

Reconnaissance and Targeted Flora and Vegetation Survey

Wandering-Narrogin Road 27.12 – 29.56 SLK

Cuballing



Prepared for the Shire of Cuballing
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Executive Summary

Ecoedge was engaged by the Shire of Cuballing to undertake a Reconnaissance and Targeted flora and vegetation survey of approximately 2.4 kilometres of road reserve vegetation along both sides of Wandering-Narrogin Road, approximately 5.3 kilometres southwest of the town of Cuballing.

The flora and vegetation survey was undertaken on the 9 October 2019 in accordance with the Environmental Protection Authority (EPA) Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016).

Forty-six flora taxa (including 8 introduced species) were identified.

No threatened flora, priority flora or other flora of conservation significance were found.

One of the introduced species, bridal creeper (*Asparagus asparagoides*) is recognised as a Declared Pest Plant, however there is currently no obligation for control of this species.

0.3 ha of the Survey Area meets the criteria for the Federally-listed Threatened Ecological Community (TEC) 'Eucalypt Woodlands of the Western Australian Wheatbelt'. This is the Good Condition portion of Vegetation Unit B3.

In addition, those parts of Vegetation Units B1 (0.11 ha), B2 (0.08 ha) and B3 (0.05 ha) in Degraded condition also fit the description of the State-listed Priority 3 'Eucalypt Woodlands of the Western Australian Wheatbelt' ecological community.

Portions of the Survey Area vegetation units (Wandoo and York gum woodlands) provide a reasonable match for the Beard, (1980) vegetation association 1023 'Medium woodland; York gum, wandoo and salmon gum'. The extent remaining of this association (at 10.85 %) is significantly below the Commonwealth government's 30% retention threshold, with only 10.93% represented within the DBCA estate.

Beard's Association 947 'Medium woodland; powderbark & mallet' also mapped as occurring across the Survey Area however, did not appear to be represented within the Survey Area during the 2019 survey. This could possibly due to historic clearing, natural variations in the community and, or Beard's broad scale mapping.

There are no Environmentally Sensitive Areas within, or in close proximity to the Survey Area.

The road side corridor of loosely connected patches of vegetation and trees has some conservation value as an ecological corridor, at least at a local level, due to its occurrence within a predominantly cleared agricultural landscape and due to the connection it provides with larger parcels of vegetation in the south and the vegetated ephemeral watercourse in the north.

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Statement of Limitations

Reliance on Data

In the preparation of this report, Ecoedge has relied on data, surveys, analyses, designs, plans and other information provided by the Client and other individuals and organisations, most of which are referred to in the report. Unless stated otherwise in the report, Ecoedge has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report are based in whole or in part on the data, those conclusions are contingent upon the accuracy and completeness of the data. Ecoedge will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, unavailable, misrepresented or otherwise not fully disclosed to Ecoedge.

Report for Benefit of Client

The report has been prepared for the benefit of the Client and for no other party. Ecoedge assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including, without limitation, matters arising from any negligent act or omission of Ecoedge or for any loss or damage suffered by any other party relying on the matters dealt with or conclusions expressed in the report). Other parties should not rely upon the report or the accuracy or completeness of any conclusions, and should make their own enquiries and obtain independent advice in relation to such matters.

1 Introduction and Desktop Assessment

Ecoedge was engaged by the Shire of Cuballing to undertake a Reconnaissance and Targeted flora and vegetation survey of approximately 2.4 kilometres (km) of road reserve vegetation along both sides of the Wandering- Narrogin Road (27.12-29.56 SLK), approximately 6.1 km southwest of the town of the Cuballing (Survey Area) (**Figure 1** and **Figure 2**). The Shire of Cuballing is applying for a permit to clear areas of native vegetation along this section of the Wandering – Narrogin Road. The Department of Water Environment and Regulation (DWER) required the survey to ascertain the presence of threatened and priority flora and threatened and priority ecological communities within the subject area.

The flora and vegetation survey was undertaken on the 9 October 2019. Its methodology was aligned with State and Commonwealth requirements for the bioregion and species and communities present, and was consistent with State guidelines and Technical Guides (including Environmental Protection Authority (EPA) Technical Guidance (2016)) and Commonwealth survey guidelines for any relevant threatened species.

The total area surveyed was approximately 11.08 hectares in size and comprised of approximately 2.4 hectares (ha) of native vegetation.

This report compiles findings of the survey.

1.1 Scope and Objectives

Carry out a Reconnaissance and Targeted Flora and Vegetation Survey of approximately 2.4 ha of road reserve on Wandering Narrogin Road. This involved surveying both sides of the road (2-5m) over a distance approximately 2.4 km.

The survey was required to document:

- the date(s) of the survey
- all flora species present within the application area
- any limitations for identifying species present, noting that the survey should be undertaken at an appropriate time for recording the majority of the species present.
- the presence of threatened and priority ecological communities, especially the potential presence of the 'Eucalypt Woodlands of the Western Australian Wheatbelt Threatened Ecological Community' (TEC). The assessment of this TEC must be undertaken against the Commonwealth Department of the Environment and Energy's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Approved Conservation Advice (including listing advice) for this community.
- If a TEC or PEC is present, a map must be provided delineating the patch(es) of the TEC identified and its size (in hectares) and condition (using the Keighery scale).

- Should declared rare or priority flora be identified, additional surveys of any adjacent remnant vegetation will also be required to determine the species' population size and distribution.
- If declared rare or priority flora species are recorded, GPS locations (i.e. eastings and northings or decimal degrees) of all plants of those species must be recorded and provided.

1.2 Biogeographic Region and Location

The Survey Area is situated within the Avon Wheatbelt P2 (AW2) sub-region of the Avon Wheatbelt biogeographic region as defined in the Interim Biogeographical Regionalisation for Australia (IBRA) (Commonwealth of Australia, 2016). It occurs within the road reserve along both sides of Wandering - Narrogin Road, approximately 6.1 km southwest of the town of Cuballing (**Figure 2**). The Survey Area occurs within a predominantly cleared agricultural landscape.

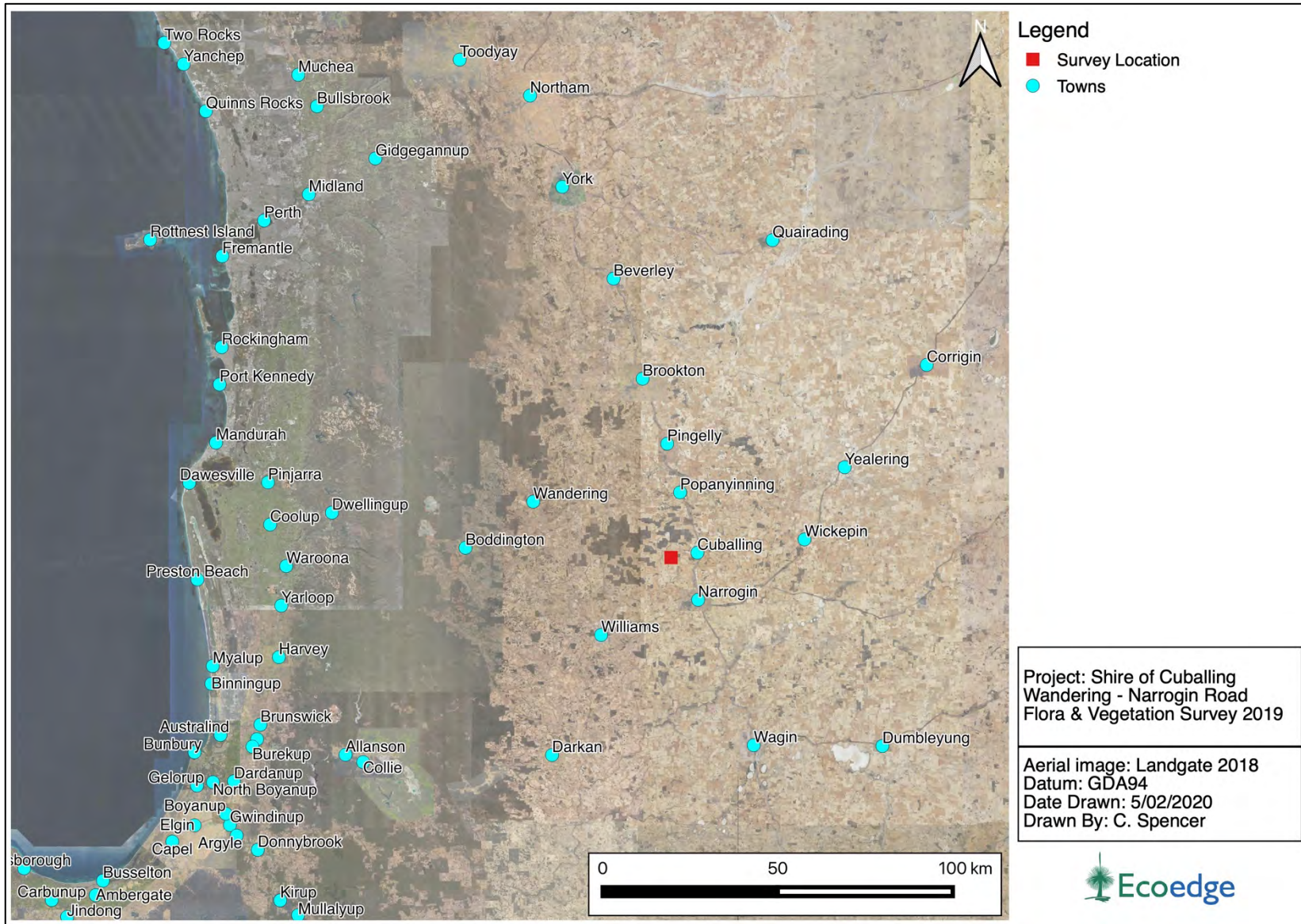


Figure 1. Aerial photograph showing the location of the Survey Area.

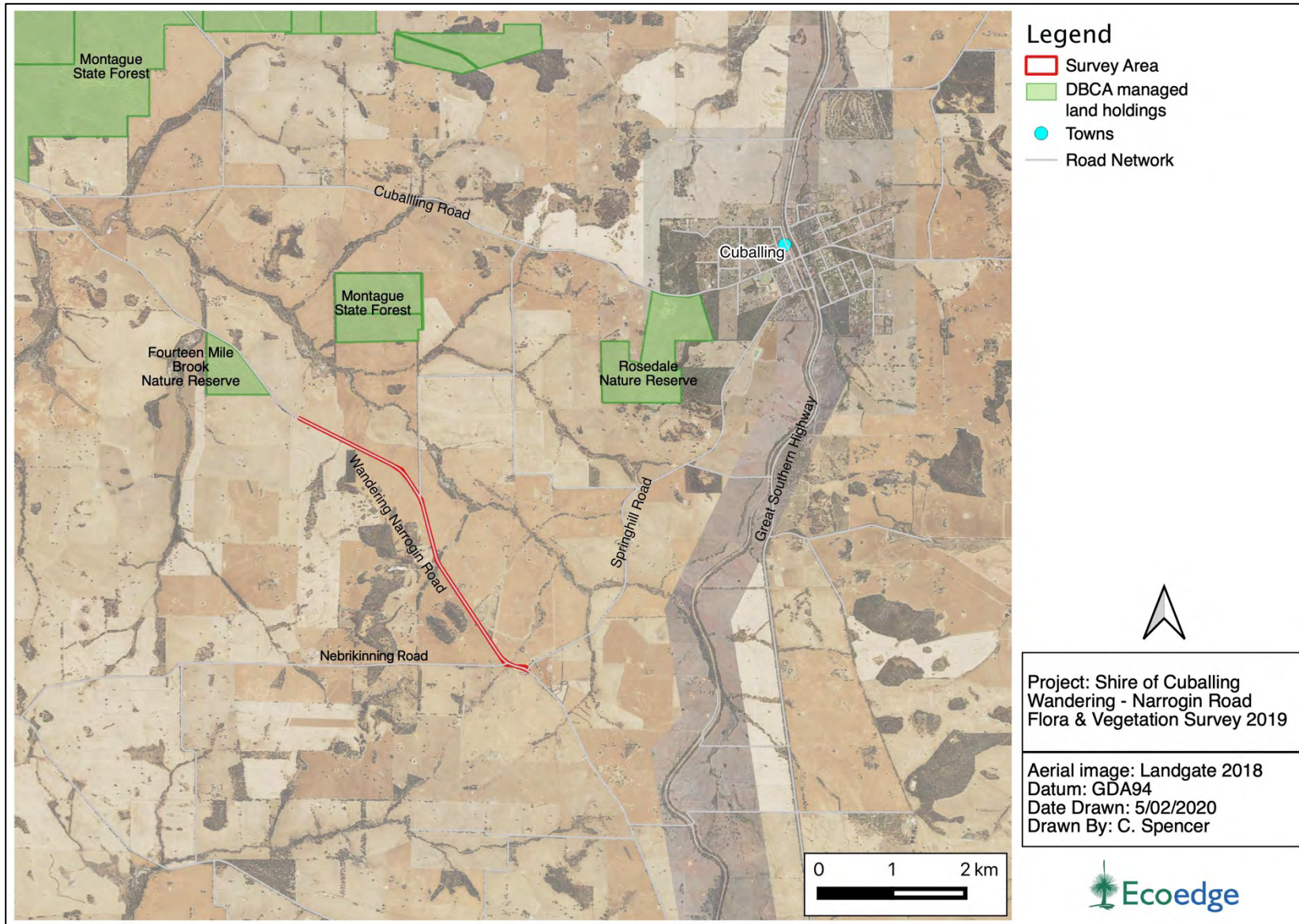


Figure 2. The Survey Area in context of surrounding land uses.

