox"/>	Percentage in flower: <u>        </u> %
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	

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. <b>Specify agent</b> 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)
• Proposed road widening for 20/21 financial year that is no longer occurring. If to occur in future than the single plant will be taken	?H	H	S
• <u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>
• <u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>

**HABITAT INFORMATION:**

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface: eg gravel, quartz fields)	Sand <input checked="" type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>		Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	0-10% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input checked="" type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input type="checkbox"/>	Quartz <input type="checkbox"/>	30-50% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: <input type="text"/>	50-100% <input type="checkbox"/>	Specify other: <input type="text"/>	Specify other: <input type="text"/>	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>				
	(Refer to field manual for additional values)				
			<b>Deep sandplain</b>		

**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 (Mesomelaena tetragona)

1. **Banksia speciosa open woodland over mixed Proteaceous shrubland**

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2.

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3.

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4.

**ASSOCIATED SPECIES:**

**Adenanthos cuneatus, Banksia speciosa, Calothamnus gracilis, Beaufortia micrantha**

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.)

**KW120, Accession 8652. Specimen confirmed by WA Herbarium on 10/12/20. Specimen not retained.**

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**DRF PERMIT/ LICENCE No:** **FB62000139** Note if only observing plants (i.e. no specimens or plant material is taken) then no permit/licence is required. For further information on permit and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under licence/permit should be recorded above in the OTHER COMMENTS section.

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

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other:

**COPY SENT TO:** Regional Office  District Office  Other:

Submitter of Record: **Katie White** Role: **Environmental Officer** Signed: **KW** Date: **15/01/21**



# Threatened and Priority Flora Report Form

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 <http://dbca.wa.gov.au/> under Standard Report Forms

TAXON: Astroloma sp grass Patch TPFL Pop. No: \_\_\_\_\_  
 OBSERVATION DATE: 10/9/21 CONSERVATION STATUS: \_\_\_\_\_ New population   
 OBSERVER/S: Julie Waters / Kat Walkenden PHONE: 90831519  
 ROLE: Enviro Officers ORGANISATION: Shire Esperance

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):  
33 km south of Norwood rd on DEMPSTER RD on east side of road.

Reserve No: \_\_\_\_\_  
 DBCA DISTRICT: Esperance LGA: Esperance Land manager present:   
 DATUM: COORDINATES: (If UTM coords provided, Zone is also required) METHOD USED:  
 DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map   
 GDA94 / MGA94  Lat / Northing: 408660 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_  
 AGD84 / AMG84  Long / Easting: 6297860 Boundary polygon captured:  Map scale: \_\_\_\_\_  
 WGS84  Zone: SI H.  
 Unknown   
 LAND TENURE: R27386  
 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 (m<sup>2</sup>): \_\_\_\_\_  
 EFFORT: Time spent surveying (minutes): 20 No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_  
 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	<u>100+</u>			
Dead				

 Area of pop (m<sup>2</sup>): \_\_\_\_\_  
 Note: Ple record count as numbers (not percentages) for database.  
 QUADRATS PRESENT: No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_  
 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)
•	---	---	---
•	---	---	---
•	---	---	---

Please return completed form to Species And Communities Branch DBCA,  
 Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: [flora.data@dbca.wa.gov.au](mailto:flora.data@dbca.wa.gov.au)  
 RECORDS: Please forward to Flora Administrative Officer, Species and Communities Branch.  
 Record entered by: \_\_\_\_\_ Sheet No: \_\_\_\_\_ Record Entered in Database





# Threatened and Priority Flora Report Form

### HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input type="checkbox"/>	Seasonally inundated <input checked="" type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input checked="" type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>	Specific Landform Element: _____				
Wetland <input type="checkbox"/>	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

**VEGETATION CLASSIFICATION\*:**

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

1. Meleleuca shrubland fringing salt lake

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

**ASSOCIATED SPECIES:**

Meleuca brenyolia, Meleuca hnatiskii

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 2008 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.)

All plants well outside road maintenance zone

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

**SPECIMEN:** Collectors No: KSW 02321 WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: J. Waters Role: Environmental Coordinator Date: 7/2/2022

Please return completed form to Species And Communities Branch 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 Branch.



### Threatened and Priority Flora Report Form

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 (TPFR) manual on the DBCA website at <http://www.dbca.wa.gov.au> under Standard Report Forms

TAXON: Astroloma sp. Grass patch TPFR Pop. No: \_\_\_\_\_  
 OBSERVATION DATE: 21/12/2021 CONSERVATION STATUS: P2 New population   
 OBSERVERS: Julie Waters PHONE: 90831519  
 ROLE: Environmental Officer ORGANISATION: Shire Esperance

DESCRIPTION OF LOCATION (Provide at least nearest town/village location, and the distance and direction to that place):  
2.7 km of Norwood Rd on Dempster Rd

DBC DISTRICT: Esperance LGA: Esperance Reserve No: \_\_\_\_\_  
 Land manager present:   
 DATUM: COORDINATES: (if UTM coords provided, Zone is also required) METHOD USED:  
 DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map   
 GDAS4 / AMG84  Lat / Northing: 408673 No. satellites: \_\_\_\_\_ Map used: \_\_\_\_\_  
 AGO84 / AMG84  Long / Easting: 629 8386 Boundary polygon captured:  Map scale: \_\_\_\_\_  
 WGS84  Unknown  ZONE: 51 H.  
 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 (m<sup>2</sup>): \_\_\_\_\_  
 EFFORT: Time spent surveying (minutes): \_\_\_\_\_ No. of minutes spent / 100 m<sup>2</sup>: \_\_\_\_\_  
 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:	Area of pop (m <sup>2</sup> ): _____ Note: The record count is numbers (not percentages) for databases.
Alive	<u>50</u>				
Dead					

