Susannah Brook Flora and Vegetation Survey, Millendon

Revision Number 0.00

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Table of Contents

1 Introduction

Arc Infrastructure aims to undertake the renewal of the existing railway bridge deck located on the Midland Railway (Line 3), where the rail line intersects with the Susannah Brook in Millendon, Western Australia. The project will involve the removal of the existing structure, including the rail, ballast and bridge deck, and replacement with a new bridge structure. These works are necessary to maintain the functioning and safety of the rail line.

In order to undertake the replacement works, a small number of trees and some native vegetation will need to be cleared to allow access for machinery and provide space for materials laydown. Therefore, a basic flora and vegetation survey and targeted tree assessment was undertaken by Arc's Ecologists to determine what vegetation was present within the remediation site.

1.1 Background

The bridge which crosses over the Susannah Brook was constructed in 1979 and is a single span timber ballasted deck. All bridge components currently present are those which were originally placed, with no replacement of the timber deck occurring since construction. As a result, the timber deck is currently in a deteriorated condition, with some components being soft and rotten and bearing failure occurring, and the ballast retainer is damaged and in poor condition. This has resulted in high ongoing maintenance costs and a high risk of bridge failure. The proposed replacement will be a steel ballasted deck, which will provide a better service life, reduce maintenance costs, and improve reliability and structural capacity of the deck.

1.2 Site Location

The bridge renewal site is located on the Millendon Junction to Narngulu section of the Midland Railway (Line 3), where the rail line intersects with the Susannah Brook in Milldendon, Western Australia. It is approximately 23km northeast of the Perth Central Business District (CBD), located within the City of Swan, and 1.09km from the start of the rail line at Millendon Junction. The bridge is located within rail corridor land, leased by Arc Infrastructure, within lot number P004189100. The survey area, which is the proposed clearing area required to undertake the works, is approximately 348m^2 in size (Figure 1).

1.3 Scope

The scope of this project included:

- Desktop assessment of the works area
- Vegetation and targeted tree assessment within the works area
- GPS locations and species information of all trees present
- Preparation of a report with the outcomes of the survey.

Figure 1: Site Location

2 Desktop Assessment

2.1 Climate

The climate experienced at the site is Mediterranean with hot dry summers, and cool wet winters.

2.2 Geology and Soils

The soil type within the works site is the Valley Complex (Pinjarra) (213Pj__Vc), which is characterised as variable soils associated with drainage lines, such as the Susannah Brook (Department of Primary Industry and Regional Development (DPIRD), 2023).

2.3 Hydrology

The site occurs within the streamline of the Susannah Brook. It is not within a Public Drinking Water Source Area. It is located within both a RIWI Act Proclaimed Surface Water Area and a Proclaimed Groundwater Area, however proposed works will not impact on the surface water or groundwater in the area, and no surface water or groundwater is to be taken during the works.

2.4 Remnant Vegetation

The site occurs within the Perth subregion of the Swan Coastal Plain IBRA Region (SWA2). This subregion is described as a coastal plain of low elevation, comprised predominantly of woodland vegetation types. The vegetation includes *Banksia* species or *Eucalyptus gomphocephala* (Tuart) associated with sandy soils, *Casuarina obesa* associated with outwash plains, *Melaleuca* paperbark species associated with swampy areas and *Eucalyptus marginata* (Jarrah) associated with duricrusted Mesozoic sediments found where the elevation rises to the east of the subregion (Department of Conservation and Land Management, 2003).

The site contains one vegetation complex, the Guildford Complex, which is described as open forest to tall open forest dominated by *Corymbia calophylla* (Marri), *Eucalyptus wandoo* (Wandoo) and *Eucalyptus marginata* (Jarrah). Other common species include *Eucalyptus lane-poolei* (Salmon White Gum), *Eucalyptus rudis* (Flooded Gum) and *Melaleuca rhaphiophylla* (Swamp Paperbark) (Heddle, Loneragan & Havel, 1980). The total pre-European extent of this vegetation complex remaining is:

- 5.09% within the Swan Coastal Plain
- 6.95% within the City of Swan.

The pre-European vegetation remaining in the area is described by Beard et al. (2013) as being:

- System Association Name: Pinjarra
- Vegetation Association Number: PINJARRA_1009
- Structure Description: Woodland Southwest
- Floristic description: Jarrah (*Eucalyptus marginata*), Marri (*Corymbia calophylla*) and Wandoo (*E. wandoo*).

2.5 Habitat Connectivity

The riparian vegetation within the site and along Susannah Brook provides habitat connectivity through the semi-rural land-use in its western extent, towards native vegetation in the east. The clearing of a comparatively small area of predominantly non-native vegetation and a small number of young trees is unlikely to impact the habitat connectivity or linkages of vegetation along the river line.

2.6 Environmentally Sensitive Areas

The site is adjacent to, but not within, a listed Environmentally Sensitive Area (ESA) (Department of Water and Environmental Regulation (DWER), 2023).

2.7 Heritage

The site is located within an Aboriginal Heritage Place, Susannah Brook (Place ID 640), which covers the entire extent of the waterway and is a Registered Site with mythological and water source significance (Department of Planning, Lands and Heritage (DPLH), 2023). Arc's Aboriginal Heritage Advisor has undertaken a due diligence assessment of the site in accordance with the Aboriginal Cultural Heritage Act 2021 and has determined that the works taking place are exempt from any formal Aboriginal Heritage approvals as they are classified as maintenance of existing infrastructure within the original disturbance footprint ('like for like or less').

3 Methodology

3.1 Desktop Survey

3.1.1 Flora and Vegetation

A desktop survey was undertaken to determine the potential for any conservation significant flora species or ecological communities to occur within the site by examining relevant literature and databases for records within 10km of the site. This was done using the following databases:

- Protected Matters Search Tool (Department of Climate Change, Energy the Environment and Water (DCCEEW), 2023)
- DBCA Threatened and priority flora database (DBCA, 2018)
- DBCA Threatened and priority ecological communities database (DBCA, 2023a).