1.3 Geology

The Survey Area occurs within the Southern Zone of Rejuvenated Drainage (SZRD). The SZRD generally comprises an erosional surface of gently undulating rises to low hills with continuous stream channels that flow in most years. Colluvial processes are active with soils formed in colluvium or in-situ from weathered rock (Sawkins, 2010). The SZRD has been divided into landscape systems and subsystems. Within the SZRD, the Survey Area is situated on soils of the Dryandra soil landscape System, and within that on two Subsystems the 257DyNB - Noombaling Subsystem (including a rocky phase) and the 257DyNO - Norrine Subsystem, as shown in **Figure 3** (McArthur et al., 1977). These are described in **Table 1**.

Table 1. Soil Mapping Units for the Survey Area (McArthur et al., 1977)

Zone	Landscape System	Soil Subsystem
257 - Southern Zone of Rejuvenated Drainage	257Dy - Dryandra System Gently undulating granitic terrain, in the central Zone of Rejuvenated Drainage, with deep sandy duplex, loamy duplex and brown loamy earth.	257DyNB - Noombaling Subsystem Long gentle and undulating hillslopes and divides. Colluvium / weathered granite, gneiss and some dolerite. Yellow/brown and grey deep sandy duplexes, brown deep loamy duplexes, sandy gravels and shallow duplexes. Marri-Wandoo / Jam-Sheoak.
		257DyNB - Noombaling Subsystem, Rocky phase Long gentle and undulating hillslopes and divides with common (15-20%) rock outcrops. Bare rock, stony soils and yellow/brown and grey deep sandy duplexes
		257 DyNO – Norrine Subsystem A complex of lateritic residuals and associated pediment; gravely sand, sand, duplex yellow soils and duricrust

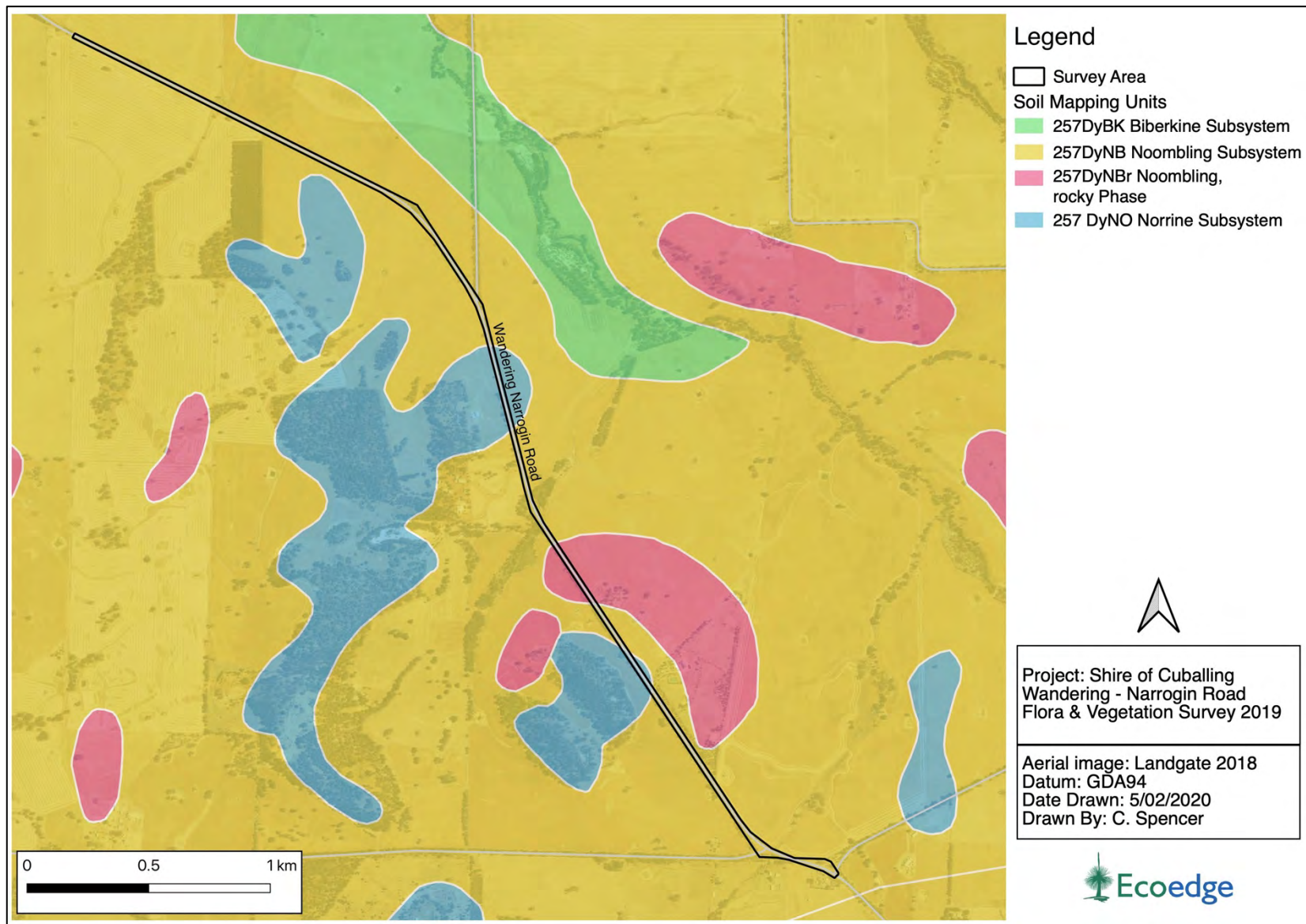


Figure 3. Soil subsystems mapped for the Survey Area (McArthur et al., 1977).

1.4 Vegetation Description according to pre-European Mapping Datasets

The Survey Area contains approximately 2.4 ha of remnant native vegetation.

1.4.1 Vegetation Associations

A systematic survey of native vegetation in Western Australia was undertaken by J. S. Beard (along with others) during the 1970s, which described vegetation systems in the south-west of Western Australia at a scale of 1:250,000. Beard's vegetation maps attempted to depict the vegetation as it might have been prior to European settlement in terms of type and extent (Beeston et al., 2001). The Beard Vegetation Association dataset, also referred to as the pre-European native vegetation extent dataset, was digitised by Shepherd et al., (2002).

Beard vegetation associations have been described to a minimum standard of Level 3 "Broad Floristic Formation" for the National Vegetation Inventory System (NVIS) (state-wide to regional scale)¹. Two Beard vegetation associations were mapped across the Survey Area: Association 1023 'Medium woodland; York gum, wandoo and salmon gum' and Association 947 'Medium woodland; powderbark & mallet' (Beard, 1980). These Associations are mapped in **Figure 4**.

1.4.2 Assessment of Remaining Extent against Pre-European Extent

In 2001, the Commonwealth of Australia stated National Targets and Objectives for Biodiversity Conservation, which recognised that the retention of 30%, or more, of the pre-clearing extent of each ecological community was necessary if Australia's biological diversity was to be protected (Environment Australia, 2001).

In its report on the Statewide Vegetation Statistics incorporating the Comprehensive, Adequate and Representative (CAR) Reserve Analysis, the Government of Western Australia provides information on the pre-European and current extent of the ecological communities of Western Australia and reports on the status of the CAR reserve system for WA (Government of Western Australia, 2018). This system is also based on the National retention targets of 30% overall. Only reserves managed by DBCA under the *Conservation and Land Management Act 1984* are considered for inclusion in the "CAR Reserve Analysis".

An assessment of Beard's vegetation association 1023 and association 947 against the *Statewide Vegetation Statistics* for the Avon Wheatbelt biogeographic region is presented in **Table 2**.

¹ Beard's vegetation mapping units are referred to as 'associations' however these do not correspond to the NVIS Level 5 'Associations'. The NVIS system was developed long after Beard's work was completed, and while both classification systems use the same term, NVIS 'Associations' describe vegetation in more detail than do Beard's.

Table 2. Beard vegetation association 1023 and 947 assessed against the Statewide Vegetation Statistics (Government of Western Australia, 2018).

Beard Vegetation Association	Current extent (ha)	% Remaining of pre-European extent (total)	% of current extent in all DBCA managed land (total)
Association 1023 'Medium woodland; York gum, wandoo and salmon gum'	172,944.3	10.85%	10.93%
Association 947 'Medium woodland; powderbark & mallet'	11698.6	34.6%	40.3%

* Excludes Crown Freehold Department Interest Lands that are managed under Section 8(a) of the CALM Act.

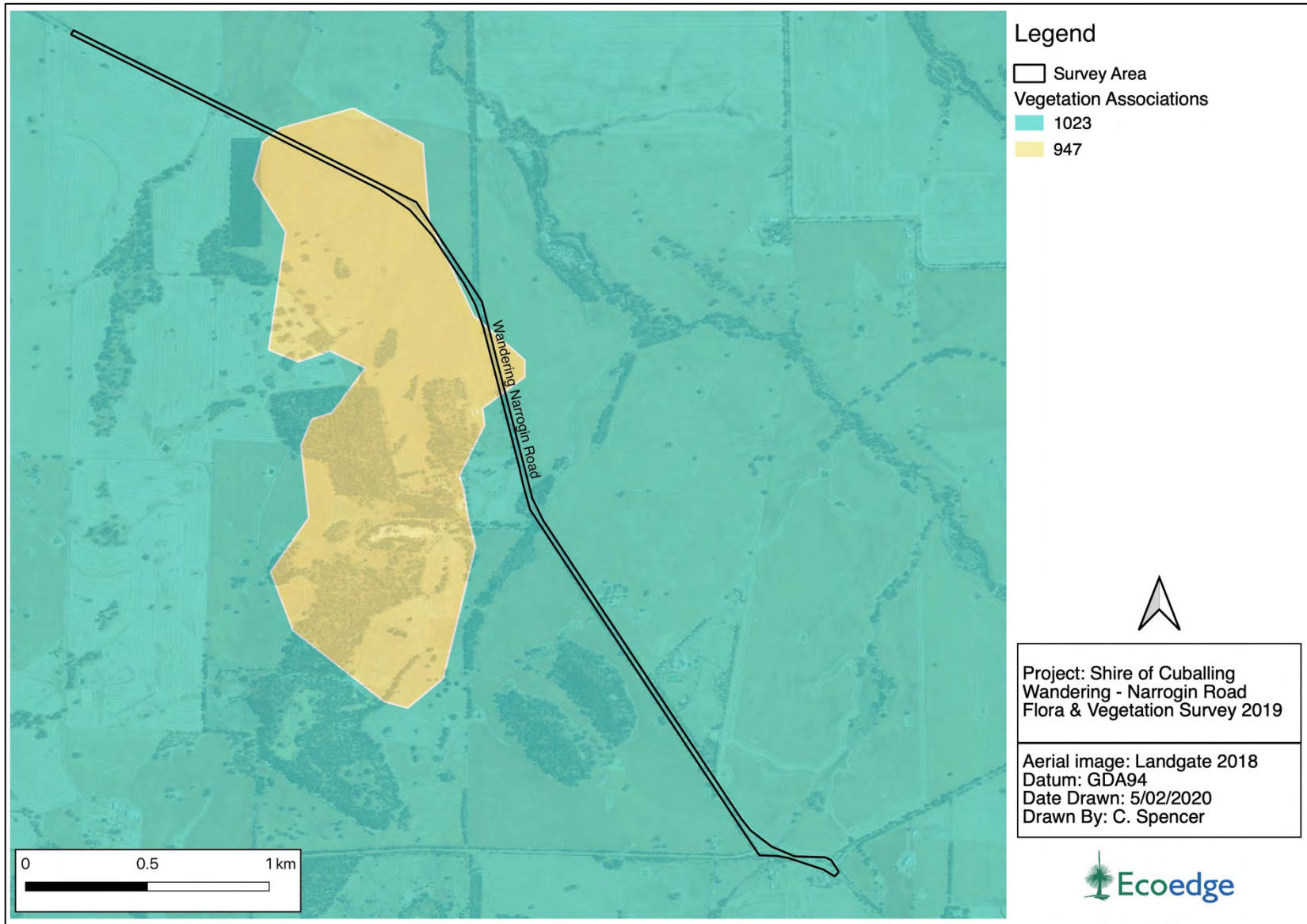


Figure 4. Vegetation associations mapped for the Survey Area (Beard, 1980).

1.5 Threatened and Priority Ecological Communities

Ecological communities are defined by Western Australia's DBCA (previously DPaW and the Department of Environment and Conservation (DEC)) as "...naturally occurring biological assemblages that occur in a particular type of habitat. They are the sum of species within an ecosystem and, as a whole, they provide many of the processes which support specific ecosystems and provide ecological services." (DEC, 2013).

Under Section 27 of the *Biodiversity Conservation Act 2016* (BC Act) the Western Australian Minister for Environment may list communities that are considered to be under significant threat as a Threatened ecological communities (TEC). These TECs can be listed under one of three conservation categories; critically endangered (CE), endangered (EN), vulnerable (V). The BC Act also provides for listing communities as collapsed ecological communities.

Possible TECs that do not meet survey criteria are added to the DBCA's Priority ecological community lists under Priorities 1, 2 or 3 (referred to as P1, P2, P3). Ecological communities that are adequately known, are rare but not threatened, or meet criteria for Near Threatened, or that have been recently removed from the threatened list, are placed in Priority 4 (P4). These ecological communities require regular monitoring. Conservation Dependent ecological communities are placed in Priority 5 (P5) (DEC, 2013).

The current listing of Threatened and Priority ecological communities is specified in DBCA (2018a, 2019a). The conservation categories for these Threatened and Priority ecological communities are defined in **Appendix 1**.

Threatened ecological communities can also be listed under the Commonwealth *Environment and Biodiversity Conservation Act 1999* (EPBC Act) (Department of the Environment and Energy (DotEE), 2018a; Department of Environment, Water, Heritage and the Arts (DEWHA), 1999). There are three categories of TEC under the EPBC Act: Critically Endangered (CE), Endangered (E) and Vulnerable (V). These are defined in **Appendix 2** (DotEE, 2018b).

Under both the State (BC Act) and Federal Act (EPBC Act) ministerial authorisation is required where significant permanent modification to a TEC will occur.