 QUADRATS PRESENT: No. \_\_\_\_\_ Size \_\_\_\_\_ Data attached  Total area of quadrats (m<sup>2</sup>): \_\_\_\_\_  
 Summary Quad. Totals: Alive \_\_\_\_\_  
 REPRODUCTIVE STATE: Clonal  Vegetative  Flowerbud  Flower   
 Immature fruit  Fruit  Dehiscent fruit  Percentage in flower: \_\_\_\_\_ %

CONDITION OF PLANTS: Healthy  Moderate  Poor  Senescent   
 COMMENT:

THREATS - type, agent and supporting information: <small>By clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, C=Catastrophic Estimate time to potential impact: S=Short (&lt;12Mths), M=Medium (&lt;5yrs), L=Long (&gt;5yrs)</small>	Current Impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
<u>None</u>	_____	_____	_____
*	_____	_____	_____
*	_____	_____	_____

Please return completed form to Species And Communities Branch DBCA,  
 Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: [flora.data@dbca.wa.gov.au](mailto:flora.data@dbca.wa.gov.au)  
 RECORDS: Please forward to Flora Administrative Officer, Species and Communities Branch.



### Threatened and Priority Flora Report Form

**HABITAT INFORMATION:**

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Creel <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz pebbles)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input type="checkbox"/>	Seasonally inundated <input checked="" type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input checked="" type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	<b>Specific Landform Element:</b>				
	(Refer to table nearest for additional values)				

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

**VEGETATION CLASSIFICATION:**

1. Fringing salt lake.

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

**ASSOCIATED SPECIES:** Mel. hnativukii

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:** Poor  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.)

\* Same location as on Emma Adams esp threatened flora shapefile but north side of lake.

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

**SPECIMEN:** Collector(s): \_\_\_\_\_ WA Herb  Regional Herb  District Herb  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: J Waters Role: Environmental Coordinator Signed: [Signature] Date: 7/2/22.

Please return completed form to Species And Communities Branch 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 Branch.

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 <http://dtpaw.wa.gov.au> under Standard Report Forms

TAXON: <u>Dampiera sericantha</u>		TPFL Pop. No: <input type="text"/>
OBSERVATION DATE: <u>30/10/20</u>	CONSERVATION STATUS: <u>P3</u>	New population <input checked="" type="checkbox"/>
OBSERVER/S: <u>Julie Waters and Sophie Willsher</u>		PHONE: <u>9083 1518</u>
ROLE: <u>Environmental Officer</u>	ORGANISATION: <u>Shire of Esperance</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): <u>~47 km north of Esperance</u>	
<u>townsite. ~20 km east of Scaddan townsite. on Dempster Rd, 100 to 750 m north of intersection with Dempster Rd and Scaddan Rd. On Both sides of road reserve.</u>	
Reserve No: <input type="text"/>	

DBC DISTRICT: <u>south Coast</u>	LGA: <u>Esperance</u>	Land manager present: <input type="checkbox"/>
DATUM:	COORDINATES: (If UTM coords provided, Zone is also required)	METHOD USED:
GDA84 / MGA84 <input checked="" type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/>	GPS <input type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: <u>6293107 m N</u>	No. satellites: <input type="text"/> Map used: <input type="text"/>
WGS84 <input type="checkbox"/>	Long / Easting: <u>406515 m E</u>	Boundary polygon captured: <input type="checkbox"/> Map scale: <input type="text"/>
Unknown <input type="checkbox"/>	ZONE: <u>51 H</u>	
LAND TENURE:		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole <input type="text"/> to <input type="text"/>
		Rail reserve <input type="checkbox"/>
		MRWA road reserve <input type="checkbox"/>
		Shire road reserve <input checked="" type="checkbox"/>
		Other Crown reserve <input type="checkbox"/>
		Specify other: <input type="text"/>

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/>	Area observed (m <sup>2</sup> ): <input type="text"/>
EFFORT: Time spent surveying (minutes): <input type="text"/>	No. of minutes spent / 100 m <sup>2</sup> : <input type="text"/>
POP'N COUNT ACCURACY: Actual <input checked="" type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/> Count method: <input type="text"/>	(Refer to field manual for list)
WHAT COUNTED: Plants <input type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
TOTAL POP'N STRUCTURE:	
	Mature: Juveniles: Seedlings: Totals:
Alive	Not counted <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Dead	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
	Area of pop (m <sup>2</sup> ): <input type="text"/>
	Note: Pls record count as numbers (not percentages) for database.
QUADRATS PRESENT: No. <input type="text"/> Size <input type="text"/> Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): <input type="text"/>
Summary Quad. Totals: Alive	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
REPRODUCTIVE STATE:	
Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input type="checkbox"/>	Percentage in flower: <input type="text"/> %
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	
CONDITION OF PLANTS: Healthy <input type="checkbox"/> Moderate <input type="checkbox"/> Poor <input type="checkbox"/> Senescent <input type="checkbox"/>	
COMMENT: <input type="text"/>	

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; 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 (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• <b>Road widening - was proposed to road widen in 20/21 financial year. No longer occurring</b>			
<b>Population was not counted and total impact not counted</b>	?L	L-M	S
• <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
• <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**HABITAT INFORMATION:**

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface: eg gravel, quartz fields)	Sand <input checked="" type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input checked="" type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	<b>Specific Landform Element:</b>		<b>Deep sandplain</b>		
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

**VEGETATION CLASSIFICATION\*:**

1. Banksia speciosa open woodland over mixed Proteaceous shrubland

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

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

**ASSOCIATED SPECIES:**

Banksia speciosa, Beaufortia empetrifolia, Banksia repens, Isopogon polycephalus, Melaleuca striatus

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.) \_\_\_\_\_

Almost all plants present in the current active road footprint

KW119, Accession 8652. Confirmed by WA herbarium on 10/12/20. Specimen retained.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**DRF PERMIT/ LICENCE No:** FB62000139 Note if only observing plants (i.e. no specimens or plant material is taken) then no permit/licence is required. For further information on permit and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under licence/permit should be recorded above in the OTHER COMMENTS section.