3.1.2 Fauna

Desktop assessment for Black Cockatoo habitat consisted of reviewing DBCA locational records and a range of publicly available datasets relevant to Black Cockatoo breeding, roosting and foraging areas. These included:

- Distribution maps for Black Cockatoos within the Referral Guidelines for Three Threatened Black Cockatoo Species (Department of Agriculture, Water and the Environment (DAWE), 2022)
- Carnaby's Cockatoo Confirmed (DBCA_050; DBCA, 2023c) and Unconfirmed Roost Sites (DBCA_051; DBCA, 2023d)
- Carnaby's Cockatoo Confirmed (DBCA_52; DBCA, 2023e) and Unconfirmed Roost Sites Buffered 6km (DBCA-053; DBCA, 2023f)
- Carnaby's Cockatoo Confirmed (DBCA_054; DBCA, 2023g) and Unconfirmed Breeding Areas within the Swan Coastal Plain and Jarrah Forest IBRA Regions (DBCA-055; DBCA, 2023h)
- Black Cockatoo Breeding Sites - Buffered DBCA_063 (DBCA, 2023i)
- Black Cockatoo Roosting Sites – Buffered DBCA_064 (DBCA, 2023j).

3.2 Field Survey

An on-ground flora and vegetation survey and targeted tree assessment was undertaken by Arc's Ecologists Sharon Hynes and Shelley Hill on the 4th of September 2023.The entire site was traversed with the following parameters recorded:

- vegetation community (as per *Bush Forever Volume 2* (Government of Western Australia, 2000))
- floristic species composition
- vegetation condition (as per Keighery (1994) scale)
- trees present – including GPS location, species, diameter at breast height (DBH), photograph of each tree.

3.3 Limitations

An assessment of potential limitations was undertaken in accordance with the Environmental Protection Authority (EPA) document *Technical Guidance Flora and Vegetation Surveys for Environmental Impact Assessment* (2016) (Table 1).

Limitations were all nil to minor in nature and did not affect the validity of results obtained from the survey.

Table 1: Potential survey limitations

Potential Limitation	Significance	Comment
Availability of contextual information	Nil	Publicly available contextual information is available for the region. Database searches were also conducted through DBCA providing more comprehensive content. A total of 12 conservation significant flora species identified during the desktop survey are data deficient, inhibiting assessment of flowering period and likelihood of presence. During the survey, for any species present within the site bearing similarities, precautionary principles during identification were applied.
Experience of personnel	Nil	Sharon Hynes has over 14 years' experience conducting targeted, reconnaissance and detailed flora surveys and fauna habitat assessments within Western Australia, including the Swan Coastal Plain bioregion, and is competent in taxonomic identification and assessment of vegetation in these areas. Shelley Hill has over 2 years' experience conducting targeted, reconnaissance and detailed flora surveys and fauna habitat assessments within Western Australia, including the Swan Coastal Plain bioregion, and is competent in taxonomic identification and assessment of vegetation in these areas.
Survey timing	Minor	The survey was undertaken in September, which is within the recommended survey timing (Spring) for the South-West Botanical Province (EPA, 2016). This timing is consistent with the peak flowering periods of the majority of the conservation significant flora species identified within the desktop survey.

Potential Limitation	Significance	Comment
		Of the 63 conservation significant flora species identified during the desktop survey, a total of 33 exhibit flowering periods which are unknown or inconsistent with the survey period. For these species not likely to be flowering at the time of survey, 24 are tree, shrub, sedge or perennial herb species for which sufficient diagnostic characteristics would have been present. The remaining nine species are annual herbs which may not have been presenting at the time of survey. Six of these herbaceous species were deemed unlikely to be present within the site during the desktop analysis due to inconsistent habitat characteristics. Following the survey, the remaining three species (*Diuris drummondii, Stylidium paludicola* and *Poranthera moorokatta*) are considered unlikely to occur within the site due to the high level of disturbance observed, the low native understorey diversity and the high understorey coverage of weed species, which would likely outcompete native herbaceous species.
Survey effort and extent	Nil	The entirety of the site was traversed on foot, with all species observed being recorded. The total area of the site is approximately 348 m^2 and therefore quadrats were not established as the basic survey was sufficient to capture all species.
Access restrictions	Nil	No access restrictions were encountered during the survey.
Proportion of flora identified	Nil	All flora on site was identified to species level at the time of the survey. A low species diversity was observed as it was a highly disturbed site, with minimal native understorey present.
Disturbances that may affect results	Nil	No recent disturbances have occurred within the survey area which could have affected the results of the survey. All disturbances within the area are historical and continuous relating to agricultural/rural land uses, the road and the rail line, and are unlikely to have created any limitations in detection of species during the survey period.

4 Results

4.1 Desktop Survey

4.1.1 Threatened and Priority Flora

A desktop survey of online databases indicated the potential for a total of 63 conservation significant species to occur within 10 km of the survey area (Table 2). A review of the Protected Matters Search Tool (PMST) (DCCEEW, 2023) indicated 25 significant flora species listed under the Environment Protection and Biodiversity Conservation Act 1999 (Cwlth) as potentially occurring within a 10 km radius of the site (Appendix 1). A review of the DBCA (2018) threatened and priority flora database indicated 46 threatened or priority species have been recorded within 10 km of the site.

As the desktop survey area was much larger than the specific site, it may include species that are unlikely to occur within the site due to a lack of suitable habitat. These databases also contain very old records of species that may have since become locally or regionally extinct. Of the conservation significant species potentially found within the area, it was determined that the site conditions (soil type, drainage, location) may be suitable for 22 (highlighted green) of these species (Table 2).

A summary of conservation significant flora with the potential to occur within the site was created for reference during the survey (Appendix 2). Conservation code descriptions are provided in Appendix 3.

Table 2: Threatened and Priority Flora species identified in desktop survey

Species Name	Cons. Code	PMST	DBCA
Acacia anomala	V	X	
Acacia aphylla	V	X	
Acacia benthamii	P2		X
Acacia oncinophylla subsp. *oncinophylla*	P3		X
Adenanthos cygnorum subsp. *chamaephyton*	P3		X
Andersonia gracilis	E	X	
Anigozanthos humilis subsp. *chrysanthus*	P4		X
Anigozanthos viridis subsp. *terraspectans*	V	X	
Anthocercis gracilis	V	X	X
Banksia mimica	E	X	
Beaufortia purpurea	P3		X
Caladenia huegelii	E	X	X
Chamelaucium lullfitzii (listed as *Chamelaucium* sp. *Gingin)*	E	X	
Conospermum undulatum	V	X	
Cyanicula ixioides subsp. *ixioides*	P4		X
Cyathochaeta teretifolia	P3		X

