

Tonkin Grade Separated Interchanges

Biological Survey and Targeted Black Cockatoo Habitat Assessment

MAIN ROADS WESTERN AUSTRALIA

FEBRUARY 2021



WOODMAN
ENVIRONMENTAL

TEL. (08) 9315 4688
office@woodmanenv.com.au
PO Box 50, Applecross WA 6953
www.woodmanenv.com.au



Tonkin Grade Separated Interchanges Biological Survey

Prepared for: Main Roads Western Australia
 Job Number: MR19-34
 Report Number: MR19-34-01
 Cover Photograph: *Diuris magnifica* recorded near quadrat GSI-06 (Woodman Environmental 2019)

DOCUMENT REVISION AND STATUS

Revision	Status	Originator	Internal Reviewer	Internal Review Date	Client Reviewer	Client Review Date
A	Draft Report	KK/AS/MS and BCE	CG/GW	29/6/2020	JT	10/7/2020
0	Final Report	KK/AS/MS and BCE	AS/CG/GW	31/7/2020	JT	5/8/2020
1	Final Report	KK/AS/MS and BCE	AS/CG	11/8/2020	LZ	15/1/2021
2	Final Report	KK/AS/MS and BCE	CG	18/2/2021		

DISCLAIMER

This document is prepared in accordance with and subject to an agreement between Woodman Environmental Consulting Pty Ltd (“Woodman Environmental”) and the client for whom it has been prepared (“Main Roads Western Australia”) and is restricted to those issues that have been raised by the Client in its engagement of Woodman Environmental and prepared using the standard of skill and care ordinarily exercised by Environmental Scientists in the preparation of such Documents.

Any organisation or person that relies on or uses this document for purposes or reasons other than those agreed by Woodman Environmental and the Client without first obtaining the prior written consent of Woodman Environmental, does so entirely at their own risk and Woodman Environmental denies all liability in tort, contract or otherwise for any loss, damage or injury of any kind whatsoever (whether in negligence or otherwise) that may be suffered as a consequence of relying on this document for any purpose other than that agreed with the Client.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
1. INTRODUCTION	1
1.1 PROJECT OVERVIEW	1
1.2 SURVEY AREA, ASSESSMENT AREA AND DEVELOPMENT ENVELOPE DEFINITION 1	
1.3 AIM AND OBJECTIVES	3
1.4 LEVEL OF ASSESSMENT	4
1.4.1 Flora and Vegetation	4
1.4.2 Fauna	4
2. BACKGROUND	5
2.1 CLIMATE	5
2.2 GEOLOGY, LANDFORMS AND SOILS	6
2.3 GROUNDWATER AND SURFACE WATER VALUES	9
2.4 LAND TENURE	11
3. METHODS	13
3.1 FLORA AND VEGETATION	13
3.1.1 Desktop Study Methods	13
3.1.2 Personnel and Licensing	13
3.1.3 Aerial Photography Interpretation and Survey Design	14
3.1.4 Field Survey Methods	14
3.1.5 Plant Collection and Identification	16
3.1.6 Floristic Analysis	17
3.1.7 Vegetation Type Definition, Mapping and Description	18
3.1.8 Vegetation Condition Mapping	19
3.1.9 Significant Flora and Vegetation	19
3.1.9.1 Significant Flora	19
3.1.9.2 Significant Vegetation	20
3.2 FAUNA	22
3.2.1 Desktop Study Methods	22
3.2.1.1 Sources of Information	22
3.2.1.2 Interpretation of Species Lists	23
3.2.1.3 Conservation Significant Species	24
3.2.2 Personnel and Licensing	24
3.2.3 Field Survey Methods	25
3.2.3.1 Survey Overview	25
3.2.3.2 Black-Cockatoo Nesting Tree Survey	26
3.2.3.3 Black-Cockatoo Roosting and Foraging Habitat Survey	26
3.2.4 Taxonomy and Nomenclature	27
4. ADEQUACY AND LIMITATIONS OF SURVEY	28
4.1 FLORA AND VEGETATION	28



4.1.1 Adequacy of Survey	28
4.1.2 Limitations of Survey	29
4.2 FAUNA.....	32
5. RESULTS AND DISCUSSION	34
5.1 FLORA AND VEGETATION	34
5.1.1 Desktop Study.....	34
5.1.1.1 Regional Vegetation	34
5.1.1.2 Local Flora and Vegetation Surveys	40
5.1.1.3 Significant Flora.....	44
5.1.1.4 Significant Vegetation	53
5.1.1.5 Introduced Flora.....	56
5.1.2 Field Survey Results - Flora	57
5.1.2.1 Vascular Flora Census.....	57
5.1.2.2 Significant Flora Taxa	57
5.1.2.3 Listed Significant Flora Taxa	59
5.1.2.4 Distribution Extensions and Distribution Gaps	70
5.1.2.5 Likelihood of Occurrence of Further Significant Flora Taxa.....	71
5.1.2.6 Introduced Taxa	82
5.1.3 Field Survey Results – Vegetation	86
5.1.3.1 Floristic Classification Results	87
5.1.3.2 Vegetation Types.....	88
5.1.3.3 Other Areas Described	97
5.1.3.4 Relationships of VTs to SCP FCTs	101
5.1.3.5 Significant Vegetation	108
5.1.3.6 Vegetation Condition	116
5.1.3.7 Riparian Vegetation, Wetlands and Groundwater Dependent Vegetation	117
5.2 FAUNA.....	118
5.2.1 Fauna Habitats	118
5.2.2 Faunal Assemblage	127
5.2.3 Fauna of Conservation Significance.....	129
5.2.3.1 Conservation Significance 1	137
5.2.3.2 Conservation Significance 2	138
5.2.3.3 Conservation Significance 3	140
5.2.4 Black-Cockatoo Habitat Analysis	141
5.2.4.1 Breeding Tree Assessment.....	141
5.2.4.2 Foraging Habitat Assessment.....	145
5.2.4.3 Roosting Habitat Assessment	157
6. REFERENCES	159



FIGURES

Figure 1:	Development Envelope, Survey Area and Desktop Study Area Location.....	2
Figure 2:	Average Monthly Maximum Temperature and Total Precipitation for 2019, and Long-term Average Monthly Maximum Temperature and Precipitation for Perth Airport (Bureau of Meteorology 2020a)	5
Figure 3:	Soil Landscape Units of the Survey Area	8
Figure 4:	Conservation Category Geomorphic Wetlands of the Survey Area	10
Figure 5:	Land Tenure of the Survey Area	12
Figure 6:	Survey Area Quadrat Data Species Accumulation Curve.....	29
Figure 7:	Vegetation System Associations of the Survey Area	35
Figure 8:	Vegetation Complexes of the Survey Area	37
Figure 9:	SCP Study Quadrats and Bush Forever Sites within the Desktop Study Area	39
Figure 10:	Desktop Study Area Significant Flora Records	51
Figure 11:	Desktop Study Area Significant Vegetation.....	55
Figure 12:	Vegetation and substrate associations (northern Development Envelope) ..	125
Figure 13:	Vegetation and substrate associations (southern Development Envelope) ..	126
Figure 14:	Location of Potential Nest-trees within the Development Envelope	144
Figure 15:	Distribution of Forest Red-tailed Black-Cockatoo Foraging Habitat (northern Development Envelope)	148
Figure 16:	Distribution of Forest Red-tailed Black-Cockatoo Foraging Habitat (southern Development Envelope)	149
Figure 17:	Distribution of Carnaby's Black-Cockatoo Foraging Habitat (northern Development Envelope)	151
Figure 18:	Distribution of Carnaby's Black-Cockatoo Foraging Habitat (southern Development Envelope)	152
Figure 19:	Potential Carnaby's Black-Cockatoo Feeding habitat (DBCA) within the 12 km regional buffer	153
Figure 20:	Distribution of Baudin's Black-Cockatoo Foraging Habitat (northern Development Envelope)	155
Figure 21:	Distribution of Baudin's Black-Cockatoo Foraging Habitat (southern Development Envelope)	156
Figure 22:	Black-Cockatoo Roost Locations within the 12 km Regional Buffer, based on point locations from Peck <i>et al.</i> (2017) and 1 km-buffered DBCA data (DBCA-064)	158