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: Katie White Role: Environmental Officer Signed: KW Date: 15/01/21

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 <http://dpgaw.wa.gov.au/> under Standard Report Forms

TAXON: <u>Darwinia sp. Gibson</u>	TPFL Pop. No: <input type="text"/>
OBSERVATION DATE: <u>16/10/20</u>	CONSERVATION STATUS: <u>P1</u> New population <input checked="" type="checkbox"/>
OBSERVER/S: <u>Julie Waters and Sophie Willsher</u>	PHONE: <u>9083 1518</u>
ROLE: <u>Environmental Officer</u>	ORGANISATION: <u>Shire of Esperance</u>

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): ~47 km north of Esperance  
townsite. ~20 km east of Scaddan townsite. On Dempster Rd, ~5.6 km north of Scaddan Rd. On northern side of salt lake  
on eastern road reserve

Reserve No:

DBC DISTRICT: South Coast LGA: Esperance Land manager present:

DATUM: COORDINATES: (If UTM coords provided, Zone is also required) METHOD USED:

DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map

GDA84 / MGA84  Lat / Northing: 629786.2 m N No. satellites:  Map used:

AGD84 / AMG84  Long / Easting: 408644 m E Boundary polygon captured:  Map scale:

WGS84  UTM Zone: 51 H

Unknown

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 (m<sup>2</sup>):

EFFORT: Time spent surveying (minutes):  No. of minutes spent / 100 m<sup>2</sup>: 30

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:	Area of pop (m <sup>2</sup> ): <input type="text"/>	
Alive	<u>10 plants</u>	<input type="text"/>	<input type="text"/>	<input type="text"/>		Note: Pls record count as numbers (not percentages) for database.
Dead	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		

QUADRATS PRESENT: No.  Size  Data attached  Total area of quadrats (m<sup>2</sup>):

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: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; 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 (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• Originally surveyed as identified as road widening required. No longer prioritised. Was not counted how many plants were to be taken with proposed road widening	?M	M-H	S
• <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
• <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**HABITAT INFORMATION:**

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface: eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input checked="" type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>		Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	0-10% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Light clay <input checked="" type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input type="checkbox"/>	Quartz <input type="checkbox"/>	30-50% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____	50-100% <input type="checkbox"/>	Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input checked="" type="checkbox"/>					
Wetland <input type="checkbox"/>					
<b>Specific Landform Element:</b> <u>On periphery of salt lake</u>					
<small>(Refer to field manual for additional values)</small>					
<b>CONDITION OF SOIL:</b>	Dry <input type="checkbox"/>	Moist <input checked="" type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

**VEGETATION CLASSIFICATION\*:**

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

1. Present in dense shrub layer directly on periphery of salt lake. Closed Melaleuca shrubland

2. fringing salt lake with scattered Mallee

3. \_\_\_\_\_

4. \_\_\_\_\_

**ASSOCIATED SPECIES:**

Nematolepis phebaloides, Eucalyptus sp., Melaleuca hnatiukii

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.)

KW116, Accession 8652. Confirmed by WA Herbarium on 10/12/20. Specimen retained by WA herbarium

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**DRF PERMIT/ LICENCE No:** FB62000139 Note if only observing plants (i.e. no specimens or plant material is taken) then no permit/licence is required. For further information on permit and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under licence/permit should be recorded above in the OTHER COMMENTS section.

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: Katie White Role: Environmental officer Signed: KW Date: 15/01/21

## Threatened and Priority Flora Report Form

Version 1.3 August 2017

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 <http://dbcwa.gov.au> under Standard Report Forms

TAXON: <u>Austrobaecka uncinella</u>		TPFL Pop. No: <input type="text"/>	
OBSERVATION DATE: <u>21/12/21</u>		CONSERVATION STATUS: <u>P3</u> <span style="float: right;">New population <input checked="" type="checkbox"/></span>	
OBSERVER/S: <u>Julie Waters</u>		PHONE: <u>9083 1518</u>	
ROLE: <u>Environmental Officer</u>		ORGANISATION: <u>Shire of Esperance</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): <input type="text"/>	
On Dempster Rd, located @ 3 separate lakes; 3.3km, 4.0km and 4.7km south of Norwood Rd / Dempster rd intersection on Dempster Rd	
Reserve No: <input type="text"/>	

DBC DISTRICT: <u>South Coast</u>	LGA: <u>Esperance</u>	Land manager present: <input type="checkbox"/>
DATUM: <input type="checkbox"/> GDA94 / MGA94 <input type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input type="checkbox"/> Unknown <input type="checkbox"/>		METHOD USED: <input type="checkbox"/> GPS <input type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
COORDINATE S: (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>		No. satellites: <input type="text"/>
Lat / Northing: <input type="text"/>		Map used: <input type="text"/>
Long / Easting: <input type="text"/>		Boundary polygon captured: <input type="checkbox"/>
ZONE: <input type="text"/>		Map scale: <input type="text"/>
LAND TENURE:		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole <input type="text"/> to <input type="text"/>
		Rail reserve <input type="checkbox"/> Shire road reserve <input checked="" type="checkbox"/>
		MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
		Specify other: <input type="text"/>