A Protected Matters Search Tool report for communities listed under the EPBC Act occurring within a 10 km radius of the Survey Area was undertaken (DotEE, 2019a, **Appendix 3**), and the current DBCA TEC and PEC listings were consulted (DBCA, 2018a; DBCA ,2019a). Outcomes of these searches are presented in **Table 3**.

Noting that if an occurrence of a threatened ecological community is found during a survey conducted under the auspices of the *Environmental Protection Act 1986* (EP Act) it must be

mandatorily reported to the Chief Executive Officer of the DBCA under Section 49 of the BC Act.

Table 3. TECs and PECs occurring within 10 km of the Survey Area (DBCA, 2018a, 2019a; DotEE, 2019a).

Community Name	Status (WA) State	Status (EPBC Act) Federal
'Eucalypt Woodlands of the Western Australian Wheatbelt'; a federally listed TEC consisting of numerous State-listed communities	P3	CR

Note: This table only includes formally recognised TECs that are known of and mapped by DBCA and are included in their database.

1.6 Threatened and Priority Flora

Species of flora and fauna are defined as having a Threatened or Priority conservation status where their extant populations are restricted geographically and or under threat of possible extinction. The Department of Biodiversity, Conservation and Attractions recognises these threats and consequently applies regulations towards population and species protection.

Threatened extant flora species are listed under Section 19 of the BC Act and are ranked according to their level of threat using the International Union for Conservation of Nature (IUCN) Red List categories and criteria of; critically endangered (CE), endangered (EN), vulnerable (VU). It is an offence to “take” or damage threatened flora without Ministerial approval. Section 5 of the Act defines “to take” as “... to gather, pluck, cut, pull up, destroy, dig up, remove, harvest or damage flora by any means”.

Priority flora are under consideration for future declaration as “Threatened flora”, dependent on more information. Species classified as Priority One to Three (referred to as P1, P2 and P3) are in need of further survey to determine their status, while Priority Four (P4) species are adequately known rare or threatened species that require regular monitoring.

Threatened flora lists are formally reviewed on an annual basis, whilst the priority flora list is subject to a less formal ongoing review. The current listing of Threatened and Priority flora was updated on the 5th December 2018 (DBCA, 2018d).

Categories of Threatened and Priority flora as defined by the BC Act are presented in **Appendix 4**, (DBCA, 2019b).

Threatened flora may also be protected under the Commonwealth EPBC Act and be listed in one of six categories; the definitions of these categories are summarised in **Appendix 5** (DotEE, 2018b).

Threatened or Priority flora occurring within 10 km of the Survey Area generated from a NatureMap search within 10 km of the Survey Area (DBCA, 2019c) are listed in **Table 4**. Taxa listed under the EPBC Act (based on results of the Protected Matters Search Tool query (DotEE, 2019a)) were also considered in the preparation of the table. Several of the species listed in **Table 4** could potentially occur within the Survey Area, based on an assessment of their preferred habitats.

Noting that if any threatened flora species are found during a survey conducted under the auspices of the EP Act that they must be mandatorily reported to the CEO of the DBCA under Section 43 of the BC Act.

Table 4. Threatened and Priority List flora known to occur within 10 km of the Survey Area (DBCA, 2019c; DotEE, 2019a.)

Species	Cons Status*	Flowering	Description and Habitat	Likelihood
<i>Acacia insolita</i> subsp. <i>recurva</i>	T (EN)	Sep	Spindly shrub, 0.6-1.2 m high. Fl. yellow-cream. Lateritic ridges.	Low / Moderate
<i>Banksia oligantha</i>	T (EN)	Oct-Nov	Non-lignotuberous shrub, to 3 m high. Fl. red & cream/orange-brown. Yellow or yellow-brown sand.	Moderate
<i>Boronia capitata</i> subsp. <i>capitata</i>	T (EN)	Aug to Dec or Feb	Slender shrub, 0.3-1.3 m high. Fl. pink. Sand, often over laterite. Sandplains.	Moderate
<i>Darwinia carnea</i>	T (EN)	Oct to Dec	Spreading shrub, 0.2-0.45 m high. Fl. green & red. Lateritic loam & gravel.	Low / Moderate
<i>Verticordia fimbrialepis</i> subsp. <i>fimbrialepis</i>	T (EN)	Oct-Dec, Jan	Shrub, 0.3-0.7 m high. Fl. pink-white. Gravelly sandy or clayey soils. Flats, road verges.	Moderate
<i>Diuris micrantha</i>	T (VU)	Sep-Oct	Tuberous, perennial, herb, 0.3–0.6 m high. Fl. yellow, brown. Brown loamy clay. Winter-wet swamps, in shallow water.	Low
<i>Pultenaea pauciflora</i> (Narrogin Pea)	T (VU)	Oct - Nov	Dense, much-branched shrub, to 0.8 m high. Fl. yellow. Sandy & clay lateritic soils. Undulating country.	Low / Moderate
<i>Stylidium exappendiculatum</i>	P3		No information available	Moderate?
<i>Caladenia integra</i>	P4	Sep to Oct	Tuberous, perennial, herb, 0.2-0.5 m high. Fl. green & red. Clayey loam. Granite outcrops, rocky slopes.	Low
<i>Eucalyptus loxophleba</i> x <i>wandoo</i>	P4	No info avail	(Mallee) or tree, 4-20 m high, bark rough black-brown on trunk. Sandy clay or loam.	Moderate
<i>Stylidium tenuicarpum</i>	P4	Sep to Nov	Rosetted perennial, herb, 0.1-0.5 m high, Leaves broadly linear to narrowly oblanceolate, 1-7 cm long, 1-2.5 mm wide, apex mucronate, margin hyaline, glabrous. Scape hoary. Inflorescence racemose. Fl. yellow/orange. Sandy loam over laterite or granite. Rock outcrops, hillslopes, breakaways. Shrubland, open woodland.	Moderate

Note: The BC Act Conservation Status is shown, EPBC Act status, where relevant, is in brackets.

1.7 Ecological Corridors and Connectivity

The generally NW-SE aligned Survey Area occurs within a narrow corridor of loosely connected patches of vegetation and trees along the Wandering-Narrogin Road within a predominantly cleared agricultural landscape.

This 'corridor' of vegetation is connected to the DBCA managed 14 Mile Brook Nature Reserve (14 Mile Brook NR) which is approximately 500 m to the NW. The road side corridor is also intersected by some narrow corridors of vegetation associated with roads and tributaries which link to larger parcels of bushland in the south and vegetation associated with an ephemeral watercourse in the north.

1.8 Environmentally Sensitive Areas

Environmentally Sensitive Areas (ESAs) are protected under the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 and are selected for their environmental values at state or national levels (Government of Western Australia, 2005). They include;

- Defined wetlands and riparian vegetation within 50 m;
- Areas covered by Threatened Ecological Communities;
- Area of vegetation within 50 m of Threatened flora;
- Bush Forever sites; and
- Declared World Heritage property sites.

There are no ESAs in close proximity to the Survey Area. The nearest is located approximately 1.2 km north of the Survey Area and is associated with a reserve forming part of the Montague State Forest.

2 Methods

2.1 Desktop Assessment

Prior to the field survey, a “desktop assessment” was carried out by downloading a NatureMap report listing all flora (including Threatened flora) occurring within 10 km of the Survey Area (DBCA 2019c) (**Appendix 3**). A Protected Matters Search report was also generated to provide information regarding Matters of National Environmental Significance (MNES) known or potentially occurring within 10 km of the Survey Area (DotEE, 2019a) (**Appendix 3**). This data was used to establish the list of Threatened and Priority flora to target during the survey, as well as providing a list of what other plant taxa might be encountered during the survey.

2.2 Field Survey

The field survey was undertaken by Russell Smith (SL flora permit FB62000192) on 8 October 2019. The Survey Area covered a total of approximately 11 ha of which about 2.3 ha was remnant vegetation (the remainder comprising cleared verge with scattered trees and the roadway itself). A comprehensive list was made of native and introduced flora and information on vegetation structure, dominant species and vegetation condition at regular intervals through the Survey Area.

Flora species that were not identified in the field were photographed for later identification. Taxonomy and conservation status of flora species was checked against DBCA databases (MAX download, 26/09/2019, DBCA, 2019).

Vegetation condition was assessed against the method of the EPA (2016) (**Appendix 6**).

2.3 Survey Limitations

Potential limitations with regard to the assessment are addressed in **Table 5**.

Table 5. Limitations of the field survey with regard to assessment adequacy and accuracy.

Aspect	Constraint	Comment
Scope	No	The survey scope was prepared in consultation with the client and was designed to comply with EPA requirements.
Proportion of flora identified	Minor	The survey was carried out in only one visit in October which is within the optimal survey time.
Climatic and seasonal effects	Minor	The survey area recorded about 70-80% of the average rainfall during the 2019 wet season (Apr-Nov). Herbaceous species germination may have been reduced.
Availability of contextual information	Minor	Some regional surveys have been carried out in the wheatbelt, and some contextual information is available.
Completeness of the survey	Negligible	All of the Survey Area vegetation was easily accessible.
Skill and knowledge of the botanists	No	The botanist has over 25 years' experience working in Western Australia.

3 Results

3.1 Flora

Forty-six (46) flora taxa were identified within the Survey Area, of which eight species were introduced. No Threatened flora, Priority flora or other flora of conservation significance were found.

One of the introduced species, *Asparagus asparagoides* (Bridal Creeper) is a Declared Pest under the *Biosecurity and Agriculture Management Act 2007*, and has been found in the Shire of Cuballing. However there is currently no obligation for the control of the weed under the Act. There were no other Declared Pest plants or serious environmental weeds.

The list of vascular flora recorded during the field survey is included in **Appendix 7**.

3.2 Vegetation Units

Four vegetation units were recognized within the Survey Area, with three of them (B1, B2, B3) being variations of the regionally widespread ‘Wandoo-Sheoak woodland on gravelly soils’ (Harvey & Keighery, 2012). The vegetation units are described below with accompanying pictures (**Figure 5** to **Figure 8**) and mapped in **Figure 9** to **Figure 12**. The area mapped as “Cleared” includes verge with isolated trees. Areas covered by each of the units are provided in **Table 6**.



Figure 5. Typical Unit A vegetation

Unit A. Woodland of *Eucalyptus loxophleba* over tall open shrubland of *Acacia acuminata* over grassland of *Avena fatua*, *Ehrharta calycina* and *Lolium perenne* on red-brown loam [Completely Degraded].



Figure 6. Typical Unit B1 vegetation

Unit B1. Open woodland of *Eucalyptus wandoo* over open forest of *Allocasuarina huegeliana* over very open shrubland of *Acacia acuminata*, [*Gastrolobium spinosum*] over grassland of **Avena fatua*, **Ehrharta calycina* and **Lolium perenne* on red-brown or yellow-brown (gravelly) loam [Completely Degraded].



Figure 7. Typical Unit B2 vegetation

Unit B2. Open woodland of *Eucalyptus wandoo* over low shrubland of *Bossiaea eriocarpa*, *Hibbertia* spp., *Gastrolobium spinosum* and open grassland of *Rytidosperma* sp. on yellow-brown gravelly loam [Degraded]. (Regrowth after clearing).



Figure 8. Typical Unit B3 vegetation

Unit B3. Woodland of *Eucalyptus wandoo* over open tall shrubland of *Acacia acuminata*, [*Banksia sessilis*] over low open shrubland of *Bossiaea eriocarpa* over open herbland of *Thelymitra petrophila* and grassland of *Austrostipa elegantissima*, *A. hemipogon* and *Rytidosperma* sp. on yellow-brown gravelly loam [Degraded-Good].

The extent in hectares of each unit within the Survey Area is provided in **Table 6**.

Table 6. Area of each vegetation unit within the Survey Area.

Vegetation Unit	Area (ha)
A	0.47
B1	1.48
B2	0.08
B3	0.35
Cleared	8.70
Total	11.08

3.3 Vegetation Condition

The majority of the Survey Area (95%) was assessed as “cleared” or Completely Degraded. As noted above the Cleared area includes isolated trees on verges. A breakdown of the vegetation condition per unit is provided in **Table 7**. Vegetation condition is mapped in **Figure 13** to **Figure 16**.

Table 7. Summary of vegetation condition classes within the Survey Area.

Vegetation Unit	Conservation Status*	Vegetation Condition	Area (Ha)	%
Unit A	N/A	Completely Degraded	0.47	4.23
Unit B1	P3	Degraded	0.11	0.99
	N/A	Completely Degraded	1.37	12.36
Unit B2	P3	Degraded	0.08	0.72
Unit B3	P3 (CR)	Good	0.30	2.70
	P3	Degraded	0.05	0.45
		Cleared	8.70	78.52
			11.08	100.00

*Note: EPBC Act status is in brackets.

5 Conclusion and Discussion

Most of the area comprising Vegetation Unit B3 (the part in Good condition, ~0.3 ha), which is dominated by *Eucalyptus wandoo*, meets the key diagnostic traits (minimum vegetation condition and width criteria) for the Federally-listed Critically Endangered Federally-listed TEC “Eucalypt Woodlands of the Western Australian Wheatbelt” (DotEE, 2015). **Table 8** shows how this community meets the key diagnostic criteria and **Table 9** shows how it meets the condition and minimum patch width thresholds for this EPBC listed community (DotEE, 2015). The occurrence of this TEC within the Survey Area is shown in both the vegetation unit maps: **Figure 9 - Figure 12** and the vegetation condition maps: **Figure 13 - Figure 16**.

A completed Threatened Ecological Community Report form is provided at **Appendix 8**.

Table 8. Comparison of Vegetation Unit B3 with Eucalypt Woodlands of the Western Australian Wheatbelt TEC key diagnostic characteristics criteria (DotEE, 2015).