TABLES

Table 1:	Soil Landscape Units of the Survey Area (DPRID 2019).....	6
Table 2:	Searches Undertaken for the Desktop Study (Flora and Vegetation)	13
Table 3:	Personnel and Licensing Information (Flora and Vegetation)	14
Table 4:	Searches Undertaken for the Desktop Study (Fauna)	23
Table 5:	Personnel and Licensing Information (Fauna)	25
Table 6:	Limitations of the Flora and Vegetation Survey of the Survey Area	30
Table 7:	Limitations of the Fauna Survey of the Survey Area	33
Table 8:	Vegetation Associations occurring within the Survey Area (Government of Western Australia 2019a)	34
Table 9:	Vegetation Complexes Occurring within the Survey Area (Government of Western Australia 2019b)	36

Table 10:	Summary of Flora and Vegetation Surveys Previously Conducted in the Local Area	41
Table 11:	Significant Flora Taxa Known from Within the Desktop Study Area	45
Table 12:	Significant Vegetation Returned from DBCA Database Searches	53
Table 13:	Declared Pests and WoNS known from within the Desktop Study Area	56
Table 14:	Summary of Significant Flora Taxa Recorded within the Survey Area	58
Table 15:	Taxa Where Collections Represent Range Extensions to the Known Ranges of these Taxa or Fill Distribution Gaps (DBCA 2007-)	70
Table 16:	Likelihood of Significant Flora Taxa Occurring Within the Survey Area and Development Envelope	72
Table 17:	Summary of Introduced Taxa Recorded within the Survey Area	82
Table 18:	Total Areas Mapped within the Survey Area	86
Table 19:	Summary of Vegetation Types Mapped in the Survey Area	89
Table 20:	Description of Highly Modified Areas Mapped in the Survey Area	97
Table 21:	Description of Revegetated Areas Mapped in the Survey Area	100
Table 22:	Summary of Analyses to Determine Relationships of VTs to SCP FCTs	103
Table 23:	Significant Vegetation Occurring within the Survey Area	109
Table 24:	Status of Significant Vegetation Types with Buffer Polygons Intersecting the Survey Area	110
Table 25:	Summary of Condition Characteristics of Patches of 'Banksia Woodlands of the Swan Coastal Plain' TEC within the Survey Area	114
Table 26:	Vegetation Condition Ratings for each Vegetation Type Mapped within the Survey Area	117
Table 27:	Total area of each Vegetation Substrate Association in the Assessment Area	119
Table 28:	Composition of the Vertebrate Fauna Assemblage Expected in the Survey Area	129
Table 29:	Composition of Extant Conservation Significant Vertebrate Fauna within the Survey Area	130
Table 30:	Conservation Significant Fauna Species Expected to Occur within both the Survey Area and Development Envelope	131
Table 31:	Species and Number of Potential Black-Cockatoo Nest-trees Recorded within the Development Envelope	141
Table 32:	The Number of Potential Nest-trees of each Species in each Nest-tree Rank Category in the Development Envelope	143
Table 33:	Summary Results from the Camera-pole Assessment of Potential Black-Cockatoo Nest-trees	145
Table 34:	Areas (ha) and Proportions (%) of each Category (vegetation score, combined foraging score) of Foraging Habitat in the Development Envelope for the three Black-Cockatoo species present in south-western Australia	146
Table 35:	Potential Carnaby's Black-Cockatoo feeding habitat (DBCA) within the Region, Survey Area and Development Envelope	154

PLATES

Plate 1:	<i>Andersonia gracilis</i> (Threatened) in Cooljarloo (Photo: Woodman Environmental)	59
Plate 2:	<i>Banksia mimica</i> (Threatened) (Photo: Woodman Environmental)	60
Plate 3:	<i>Byblis gigantea</i> (P3) (Photo: B.A. Fuhrer and J. Hort, courtesy of Florabase (WA Herbarium 1998-))	61
Plate 4:	<i>Conospermum undulatum</i> (Threatened) (Photo: Woodman Environmental)	62
Plate 5:	<i>Isopogon autumnalis</i> (P3) (Photo: Woodman Environmental)	63
Plate 6:	<i>Jacksonia gracillima</i> (P3) at Mundijong (Photo: Woodman Environmental)	64
Plate 7:	<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2) at Perth Airport (Photo: Woodman Environmental)	66
Plate 8:	<i>Lasiopetalum bracteatum</i> (P4) (Scanned specimen: Woodman Environmental)	67
Plate 9:	<i>Styphelia filifolia</i> (P3) (Photo: Woodman Environmental)	68
Plate 10:	<i>Tetraria australiensis</i> (Threatened) (Photo: Woodman Environmental)	69
Plate 11:	<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i> at Perth Airport (P4) (Photo: Woodman Environmental)	70
Plate 12:	Typical VT 1 (Quadrat GSI-01)	89
Plate 13:	Variant of VT 1 – tree layer absent and mid shrub layer dominated by <i>Allocasuarina humilis</i> (Quadrat GSI-06)	89
Plate 14:	Typical VT 2 (Quadrat GSI-39)	90
Plate 15:	Variant of VT 2 – low open woodland and tall shrubland layers (Quadrat GSI-04)	90
Plate 16:	Typical VT 3 (Quadrat GSI-35)	91
Plate 17:	Typical VT 4 (Quadrat GSI-23)	92
Plate 18:	Variant of VT 4 – tree layer absent (Quadrat GSI-13)	92
Plate 19:	Typical VT 5 (Quadrat GSI-15)	93
Plate 20:	Variant of VT 5 – mid closed shrubland layer (Quadrat GSI-14)	94
Plate 21:	Typical VT 6 (Quadrat GSI-18)	94
Plate 22:	Typical VT 7 (Quadrat GSI-29)	95
Plate 23:	Typical VT 8 (Relevé GSI-R02)	96
Plate 24:	VSA 1: Marri and mixed Woodland	121
Plate 25:	VSA 1: Marri and mixed Woodland with a high proportion of <i>Allocasuarina</i> sp.	121
Plate 26:	VSA 2: Eucalypt Woodland	122
Plate 27:	VSA 3: Low Forest to tall Shrubland	122
Plate 28:	VSA 3: Low Forest to tall Shrubland with Marri and mixed Woodland in background	123
Plate 29:	VSA 5: Woodland of introduced species; in this case a grove of pine trees over grass.	123
Plate 30:	VSA 7: Cleared land	124
Plate 31:	VSA 4 Parkland cleared over VSA 6 Drainage lines	124