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/>	Area observed (m <sup>2</sup> ): <input type="text"/>
EFFORT: Time spent surveying (minutes): <u>120</u>	No. of minutes spent / 100 m <sup>2</sup> : <input type="text"/>
POP'N COUNT ACCURACY: Actual <input checked="" type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: <input type="text"/>
(Refer to field manual for list)	
WHAT COUNTED: Plants <input type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
TOTAL POP'N STRUCTURE:	
Alive	Mature: <input type="text"/> Juveniles: <input type="text"/> Seedlings: <input type="text"/> Totals: <input type="text"/>
Dead	Mature: <input type="text"/> Juveniles: <input type="text"/> Seedlings: <input type="text"/> Totals: <input type="text"/>
	Area of pop (m <sup>2</sup> ): <input type="text"/>
Note: Pls record count as numbers (not percentages) for database.	
QUADRAT S PRESENT: No. <input type="text"/> Size <input type="text"/>	Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): <input type="text"/>
Summary Quad. Totals: Alive	<input type="text"/>
REPRODUCTIVE STATE:	
Clonal <input type="checkbox"/> Immature fruit <input type="checkbox"/>	Vegetative <input type="checkbox"/> Fruit <input type="checkbox"/>
Flowerbud <input type="checkbox"/> Dehiscent fruit <input type="checkbox"/>	Flower <input type="checkbox"/> Percentage in flower: <input type="text"/> %
CONDITION OF PLANT S: Healthy <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Poor <input type="checkbox"/> Senescent <input type="checkbox"/>	
COMMENT: <input type="text"/>	

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=None, 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)
• Proposed road widening will impact on 2 plants	L	L	S
• <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
• <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Please return completed form to Species And Communities Branch DBCA,  
Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: [flora.data@dbcwa.gov.au](mailto:flora.data@dbcwa.gov.au)  
RECORDS: Please forward to Flora Administrative Officer, Species and Communities Branch.  
Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered In Database



## Threatened and Priority Flora Report Form

Version 1.3 August 2017

### HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input type="checkbox"/>	Seasonally inundated <input checked="" type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input checked="" type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input checked="" type="checkbox"/>	
Flat <input type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input checked="" type="checkbox"/>					
Wetland <input type="checkbox"/>					
<b>CONDITION OF SOIL:</b>	Dry <input type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	
<b>VEGETATION CLASSIFICATION*:</b>	1. Fringing salt lake vegetation				
Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);	2. _____				
2. Open shrubland	3. _____				
(Hibbertia sp., Acacia spp.);	4. _____				
3. Isolated clumps of sedges (Mesomelaena tetragona)					
<b>ASSOCIATED SPECIES:</b>	Melaleuca hnatiukii, Cyatostem ambiguus, Astroloma sp. Grass Patch, Meleuca uncinata				
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.)

JW038214, JW03721, JW03821, Accession 9371. Specimen confirmed by WA Herbarium on 1/2/2021. Specimens not retained.

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**DRF PERMIT/ LICENCE No:** FT1000787 Note if only observing plants (i.e. no specimens or plant material is taken) then no permit/licence is required. For further information on permit and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under licence/permit should be recorded above in the OTHER COMMENTS section.

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: Julie Waters Role: Environmental Coordinator Signed: JW Date: 18/02/22

Please return completed form to Species And Communities Branch 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 Branch.  
Record entered by: \_\_\_\_\_ Sheet No.: \_\_\_\_\_ Record Entered in Database

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 <http://dpaw.wa.gov.au> under Standard Report Forms

TAXON: <u>Daviesia pauciflora</u>	TPFL Pop. No: <u>        </u>
OBSERVATION DATE: <u>23/10/20</u>	CONSERVATION STATUS: <u>P3</u> New population <input checked="" type="checkbox"/>
OBSERVER/S: <u>Julie Waters and Danika Penson</u>	PHONE: <u>9083 1518</u>
ROLE: <u>Environmental Officers</u>	ORGANISATION: <u>Shire of Esperance</u>

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): ~47 km north of Esperance  
~20 km east of Scaddan townsite. On Dempster Rd, Scattered regularly between 1.4 and 1.7 km north of Scaddan Rd and Dempster Rd intersection.

DBCA DISTRICT: <u>South Coast</u>	LGA: <u>Esperance</u>	Reserve No: <u>        </u>	Land manager present: <input type="checkbox"/>
DATUM:	COORDINATES: (if UTM coords provided, Zone is also required)	METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	GPS <input type="checkbox"/>	Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: <u>6294146 m N</u>	No. satellites: <u>        </u>	Map used: <u>        </u>
WGS84 <input type="checkbox"/>	Long / Easting: <u>407573 m E</u>	Boundary polygon captured: <input type="checkbox"/>	Map scale: <u>        </u>
Unknown <input type="checkbox"/>	ZONE: <u>51 H</u>		
LAND TENURE:			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input checked="" type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole <u>        </u> to <u>        </u>	Specify other: <u>        </u>

AREA ASSESSMENT: Edge survey  Partial survey  Full survey  Area observed (m<sup>2</sup>):         

EFFORT: Time spent surveying (minutes):          No. of minutes spent / 100 m<sup>2</sup>: 30

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:	Area of pop (m <sup>2</sup> ): <u>        </u> <small>Note: Pls record count as numbers (not percentages) for database.</small>
Alive	<u>29</u>	<u>        </u>	<u>        </u>	<u>        </u>	
Dead	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	

QUADRATS PRESENT: No.          Size          Data attached  Total area of quadrats (m<sup>2</sup>):         