Species Name	Cons. Code	PMST	DBCA
Darwinia foetida	CE	X	
Darwinia pimelioides	P4		X
Diplolaena andrewsii	E	X	X
Diuris drummondii	V	X	
Diuris micrantha	V	X	
Diuris purdiei	E	X	
Drakaea elastica	E	X	
Eleocharis keigheryi	V	X	X
Eryngium pinnatifidum subsp. *Palustre*	P3		X
Eucalyptus x balanites	E	X	
Grevillea christineae	E	X	X
Grevillea curviloba	T	X	X
Grevillea flexuosa	V	X	
Haemodorum loratum	P3		X
Halgania corymbosa	P3		X
Hydrocotyle lemnoides	P4		X
Hydrocotyle striata	P1		X
Hypolaena robusta	P4		X
Isopogon autumnalis	P3		X
Lasiopetalum glutinosum subsp. *glutinosum*	P3		X
Macarthuria keigheryi	E	X	
Meionectes tenuifolia	P3		X
Millotia tenuifolia var. *laevis*	P2		X
Netrostylis sp. *Chandala*	P2		X
Persoonia sulcata	P4		X
Phlebocarya pilosissima subsp. *pilosissima*	P3		X
Pithocarpa corymbulosa	P3		X
Poranthera moorokatta	P2		X
Schoenus capillifolius	P3		X

Species Name	Cons. Code	PMST	DBCA
Schoenus natans	P4		X
Schoenus sp. *Bullsbrook*	P2		X
Schoenus sp. *Waroona*	P3		X
Senecio leucoglossus	P4		X
Stachystemon exilis	P1		X
Stylidium longitubum	P4		X
Stylidium paludicola	P3		X
Stylidium trudgenii	P3		X
Synaphea sp. Fairbridge Farm	CE	X	
Tetratheca pilifera	P3		X
Thelymitra dedmaniarum	E	X	X
Thelymitra stellata	E	X	
Thysanotus anceps	P3		X
Thysanotus glaucus	P4		X
Thysanotus sp. Badgingarra	P2		
Tricostularia drummondii	P3		X
Trithuria occidentalis	E	X	X
Verticordia lindleyi subsp. *lindleyi*	P4		X

4.1.2 Threatened and Priority Ecological Communities

A review of the Protected Matters Search Tool indicated the potential for six Threatened and/or Priority Ecological Communities (TEC's/PEC's) to exist within 10km of the site (Table 3). A review of DBCA's Threatened and priority communities database (DBCA, 2023a) indicated the presence of a further seven TEC's and/or PEC's. The closest DBCA TEC record was approximately 0.9km east, being part of the Banksia Woodlands of the Swan Coastal Plain ecological community.

Table 3: Threatened Ecological Communities occurring within 10km of the site

Community Name	Threatened Category	PMST	DBCA Record
Assemblages of plants and invertebrate animals of tumulus (organic mound) springs of the Swan Coastal Plain	EN (Cwlth)	Yes	No
Banksia attenuata and/or *Eucalyptus marginata* woodlands of the eastern side of the Swan Coastal Plain (floristic community type 20b as originally described in Gibson et al. (1994))	EN (WA, Cwlth)	No	Yes

Community Name	Threatened Category	PMST	DBCA Record
Banksia Woodlands of the Swan Coastal Plain ecological community	P3 (WA) EN (Cwlth)	Yes	Yes
Central Northern Darling Scarp Granite Shrubland Community	P4 (WA)	No	Yes
Clay Pans of the Swan Coastal Plain	CR (Cwlth)	Yes	No
Communities of Tumulus Springs (Organic Mound Springs, Swan Coastal Plain)	CR (WA) EN(Cwlth)	No	Yes
Corymbia calophylla - Kingia australis woodlands on heavy soils, Swan Coastal Plain (floristic community type 3a as originally described in Gibson et al. (1994))	CR (WA) EN(Cwlth)	No	Yes
Corymbia calophylla - Xanthorrhoea preissii woodlands and shrublands of the Swan Coastal Plain	CR (WA) EN (Cwlth)	Yes	Yes
Forests and woodlands of deep seasonal wetlands of the Swan Coastal Plain (floristic community type 15 as originally described in Gibson et al. (1994))	VU (WA)	No	Yes
Herb rich shrublands in clay pans (floristic community type 8 as originally described in Gibson et al. (1994))	VU (WA) CR (Cwlth)	No	Yes
Low lying *Banksia attenuata* woodlands or shrublands	P3 (WA) EN (Cwlth)	No	Yes
Shrublands and woodlands of the eastern side of the Swan Coastal Plain (floristic community type 20c as originally described in in Gibson et al. (1994))	CR (WA) EN (Cwlth)	Yes	Yes
Shrublands and Woodlands on Muchea Limestone of the Swan Coastal Plain	EN (WA, Cwlth)	Yes	Yes

4.1.3 Threatened and Priority Fauna

The results of the desktop survey indicated that the site was not within 6km of any confirmed areas of Black Cockatoo breeding or roosting (DBCA, 2023c; 2023e; 2023g, 2023i and 2023j). It is, however, located within an unconfirmed breeding area for Carnaby's Cockatoo (DBCA, 2023h).

4.2 Field Survey

4.2.1 Floristic Composition and Vegetation Community

One vegetation type was present on site, being a *Eucalyptus rudis* (Flooded Gum) Woodland (Figure 2). The site shows evidence of historical clearing and disturbance, with a sparse overstorey of juvenile Flooded Gum over an understorey dominated by introduced herbs and grasses, including Bugle Lily (**Watsonia meriana* var. *bulbillifera*), Kikuyu Grass (**Cenchrus clandestinus*) and African Lovegrass (**Eragrostis curvula*). Sparse native shrubs and herbs were identified, predominantly along the eastern and southern boundaries of the site, and included *Xanthorrhoea preissii* (Grass Tree), *Grevillea manglesii* and *Opercularia vaginata* (Dog Weed).

Figure 2: Vegetation community within the site

A total of 32 species from 14 families were identified within the site, comprised of 18 introduced species and 14 native species. All species were able to be identified and a complete species list is provided in Table 4 below. No species of conservation significance were identified. One Declared Pest and Weed of National Significance, Bridal Creeper (**Asparagus asparagoides*), was identified at one location within the site.