APPENDICES

- Appendix A: Vegetation Condition Scale for the South-West and Interzone Botanical Provinces (EPA 2016a)
- Appendix B: Conservation Codes for Western Australian Flora and Fauna (DBCA 2019a)
- Appendix C: Definitions, Categories and Criteria for Threatened and Priority Ecological Communities (DBCA 2013a)
- Appendix D: Explanation of Fauna Values
- Appendix E: Categories Used in the Assessment of Conservation Status
- Appendix F: Scoring System for the Assessment of Foraging Value of Vegetation for Black-Cockatoos
- Appendix G: Track Logs, Quadrats and Relevés within the Survey Area
- Appendix H: Results of NatureMap Search
- Appendix I: Results of Search of the Department of Agriculture, Water and the Environment Species Profile and Threats (SPRAT) Database (DAWE 2019)
- Appendix J: Introduced Flora Taxa Known from Within the Vicinity of the Survey Area
- Appendix K: Vascular Plant Taxa Recorded in the Survey Area
- Appendix L: Raw Data Recorded in Quadrats and Relevés
- Appendix M: Location Details of Significant Flora and Introduced Flora Recorded in the Survey Area
- Appendix N: Maps of Significant Flora recorded by Woodman Environmental within the Survey Area
- Appendix O: Threatened and Priority Flora Report Forms
- Appendix P: Vegetation Condition and Introduced Taxa of the Survey Area
- Appendix Q: Vascular Plant Taxa Amalgamated in or Omitted from the Floristic Classification Analysis
- Appendix R: Classification Analysis Dendrogram of Quadrats Established in the Survey Area
- Appendix S: Classification Analysis Two-way Table of Quadrats Established in the Survey Area
- Appendix T: Matrix of Vascular Plant Taxa Recorded within Each Vegetation Type Described in the Survey Area
- Appendix U: Results of Indicator Species Analysis of Quadrat Data from the Survey Area
- Appendix V: Vegetation Types of the Survey Area
- Appendix W: Classification Analysis Dendrogram (Excerpts) of the Woodman Environmental Quadrat Dataset from the Survey Area with the Original SCP Quadrat Dataset (Gibson *et al.* 1994)
- Appendix X: Classification Analysis Dendrogram (Excerpts) of the Woodman Environmental Quadrat Dataset from the Survey Area with the Amended SCP Quadrat Dataset (Keighery *et al.* 2012)
- Appendix Y: Single Site Insertion Classification Analysis Dendrograms (Excerpts) of Woodman Environmental Quadrats from the Survey Area with the Original SCP Quadrat Dataset (Gibson *et al.* 1994)
- Appendix Z: Single Site Insertion Classification Analysis Dendrograms (Excerpts) of Woodman Environmental Quadrats from the Survey Area with the Amended SCP Quadrat Dataset (Keighery *et al.* 2012)
- Appendix AA: Photographs of Significant Vegetation in the Survey Area

Appendix AB:	Occurrences of Significant Vegetation within the Survey Area
Appendix AC:	DBCA Threatened Fauna Species Records within 5 km of the Development Envelope
Appendix AD:	Fauna Expected to Occur in the Survey Area
Appendix AE:	Species Returned from Database Searches that are Considered Unlikely to be present in the Survey Area
Appendix AF:	Annotated List of Species Observed from Survey Area and Surrounds During Site Visits in October 2019
Appendix AG:	Raw Results from the Camera-pole Assessment of Potential Black-Cockatoo Nest-trees
Appendix AH:	Location Details of Black Cockatoo Foraging Evidence
Appendix AI:	Maps of Black Cockatoo Foraging Evidence

EXECUTIVE SUMMARY

Main Roads Western Australia (Main Roads) is proposing to develop grade-separated interchanges at three intersections of Tonkin Highway ('the Project'). To inform the environmental impact assessment (EIA) process, Main Roads commissioned Woodman Environmental Consulting Pty Ltd (Woodman Environmental) to conduct a biological survey to identify the key flora, fauna, soil, groundwater and surface water values associated with the Project. Fauna survey works and reporting was provided by Bamford Consulting Ecologists.

The flora and vegetation field survey involved multiple aspects including sampling via quadrats and targeted significant flora searching in specific areas, and was undertaken over seven visits as listed below:

- 27th and 29th August 2019 (reconnaissance and targeted flora survey);
- 17th–20th September 2019 (detailed vegetation survey);
- 1st–3rd October 2019 (detailed vegetation survey);
- 16th and 22nd October 2019 (detailed vegetation survey);
- 26th–28th November 2019 (targeted flora survey);
- 17th–18th December 2019 (targeted flora survey); and
- 17th and 19th March 2020 (targeted flora survey).

A total of 33 non-permanent flora survey quadrats measuring 10 m x 10 m were surveyed in the Assessment Area, with 48 relevés surveyed in areas where limited extent or condition of vegetation precluded quadrat establishment. As much of the Assessed Area is located in cleared or highly modified farmland, areas that were clearly highly modified were sampled via a brief inspection, either on foot or from a vehicle, with notes and photographs taken.

A total of 355 discrete vascular flora taxa were recorded during this survey, representing 67 families and 202 genera. Sixty-eight of the total taxa recorded are introduced taxa. Eleven significant flora were recorded by this survey, including four Threatened taxa and seven Priority flora taxa. These were:

- *Andersonia gracilis* (T);
- *Banksia mimica* (T);
- *Byblis gigantea* (P3);
- *Conospermum undulatum* (T);
- *Isopogon autumnalis* (P3);
- *Jacksonia gracillima* (P3);
- *Johnsonia pubescens* subsp. *cygnorum* (P2);
- *Lasiopetalum bracteatum* (P4);
- *Styphelia filifolia* (P3);
- *Tetraria australiensis* (T); and
- *Verticordia lindleyi* subsp. *lindleyi* (P4).

Eight Vegetation Type (VTs) were defined and mapped within the Survey Area. Seven of these were defined via floristic composition classification, using the results of a classification analysis of quadrat data from the Survey Area. One VT was defined via structural vegetation

classification. Additionally, a number of types of highly modified and revegetated areas were mapped. Additional analyses of quadrat data with the Swan Coastal Plain (SCP) dataset were undertaken with the aim of aligning VTs with SCP Floristic Community Types to assess the significance of the vegetation recorded during the survey.

Two significant vegetation types were identified and mapped in the Survey Area by this survey and three additional significant vegetation types were identified as potentially occurring in the Survey Area with more data required to confirm these occurrences. These are:

- SCP20a - *Banksia attenuata* woodland over species rich dense shrublands (Endangered - WA, forms part of the Commonwealth TEC 'Banksia woodlands of the Swan Coastal Plain');
- Banksia woodlands of the Swan Coastal Plain (Endangered - Commonwealth; Priority 3 – WA);
- Potential SCP20c – Shrublands and Woodlands of the eastern side of the Swan Coastal Plain (Endangered - Commonwealth; Critically Endangered – WA);
- Potential SCP3a – *Corymbia calophylla* – *Kingia australis* woodlands on heavy soils, Swan Coastal Plain (Endangered - Commonwealth; Critically Endangered – WA); and
- Potential SCP3c – *Corymbia calophylla* – *Xanthorrhoea preissii* woodlands and shrublands, Swan Coastal Plain (Endangered - Commonwealth; Critically Endangered – WA);

The desktop fauna study identified 233 vertebrate fauna species as potentially occurring in the Survey Area: 4 fish, 11 frogs, 40 reptiles, 158 birds and 20 mammals. An additional eight species (2 reptiles, 1 bird and 5 mammals) are considered locally extinct.

Seven major vegetation and substrate associations (VSAs) were identified within the Survey Area during the field surveys carried out on the 13th of September, 2nd to 8th October and 14th and 19th of November 2019.

The fauna study listed 67 species of conservation significance including 31 species that are expected to be resident or regular migrants/visitors to the Survey Area and Development Envelope. The three species of Black-Cockatoo (Forest Red-tailed, Carnaby's and Baudin's Black-Cockatoo) are of the highest level of conservation significance (CS1) and have all been recorded. Surveys for potential nest-trees and forage value mapping were completed for the Development Envelope for these species. Quenda (CS2) appear to make extensive use of the area. A range of CS1 and CS2 short-range endemic invertebrates are known from the broader region but limited ecological information means that it is difficult to ascertain their expected status in the Survey Area. Most of the other conservation significant species that are likely to regularly occur within the Survey Area are lower significance level (CS3) birds that have reduced populations on the Swan Coastal Plain.

1. INTRODUCTION

1.1 Project Overview

Main Roads Western Australia (Main Roads) is proposing to develop grade-separated interchanges at three intersections of Tonkin Highway ('the Project') including:

- Hale Road in Forrestfield (SLK 16.26);
- Welshpool Road in Wattle Grove (SLK 18.80); and
- Kelvin Road in Orange Grove (SLK 22.40).

Grade separation at the proposed locations is necessary to reduce potential vehicular conflict and improve traffic times, congestion and both vehicle and pedestrian safety.