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: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; 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 (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential impact (L-E)	Potential Threat Onset (S-L)
• <b>Road widening - was originally proposed and then no longer is completing in the coming financial year. Not counted how many plants would be cleared.</b>	<u>?M</u>	<u>M-H</u>	<u>S</u>
• <u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>
• <u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>

**HABITAT INFORMATION:**

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface: eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>		Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	0-10% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	30-50% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: <input type="text"/>	50-100% <input type="checkbox"/>	Specify other: <input type="text"/>	Specify other: <input type="text"/>	
Drainage line <input type="checkbox"/>			<b>Sand over Gravel</b>		
Closed depression <input type="checkbox"/>	<b>Specific Landform Element:</b> <input type="text"/>				
Wetland <input type="checkbox"/>	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

**VEGETATION CLASSIFICATION\*:**

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

1. **Open Eucalyptus pleurocarpa woodland over diverse Proteaceous shrubland**

2.

3.

4.

**ASSOCIATED SPECIES:**

Other (non-dominant) spp

**Eucalyptus pleurocarpa, Hakea pandanocarpa, Hakea prostrata, Lysinema ciliatum, Dampiera sericantha**

\* 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.)

**KW117, Accession 8652. Confirmed by WA Herbarium on 10/12/20. Specimen retained by WA herbarium**

**DRF PERMIT/ LICENCE No:** **FB62000139** Note if only observing plants (i.e. no specimens or plant material is taken) then no permit/licence is required. For further information on permit and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under licence/permit should be recorded above in the OTHER COMMENTS section.

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

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other:

**COPY SENT TO:** Regional Office  District Office  Other:

Submitter of Record: **Katie White** Role: **Environmental Officer** Signed: **KW** Date: **15/01/21**

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 <http://dtpaw.wa.gov.au> under Standard Report Forms

TAXON: <u>Daviesia pauciflora</u>	TPFL Pop. No: <u>See comment</u>
OBSERVATION DATE: <u>23/10/20</u>	CONSERVATION STATUS: <u>P3</u> New population <input type="checkbox"/>
OBSERVER/S: <u>Julie Waters and Danika Penson</u>	PHONE: <u>9083 1518</u>
ROLE: <u>Environmental Officers</u>	ORGANISATION: <u>Shire of Esperance</u>

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): ~47 km north of Esperance  
~20 km east of Scaddan townsite. On Dempster Rd, Scattered regularly between intersection of Dempster Rd Scaddan Rd for 800 m north.

DBC DISTRICT: <u>South Coast</u>	LGA: <u>Esperance</u>	Reserve No: <u>        </u>
DATUM: GDA84 / MGA84 <input checked="" type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input type="checkbox"/> Unknown <input type="checkbox"/>	COORDINATES: (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/> Lat / Northing: <u>6293257.5 m N</u> Long / Easting: <u>406667.5 m E</u> ZONE: <u>51H</u>	METHOD USED: GPS <input type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: <u>        </u> Map used: <u>        </u> Boundary polygon captured: <input type="checkbox"/> Map scale: <u>        </u>
LAND TENURE: Nature reserve <input type="checkbox"/> Timber reserve <input type="checkbox"/> Private property <input type="checkbox"/> Rail reserve <input type="checkbox"/> Shire road reserve <input checked="" type="checkbox"/> National park <input type="checkbox"/> State forest <input type="checkbox"/> Pastoral lease <input type="checkbox"/> MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/> Conservation park <input type="checkbox"/> Water reserve <input type="checkbox"/> UCL <input type="checkbox"/> SLK/Pole <u>        </u> to <u>        </u> Specify other: <u>        </u>		

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/> Area observed (m <sup>2</sup> ): <u>        </u>
EFFORT: Time spent surveying (minutes): <u>        </u> No. of minutes spent / 100 m <sup>2</sup> : <u>30</u>
POP'N COUNT ACCURACY: Actual <input checked="" type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/> Count method: <u>        </u> (Refer to field manual for list)
WHAT COUNTED: Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>
TOTAL POP'N STRUCTURE: Mature: <u>15</u> Juveniles: <u>        </u> Seedlings: <u>        </u> Totals: <u>        </u> Alive Dead Area of pop (m <sup>2</sup> ): <u>        </u> Note: Pls record count as numbers (not percentages) for database.
QUADRATS PRESENT: No. <u>        </u> Size <u>        </u> Data attached <input type="checkbox"/> Total area of quadrats (m <sup>2</sup> ): <u>        </u>
Summary Quad. Totals: Alive <u>        </u>
REPRODUCTIVE STATE: Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/> Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/> Percentage in flower: <u>95%</u>

CONDITION OF PLANTS: Healthy  Moderate  Poor  Senescent

COMMENT:         

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; 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 (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• <u>Road widening - was originally proposed and then no longer is completing in the coming financial year. Not counted how many plants would be cleared.</u>	<u>?M</u>	<u>M-H</u>	<u>S</u>
• <u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>
• <u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>

**HABITAT INFORMATION:**

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface: eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>		Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	0-10% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	30-50% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____	50-100% <input type="checkbox"/>	Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>			<b>Sand over Gravel</b>		
Closed depression <input type="checkbox"/>	<b>Specific Landform Element:</b> _____				
Wetland <input type="checkbox"/>	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

**VEGETATION CLASSIFICATION\*:**

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

1. **Open Eucalyptus pleurocarpa woodland over diverse Proteaceous shrubland**

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

**ASSOCIATED SPECIES:**

Other (non-dominant) spp \_\_\_\_\_

**Eucalyptus pleurocarpa, Hakea pandanocarpa, Hakea prostrata, Lysinema ciliatum, Dampiera sericantha**

\* 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.) \_\_\_\_\_

**No specimen collected as previous population**

**Recorded on Esperance threatened flora shapefile as existing. No TPFL population number, recorded as new.**

\_\_\_\_\_

\_\_\_\_\_

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**DRF PERMIT/ LICENCE No:** **FB62000139** Note if only observing plants (i.e. no specimens or plant material is taken) then no permit/licence is required. For further information on permit and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under licence/permit should be recorded above in the OTHER COMMENTS section.