Condition Category	Comment
It occurs in one of the appropriate IBRA regions.	Yes, it occurs in the Avon Wheatbelt IBRA region
The structure of the ecological community is a woodland in which the minimum crown cover of the tree canopy in a mature woodland is 10% (crowns measured as if they are opaque).	Yes, criteria met.
The key species of the tree canopy are species of Eucalyptus (typically with a single trunk).	Yes, it contains Eucalyptus wandoo.
A native understorey is present but is of variable composition, being a combination of grasses, other herbs and shrubs.	Yes, criteria met, however mostly in degraded condition.

Table 9. Comparison of Vegetation Unit B3 with Eucalypt Woodlands of the Western Australian Wheatbelt TEC condition and area criteria adapted from DotEE, 2015.

Condition Category	Mature trees	Minimum Patch Width (roadsides only)	Comment
‘Pristine, Excellent, Very Good’	Mature trees may be present or absent	5 metres or more	N/A
‘Good’	Mature trees are present with at least 5 trees per 0.5 ha.	5 metres or more	Small area (0.3 ha) c. 340 m west of Fitts Road meets this criterion.
‘Good’	Mature trees either absent or less than 5 trees per 0.5 ha are present.	5 metres or more	N/A
‘Degraded to Good’	Mature trees are present with at least 5 trees per 0.5 ha.	5 metres or more	N/A – Note no vegetation units within the Survey Area were given a ‘Degraded to Good’ Condition rating.

According to the Federally approved conservation advice for this TEC, any areas meeting the 'Eucalypt Woodlands of the Western Australian Wheatbelt' criteria, are critical to the survival of the TEC (DotEE, 2015). This is because this ecological community occurs in a landscape that has been very heavily cleared and modified, and now exists as mostly very small and highly fragmented patches.

In addition, those parts of Vegetation Units B1 (0.11 ha), B2 (0.08 ha) and B3 (0.05 ha) in Degraded condition also fit the description of the State-listed Priority 3 'Eucalypt Woodlands of the Western Australian Wheatbelt' ecological community. Noting that the State may consider Degraded Condition vegetation as part of State listed PECs.

Vegetation Unit A and the Completely Degraded portion of Unit B1 are not considered to meet the definition of the PEC, because apart from the canopy trees they have virtually none of the original species remaining.

The Survey Area vegetation units (Wandoo woodland and York gum woodland) provide a reasonable match for Beard, (1980) vegetation association 1023 'Medium woodland; York gum, wandoo and salmon gum' in terms of two of the dominant trees, *E. wandoo*, and York gum. The extent remaining of association 1023 (at 10.85 %) is significantly below the Commonwealth government's 30% retention threshold, with only 10.93% represented within the DBCA estate.

Association 947 'Medium woodland; powderbark & mallet' did not appear to be represented within the Survey Area with the absence of both Powderbark (*E. accedens*) and mallet species (*E. astringens?*). This absence may be attributed natural variations within the community, the broad scale 1: 250,000 mapping and vegetation clearing. Association 947, exceeds the 30% threshold (34.6%) and is well represented in the DBCA managed landholdings.

There are no ESAs within or in close proximity to the Survey Area that will limit the proposed road upgrade. The closest is located approximately 1.2 km north of the Survey Area and is associated with a reserve forming part of the Montague State Forest.

The road side corridor of loosely connected patches of vegetation and trees has some conservation value as an ecological corridor, at least at a local level, due to its occurrence within a predominantly cleared agricultural landscape and due to the connection it provides with larger parcels of vegetation in the south and the vegetated ephemeral watercourse in the north.