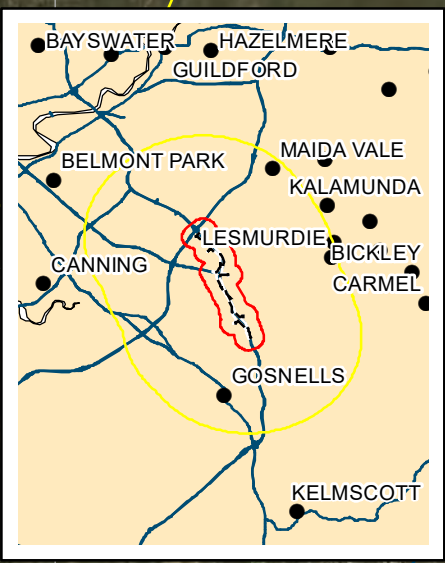
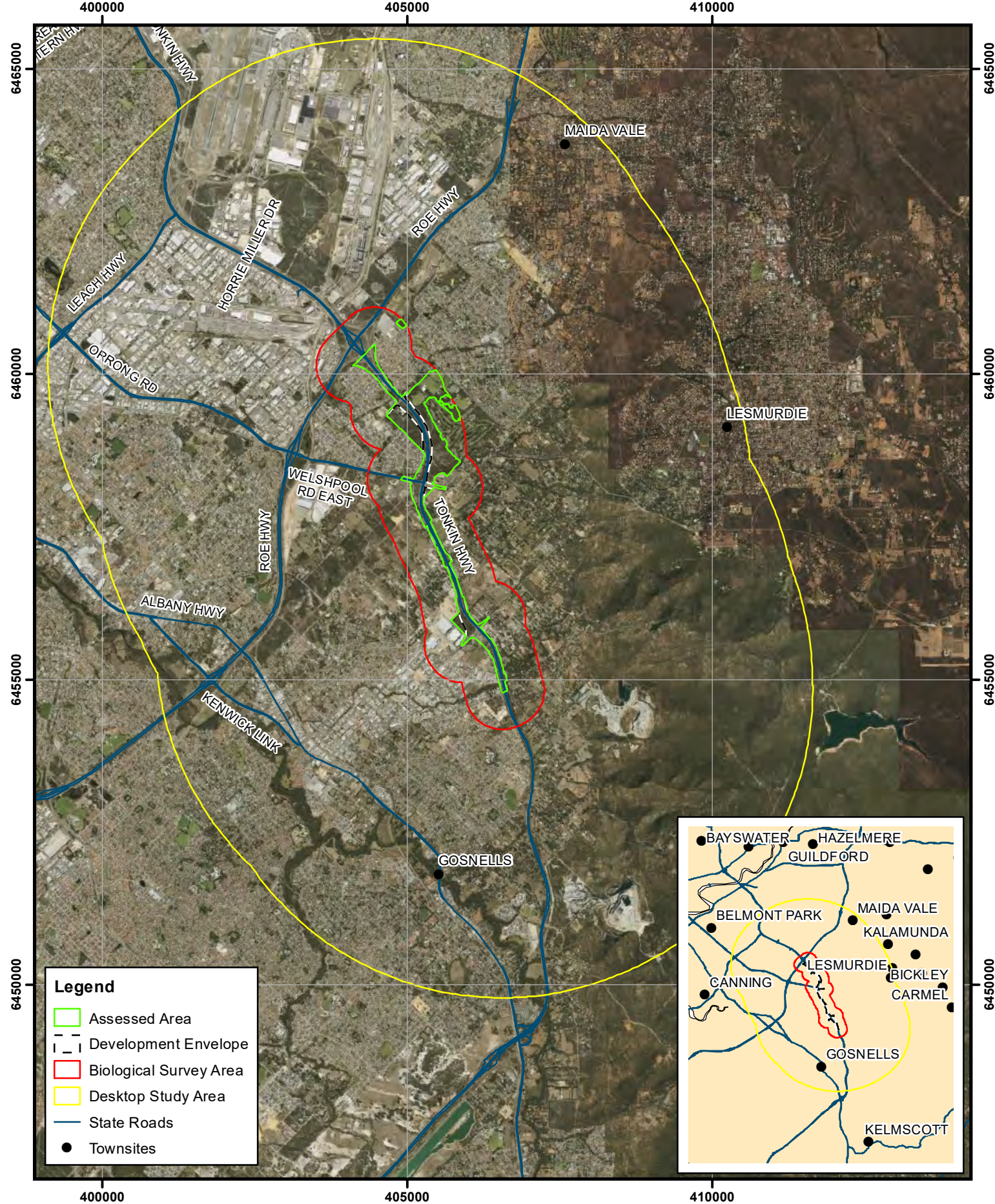
To inform the environmental impact assessment (EIA) process, Main Roads commissioned Woodman Environmental Consulting Pty Ltd (Woodman Environmental) to conduct a biological survey to identify the key flora, fauna, soil, groundwater and surface water values associated with the Project. Bamford Consulting Ecologists undertook the fauna survey and reporting portions of the works.

1.2 Survey Area, Assessment Area and Development Envelope Definition

Main Roads has provided the Development Envelope and Biological Survey Area ('the Survey Area'), as presented on Figure 1. The Survey Area encompasses 1068.98 hectares (ha) and is located within the Shire of Kalamunda and City of Gosnells, approximately 12 kilometres (km) south-east of the Perth Central Business District. The Survey Area is located within the Perth Interim Biogeographic Regionalisation for Australia (IBRA) subregion, which has been highly modified due to clearing and other associated impacts. The Development Envelope is located within the Survey Area and encompasses a total of 95.85 ha.

The entire Survey Area was not surveyed primarily due to issues associated with access. The survey focused on all areas within the Development Envelope and blocks of remnant vegetation within the Survey Area which could be accessed and had similar vegetation to the Development Envelope. Areas which were not surveyed are displayed as not assessed (NA) in the results of this report. The total area surveyed and mapped was 177.9 ha and is referred to as the Assessed area.

A Desktop Study Area, for interrogation of databases and searches for relevant literature, has been defined. The Desktop Study Area encompasses a 5 km buffer the Development Envelope, as shown on Figure 1.



Legend	
	Assessed Area
	Development Envelope
	Biological Survey Area
	Desktop Study Area
	State Roads
	Townsites

<p>Study and Survey Area Parameters</p>	Author: Marlee Starceвич	
	WEC Ref: MR19-34-01	
<p>WOODMAN ENVIRONMENTAL</p> <p>This map should only be used in conjunction with WEC report MR19-34-01.</p>	Filename: MR19-34-01-f01	<p>Figure</p> <p>1</p>
	Scale: 1:80,000 (A4)	
	Projection: GDA 1994 MGA Zone 50	
	Revision: 0 - 30 July 2020	

1.3 Aim and Objectives

The primary aim of the survey was to provide relevant biological information to support the EIA approvals process for the Project.