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: **Katie White** Role: **Environmental Officer** Signed: **KW** Date: **15/01/21**

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 (TRRF) manual on the DBCA website at <http://dpaw.wa.gov.au> under Standard Report Forms

TAXON: Persoonia scabra TPFL Pop. No:           
 OBSERVATION DATE: 30/10/20 CONSERVATION STATUS: P3 New population   
 OBSERVER/S: Julie Waters and Sophie Willsher PHONE: 9083 1518  
 ROLE: Environmental Officer ORGANISATION: Shire of Esperance

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): ~50 km north of Esperance  
townsite. ~20 km east of Scaddan townsite. On Dempster Rd, sporadically scattered between 400 m north to 2.4 km  
north of Scaddan Rd and Dempster Rd intersection.

Reserve No:           
 DBCA DISTRICT: Soth Coast LGA: Esperance Land manager present:   
 DATUM: COORDINATES: (if UTM coords provided, Zone is also required) METHOD USED:  
 GDA84 / MGA84  DecDegrees  DegMinSec  UTM  GPS  Differential GPS  Map   
 AGD84 / AMG84  Lat / Northing: 6294400 m N No. satellites:          Map used:           
 WGS84  Long / Easting: 407799 m E Boundary polygon captured:  Map scale:           
 Unknown  ZONE: 51 H  
 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 (m<sup>2</sup>):           
 EFFORT: Time spent surveying (minutes):          No. of minutes spent / 100 m<sup>2</sup>: 30  
 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:	Area of pop (m <sup>2</sup> ): <u>        </u>
Alive	<u>Not counted</u>	<u>        </u>	<u>        </u>	<u>        </u>	
Dead	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	

 Note: Pls record count as numbers (not percentages) for database.  
 QUADRATS PRESENT: No.          Size          Data attached  Total area of quadrats (m<sup>2</sup>):           
 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. <b>Specify agent</b> 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 widening was proposed for 20/21 financial year along Dempster Rd. Now no longer occurring. Was not counted to determine impact to plants	?M-H	H	S
• <u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>
• <u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>

**HABITAT INFORMATION:**

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface: eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>		Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	0-10% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input checked="" type="checkbox"/>	Limestone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input type="checkbox"/>	Quartz <input type="checkbox"/>	30-50% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____	50-100% <input type="checkbox"/>	Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>			<b>Sand over gravel</b>		
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specify other: _____				
	<b>Specific Landform Element:</b> _____				
	(Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

**VEGETATION CLASSIFICATION\*:**

1. Open Eucalyptus pleurocarpa shrubland over Banksia armata low shrubland

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

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

**ASSOCIATED SPECIES:**

Acacia gonophylla, Goodenia scapigera, Hakea corymbosa, Verticordia sp.

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.)

KW122 and KW124 - two specimens collected from the extreme north and south of the population. Accession 8652.

Specimens confirmed ID by WA Herbarium 10/12/20 by Michael Hislop. Specimen retained for KW122 and not for KW124

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**DRF PERMIT/ LICENCE No:** FB62000139 Note if only observing plants (i.e. no specimens or plant material is taken) then no permit/licence is required. For further information on permit and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under licence/permit should be recorded above in the OTHER COMMENTS section.

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: Katie White Role: Environmental Officer Signed: KW Date: 15/01/21

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 <http://dtpaw.wa.gov.au> under Standard Report Forms

TAXON: <u>Persoonia scabra</u>		TPFL Pop. No: <u>        </u>
OBSERVATION DATE: <u>30/10/20</u>	CONSERVATION STATUS: <u>P3</u>	New population <input checked="" type="checkbox"/>
OBSERVER/S: <u>Julie Waters and Sophie Willsher</u>		PHONE: <u>9083 1518</u>
ROLE: <u>Environmental Officer</u>	ORGANISATION: <u>Shire of Esperance</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): <u>~50 km north of Esperance</u>	
<u>townsite. ~20 km east of Scaddan townsite. On Dempster Rd, ~3.1 km south of Norwood Rd on Dempster Rd. On</u>	
<u>Eastern side of road reserve</u>	
Reserve No: <u>        </u>	

DBC DISTRICT: <u>Soth Coast</u>	LGA: <u>Esperance</u>	Land manager present: <input type="checkbox"/>
DATUM:	COORDINATES: (If UTM coords provided, Zone is also required)	METHOD USED:
GDA84 / MGA84 <input checked="" type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	GPS <input type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: <u>6298150 m N</u>	No. satellites: <u>        </u> Map used: <u>        </u>
WGS84 <input type="checkbox"/>	Long / Easting: <u>408647 m E</u>	Boundary polygon captured: <input type="checkbox"/> Map scale: <u>        </u>
Unknown <input type="checkbox"/>	ZONE: <u>51 H</u>	
LAND TENURE:		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/> Rail reserve <input type="checkbox"/> Shire road reserve <input checked="" type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/> MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole <u>        </u> to <u>        </u> Specify other: <u>        </u>