Table 4: Flora species identified within the site

Family	Species Name	Common Name
Poaceae	**Arundo donax*	Giant Reed
Asparagaceae	**Asparagus asparagoides*	Bridal Creeper (DP,WoNS)
Poaceae	**Briza maxima*	Blowfly Grass
Poaceae	**Cenchrus clandestinus*	Kikuyu Grass
Poaceae	**Ehrharta calycina*	Perennial Veldt Grass
Poaceae	**Eragrostis curvula*	African Lovegrass
Papaveraceae	**Fumaria capreolata*	Whiteflower Fumitory
Fabaceae	**Medicago polymorpha*	Burr Medic
Oxalidaceae	**Oxalis glabra*	
Oxalidaceae	**Oxalis pes-caprae*	Soursob
Oxalidaceae	**Oxalis purpurea*	Largeflower Wood Sorrel
Poaceae	**Paspalum dilatatum*	
Plantaginaceae	**Plantago lanceolata*	Ribwort Plantain
Asteraceae	**Sonchus oleraceus*	Common Sowthistle
Iridaceae	**Sparaxis bulbifera*	
Lamiaceae	**Stachys arvensis*	Staggerweed
Fabaceae	**Trifolium campestre*	Hop Clover
Iridaceae	**Watsonia meriana* var. *bulbillifera*	Bugle Lily
Fabaceae	*Acacia pulchella*	Prickly Moses
Fabaceae	*Acacia saligna*	Orange Wattle
Myrtaceae	*Darwinia pinifolia*	
Myrtaceae	*#Eucalyptus camaldulensis*	River Gum
Myrtaceae	*Eucalyptus rudis*	Flooded Gum
Fabaceae	*Gompholobium marginatum*	
Proteaceae	*Grevillea manglesii*	
Proteaceae	*Grevillea bipinnatifida*	Fuchsia Grevillea
Fabaceae	*Kennedia prostrata*	Scarlet Runner
Myrtaceae	*Melaleuca rhaphiophylla*	Swamp Paperbark

Family	Species Name	Common Name
Rubiaceae	*Opercularia vaginata*	Dog Weed
Proteaceae	*Synaphea pinnata*	Helena Synaphea
Hemerocallidaceae	*Tricoryne elatior*	Yellow Autumn Lily
Fabaceae	*Viminaria juncea*	Swishbush
Xanthorrhoeaceae	*Xanthorrhoea preissii*	Grass Tree

Note: * Denotes introduced species, # denotes a native species occurring outside of its natural range

4.2.2 Vegetation Condition

The entirety of the vegetation within the site was recorded to be in a Completely Degraded condition, containing mostly highly invasive introduced species and exhibiting signs of previous clearing and recolonisation.

4.2.3 Trees and Fauna Habitat

A total of 5 trees were recorded across the site, with the majority being *Eucalyptus rudis* (Flooded Gum) as well as one *#Eucalyptus camaldulensis* (River Gum). All trees recorded were juvenile, with a diameter at breast height (DBH) of less than 300 mm (Table 5). No suitable breeding or foraging habitat for Black Cockatoos was identified. All tree locations are shown in Figure 3.

Table 5: Trees within the clearing footprint

Tree ID Number	Species	Photograph
1	*Eucalyptus rudis*	

Tree ID Number	Species	Photograph
2	*Eucalyptus rudis*	
3	*Eucalyptus rudis* (left)	
4	*Eucalyptus rudis* (right)	

Tree ID Number	Species	Photograph
5	*#Eucalyptus camaldulensis*	

Note: # Denotes a native species occurring outside of its natural range

Figure 3: Tree locations within the site

5 Discussion

5.1 Vegetation, Threatened and Priority Flora and Ecological Communities

The vegetation within the site was observed to be a highly disturbed *Eucalyptus rudis* (Flooded Gum) Woodland in a Completely Degraded condition. It was not determined to be representative of any of the 13 Threatened and/or Priority Ecological Communities identified during the desktop survey due to the poor vegetation structure, condition and lack of key diagnostic characteristics (including dominant species and soil type associations) for each community.

No conservation significant flora was identified at the time of survey. Of the 63 conservation significant flora species identified during the desktop survey, a total of 33 exhibit flowering periods which are either inconsistent with the survey period or unknown. For these species not likely to be flowering at the time of survey, 24 are tree, shrub, sedge or perennial herb species for which sufficient diagnostic characteristics would have been present. The remaining nine species are annual herbs which may not have been presenting at the time of survey. Six of these herbaceous species were deemed unlikely to be present within the site during the desktop analysis due to inconsistent habitat characteristics. Following the survey, the remaining three species (*Diuris drummondii, Stylidium paludicola* and *Poranthera moorokatta*) are considered unlikely to occur within the site due to the high level of disturbance observed, the low native understorey diversity and the high understorey coverage of weed species, which would likely outcompete native herbaceous species.

One Declared Pest and Weed of National Significance, Bridal Creeper (**Asparagus asparagoides*), was identified within the site. Declared Pests are listed under the Biosecurity and Agriculture Management Act 2007 (WA), a classification which requires the landowner/land manager to control the population to limit damage as a result of the presence of these species. It is recommended that the control of these species be undertaken prior to any clearing activity to prevent the spread of vegetative material including seeds and rhizomes through the site.

5.2 Tree Assessment

All five of the trees recorded were juvenile, with a DBH of less than 300mm. The majority of the trees (four) were *Eucalyptus rudis*, which is characteristic of this habitat type, however one tree was identified to be *#Eucalyptus camaldulensis*, which is a native species however doers not naturally occur in this area. The *Eucalyptus rudis* within the site were smaller in size than surrounding mature trees of the same species, indicating historical clearing of the area and subsequent regrowth. Those areas not required for post-works maintenance access to the bridge will be allowed to naturally regenerate in the same way.

No suitable breeding or foraging habitat for Black Cockatoos was identified. All trees were below the minimum DBH to be considered as potential habitat trees in the Swan Coastal Plain (DAWE, 2022) and neither species identified provides foraging resources (Department of Environment and Conservation (DEC), 2011).

5.3 Referral and Approvals

As native vegetation is proposed to be cleared for the development site, it is recommended that a native vegetation clearing referral as regulated under the WA Environmental Protection Act 1986 is undertaken prior to disturbance. The clearing for this site is considered necessary as the age and degradation of the bridge infrastructure is leading to reduced structural integrity and may cause injury or fatality of train drivers if a derailment occurs, as well as considerable environmental damage if freight and diesel is to enter the waterway.

5.4 Assessment Against Clearing Principles

An assessment of information obtained during the 2023 survey has been made against the Western Australian 10 clearing principles. It is suggested that the clearing application may be at variance with two G and I) of the ten clearing principles and is likely to be at variance with one (F) (Table 6).