The overall objectives of the assessment were to:

- Compile an inventory of vascular flora taxa that occur in assessed areas within the Assessed Area;
- Search for and census populations of significant flora taxa identified occurring or potentially occurring within the Assessed Area, with such taxa defined as one of the following (hereafter referred to as significant flora taxa), to provide context for impact assessment:
 - Listed Threatened species (T) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (Commonwealth);
 - Threatened flora (T) under the *Biodiversity Conservation Act 2016* (BC Act) (WA);
 - Priority flora taxa (P) as classified by the Western Australian Department of Biodiversity, Conservation and Attractions (DBCA); and
 - Other significant flora taxa as defined by the Environmental Protection Authority (EPA) (2016a; b).
- Identify locations and determine the extent of introduced vascular flora taxa, with particular focus on those that are Weeds of National Significance (WoNS), or Declared Pests under the *Biosecurity and Agriculture Management Act 2007* (BAM Act);
- Identify, map and describe Vegetation Types (VTs) that occur within the Assessed Area;
- Describe and map vegetation condition within the Assessed Area as per the vegetation condition scale presented in EPA (2016a) (Appendix A);
- Identify, map and describe vegetation that occurs within the Assessed Area that is one of the following (hereafter referred to as significant vegetation), to provide context for impact assessment:
 - Listed Threatened Ecological Communities (TECs) under the EPBC Act;
 - TEC as classified by DBCA and endorsed by the Western Australian (WA) Minister for the Environment;
 - Priority Ecological Communities (PECs) as classified by DBCA;
 - Areas of wetland or riparian vegetation that is ground or surface water-dependent; and
 - Other significant vegetation as defined by EPA (2016a; b).
- Identification and mapping of Black Cockatoo foraging habitat, roosting, potential breeding and actual breeding trees as per Commonwealth guidelines. Black Cockatoo data should include a shapefile for foraging habitat in the survey area. The number and size of hollows shall be included in the metadata for potential and actual breeding tree shapefiles. Locating potential and actual breeding trees should be done with a differential GPS and be provided to Main Roads as a point Shapefile
- Black Cockatoo hollow survey to include measurement of hollow aperture sizes, depth of hollows, angle of hollows and suitability/evidence of hollow use by Black Cockatoos

with the use of a pole camera. The detailed survey needs to be undertaken during the Black Cockatoo breeding season (Sept/Oct 2019) to determine presence of the species

- Identification and mapping of fauna habitat. Habitat mapping should be based on vegetation types and the report should include a summary of which vegetation types are suitable for each conservation significant fauna considered likely or possible to occur, or fauna recorded in the survey area.

The survey and reporting works comply with the following documents:

- Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA 2016a);
- Environmental Factor Guideline – Flora and Vegetation (EPA 2016b);
- Technical Guidance – Terrestrial Fauna Surveys (EPA 2016c);
- Environmental Factor Guideline – Terrestrial Fauna (EPA 2016d); and
- Referral Guidelines for three threatened black cockatoo species: Carnaby's Cockatoo, Baudin's Cockatoo and Forest Red-tailed black cockatoo (Department of Agriculture, Water and the Environment (DAWE) 2012).

1.4 Level of Assessment

1.4.1 Flora and Vegetation

The flora and vegetation assessment of the Survey Area was comprised of a Detailed Survey and Targeted Survey as defined in Section 4.3 of the 'Technical Guidance for Flora and Vegetation Surveys for Environmental Impact Assessment' (EPA 2016a). This is considered appropriate for the Survey Area, as it is likely to support a high diversity of flora and vegetation, may comprise restricted landforms or vegetation types, and is likely to support significant flora or vegetation, as outlined in Section 4.3 of the 'Technical Guidance for Flora and Vegetation Surveys for Environmental Impact Assessment' (EPA 2016a).

1.4.2 Fauna

The fauna assessment of the Survey Area was comprised of a Level 1 fauna survey (including both a desktop study and Reconnaissance survey) as defined in Appendix 2 of the 'Technical Guidance – Terrestrial Fauna Surveys' (EPA 2016c). Additional targeted surveys for significant fauna and/or their habitats, including black-cockatoos, were undertaken, as per EPBC Act referral guidelines (DAWE 2012). This was deemed an appropriate level of survey given that the vertebrate fauna of this region has been well surveyed and the scale of the impact (as defined in EPA 2016c) is likely to be moderate to low.

2. BACKGROUND

2.1 Climate

The Survey Area is located within Swan Coastal Plain (SCP) subregion (Drummond Botanical Subdistrict) of the South-West Forest region as defined by Beard (1990). The climate is classified as warm Mediterranean, with rainfall received mainly during May to September with 5–6 dry months per year (Beard 1990).

Figure 2 presents monthly precipitation totals and mean maximum temperature for 2019 as well as long-term average monthly maximum temperature and long-term average monthly precipitation data (1944–2019) for Perth Airport, the most relevant meteorological station to the Survey Area (Bureau of Meteorology 2020a).

The precipitation recorded from May to August, the period considered to be the most relevant in terms of promoting plant growth and flowering in the region, was well below average (405.6 mm received in 2019 compared to the long-term average of 527.4 mm). In addition, below-average precipitation continued throughout September to December in 2019 and above-average daily maximum temperatures were recorded from February to December (Figure 2).

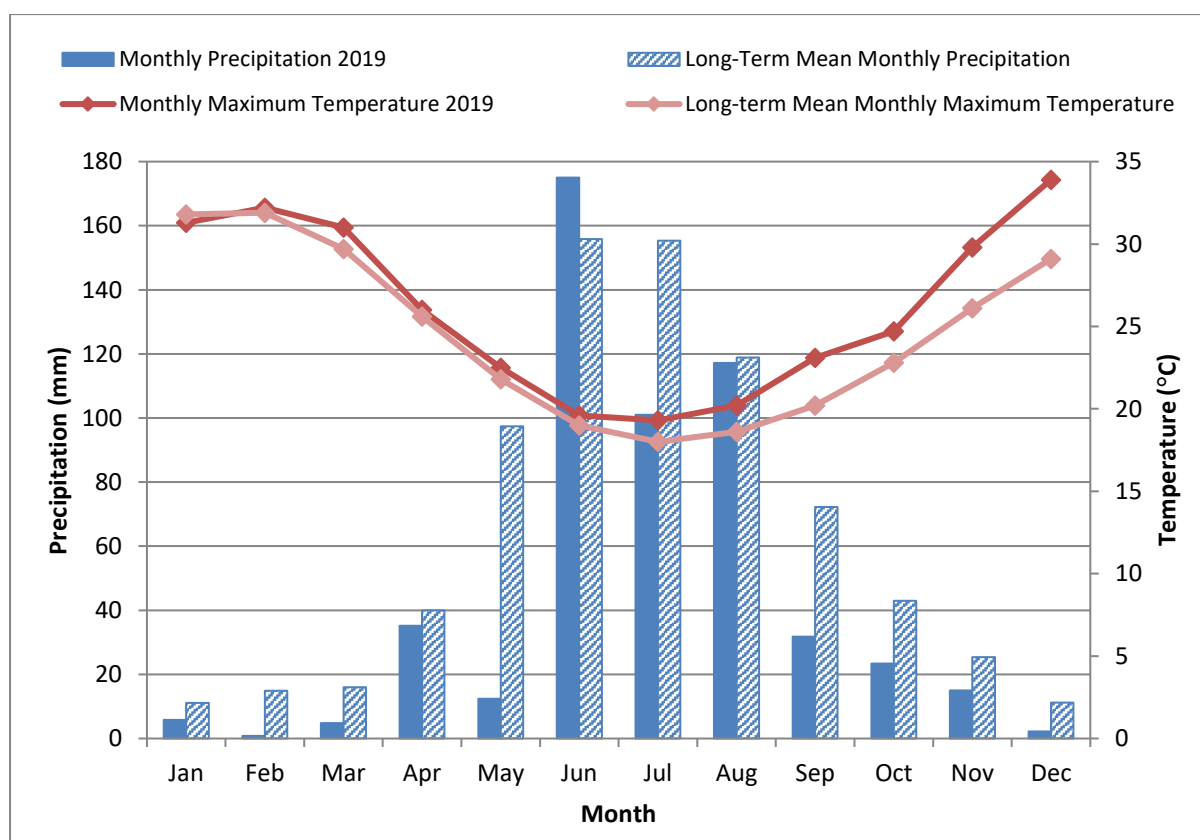


Figure 2: Average Monthly Maximum Temperature and Total Precipitation for 2019, and Long-term Average Monthly Maximum Temperature and Precipitation for Perth Airport (Bureau of Meteorology 2020a)

2.2 Geology, Landforms and Soils

The Survey Area is located in the SCP subregion as defined by Beard (1981; 1990), which is equivalent to the SCP IBRA region, and specifically the Perth (SWA-2) IBRA subregion (Commonwealth of Australia 2012). The SCP subregion consists of a coastal plain of low-lying, often swampy areas and sandhills, with soils consisting of sands or swamp deposits as well as dissected country rising to the duricrusted Dandaragan Plateau on Mesozoics consisting of mainly yellow sandy soils. The geology of the region is Mesozoic to recent sediments of the Perth Basin (Beard 1990).