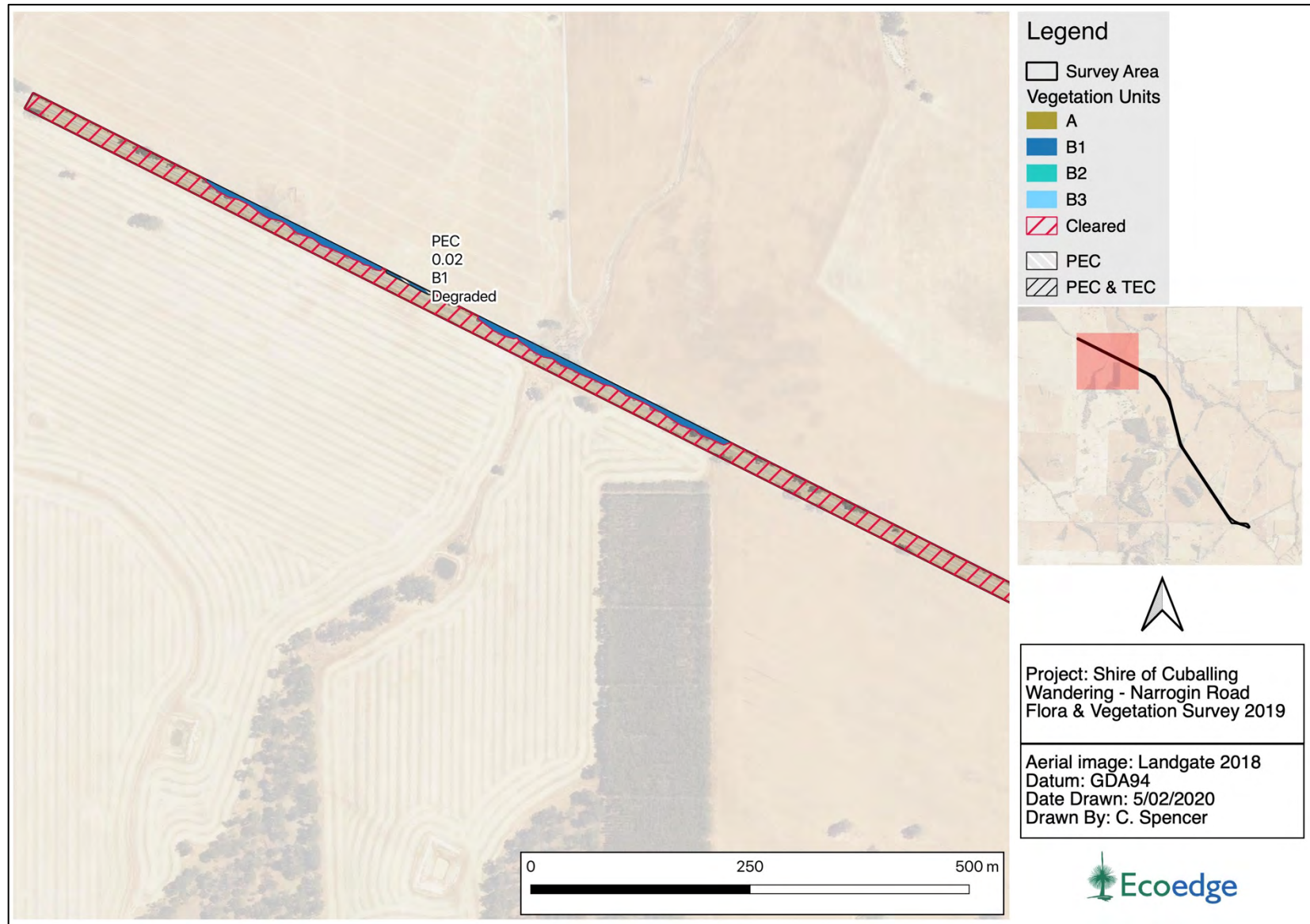


Figure 9. Vegetation Units mapped for the Survey Area

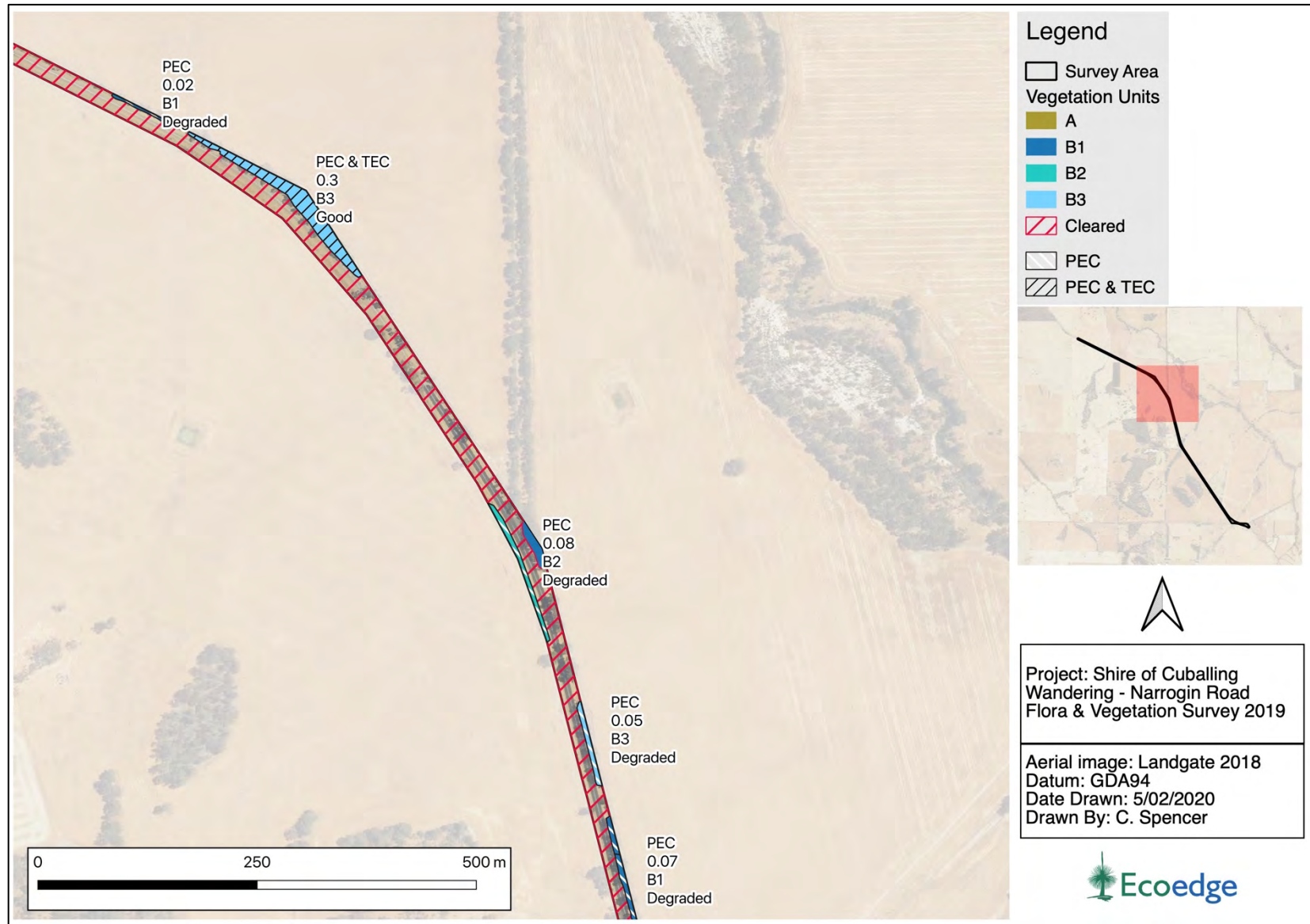


Figure 10. Vegetation Units mapped for the Survey Area

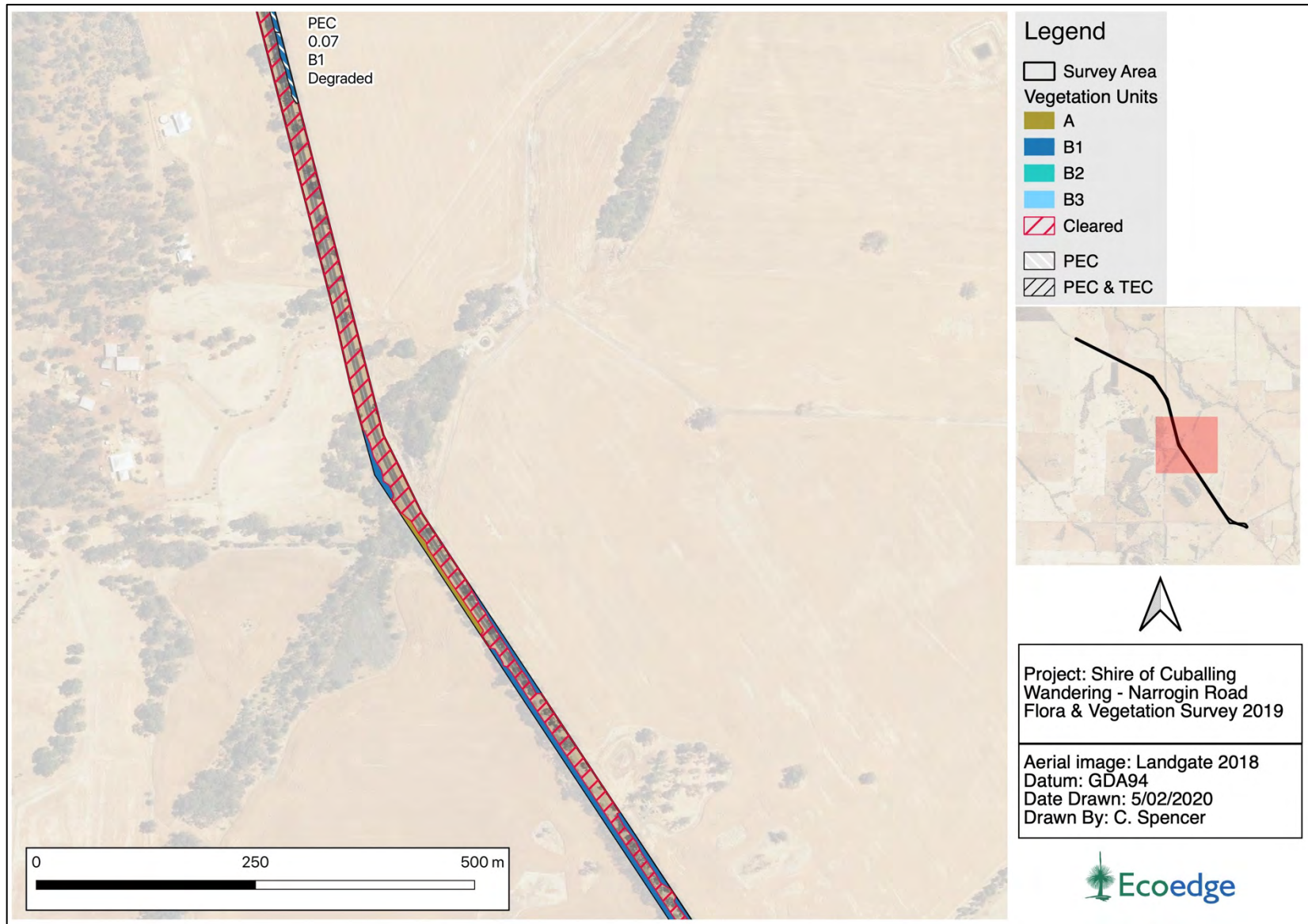


Figure 11. Vegetation Units mapped for the Survey Area

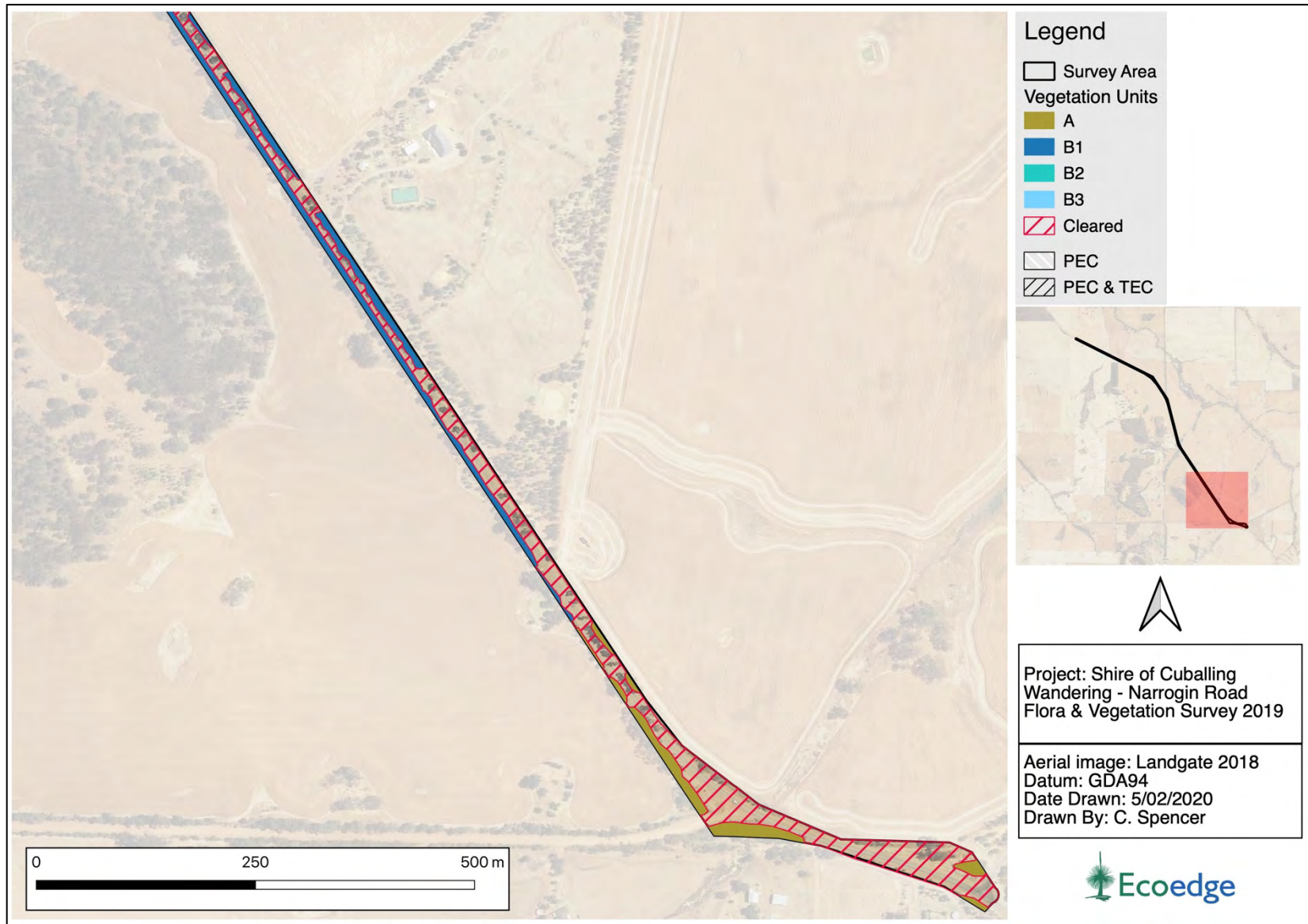


Figure 12. Vegetation Units mapped for the Survey Area

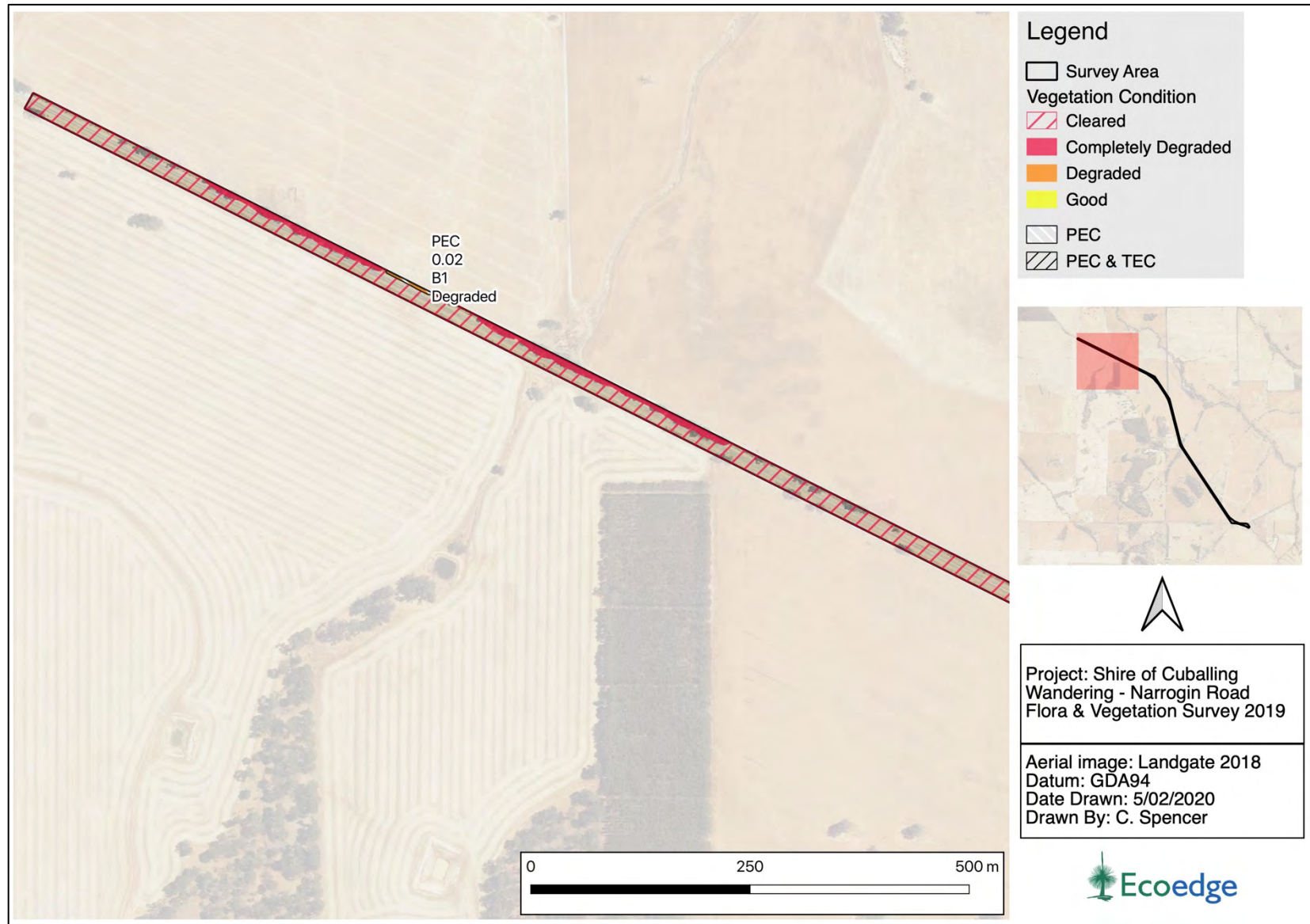


Figure 13. Vegetation Condition mapped for the Survey Area

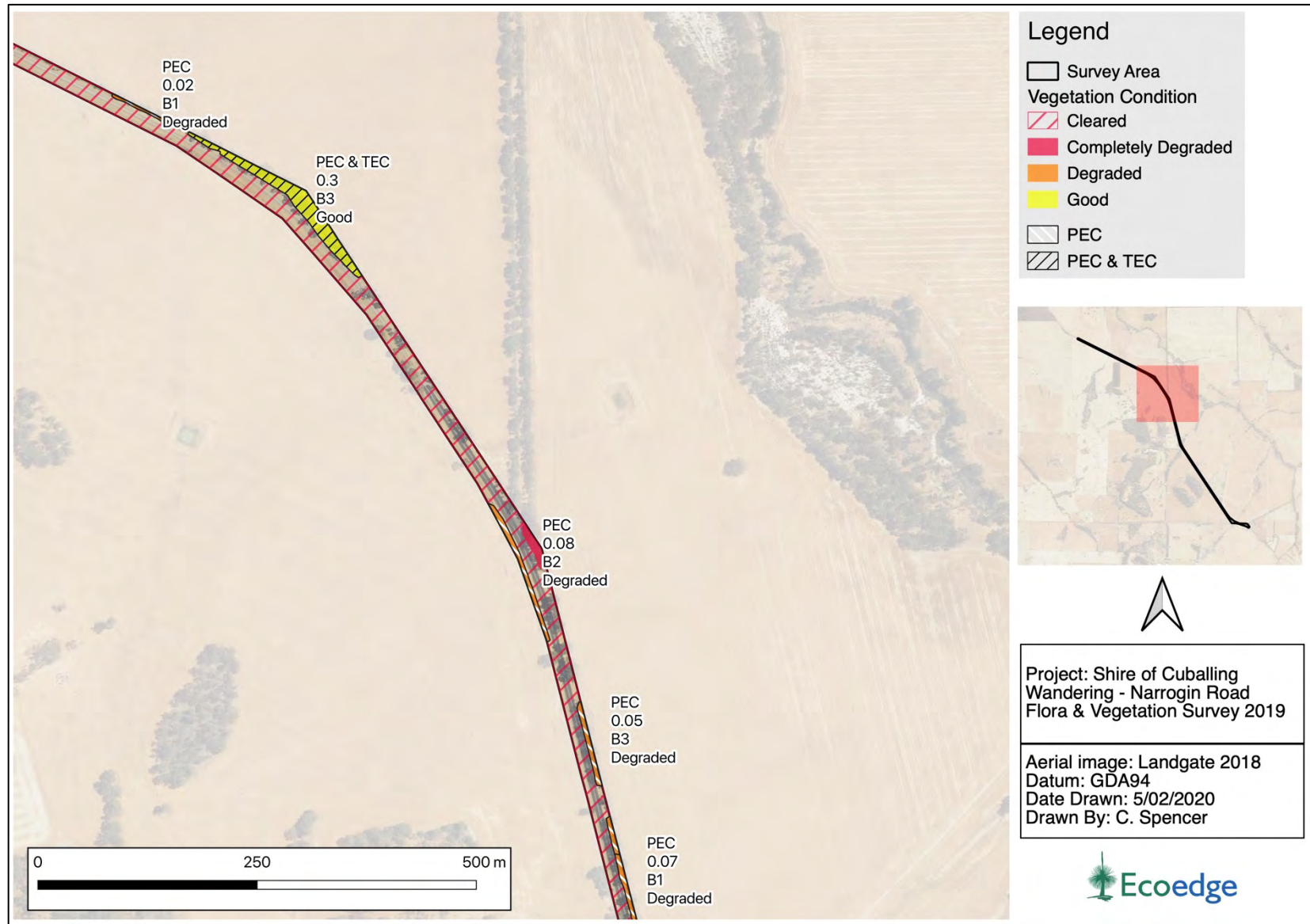


Figure 14. Vegetation Condition mapped for the Survey Area

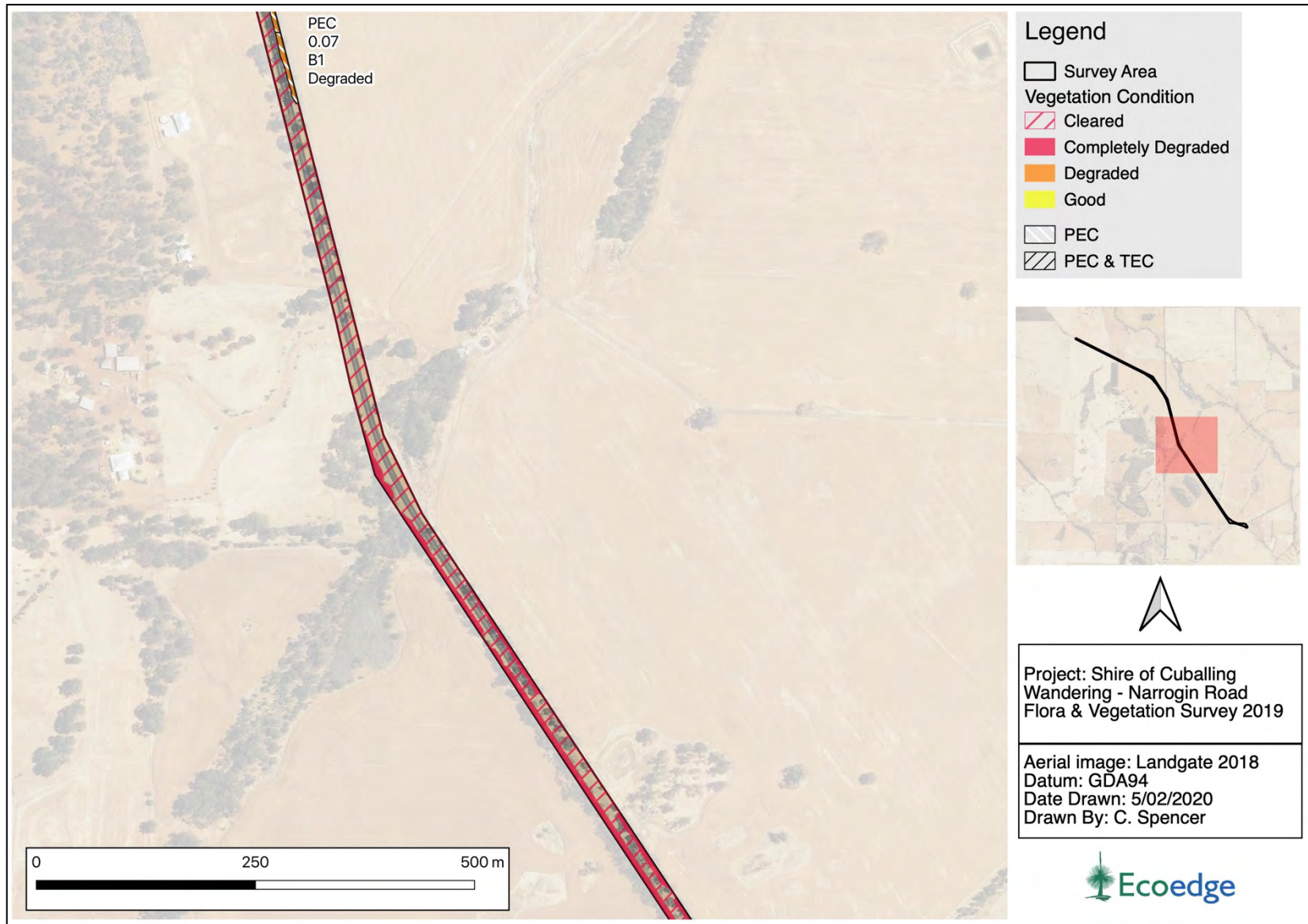


Figure 15. Vegetation Condition mapped for the Survey Area

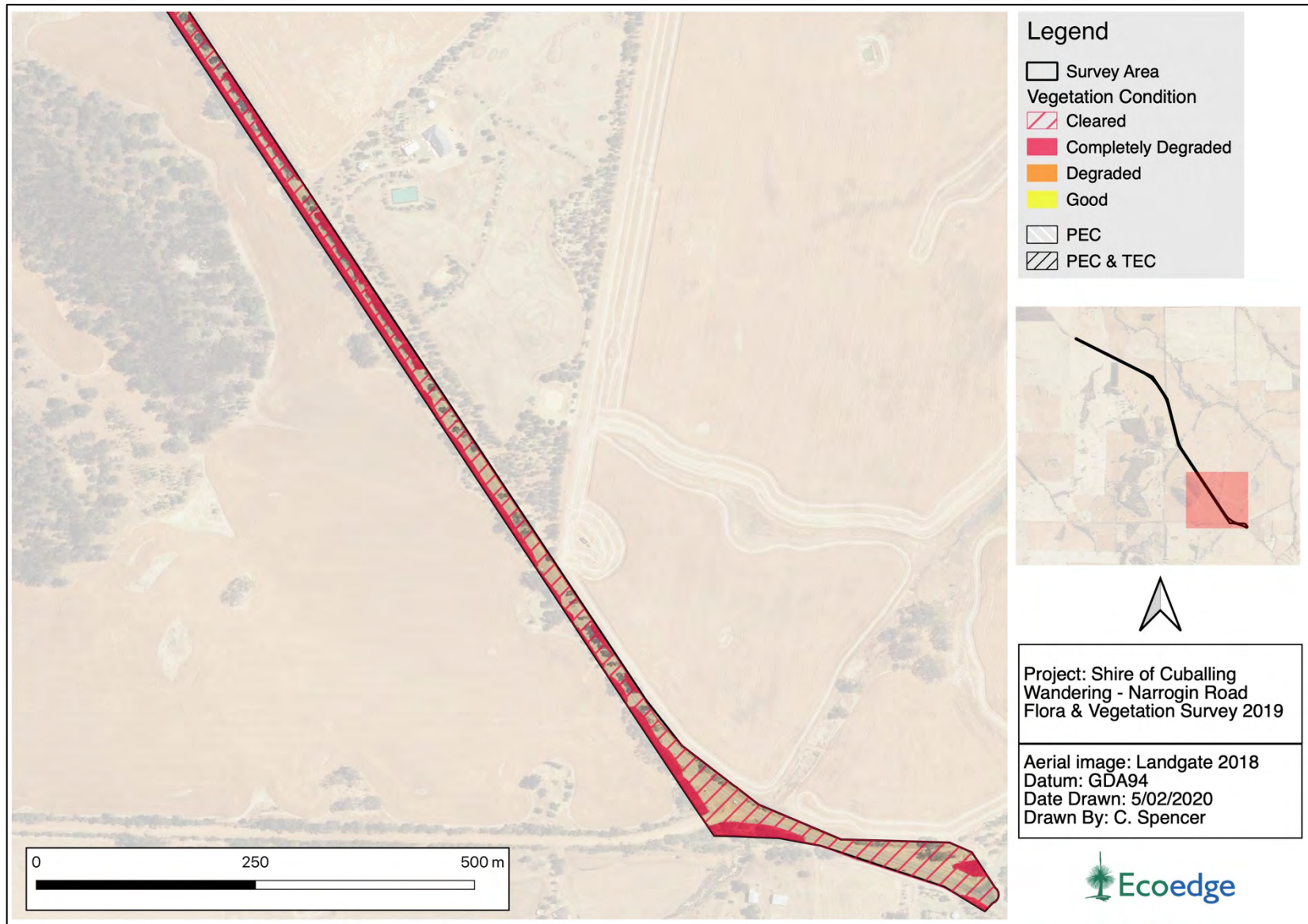


Figure 16. Vegetation Condition mapped for the Survey Area

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Appendix 1. Categories of DBCA Threatened and Priority Ecological Communities (DBCA 2018a, 2019a).

Appendix 2. Categories of Threatened Ecological Communities under the EPBC Act (DotEE, 2018b).

Appendix 3. Protected Matters Search Tool and NatureMap reports

Appendix 4. Categories of Threatened and Priority List flora (DBCA, 2019b).

Appendix 5. Categories of Threatened Species under the EPBC Act (DotEE, 2018b).

Appendix 6. Vegetation Condition Scale (EPA, 2016).

Appendix 7. List of Vascular Flora found within the Survey Area.

Appendix 8 Threatened Ecological Community Report Form

Appendix 1. Categories of DBCA threatened and priority ecological communities under the BC Act (DBCA2018a, 2019a).

Conservation code	Category
	(T) Threatened ecological community pursuant to Sect 27 of the <i>Biodiversity Conservation Act 2016</i> .
T	<p>(T) CR – Critically endangered</p> <p>An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or that was originally of limited distribution and is facing severe modification or destruction throughout its range in the immediate future, or is already severely degraded throughout its range but capable of being substantially restored or rehabilitated.</p>
	<p>(T) EN - Endangered</p> <p>An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or was originally of limited distribution and is in danger of significant modification throughout its range or severe modification or destruction over most of its range in the near future.</p>
	<p>(T) VU - Vulnerable</p> <p>An ecological community that has been adequately surveyed and is found to be declining and/or has declined in distribution and/or condition and whose ultimate security has not yet been assured and/or a community that is still widespread but is believed likely to move into a category of higher threat in the near future if threatening processes continue or begin operating throughout its range.</p>
	(P) Priority species – possible threatened communities.