Table 5: Assessment against clearing principles

Clearing Principle		Comment
A	Native vegetation should not be cleared if it comprises a high level of biological diversity	The proposed site to be cleared is not likely to be at variance with this clearing principle: ▪ one vegetation type was present on site; Eucalyptus rudis (Flooded Gum) Woodland ▪ the entirety of the vegetation within the site was recorded to be in a Completely Degraded condition ▪ a total of 32 species from 14 families were identified within the site, comprised of predominantly introduced species (18 species), with low native species diversity (14 species) ▪ no species of conservation significance were identified within the site.
B	Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia	The proposed site to be cleared is not likely to be at variance with this clearing principle: ▪ the site is not within 6km of any confirmed areas of Black Cockatoo breeding or roosting ▪ no Black Cockatoo individuals or evidence of feeding were observed during survey activities ▪ no potential habitat trees (DBH ≥ 300mm) were recorded within the site ▪ no suitable foraging habitat for Black Cockatoos was identified within the site ▪ the habitat within the site is not likely to provide high value habitat for other fauna species due to the level of degradation, ongoing disturbance and low diversity of native flora species.
C	Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora	The proposed site to be cleared is not likely to be at variance with this clearing principle: ▪ the desktop survey identified the potential for 22 conservation significant species to occur within the site ▪ no species of conservation significance were identified within the site ▪ all conservation significant species except three identified during the desktop survey are considered not to be present within the survey site due to lack of observation or consistent habitat characteristics ▪ the remaining three species are considered unlikely to occur within the site due to the high level of disturbance, low native understorey diversity and high

Clearing Principle		Comment
		understorey coverage of weed species, which would likely outcompete native herbaceous species.
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	The proposed site to be cleared is not likely to be at variance with this clearing principle: ▪ the desktop survey indicated the potential for 13 Threatened and/or Priority Ecological Communities (TEC's/PEC's) to exist within 10km of the site ▪ the vegetation within the site was not determined to be representative of any of the 13 Threatened and/or Priority Ecological Communities due to the poor vegetation structure, condition and lack of diagnostic characteristics for each community
E	Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared	The proposed site to be cleared is not likely to be at variance with this clearing principle: ▪ the site resides within the Perth subregion of the Swan Coastal Plain IBRA Region and consists of one vegetation complex, the Guildford Complex ▪ the pre-European extent of this vegetation complex remaining is: - 5.09% within the Swan Coastal Plain - 6.95% within the City of Swan ▪ the site is not considered to be a good representation of this vegetation complex as it does not contain characteristic dominant species and is highly degraded ▪ the site is not considered to be significant as a remnant of native vegetation within the area, with better quality vegetation located in less disturbed areas surrounding Susannah Brook
F	Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland	The proposed site to be cleared is likely to be at variance with this clearing principle: ▪ the site occurs adjacent to the streamline of the Susannah Brook ▪ the vegetation present within the site is not considered to be representative of the species or condition of good quality riparian vegetation located in less disturbed areas surrounding Susannah Brook - the size of the trees comparative to those outside of the site is indicative of historical clearing within this area - there is a high diversity of invasive species and low diversity of native species
G	Native Vegetation should not be cleared if the clearing of the vegetation is likely to	The proposed site to be cleared may be at variance with this clearing principle: ▪ the vegetation within the site was entirely Completely Degraded

	Clearing Principle	Comment
	cause appreciable land degradation	▪ the vegetation surrounding the site was also in a Completely Degraded to Degraded condition and therefore unlikely to be significantly impacted by further disturbance ▪ the site is located within an area of low elevation with a very minimal slope and no excavation below natural ground level will occur, therefore clearing is not expected to increase erosion risk ▪ the site is located in an area of high to moderate risk of Acid Sulfate Soil occurrence within 3m of the natural soil surface, however no excavation below natural ground level will occur, therefore clearing is not expected to increase soil acidity risk.
H	Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area	The proposed site to be cleared is not likely to be at variance with this clearing principle: ▪ the site is not located in close proximity to any conservation areas and is predominantly bordered by agricultural and semi-rural land-uses.
I	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or groundwater	The proposed site to be cleared may be at variance with this clearing principle: ▪ the site occurs adjacent to the streamline of the Susannah Brook, however the clearing area does not extend into or to the banks of the waterway, minimising the risk of sedimentation - clearing should incorporate measures to prevent sedimentation of the waterway ▪ the site is very small in size and is highly unlikely to contribute to altered surface water flows ▪ the site is located in an area of high to moderate risk of Acid Sulfate Soil occurrence within 3m of the natural soil surface, however no excavation below natural ground level will occur, therefore clearing is not expected to increase soil acidity risk.
J	Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding	The proposed site to be cleared is not likely to be at variance with this clearing principle: ▪ the site is very small in size and is highly unlikely to contribute to altered surface water flows ▪ large trees and vegetation on the banks of the waterway will not be removed.

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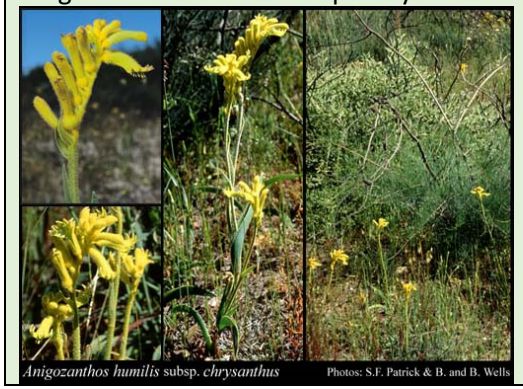
Appendix

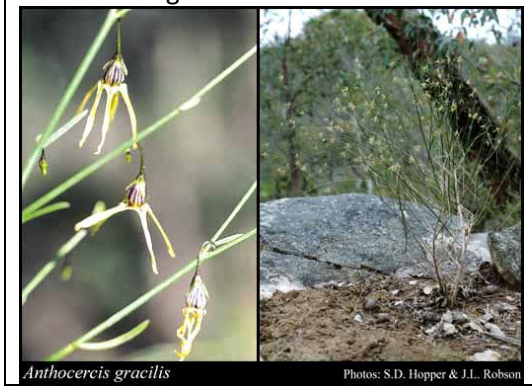
Appendix 1 – Protected Matters Search Tool

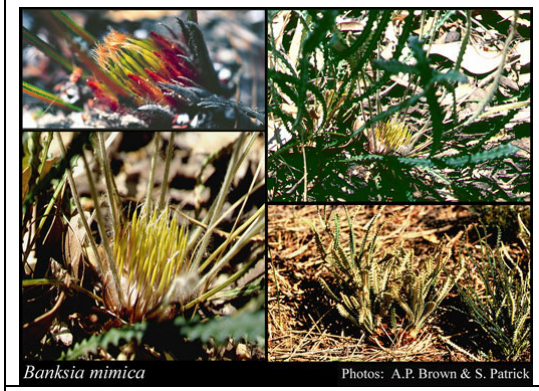
Appendix 2 – Conservation Significant Flora Field Guide

Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Acacia anomala 	V	Slender, rush-like shrub, 0.2-0.5 m high. Fl. Yellow.	Aug-Sep	Lateritic soils. Slopes.	Unlikely
Acacia aphylla 	V	Divaricately branched, spinescent, glaucous shrub, 0.9-2.5 m high. Fl. Yellow.	Aug-Oct	Sand, loam, clay loam. Granite outcrops, hills.	Unlikely

Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Acacia benthamii 	P2	Shrub, ca 1 m high. Fl. Yellow.	Aug-Sep	Typically on limestone breakaways.	Unlikely
Acacia oncinophylla subsp. oncinophylla	P3	Shrub, 0.9-2.5 m high, 'minni-ritchi' bark, phyllodes mostly 8-13 cm long, 1-2 mm wide. Fl. Yellow.	Aug-Oct	Granitic soils.	Unlikely
Adenanthos cygnorum subsp. chamaephyton 	P3	Prostrate, mat-forming, non-lignotuberous shrub, to 0.3 m high. Fl. white-cream-pink-green/green.	Sep-Jan	Grey sand, lateritic gravel.	Unlikely

Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Andersonia gracilis 	E	Slender erect or open straggly shrub, 0.1-0.5(-1) m high. Fl. white-pink-purple.	Sep-Nov	White/grey sand, sandy clay, gravelly loam. Winter-wet areas, near swamps.	Possible
Anigozanthos humilis subsp. chrysanthus 	P4	Rhizomatous, perennial, herb, 0.2-0.4(-0.8) m high. Fl. Yellow.	Jul-Oct	Grey or yellow sand.	Possible

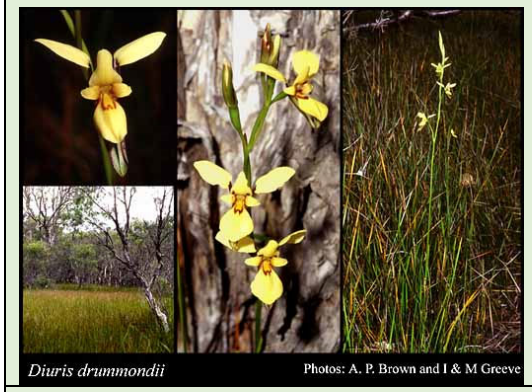
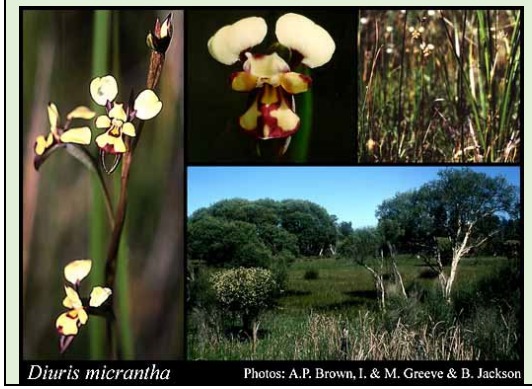
Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Anigozanthos viridis subsp. terraspectans 	V	Rhizomatous, perennial, herb, 0.05-0.2 m high. Fl. green/yellow-green.	Aug-Sep	Grey sand, clay loam. Winter-wet depressions.	Possible
Anthocercis gracilis 	T	Erect, spindly shrub, to 0.6(-1) m high. Fl. yellow-green.	Sep-Oct	Sandy or loamy soils. Granite outcrops.	Unlikely

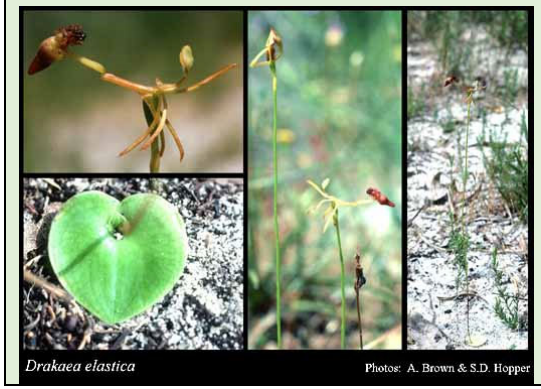
Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Banksia mimica 	E	Prostrate, lignotuberous shrub, 0.15-0.4 m high. Fl. yellow-brown.	Dec-Feb	White or grey sand over laterite, sandy loam.	Unlikely
Beaufortia purpurea 	P3	Erect or spreading shrub, 0.3-1.5 m high. Fl. red-purple.	Oct-Dec	Lateritic or granitic soils. Rocky slopes.	Unlikely

Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Caladenia huegelii 	E	Tuberous, perennial, herb, 0.25-0.6 m high. Fl. green & cream & red.	Sep-Oct	Grey or brown sand, clay loam.	Possible
Chamelaucium lullfitzii (listed as Chamelaucium sp. Gingin)	E	Open straggly shrub growing 1 to 2 m high. Fl. pale pinkish-white, buds are tinged a deeper pink.	Sep-Dec	White/yellow sand supporting open low woodland with Eucalyptus todtiana (Pricklybark), Banksia attenuata (Coast Banksia), and Hibbertia sp.	Unlikely

Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Conospermum undulatum 	V	Erect, compact shrub, 0.6-2 m high. Fl. white-other.	May-Oct	Grey or yellow-orange clayey sand.	Possible
Cyanicula ixioides subsp. ixioides 	P4	Tuberous, perennial, herb, 0.05-0.15 m high. Fl. Yellow.	Aug-Oct	Laterite, gravel.	Unlikely
Cyathochaeta teretifolia	P3	Rhizomatous, clumped, robust perennial, grass-like or herb (sedge), to 2 m high, to 1.0 m wide. Fl. brown.	Unknown	Grey sand, sandy clay. Swamps, creek edges.	Possible