The Survey Area occurs within the Bassendean and Pinjarra Soil-Landscape Zones of the Swan Province. The Bassendean Zone is described as consisting of Mid-Pleistocene Bassendean sand and fixed dunes inland from the coastal dune zone, with non-calcareous sands and podsolised soils with low-lying wet areas. The Pinjarra Zone is described as consisting of early Pleistocene to Recent Alluvial deposits between the Bassendean Dunes Zone and the Darling Scarp, with colluvial and shelf deposits adjacent to the Darling Scarp. The Zone comprises clayey to sandy alluvial soils with wet areas (Purdie *et al.* 2004).

A total of 22 soil-landscape units are mapped within the Survey Area as presented in Figure 3 and defined in Table 1 (DPIRD 2019).

Table 1: Soil Landscape Units of the Survey Area (DPRID 2019)

Unit Name	Description
EnvGeol Cs Phase	SANDY CLAY - white-grey to brown, fine to coarse-grained, subangular to rounded sand, clay of moderate plasticity gravel and silt layers near scarp
EnvGeol Mgs1 Phase	PEBBLY SILT - strong brown silt with common, fine to occasionally coarse-grained, sub-rounded laterite quartz, heavily weathered granite pebble, some fine to medium-grained quartz sand
EnvGeol Ms4 Phase	SANDY SILT - light yellow brown, blocky, mottled, some fine to medium-grained sand, soft when moist, variable clay content
EnvGeol Msc1 Phase	CLAYEY SANDY SILT - pale brown, angular to rounded sand, low cohesion, of alluvial origin
EnvGeol S10 Phase	SAND - as S8 as relatively thin veneer over sandy clay to clayey sand. Of eolian origin
EnvGeol S8 Phase	SAND - very light grey at surface, yellow at depth, fine to medium-grained, sub-rounded quartz, moderately well sorted of eolian origin
Forrestfield (D Range) F1 Phase	Foot and low slopes < 10 % with deep rapidly drained siliceous yellow brown sands, and pale or bleached sands with yellow-brown subsoil. Shrubland of unidentified species
Forrestfield (D Range) F2 Phase	Foot and low slopes < 10 %. Well drained gravelly yellow or brown duplex soils with sandy topsoil. Woodland of <i>E. marginata</i> , <i>C. calophylla</i> and some <i>B. grandis</i>
Forrestfield (D Range) F7 Phase	Alluvial fans on slopes
Forrestfield F4 Phase	Incised stream channels within gentle slopes with deep acidic yellow duplex soils and sandy alluvial gradational brown earths
Forrestfield System	Undulating foot slopes of the Darling and Whicher Scarps. Duplex sandy gravels, pale deep sands and grey deep sandy duplexes. Woodland of <i>E. marginata</i> , <i>C. calophylla</i> and <i>E. wandoo</i> and some <i>B. grandis</i>
Pinjarra System	Swan Coastal Plain from Perth to Capel. Poorly drained coastal plain with variable alluvial and aeolian soils. Variable vegetation includes

Unit Name	Description
	Jarrah, marri, wandoo, paperbark sheoaks and rudis
Pinjarra, Phase Gf3	Level to very gently sloping plain. Poorly drained mottled yellow earths with loamy topsoil. Low woodland of <i>Melaleuca</i> spp., and <i>E. rudis</i> . <i>Casuarina obesa</i> on salt affected areas
Pinjarra, Phase Gf4	Level to very gently inclined alluvial fans. Variable imperfectly drained soils with layers of sand, sandy loam, clay, grit and weathered granitic detritus. <i>C. calophylla</i> . <i>E. rudis</i> & <i>Melaleuca</i> spp. along streams. <i>Casuarina</i> on salt land
Pinjarra, Phase Gf5	Incised drainage channels with poorly drained gradational mottled yellow earths. Shrubland of <i>Melaleucas</i> and other low shrubs
Pinjarra, Phase Gf6	Seasonally inundated swamps with very poorly drained uniform non-cracking clays
Pinjarra, Phase Gf7	Minor rises with deep rapidly drained brownish, siliceous or bleached sands underlain by mottled yellow clay. Low woodland of <i>B. prionotes</i> and some tall <i>C. calophylla</i> with <i>E. rudis</i> along streamlines
Pinjarra, Phase Gf9	Minor sandy rises (aeolian deposits) with moderately deep well drained sands overlying gravelly mottled clay
Pinjarra, Ya2 Phase	Seasonally inundated swamps with shallow very poorly drained grey siliceous sand over clay
Sw1 - Swan, poorly drained clay loams and clays	Low level, occasionally flooded alluvial terraces with poorly drained variable alluvial soils with dark greyish brown clay loam to clay surfaces
Sw1 - Swan, poorly drained mixed alluvials	River margins and low flats with poorly drained variable alluvial soils, subject to frequent flooding
Sw2 - Swan, brown alluvial loams	Low level, occasionally flooded, alluvial terraces with imperfectly drained variable alluvial soils with loamy surfaces