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/>	Area observed (m <sup>2</sup> ): <u>        </u>												
EFFORT: Time spent surveying (minutes): <u>        </u>	No. of minutes spent / 100 m <sup>2</sup> : <u>30</u>												
POP'N COUNT ACCURACY: Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/> Count method: <u>        </u>	(Refer to field manual for list)												
WHAT COUNTED: Plants <input type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
TOTAL POP'N STRUCTURE:													
Alive	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> <tr> <td><u>Not counted</u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> <tr> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> </table>	Mature:	Juveniles:	Seedlings:	Totals:	<u>Not counted</u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>
Mature:	Juveniles:	Seedlings:	Totals:										
<u>Not counted</u>	<u>        </u>	<u>        </u>	<u>        </u>										
<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>										
Dead	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> <tr> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> <tr> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> </table>	Mature:	Juveniles:	Seedlings:	Totals:	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>
Mature:	Juveniles:	Seedlings:	Totals:										
<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>										
<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>										
Area of pop (m <sup>2</sup> ): <u>        </u>													
Note: Pls record count as numbers (not percentages) for database.													
QUADRATS PRESENT: No. <u>        </u> Size <u>        </u> Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): <u>        </u>												
Summary Quad. Totals: Alive													
REPRODUCTIVE STATE: Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input type="checkbox"/>	Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/> Percentage in flower: <u>        </u> %												
CONDITION OF PLANTS: Healthy <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Poor <input type="checkbox"/> Senescent <input type="checkbox"/>													
COMMENT: <u>        </u>													

THREATS - type, agent and supporting information: <small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats &amp; 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 (&lt;12mths), M=Medium (&lt;5yrs), L=Long (5yrs+)</small>	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
• <u>Road widening was proposed for 20/21 financial year along Dempster Rd. Now no longer occurring. Was not counted to determine impact to plants</u>	<u>?M-H</u>	<u>H</u>	<u>S</u>
• <u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>
• <u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>



**HABITAT INFORMATION:**

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface: eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>		Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	0-10% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input checked="" type="checkbox"/>	10-30% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input checked="" type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	30-50% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____	50-100% <input type="checkbox"/>	Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>	Specify <b>Landform Element:</b> _____ (Refer to field manual for additional values)				
<b>CONDITION OF SOIL:</b>	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

**VEGETATION CLASSIFICATION\*:**

1. **Dense Eucalyptus mallee woodland over Melaleuca shrubland**

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

**ASSOCIATED SPECIES:** **Nematolepis phebaloides, Westringia rigida, Comesperma spinosum, Grevillea plurijuga subsp. superba**

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.) \_\_\_\_\_

**KW121 Accession 8652.**

**Specimens confirmed ID by WA Herbarium 10/12/20 by Michael Hislop. Specimen not retained**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**DRF PERMIT/ LICENCE No:** **FB62000139** Note if only observing plants (i.e. no specimens or plant material is taken) then no permit/licence is required. For further information on permit and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under licence/permit should be recorded above in the OTHER COMMENTS section.

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: **Katie White** Role: **Environmental Officer** Signed: **KW** Date: **15/01/21**



## Threatened and Priority Flora Report Form

Version 1.3 August 2017

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 <http://dbca.wa.gov.au> under Standard Report Forms

TAXON: <u>Hydrocotyle asterocharpa</u>	TPFL Pop. No: <u>          </u>
OBSERVATION DATE: <u>23/10/2020</u>	CONSERVATION STATUS: <u>P2</u> New population <input checked="" type="checkbox"/>
OBSERVER/S: <u>Katie White and Julie Waters</u>	PHONE: <u>9083 1518</u>
ROLE: <u>Environmental Officers</u>	ORGANISATION: <u>Shire of Esperance</u>

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): On Dempster Rd, 4.4 km north of Scaddan Rd. Just off from road reserve on western side of road.

Reserve No:           

DBCA DISTRICT: <u>South Coast</u>	LGA: <u>Esperance</u>	Land manager present: <input type="checkbox"/>
DATUM:	COORDINATE S: (If UTM coords provided, Zone is also required)	METHOD USED:
GDA94 / MGA94 <input checked="" type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	GPS <input type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: <u>408568.1 m N</u>	No. satellites: <u>          </u> Map used: <u>QGIS</u>
WGS84 <input type="checkbox"/>	Long / Easting: <u>8298361.6 m E</u>	Boundary polygon captured: <input type="checkbox"/> Map scale: <u>1:916</u>
Unknown <input type="checkbox"/>	ZONE: <u>51 H</u>	
LAND TENURE:		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Police <u>          </u> to <u>          </u>
		Rail reserve <input type="checkbox"/> Shire road reserve <input checked="" type="checkbox"/>
		MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
		Specify other: <u>          </u>

AREA ASSESSMENT: Edge survey <input checked="" type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input type="checkbox"/>	Area observed (m <sup>2</sup> ): <u>          </u>
EFFORT: Time spent surveying (minutes): <u>5</u>	No. of minutes spent / 100 m <sup>2</sup> : <u>          </u>
POP'N COUNT ACCURACY: Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input checked="" type="checkbox"/> Count method: <u>          </u>	(Refer to field manual for list)
WHAT COUNTED: Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
TOTAL POP'N STRUCTURE:	
Alive	Mature: <u>50 - 100</u> Juveniles: <u>          </u> Seedlings: <u>          </u> Totals: <u>          </u>
Dead	<u>          </u> <u>          </u> <u>          </u> <u>          </u>
QUADRATS PRESENT: No. <u>          </u> Size <u>          </u> Data attached <input type="checkbox"/>	Total area of quadrats (m <sup>2</sup> ): <u>          </u>
Summary Quad. Totals: Alive	<u>          </u> <u>          </u> <u>          </u> <u>          </u>
REPRODUCTIVE STATE: Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	Percentage in flower: <u>90%</u>
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>	

CONDITION OF PLANTS: Healthy  Moderate  Poor  Senescent

COMMENT:           

THREATS - type, agent and supporting information:	Current Impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
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+)			
• Road widening - proposed adjacent construction on Dempster Rd. Direct road widening will not impact population but changes to hydrological regime through drainage and water shedding may	<u>?</u>	<u>M-H</u>	<u>S</u>
• Changes in hydrological regime - effect of decreased rainfall with climate change	<u>?</u>	<u>H</u>	<u>S</u>
• <u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>

Please return completed form to Species And Communities Branch DBCA,  
Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: [flora.data@dbca.wa.gov.au](mailto:flora.data@dbca.wa.gov.au)  
RECORDS: Please forward to Flora Administrative Officer, Species and Communities Branch.