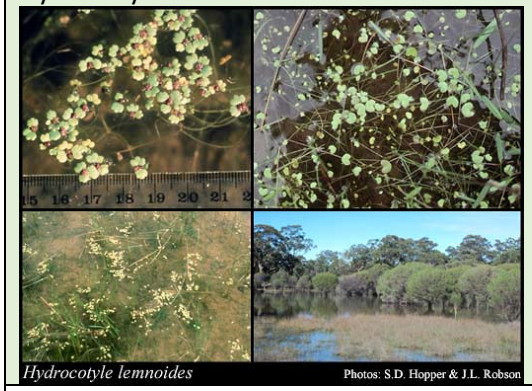
Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Darwinia foetida	CE	Tangled, domed shrub growing to 0.6 m high. Fl. green.	Oct-Nov	Swampy, seasonally wet habitat in the Muchea area.	Unlikely
Darwinia pimelioides 	P4	Erect shrub, 0.25-0.5(-1) m high. Fl. red/pink & green.	Sep-Oct	Loam, sandy loam. Granite outcrops.	Unlikely
Diplolaena andrewsii 	E	Erect shrub, 0.5-1 m high, inner involucral bracts glabrous, leaves broadly cordate. Fl. Red.	Jul-Oct	Loam, clay. Granite outcrops & hillsides.	Unlikely

Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Diuris drummondii 	V	Tuberous, perennial, herb, 0.5-1.05 m high. Fl. Yellow.	Nov-Jan	Low-lying depressions, swamps.	Possible
Diuris micrantha 	V	Tuberous, perennial, herb, 0.3-0.6 m high. Fl. yellow & brown.	Sep-Oct	Brown loamy clay. Winter-wet swamps, in shallow water.	Possible

Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Diuris purdiei 	E	Tuberous, perennial, herb, 0.15-0.35 m high. Fl. Yellow.	Sep-Oct	Grey-black sand, moist. Winter-wet swamps.	Possible
Drakaea elastica 	E	Tuberous, perennial, herb, 0.12-0.3 m high. Fl. red & green & yellow.	Oct-Nov	White or grey sand. Low-lying situations adjoining winter-wet swamps.	Possible

Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Eleocharis keigheryi 	V	Rhizomatous, clumped perennial, grass-like or herb (sedge), to 0.4 m high. Fl. Green.	Aug-Nov	Clay, sandy loam. Emergent in freshwater: creeks, claypans.	Possible
Eryngium pinnatifidum subsp. Palustre	P3	Unknown	Unknown	Unknown	Unknown
Eucalyptus x balanites 	E	(Mallee), to 5 m high, bark rough, flaky. Fl. White.	Oct-Feb	Sandy soils with lateritic gravel.	Unlikely

Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Grevillea christineae 	E	Erect, wiry shrub, 0.5-0.6 m high. Fl. white-cream.	Aug-Sep	Clay loam, sandy clay, often moist.	Possible
Grevillea curviloba	T	Prostrate to erect shrub, 0.1-2.5 m high. Fl. white-cream.	Aug-Oct	Grey sand, sandy loam. Winter-wet heath.	Possible
Grevillea flexuosa 	V	Irregular, few-branched, non-lignotuberous shrub, to 2 m high. Fl. creamy-yellow.	Jul-Oct	Red-brown sand with laterite & gravel, sand over granite. Ridgetop plateau & associated breakaways.	Unlikely
Haemodorum loratum	P3	Bulbaceous, perennial, herb, 0.45-1.2(-2) m high. Fl. black/brown-black/green.	Nov	Grey or yellow sand, gravel.	Unlikely

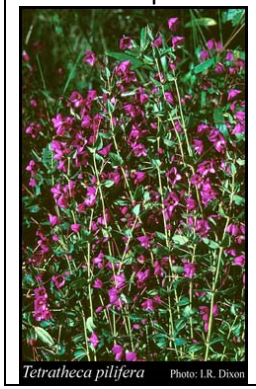
Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Halgania corymbosa 	P3	Erect shrub, 0.35-1 m high. Fl. blue-purple.	Aug-Nov	Gravelly soils, soils over granite.	Unlikely
Hydrocotyle lemnoides 	P4	Aquatic, floating annual, herb. Fl. Purple.	Aug-Oct	Swamps.	Possible
Hydrocotyle striata	P1	Unknown	Unknown	Unknown	Unknown

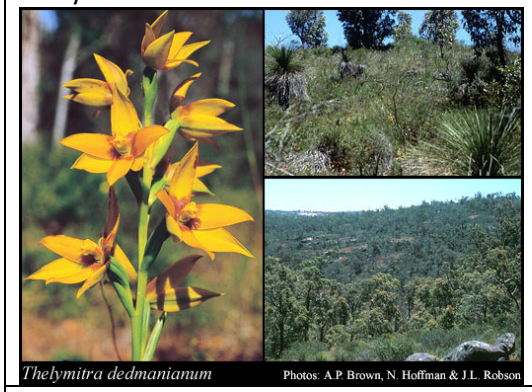
Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Hypolaena robusta 	P4	Dioecious rhizomatous, perennial, herb, ca 0.5 m high.	Sep-Oct	White sand. Sandplains.	Unlikely
Isopogon autumnalis	P3	Unknown	Unknown	Unknown	Unknown
Lasiopetalum glutinosum subsp. glutinosum	P3	Unknown	Unknown	Unknown	Unknown
Macarthuria keigheryi 	E	Erect or spreading perennial, herb or shrub, 0.2-0.4 m high, 0.3-0.6 m wide.	Sep-Dec	White or grey sand.	Unlikely
Meionectes tenuifolia	P3	Unknown	Unknown	Unknown	Unknown
Millotia tenuifolia var. laevis	P2	Ascending to erect annual, herb, 0.02-0.1 m high. Fl. Yellow.	Sep-Oct	Granite or laterite soils.	Unlikely
Netrostylis sp. Chandala	P2	Unknown	Unknown	Unknown	Unknown

Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Persoonia sulcata	P4	Erect, spreading to decumbent shrub, 0.2-1 m high. Fl. Yellow.	Sep-Nov	Lateritic or granitic soils.	Unlikely
Phlebocarya pilosissima subsp. pilosissima 	P3	Shortly rhizomatous, compactly tufted perennial, grass-like or herb, 0.15-0.4 m high. Fl. cream-white.	Aug-Oct	White or grey sand, lateritic gravel.	Unlikely
Pithocarpa corymbulosa 	P3	Erect to scrambling perennial, herb, 0.5-1 m high. Fl. White.	Jan-Apr	Gravelly or sandy loam. Amongst granite outcrops.	Unlikely
Poranthera moorokatta	P2	Unknown	Unknown	Unknown	Unknown