402000

404000

406000

408000

6460000

6460000

6458000

6458000

6456000

6456000

6454000

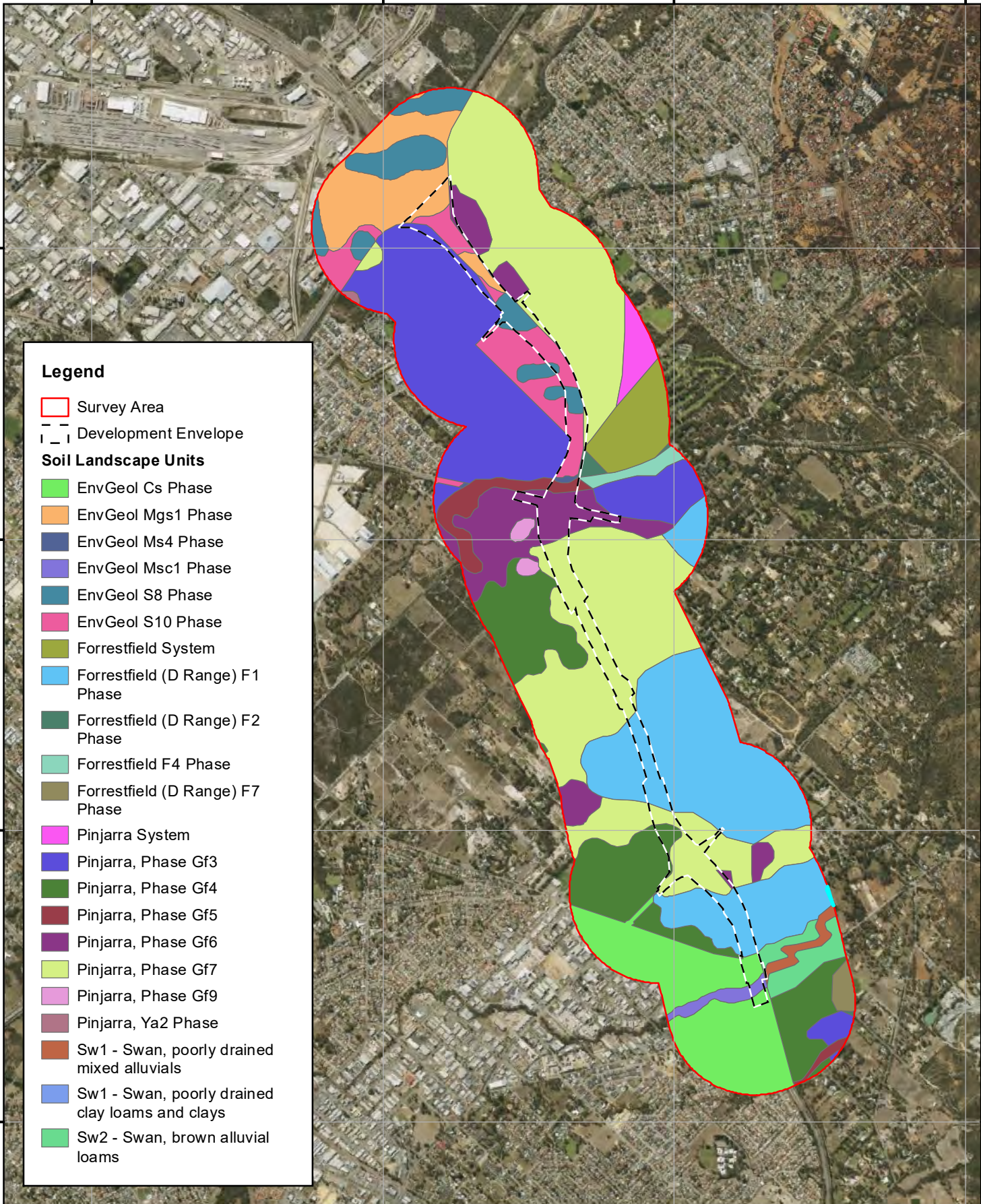
6454000

402000

404000

406000

408000



Legend

- Survey Area
- Development Envelope

Soil Landscape Units

- EnvGeol Cs Phase
- EnvGeol Mgs1 Phase
- EnvGeol Ms4 Phase
- EnvGeol Msc1 Phase
- EnvGeol S8 Phase
- EnvGeol S10 Phase
- Forrestfield System
- Forrestfield (D Range) F1 Phase
- Forrestfield (D Range) F2 Phase
- Forrestfield F4 Phase
- Forrestfield (D Range) F7 Phase
- Pinjarra System
- Pinjarra, Phase Gf3
- Pinjarra, Phase Gf4
- Pinjarra, Phase Gf5
- Pinjarra, Phase Gf6
- Pinjarra, Phase Gf7
- Pinjarra, Phase Gf9
- Pinjarra, Ya2 Phase
- Sw1 - Swan, poorly drained mixed alluvials
- Sw1 - Swan, poorly drained clay loams and clays
- Sw2 - Swan, brown alluvial loams

<p>Soil Landscape Units of the Survey Area</p>	Author: Marlee Starcevich	
	WEC Ref: MR19-34-01	
<p style="font-size: small; margin-top: 10px;">This map should only be used in conjunction with WEC report MR19-34-01.</p>	Filename: MR19-34-01-f03	<p>Figure</p> <p style="font-size: 2em; margin-top: 10px;">3</p>
	Scale: 1:35,000 (A4)	
	Projection: GDA 1994 MGA Zone 50	
	Revision: 0 - 30 July 2020	

2.3 Groundwater and Surface Water Values

The wetlands on the SCP have been mapped, evaluated and assigned a management category that provides guidance on how they should be managed and protected (Hill *et al.* 1996). Wetlands are classified by combining hydrological attributes and landform types as described in the methodology for the evaluation of wetlands on the SCP (DBCA 2017b). There are two types of wetlands within the Survey Area as listed below:

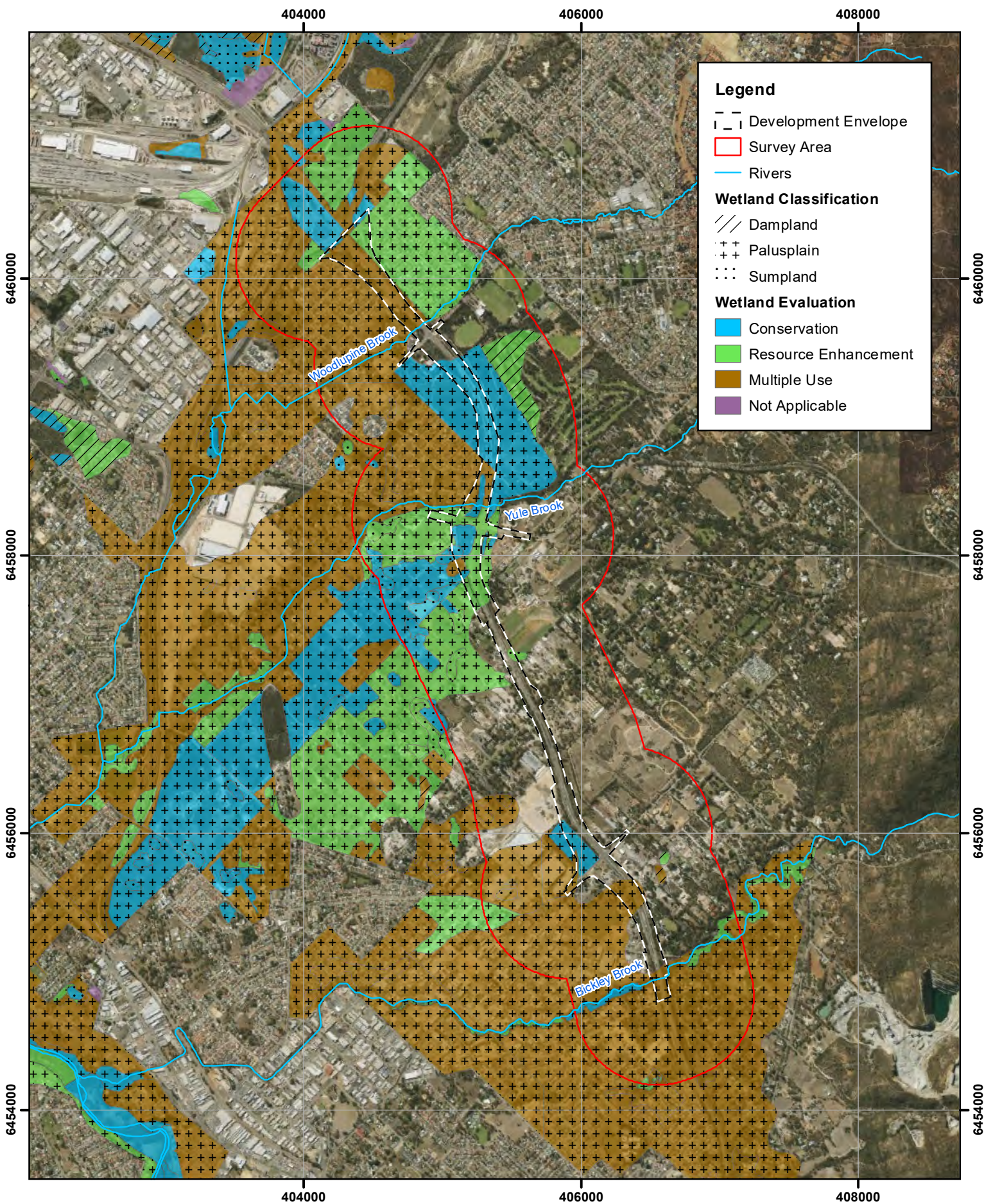
- Palusplain: seasonally waterlogged flat; and
- Creek: seasonally inundated channel.

In addition, wetlands have been evaluated and classified into three management categories including Conservation wetlands (Highest priority wetlands), Resource Enhancement wetlands (Priority wetlands) and Multiple Use wetlands (DBCA 2017b).

Development or clearing of Conservation category wetlands is not considered appropriate, as these wetlands are regarded as the most valuable wetlands and any activity that may lead to further loss or degradation is therefore inappropriate. Resource Enhancement category wetlands are viewed as having the potential to be managed, restored and protected with the objective of improving their conservation value and hydrological/hydrogeological regime. The use, development and management of Multiple Use wetlands should be considered in the context of ecologically sustainable development and best management practice catchment planning with their role in managing the natural hydrological and hydrogeological regime of the general area maintained (DBCA 2017b).