p1	<p>Poorly known communities</p> <p>Ecological communities that are known from very few occurrences with a very restricted distribution (generally ≤ 5 occurrences or a total area of ≤ 100ha). Occurrences are believed to be under threat either due to limited extent, or being on lands under immediate threat (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) or for which current threats exist. May include communities with occurrences on protected lands. Communities may be included if they are comparatively well-known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under immediate threat from known threatening processes across their range.</p>

Conservation code	Category
P2	<p>Poorly known communities</p> <p>Communities that are known from few occurrences with a restricted distribution (generally ≤ 10 occurrences or a total area of ≤ 200ha). At least some occurrences are not believed to be under immediate threat (within approximately 10 years) of destruction or degradation. Communities may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under threat from known threatening processes.</p>
P3	<p>Poorly known communities</p> <ul style="list-style-type: none"> a) Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or: b) communities known from a few widespread occurrences, which are either large or with significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat (within approximately 10 years), or; c) communities made up of large, and/or widespread occurrences, that may or may not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stock, inappropriate fire regimes, clearing, hydrological change etc. <p>Communities may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and/or are not well defined, and known threatening processes exist that could affect them.</p>
P4	<p>Ecological communities that are adequately known, rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list. These communities require regular monitoring.</p> <ul style="list-style-type: none"> a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands. b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent. c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

Conservation code	Category
P5	<p>Conservation dependent ecological communities</p> <p>Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.</p>

Appendix 2. Categories of Threatened Ecological Communities under the EPBC Act (DotEE, 2018b).

Category	Definition
Critically endangered	If, at that time, an ecological community is facing an extremely high risk of extinction in the wild in the immediate future (indicative timeframe being the next 10 years).
Endangered	If, at that time, an ecological community is not critically endangered but is facing a very high risk of extinction in the wild in the near future (indicative timeframe being the next 20 years).
Vulnerable	If, at that time, an ecological, community is not critically endangered or endangered but is facing a high risk of extinction in the wild in the medium-term future (indicative timeframe being the next 50 years).

NatureMap Species Report

Created By Guest user on 01/10/2019

Current Names Only Yes
Core Datasets Only Yes
Method 'By Circle'
Centre 117° 16' 31" E, 32° 42' 53" S
Buffer 10km