Record entered by:            Sheet No.:            Record Entered In Database



# Threatened and Priority Flora Report Form

### HABITAT INFORMATION:

<b>LANDFORM:</b>	<b>ROCK TYPE:</b>	<b>LOOSE ROCK:</b>	<b>SOIL TYPE:</b>	<b>SOIL COLOUR:</b>	<b>DRAINAGE:</b>
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input type="checkbox"/>	Seasonally inundated <input checked="" type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input checked="" type="checkbox"/>	Grey <input checked="" type="checkbox"/>	
Flat <input type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>	_____		_____	_____	
Closed depression <input checked="" type="checkbox"/>					
Wetland <input type="checkbox"/>	Specific Landform Element: (Refer to field manual for additional values)	_____			
<b>CONDITION OF SOIL:</b>	Dry <input type="checkbox"/>	Moist <input checked="" type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

**VEGETATION CLASSIFICATION\*:**

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

1. Open salt lake community

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

**ASSOCIATED SPECIES:**

Overhanging *Eucalyptus halophila*

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.)

Recorded on WAHerb database (PERTH 06818951), not on the TPFL shp

Present in a very small clustered patch under a tree. Only checked population was present and did not survey entire population/around the salt lake

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**DRF PERMIT/ LICENCE No:** FT16000029 Note if only observing plants (i.e. no specimens or plant material is taken) then no permit/licence is required. For further information on permit and licensing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under licence/permit should be recorded above in the OTHER COMMENTS section.

**SPECIMEN:** Collectors No: \_\_\_\_\_ WA Herb.  Regional Herb.  District Herb.  Other: \_\_\_\_\_

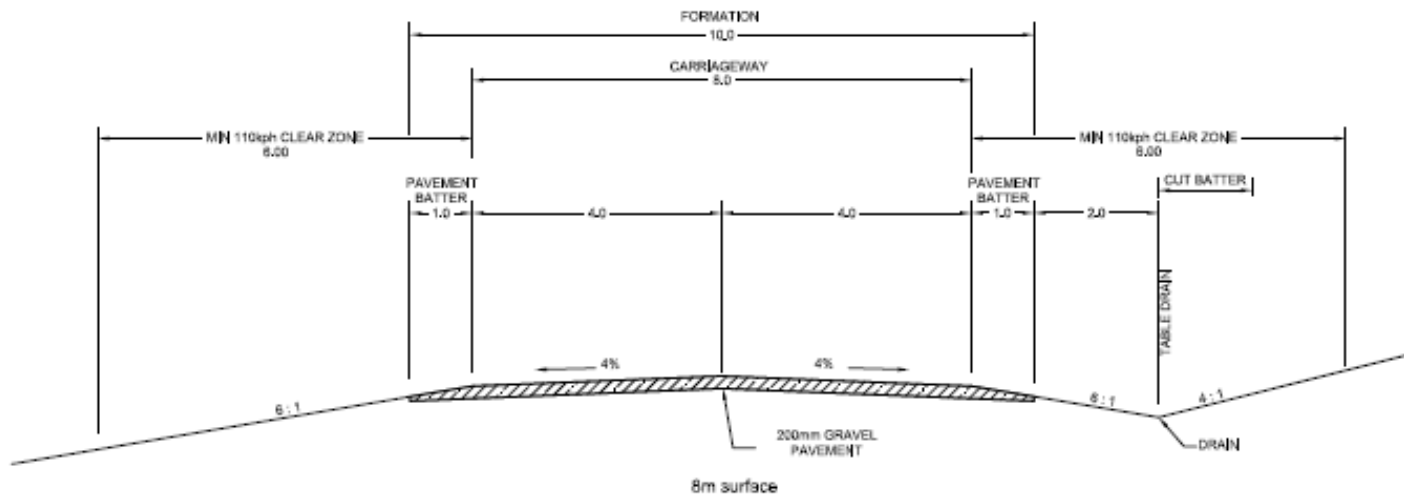
**ATTACHED:** Map  Mudmap  Photo  GIS data  Field notes  Other: \_\_\_\_\_

**COPY SENT TO:** Regional Office  District Office  Other: \_\_\_\_\_

Submitter of Record: Katie White Role: Environmental Officer Signed: KW Date: 18/11/20

Please return completed form to Species And Communities Branch 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 Branch.  
Record entered by: \_\_\_\_\_ sheet No.: \_\_\_\_\_ Record Entered In Database

### 8.3 Road Design – STD00023



#### NOTES

Scale	Horiz mts
	Vert mts
Datum	
A.H.D.	
Site #/Name	
---	
Survey	
---	
Design	
Neil Williams	
Drawn	
Philip Jones	

**SHIRE OF ESPERANCE**  
**TYPICAL RURAL ROAD CROSS SECTION**  
**GRAVEL SURFACE**  
**8 Metre Pavement**  
**ESPERANCE**

M. Weller
Director Asset Management
15/01/2018
<b>STD00023</b>
Sheet No. 2 of 2