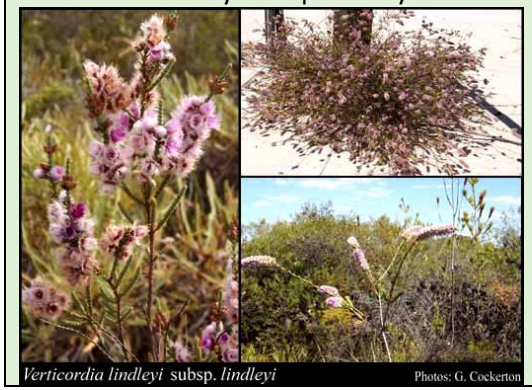
Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Schoenus capillifolius	P3	Semi-aquatic tufted annual, grass-like or herb (sedge), 0.05 m high. Fl. Green.	Oct-Nov	Brown mud. Claypans.	Possible
Schoenus natans 	P4	Aquatic annual, grass-like or herb (sedge), 0.3 m high. Fl. Brown.	Oct	Winter-wet depressions.	Possible
Schoenus sp. Bullsbrook	P2	Grass-like or herb (sedge), ca 0.15 m high. Fl. green-brown.	Unknown	Grey peaty sand. Low-lying flats.	Possible
Schoenus sp. Waroona	P3	Tufted annual, grass-like or herb (sedge), 0.02-0.06 m high. Fl. brown-red-green	Oct-Nov	Clay or sandy clay. Winter-wet flats.	Possible
Senecio leucoglossus	P4	Erect annual, herb, to 1.3 m high. Fl. White.	Aug-Dec	Gravelly lateritic or granitic soils. Granite outcrops, slopes.	Unlikely
Stachystemon exilis	P1	Unknown	Unknown	Unknown	Unlikely (distribution inconsistent)

Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Stylidium longitubum 	P4	Erect annual (ephemeral), herb, 0.05-0.12 m high. Fl. Pink.	Oct-Dec	Sandy clay, clay. Seasonal wetlands.	Possible
Stylidium paludicola	P3	Reed-like perennial, herb, 0.35-1 m high, Leaves tufted, linear or subulate or narrowly oblanceolate, 0.5-4 cm long, 0.5-1.5 mm wide, apex acute, margin entire, glabrous. Scape mostly glabrous, inflorescence axis glandular. Inflorescence racemose. Fl. Pink.	Oct-Dec	Peaty sand over clay. Winter wet habitats. Marri and Melaleuca woodland, Melaleuca shrubland.	Possible
Stylidium trudgenii	P3	Caespitose perennial, herb, 0.05-0.5 m high.	Unknown	Grey sand, dark grey to black sandy peat. Margins of winter-wet swamps, depressions.	Possible

Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Synaphea sp. Fairbridge Farm 	CE	Dense, clumped shrub, to 0.3 m high, to 0.4 m wide. Fl. Yellow.	Oct	Sandy with lateritic pebbles. Near winter-wet flats, in low woodland with weedy grasses.	Unlikely
Tetratheca pilifera 	P3	Spreading shrub, 0.1-0.3 m high. Fl. Purple.	Aug-Oct	Gravelly soils.	Unlikely

Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Thelymitra dedmaniarum 	E	Tuberous, perennial, herb, to 0.8 m high. Fl. Yellow.	Nov-Jan	Granite.	Unlikely
Thelymitra stellata	E	Tuberous, perennial, herb, 0.15-0.25 m high. Fl. yellow & brown.	Oct-Nov	Sand, gravel, lateritic loam.	Unlikely
Thysanotus anceps 	P3	Rhizomatous, leafless perennial, herb, to 0.4 m high. Fl. Purple.	Oct-Dec	White or grey sand, lateritic gravel, laterite.	Unlikely

Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Thysanotus glaucus 	P4	Caespitose, glaucose perennial, herb, 0.1-0.2 m high. Fl. Purple.	Oct-Dec	White, grey or yellow sand, sandy gravel.	Unlikely
Thysanotus sp. Badgingarra	P2	Perennial, herb (with tuberous roots), ca 0.35 m high. Fl. Blue.	Dec	Grey sand with lateritic gravel.	Unlikely
Tricostularia drummondii	P3	Unknown	Unknown	Unknown	Unknown
Trithuria occidentalis 	E	Unknown	Oct-Nov	Unknown	Unknown

Species	Cons. Code	Description	Flowering Period	Habitat	Likelihood
Verticordia lindleyi subsp. lindleyi 	P4	Erect shrub, 0.2-0.75 m high. Fl. Pink.	Nov-Jan	Sand, sandy clay. Winter-wet depressions.	Possible

Appendix 3 – Conservation Code Definitions

Table A3.1: Conservation code definitions for flora and fauna as listed as Threatened or specially protected

Threat Category	Definition
Threatened – Vulnerable (V)	Facing a high risk of extinction in the wild in the medium-term future.
Threatened – Endangered (E)	Facing a very high risk of extinction in the wild in the near future.
Threatened – Critically Endangered (CR)	Facing an extremely high risk of extinction in the wild in the immediate future.
Threatened – Extinct in the Wild (EW)	Species is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form.
Threatened – Extinct (EX)	There is no reasonable doubt that the last member of the species has died.
Specially Protected Species – Migratory Species (MI)	Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth. Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.
Specially Protected Species – Conservation Dependent (CD)	Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened.
Specially Protected Species – Other specially protected species (OS)	Fauna otherwise in need of special protection to ensure their conservation.

Table A3.2: Conservation code definitions for flora and fauna as listed as Priority

Threat Category	Definition
Priority 1: Poorly-known species	Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation.

Threat Category	Definition
Priority 2: Poorly-known species	Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation.
Priority 3: Poorly-known species	Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat.
Priority 4: Rare, Near Threatened and other species in need of monitoring	a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands. (b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent. (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

Table A3.3: Conservation code definitions for ecological communities listed as threatened (TEC)

Threat Category	Definition
Presumed Totally Destroyed (PD)	An ecological community that has been adequately searched for but for which no representative occurrences have been located. The community has been found to be totally destroyed or so extensively modified throughout its range that no occurrence of it is likely to recover its species composition and/or structure in the foreseeable future.
Critically Endangered (CR)	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.
Endangered (EN)	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.
Vulnerable (VU)	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.

Table A3.4: Conservation code definitions for ecological communities listed as priority (PEC)

Threat Category	Definition
Priority One (P1)	Ecological communities that are known from very few occurrences with a very restricted distribution (generally ≤5 occurrences or a total area of ≤100ha), and appear to be under immediate threat.
Priority Two (P2)	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.
Priority Three (P3)	(i)Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or: (ii)communities known from a few widespread occurrences, which are either large or with significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat (within approximately 10 years), or; (iii)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.
Priority Four (P4)	Ecological communities that are adequately known, rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list. These communities require regular monitoring.
Priority Five (P5)	Conservation Dependent 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.