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1.	3257 <i>Acacia chrysocephala</i>			
2.	11661 <i>Acacia drummondii</i> subsp. <i>drummondii</i>			
3.	14624 <i>Acacia gemina</i>			
4.	14121 <i>Acacia insolita</i> subsp. <i>recurva</i>		T	
5.	3408 <i>Acacia lasiocalyx</i> (Silver Wattle, Wilyurwur)			
6.	15721 <i>Acacia lasiocarpa</i> var. <i>sedifolia</i>			
7.	11448 <i>Acacia leptospermoides</i> subsp. <i>leptospermoides</i>			
8.	3557 <i>Acacia stenoptera</i> (Narrow Winged Wattle)			
9.	13505 <i>Acacia sulcata</i> var. <i>planoconvexa</i>			
10.	44513 <i>Acacia thieleana</i>			
11.	12674 <i>Acacia tratmaniana</i>			
12.	24260 <i>Acanthiza apicalis</i> (Broad-tailed Thornbill, Inland Thornbill)			
13.	24261 <i>Acanthiza chrysorrhoa</i> (Yellow-rumped Thornbill)			
14.	24262 <i>Acanthiza inornata</i> (Western Thornbill)			
15.	24265 <i>Acanthiza uropygialis</i> (Chestnut-rumped Thornbill)			
16.	25535 <i>Accipiter cirrocephalus</i> (Collared Sparrowhawk)			
17.	25536 <i>Accipiter fasciatus</i> (Brown Goshawk)			
18.	11837 <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> (Common Woollybush)			
19.	184 <i>Aira caryophyllea</i> (Silvery Hairgrass)	Y		
20.	1731 <i>Allocasuarina huegeliana</i> (Rock Sheoak, Kwool)			
21.	1732 <i>Allocasuarina humilis</i> (Dwarf Sheoak)			
22.	1734 <i>Allocasuarina microstachya</i>			
23.	24561 <i>Anthochaera carunculata</i> (Red Wattlebird)			
24.	1116 <i>Aphelia brizula</i>			
25.	24285 <i>Aquila audax</i> (Wedge-tailed Eagle)			
26.	25566 <i>Artamus cinereus</i> (Black-faced Woodswallow)			
27.	24353 <i>Artamus cyanopterus</i> (Dusky Woodswallow)			
28.	42140 <i>Astroloma acervatum</i>			
29.	6324 <i>Astroloma compactum</i>			
30.	6326 <i>Astroloma epacridis</i>			
31.	6336 <i>Astroloma serratifolium</i> (Kondrung)			
32.	17237 <i>Austrostipa elegantissima</i>			
33.	17241 <i>Austrostipa hemipogon</i>			
34.	17255 <i>Austrostipa trichophylla</i>			
35.	17257 <i>Austrostipa variabilis</i>			
36.	233 <i>Avena barbata</i> (Bearded Oat)	Y		
37.	32203 <i>Banksia nivea</i> subsp. <i>nivea</i>			
38.	32142 <i>Banksia proteoides</i> (King Dryandra)			
39.	32041 <i>Banksia stuposa</i>			
40.	<i>Barnardius zonarius</i>			
41.	5385 <i>Beaufortia incana</i> (Grey-leaved Beaufortia)			
42.	7856 <i>Blennochora drummondii</i>			
43.	4406 <i>Boronia busselliana</i>			
44.	11502 <i>Boronia capitata</i> subsp. <i>clavata</i>			
45.	1269 <i>Borya laciniata</i>			
46.	1273 <i>Borya sphaerocephala</i> (Pincushions)			
47.	3710 <i>Bossiaea eriocarpa</i> (Common Brown Pea)			
48.	244 <i>Briza maxima</i> (Blowfly Grass)	Y		
49.	245 <i>Briza minor</i> (Shivery Grass)	Y		
50.	1385 <i>Burchardia multiflora</i> (Dwarf Burchardia)			
51.	24359 <i>Burhinus grallarius</i> (Bush Stone-curlew)			
52.	29439 <i>Caesia</i> sp. <i>Wongan</i> (K.F. Kenneally 8820)			
53.	11165 <i>Caladenia falcata</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
54.	15348 <i>Caladenia flava</i> subsp. <i>flava</i>			
55.	15502 <i>Caladenia footeana</i>			
56.	1598 <i>Caladenia integra</i> (Mantis Orchid, Smooth-lipped Spider Orchid)		P4	
57.	15363 <i>Caladenia longicauda</i> subsp. <i>eminens</i>			
58.	2846 <i>Calandrinia calyptata</i> (Pink Purslane)			
59.	45760 <i>Calectasia valida</i> (Robust Tinsel Lily)			
60.	35162 <i>Calothamnus planifolius</i> var. <i>planifolius</i>			
61.	35816 <i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i>			
62.	5465 <i>Calytrix leschenaultii</i>			
63.	1121 <i>Centrolepis aristata</i> (Pointed Centrolepis)			
64.	24086 <i>Cercartetus concinnus</i> (Western Pygmy-possum, Mundarda)			
65.	24186 <i>Chalinolobus gouldii</i> (Gould's Wattled Bat)			
66.	1217 <i>Chamaexeros serra</i> (Little Fringe-leaf)			
67.	6746 <i>Chloanthes coccinea</i>			
68.	764 <i>Chorizandra multiarticulata</i>			
69.	24980 <i>Christinus marmoratus</i> (Marbled Gecko)			
70.	16524 <i>Cicendia quadrangularis</i>	Y		
71.	25675 <i>Colluricincla harmonica</i> (Grey Shrike-thrush)			
72.	1454 <i>Conostylis setigera</i> (Bristly Cottonhead)			
73.	11597 <i>Conostylis setigera</i> subsp. <i>setigera</i>			
74.	25568 <i>Coracina novaehollandiae</i> (Black-faced Cuckoo-shrike)			
75.	25592 <i>Corvus coronoides</i> (Australian Raven)			
76.	7944 <i>Cotula bipinnata</i> (Ferny Cotula)	Y		
77.	25595 <i>Cracticus tibicen</i> (Australian Magpie)			
78.	17701 <i>Crassula closiana</i>			
79.	20271 <i>Crassula extrorsa</i>			
80.	24918 <i>Crenadactylus ocellatus</i> subsp. <i>ocellatus</i> (Clawless Gecko)			
81.	13527 <i>Croninia kingiana</i>			
82.	4809 <i>Cryptandra pungens</i>			
83.	30893 <i>Cryptoblepharus buchananii</i>			
84.	24883 <i>Ctenophorus ornatus</i> (Ornate Crevice-Dragon)			
85.	6750 <i>Cyanostegia lanceolata</i> (Tinsel Flower)			
86.	30901 <i>Dacelo novaeguineae</i> (Laughing Kookaburra)	Y		
87.	7438 <i>Dampiera eriocephala</i> (Woolly-headed Dampiera)			
88.	7451 <i>Dampiera lavandulacea</i>			
89.	7453 <i>Dampiera lindleyi</i>			
90.	3819 <i>Daviesia longifolia</i>			
91.	3839 <i>Daviesia rhombifolia</i>			
92.	25766 <i>Delma fraseri</i> (Fraser's Legless Lizard)			
93.	17663 <i>Desmocladus asper</i>			
94.	1288 <i>Dichopogon fimbriatus</i> (Chocolate Lily)			
95.	1289 <i>Dichopogon preissii</i>			
96.	20367 <i>Dillwynia laxiflora</i>			
97.	41403 <i>Diplodactylus calcicolus</i> (South Coast Gecko)			
98.	24929 <i>Diplodactylus granariensis</i> subsp. <i>granariensis</i>			
99.	15268 <i>Diplolaena graniticola</i>			
100.	11247 <i>Dodonaea viscosa</i> subsp. <i>angustissima</i>			
101.	15709 <i>Drosera androsacea</i> (Cone Sundew)			
102.	3098 <i>Drosera glanduligera</i> (Pimpernel Sundew)			
103.	3109 <i>Drosera menziesii</i> (Pink Rainbow)			
104.	<i>Drosera</i> sp.			
105.	49090 <i>Drosera</i> sp. <i>Branched styles</i> (S.C. Coffey 193)			
106.	3133 <i>Drosera subhirtella</i> (Sunny Rainbow)			
107.	1643 <i>Elythranthera brunonis</i> (Purple Enamel Orchid)			
108.	<i>Eolophus roseicapillus</i>			
109.	25109 <i>Eremiascincus richardsonii</i> (Broad-banded Sand Swimmer)			
110.	45243 <i>Ericomyrtus parviflora</i>			
111.	5548 <i>Eucalyptus albida</i> (White-leaved Mallee)			
112.	12697 <i>Eucalyptus latens</i> (Narrow-leaved Red Mallee)			
113.	11295 <i>Eucalyptus loxophleba</i> subsp. <i>loxophleba</i> (York Gum)			
114.	16886 <i>Eucalyptus loxophleba</i> x <i>wandoo</i>		P4	
115.	5735 <i>Eucalyptus pachyloma</i> (Kalgan Plains Mallee)			
116.	12892 <i>Eucalyptus phaenophylla</i> subsp. <i>phaenophylla</i>			
117.	12906 <i>Eucalyptus wandoo</i> subsp. <i>wandoo</i>			
118.	901 <i>Gahnia australis</i>			
119.	3895 <i>Gastrolobium calycinum</i> (York Road Poison)			
120.	3909 <i>Gastrolobium microcarpum</i> (Sandplain Poison)			
121.	3910 <i>Gastrolobium obovatum</i> (Boat-leaved Poison)			
122.	10981 <i>Gastrolobium parviflorum</i>			
123.	3926 <i>Gastrolobium stipulare</i>		P4	

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
124.	3927 <i>Gastrolobium stowardii</i>			
125.	3930 <i>Gastrolobium trilobum</i> (Bullock Poison)			
126.	24959 <i>Gehyra variegata</i>			
127.	25530 <i>Gerygone fusca</i> (Western Gerygone)			
128.	6143 <i>Glischrocaryon aureum</i> (Common Popflower)			
129.	7991 <i>Gnephosis drummondii</i>			
130.	8002 <i>Gnephosis tenuissima</i>			
131.	3951 <i>Gompholobium marginatum</i>			
132.	6159 <i>Gonocarpus nodulosus</i>			
133.	7495 <i>Goodenia berardiana</i>			
134.	17805 <i>Goodenia drummondii</i> subsp. <i>megaphylla</i>			
135.	7538 <i>Goodenia pulchella</i>			
136.	19051 <i>Goodenia scapigera</i> subsp. <i>scapigera</i>			
137.	24443 <i>Grallina cyanoleuca</i> (Magpie-lark)			
138.	2029 <i>Grevillea leptobotrys</i>			
139.	15991 <i>Grevillea pulchella</i> subsp. <i>pulchella</i>			
140.	2788 <i>Gyrostemon subnudus</i>			
141.	16907 <i>Hakea hastata</i>			
142.	2172 <i>Hakea lehmanniana</i> (Blue Hakea)			
143.	2175 <i>Hakea lissocarpha</i> (Honey Bush)			
144.	16900 <i>Hakea petiolaris</i> subsp. <i>petiolaris</i>			
145.	19132 <i>Hakea pritzelii</i>			
146.	2203 <i>Hakea ruscifolia</i> (Candle Hakea)			
147.	25408 <i>Heleioporus albopunctatus</i> (Western Spotted Frog)			
148.	6855 <i>Hemigenia humilis</i>			
149.	6865 <i>Hemigenia podalyrina</i>			
150.	5114 <i>Hibbertia commutata</i>			
151.	5124 <i>Hibbertia exasperata</i>			
152.	5144 <i>Hibbertia microphylla</i>			
153.	24491 <i>Hirundo neoxena</i> (Welcome Swallow)			
154.	12742 <i>Hyalosperma demissum</i>			
155.	6226 <i>Hydrocotyle callicarpa</i> (Small Pennywort)			
156.	2238 <i>Isopogon teretifolius</i> (Nodding Coneflower)			
157.	3992 <i>Isotropis cuneifolia</i> (Granny Bonnets)			
158.	19700 <i>Isotropis cuneifolia</i> subsp. <i>cuneifolia</i>			
159.	3997 <i>Jacksonia alata</i>			
160.	14749 <i>Jacksonia debilis</i>		P1	
161.	14739 <i>Jacksonia epiphyllum</i>			
162.	4025 <i>Jacksonia restioides</i>			
163.	4029 <i>Jacksonia sternbergiana</i> (Stinkwood, Kapur)			
164.	5836 <i>Kunzea micromera</i>			
165.	11528 <i>Labichea lanceolata</i> subsp. <i>brevifolia</i>			
166.	13284 <i>Lawrencella rosea</i>			
167.	1305 <i>Laxmannia omnifertilis</i>			
168.	1306 <i>Laxmannia paleacea</i>			
169.	7568 <i>Lechenaultia biloba</i> (Blue Leschenaultia)			
170.	24557 <i>Leipoa ocellata</i> (Malleefowl)		T	
171.	930 <i>Lepidosperma costale</i>			
172.	<i>Lepidosperma</i> sp.			
173.	16284 <i>Lepidosperma</i> sp. P1 small head (M.D. Tindale 166A)			
174.	949 <i>Lepidosperma tuberculatum</i>			
175.	5847 <i>Leptospermum erubescens</i> (Roadside Teatree)			
176.	25131 <i>Lerista distinguenda</i>			
177.	44220 <i>Leucopogon audax</i>		P2	
178.	19371 <i>Leucopogon</i> sp. Wandering (F. Hort 419)			
179.	19364 <i>Leucopogon tamminensis</i> var. <i>australis</i>			
180.	25661 <i>Lichmera indistincta</i> (Brown Honeyeater)			
181.	25415 <i>Limnodynastes dorsalis</i> (Western Banjo Frog)			
182.	41413 <i>Liopholis multiscutata</i> (Bull Skink)			
183.	15835 <i>Loxocarya striata</i>			
184.	19421 <i>Marianthus bicolor</i> (Painted Marianthus)			
185.	19486 <i>Melaleuca hamata</i>			
186.	5956 <i>Melaleuca pungens</i>			
187.	5958 <i>Melaleuca radula</i> (Graceful Honeymyrtle)			
188.	15673 <i>Melaleuca tuberculata</i>			
189.	18232 <i>Melaleuca tuberculata</i> var. <i>tuberculata</i>			
190.	25184 <i>Menetia greyii</i>			
191.	24598 <i>Merops ornatus</i> (Rainbow Bee-eater)			
192.	954 <i>Mesomelaena preissii</i>			
193.	6888 <i>Microcorys capitata</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
194.	485 <i>Microlaena stipoides</i> (Weeping Grass)			
195.	14344 <i>Millotia tenuifolia</i> var. <i>tenuifolia</i> (Soft Millotia)			
196.	1535 <i>Moraea fugax</i>	Y		
197.	25240 <i>Morelia spilota</i> subsp. <i>imbricata</i> (Carpet Python)			
198.	25192 <i>Morethia obscura</i>			
199.	24223 <i>Mus musculus</i> (House Mouse)	Y		
200.	24146 <i>Myrmecobius fasciatus</i> (Numbat, Walpurti)		T	
201.	25426 <i>Neobatrachus pelobatoides</i> (Humming Frog)			
202.	492 <i>Neurachne alopecuroidea</i> (Foxtail Mulga Grass)			
203.	6978 <i>Nicotiana rotundifolia</i> (Round-leaved Tobacco)			
204.	48024 <i>Notamacropus eugenii</i> subsp. <i>derbianus</i> (Tammar Wallaby, Tammar)		P4	
205.	24407 <i>Ocyphaps lophotes</i> (Crested Pigeon)			
206.	18255 <i>Opercularia vaginata</i> (Dog Weed)			
207.	4355 <i>Oxalis perennans</i>			
208.	25680 <i>Pachycephala rufiventris</i> (Rufous Whistler)			
209.	25253 <i>Parasuta gouldii</i>			
210.	25681 <i>Pardalotus punctatus</i> (Spotted Pardalote)			
211.	25682 <i>Pardalotus striatus</i> (Striated Pardalote)			
212.	7089 <i>Parentucellia latifolia</i> (Common Bartsia)	Y		
213.	1762 <i>Parietaria debilis</i> (Pellitory)			
214.	1546 <i>Patersonia juncea</i> (Rush Leaved Patersonia)			
215.	1551 <i>Patersonia pygmaea</i> (Pygmy Patersonia)			
216.	48060 <i>Petrochelidon ariel</i> (Fairy Martin)			
217.	48061 <i>Petrochelidon nigricans</i> (Tree Martin)			
218.	24659 <i>Petroica goodenovii</i> (Red-capped Robin)			
219.	14443 <i>Petrophile ericifolia</i> subsp. <i>ericifolia</i>			
220.	2297 <i>Petrophile heterophylla</i> (Variable-leaved Cone Bush)			
221.	24409 <i>Phaps chalcoptera</i> (Common Bronzewing)			
222.	24098 <i>Phascogale calura</i> (Red-tailed Phascogale, Kenngoor)		S	
223.	16825 <i>Phyllangium divergens</i>			
224.	4675 <i>Phyllanthus calycinus</i> (False Boronia)			
225.	4 <i>Phylloglossum drummondii</i> (Pigmy Clubmoss)			
226.	24745 <i>Platycercus icterotis</i> subsp. <i>icterotis</i> (Western Rosella)			
227.	45237 <i>Podolepis aristata</i> subsp. <i>aristata</i>			
228.	8177 <i>Podolepis lessonii</i>			
229.	8182 <i>Podotheca angustifolia</i> (Sticky Longheads)			
230.	24907 <i>Pogona minor</i> subsp. <i>minor</i> (Dwarf Bearded Dragon)			
231.	25722 <i>Polytelis anthopeplus</i> (Regent Parrot)			
232.	24683 <i>Pomatostomus superciliosus</i> (White-browed Babbler)			
233.	34013 <i>Pomatostomus superciliosus</i> subsp. <i>ashbyi</i> (White-browed Babbler (western wheatbelt))			
234.	15424 <i>Praecoxanthus aphyllus</i>			
235.	16688 <i>Prasophyllum gracile</i>			
236.	25261 <i>Pseudechis australis</i> (Mulga Snake)			
237.	42416 <i>Pseudonaja mengdeni</i> (Western Brown Snake)			
238.	25433 <i>Pseudophryne guentheri</i> (Crawling Toadlet)			
239.	13255 <i>Pterochaeta paniculata</i>			
240.	1693 <i>Pterostylis recurva</i> (Jug Orchid)			
241.	1698 <i>Pterostylis vittata</i> (Banded Greenhood)			
242.	2716 <i>Ptilotus declinatus</i> (Curved Mulla Mulla)			
243.	4172 <i>Pultenaea ericifolia</i>			
244.	8195 <i>Quinetia urvillei</i>			
245.	24245 <i>Rattus rattus</i> (Black Rat)	Y		
246.	48096 <i>Rhipidura albiscapa</i> (Grey Fantail)			
247.	25614 <i>Rhipidura leucophrys</i> (Willie Wagtail)			
248.	32426 <i>Rosulabryum campylothecium</i>			
249.	40431 <i>Rytidosperma acerosum</i>			
250.	40425 <i>Rytidosperma caespitosum</i>			
251.	40427 <i>Rytidosperma setaceum</i>			
252.	972 <i>Schoenus armeria</i>			
253.	1002 <i>Schoenus nanus</i> (Tiny Bog Rush)			
254.	1013 <i>Schoenus sculptus</i> (Gimlet Bog-rush)			
255.	14583 <i>Siloxerus multiflorus</i>			
256.	25266 <i>Simoselaps bertholdi</i> (Jan's Banded Snake)			
257.	30948 <i>Smicromis brevirostris</i> (Weebill)			
258.	1312 <i>Sowerbaea laxiflora</i> (Purple Tassels)			
259.	9070 <i>Stackhousia pubescens</i> (Downy Stackhousia)			
260.	4735 <i>Stackhousia scoparia</i>			
261.	25597 <i>Strepera versicolor</i> (Grey Currawong)			
262.	7698 <i>Stylidium caricifolium</i> (Milkmaids)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
263.	7708 <i>Stylidium crassifolium</i> (Thick-leaved Triggerplant)			
264.	19251 <i>Stylidium eriopodum</i>			
265.	40945 <i>Stylidium exappendiculatum</i>		P3	
266.	7773 <i>Stylidium petiolare</i> (Horn Triggerplant)			
267.	7774 <i>Stylidium piliferum</i> (Common Butterfly Triggerplant)			
268.	7804 <i>Stylidium tenuicarpum</i>		P4	
269.	1260 <i>Stypandra glauca</i> (Blind Grass)			
270.	15971 <i>Synaphea flabelliformis</i>			
271.	16761 <i>Synaphea interioris</i>			
272.	46437 <i>Tetrapora preissiana</i>			
273.	35579 <i>Tetraria</i> sp. Jarrah Forest (R. Davis 7391)			
274.	4546 <i>Tetratheca virgata</i>			
275.	5086 <i>Thomasia macrocalyx</i>			
276.	19698 <i>Thryptomene australis</i> subsp. <i>australis</i>			
277.	1348 <i>Thysanotus rectantherus</i>			
278.	1354 <i>Thysanotus tenellus</i>			
279.	1357 <i>Thysanotus thyrsoides</i>			
280.	6279 <i>Trachymene ornata</i> (Spongefruit)			
281.	6280 <i>Trachymene pilosa</i> (Native Parsnip)			
282.	24158 <i>Trichosurus vulpecula</i> subsp. <i>vulpecula</i> (Common Brushtail Possum)			
283.	1361 <i>Tricoryne elatior</i> (Yellow Autumn Lily)			
284.	4295 <i>Trifolium dubium</i> (Suckling Clover)	Y		
285.	18587 <i>Triglochin nana</i>			
286.	15144 <i>Trymalium ledifolium</i> var. <i>lineare</i>			
287.	24983 <i>Underwoodisaurus milii</i> (Barking Gecko)			
288.	<i>Urodacus novaehollandiae</i>			
289.	9008 <i>Urodon dasyphyllus</i> (Mop Bushpea)			
290.	38388 <i>Ursinia anthemoides</i> subsp. <i>anthemoides</i>	Y		
291.	25526 <i>Varanus tristis</i> (Racehorse Monitor)			
292.	7656 <i>Velleia cynopotamica</i>			
293.	7665 <i>Velleia trinervis</i>			
294.	6082 <i>Verticordia grandiflora</i> (Claw Featherflower)			
295.	24206 <i>Vespadelus regulus</i> (Southern Forest Bat)			
296.	24040 <i>Vulpes vulpes</i> (Red Fox)	Y		
297.	7389 <i>Wahlenbergia preissii</i>			
298.	1252 <i>Xanthorrhoea drummondii</i>			
299.	6283 <i>Xanthosia atkinsoniana</i>			
300.	25765 <i>Zosterops lateralis</i> (Grey-breasted White-eye, Silvereye)			

Conservation Codes

T - Rare or likely to become extinct
X - Presumed extinct
IA - Protected under international agreement
S - Other specially protected fauna
1 - Priority 1
2 - Priority 2
3 - Priority 3
4 - Priority 4
5 - Priority 5

¹ For NatureMap's purposes, species flagged as endemic are those whose records are wholly contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.

Appendix 4. Definitions of Conservation Codes for Threatened and Priority flora (DBCA, 2019b).

Conservation code	Category
(T) Threatened species pursuant to Sect 19 of the BC Act 2016.	
T	<p>(T) CR – Critically endangered</p> <p>Threatened species considered to be <i>“facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines”</i>.</p>
	<p>(T) EN - Endangered</p> <p>Threatened species considered to be <i>“facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines”</i>.</p>
	<p>(T) VU - Vulnerable</p> <p>Threatened species considered to be <i>“facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines”</i>.</p>
(P) Priority species – possible Threatened species.	
P1	<p>Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.</p>
P2	<p>Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.</p>

Conservation code	Category
P3	<p>Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.</p>
P4	<p>(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.</p> <p>(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.</p> <p>(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.</p>

Appendix 5. Categories of Threatened Species under the EPBC Act (DotEE, 2018b).

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

Appendix 6. Vegetation condition scale (EPA, 2016).

Vegetation Condition	South West and Interzone Botanical Provinces
Pristine	Pristine or nearly so, no obvious signs of disturbance or damage caused by human activities since European settlement.
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species. Damage to trees caused by fire, the presence of non-aggressive weeds and occasional vehicle tracks.
Very Good	Vegetation structure altered, obvious signs of disturbance. Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback and grazing.
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees and shrubs.

Appendix 7. List of vascular flora found within the Wandering-Narrogin Road Survey Area

No	FAMILY NAME	SPECIES NAME	NATURALISED
1	Fabaceae	<i>Acacia acuminata</i>	
2	Fabaceae	<i>Acacia celastrifolia</i>	
3	Fabaceae	<i>Acacia saligna</i>	
4	Fabaceae	<i>Acacia stenoptera</i>	
5	Casuarinaceae	<i>Allocasuarina huegeliana</i>	
6	Casuarinaceae	<i>Allocasuarina humilis</i>	
7	Asteraceae	<i>Arctotheca calendula</i>	*
8	Asparagaceae	<i>Asparagus asparagoides</i>	*
9	Poaceae	<i>Austrostipa elegantissima</i>	
10	Poaceae	<i>Austrostipa hemipogon</i>	
11	Poaceae	<i>Austrostipa variabilis</i>	
12	Poaceae	<i>Avena fatua</i>	*
13	Proteaceae	<i>Banksia sessilis</i>	
14	Pittosporaceae	<i>Billardiera fusiformis</i>	
15	Pittosporaceae	<i>Billardiera variifolia</i>	
16	Fabaceae	<i>Bossiaea eriocarpa</i>	
17	Haemodoraceae	<i>Conostylis pusilla</i>	
18	Goodeniaceae	<i>Dampiera juncea</i>	
19	Goodeniaceae	<i>Dampiera lavandulacea</i>	
20	Hemerocallidaceae	<i>Dianella revoluta</i>	
21	Fabaceae	<i>Dillwynia laxiflora</i>	
22	Asteraceae	<i>Dittrichia graveolens</i>	*
23	Poaceae	<i>Ehrharta calycina</i>	*
24	Myrtaceae	<i>Eucalyptus loxophleba</i>	
25	Myrtaceae	<i>Eucalyptus wandoo</i>	
26	Fabaceae	<i>Gastrolobium</i> sp.	
27	Fabaceae	<i>Gastrolobium spinosum</i>	

No	FAMILY NAME	SPECIES NAME	NATURALISED
28	Proteaceae	<i>Grevillea tenuiflora</i>	
29	Boraginaceae	<i>Halgania anagalloides</i>	
30	Dilleniaceae	<i>Hibbertia montana</i>	
31	Juncaceae	<i>Juncus acutus</i>	*
32	Fabaceae	<i>Kennedia prostrata</i>	
33	Cyperaceae	<i>Lepidosperma tenue</i>	
34	Myrtaceae	<i>Leptospermum erubescens</i>	
35	Ericaceae	<i>Leucopogon propinquus</i>	
36	Poaceae	<i>Lolium perenne</i>	*
37	Asparagaceae	<i>Lomandra spartea</i>	
38	Rubiaceae	<i>Opercularia vaginata</i>	
39	Thymelaeaceae	<i>Pimelea spectabilis</i>	
40	Poaceae	<i>Rytidosperma sp.</i>	
41	Santalaceae	<i>Santalum acuminatum</i>	
42	Celastraceae	<i>Stackhousia monogyna</i>	
43	Orchidaceae	<i>Thelymitra petrophila</i>	
44	Myrtaceae	<i>Thryptomene australis</i>	
45	Hemerocallidaceae	<i>Tricoryne elatior</i>	
46	Asteraceae	<i>Vellereophyton dealbatum</i>	*



Threatened and Priority Ecological Community (TEC/PEC) Occurrence Report Form

COMMUNITY: Eucalypt Woodlands of the Western Australian Wheatbelt	OBSERVATION DATE: 8/10/2019
New occurrence <input checked="" type="checkbox"/> Site ID: _____	CONS STATUS: CR
OBSERVER/S: Russell Smith	PHONE: 0447809124
ROLE: botanist	ORGANISATION: Ecoedge
EMAIL: russell@ecoedge.com.au	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):
Narrogin-Wandering Road, 330-590 m north west of Fitts Road, north side of road

Reserve No: _____

DISTRICT:	LGA: Narrogin	Land manager present: <input type="checkbox"/>
DATUM: GDA94 / MGA94 <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: 6365906 Long / Easting: 511390 Zone: 50	METHOD USED: GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map used: _____

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 _____ to _____	Specify other: _____

AREA ASSESSMENT: Edge survey Partial survey Full survey Area observed (m²): 3000

EFFORT: Time spent surveying (minutes): _____ No. of minutes spent / 100 m²: _____

THREATS - type, and supporting information: e.g. clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents.	Cause/Agent: e.g. weed type, grazing species, recreation type	Area affected	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
•		%			
•		%			
•		%			
•		%			
•		%			
•		%			
•		%			
•		%			
•		%			
•		%			

*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+)

CONDITION OF OCCURRENCE: (Bush Forever Scale) (estimate % of area in each)

Pristine _____% Very Good _____% Degraded _____%

Please return form to:

communities.data@dpaw.wa.gov.au

or Species and Communities Branch, Department of Parks and Wildlife, Locked Bag 104, Bentley Delivery Centre WA 6983

Record entered by: _____ Date entered: _____ Database no: _____



Threatened and Priority Ecological Community (TEC/PEC) Occurrence Report Form

Excellent ____%

 Good ____%

 Completely Degraded ____%

RECOMMENDED MANAGEMENT ACTIONS: e.g. roadside markers, weed control, etc.

ACTIONS IMPLEMENTED (include date):

HABITAT INFORMATION: (Check more than one box for combinations or where necessary)

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

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

CONDITION OF SOIL:
 Dry Moist Waterlogged Inundated Cracked Saline Other: _____

VEGETATION CLASSIFICATION:	1. Woodland of Eucalyptus wandoo over 2. open tall shrubland of Acacia acuminata, [Banksia sessilis] over 3. low open shrubland of Bossiaea eriocarpa over 4. open herbland of Thelymitra petrophila and grassland of Austrostipa elegantissima, A. hemipogon
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FIRE HISTORY:

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Threatened and Priority Ecological Community (TEC/PEC) Occurrence Report Form

Last Fire:	Season/Month:	Year:	Fire Intensity:	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>	No evidence of fire <input checked="" type="checkbox"/>
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Actual Occurrence Landuse:

Adjacent Landuse:

Associated Flora Species:

Associated Fauna Species:

OTHER COMMENTS:

ATTACHED:	Map <input type="checkbox"/>	Mudmap <input type="checkbox"/>	Photo <input type="checkbox"/>	GIS data <input type="checkbox"/>	Field notes <input type="checkbox"/>
Other:					

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Record entered by: _____ Date entered: _____ Database no: _____



Threatened and Priority Ecological Community (TEC/PEC) Occurrence Report Form

COPY SENT TO: Regional Office <input type="checkbox"/> District Office <input type="checkbox"/> Other: _____

Submitter of record: <u>Russell Smith</u> Role: <u>botanist</u>
Signature: <u>Russell Smith</u> Date submitted: <u>9/02/2020</u>

Please return form to:

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Record entered by: _____ Date entered: _____ Database no: _____