Figure 4 presents the geomorphic wetlands mapped within the Survey Area (DBCA 2020a). Areas of Conservation category palusplains occur in the Development Envelope, primarily associated with Hartfield Park in Forrestfield and Bush Forever Site 53 in Orange Grove; however, the largest wetland areas of the Survey Area are classified as Multiple Use and Resource Enhancement palusplains. Woodlupine Brook (located to the north of Hartfield Park, north of Hale Road intersection) and Yule Brook (located in the southern section of Hartfield Park, north of Welshpool Rd intersection) are both mapped as 'Resource Enhancement' palusplain in the eastern section of the Survey Area, and 'Multiple Use' palusplain on the western side. Bickley Brook is located at the southern extent of the Survey Area; the area where it crosses the Development Envelope is classified as 'Multiple Use' palusplain, with 'Conservation' and 'Resource Enhancement' categories mapped within the Survey Area (Figure 4).

In a local groundwater context, according to the Bureau of Meteorology's 'Groundwater Dependent Ecosystem (GDE) Atlas' the majority of the Survey Area is located in Moderate Potential GDE (national assessment) with some areas being located in High Potential GDE (national assessment) and a very small area being located in Known GDE (regional study) (Aquatic GDE) (Bureau of Meteorology 2020b). Aquatic GDEs are described as 'ecosystems that rely on the surface expression of groundwater—this includes surface water ecosystems which may have a groundwater component, such as rivers, wetlands and springs' (Bureau of Meteorology 2020b).



Legend



- Development Envelope
- Survey Area
- Rivers

Wetland Classification

- Dampland
- Palusplain
- Sumpland

Wetland Evaluation

- Conservation
- Resource Enhancement
- Multiple Use
- Not Applicable

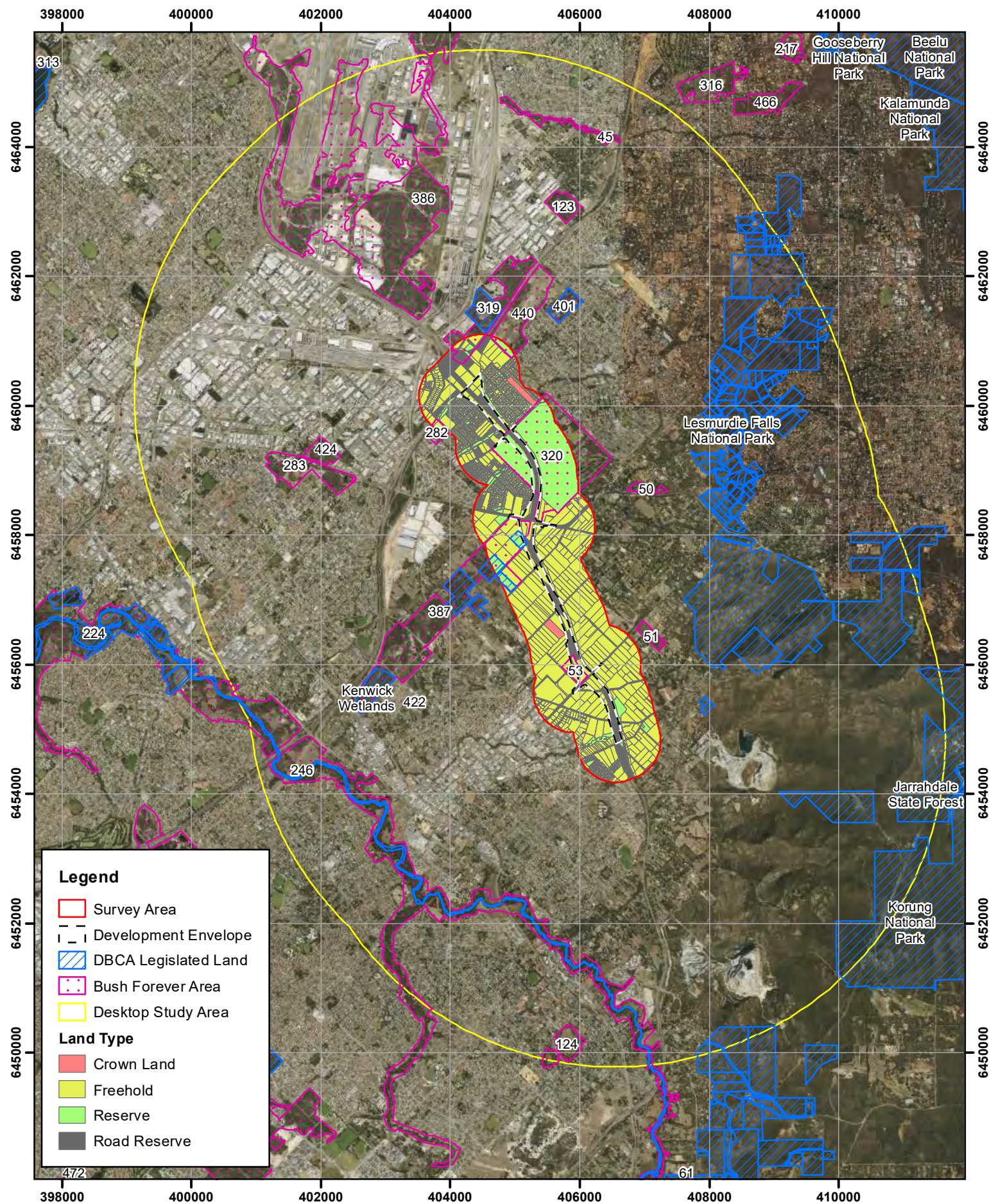
<p>Geomorphic Wetlands Mapping of the Survey Area</p>  <p>WOODMAN ENVIRONMENTAL</p> <p><small>This map should only be used in conjunction with WEC report MR19-34-01.</small></p>	Author: Marlee Starcevich	 <p>Figure</p> <p>4</p>
	WEC Ref: MR19-34-01	
Filename: MR19-34-01-f04		
Scale: 1:35,000 (A4)		
Projection: GDA 1994 MGA Zone 50		
	Revision: 0 - 30 July 2020	

The search of the DAWE Species Profile and Threats (SPRAT) Database with regard to MNES listed under the EPBC Act identified one Wetland of International Importance (Ramsar), being the Forrestdale and Thomsons Lakes. However, this wetland is located outside the Desktop Study Area, approximately 18 km south-west of the Survey Area.

2.4 Land Tenure

The majority of the Survey Area is comprised of Freehold land with the remainder consisting of areas of Crown Land, Reserves and Road Reserve (Figure 5). There are two small DBCA reserves in the Survey Area itself including the Brixton Street Wetlands and an unnamed reserve (these are north-east of the Kenwick Wetlands) (Figure 5).

There are several DBCA reserves in the Desktop Study Area including Kenwick Wetlands, Korung National Park, Lesmurdie Falls National Park and a number of unnamed reserves.



Legend

- Survey Area
- Development Envelope
- DBCA Legislated Land
- Bush Forever Area
- Desktop Study Area

Land Type

- Crown Land
- Freehold
- Reserve
- Road Reserve

<p>Land Tenure of the Desktop Study Area</p>	Author: Marlee Starcevich	 <p>Figure</p> <p style="font-size: 2em;">5</p>
	WEC Ref: MR19-34-01	
Filename: MR19-34-01-f05		
Scale: 1:75,000 (A4)		
Projection: GDA 1994 MGA Zone 50		
Revision: 0 - 30 July 2020		



This map should only be used in conjunction with WEC report MR19-34-01.

3. METHODS

3.1 Flora and Vegetation

3.1.1 Desktop Study Methods

Prior to commencement of the field survey, a review of all publicly available flora and vegetation data relevant to the Desktop Study Area was undertaken. This included obtaining and reviewing copies of reports of previous biological surveys carried out within the vicinity of the Survey Area (where available) (including interrogation of the Index of Biodiversity Surveys for Assessments (IBSA) website) and interrogation of relevant databases and other sources as listed in Table 2.

Table 2: Searches Undertaken for the Desktop Study (Flora and Vegetation)

Source	Search Attributes	Search Purpose
DBCA Threatened and Priority Ecological Communities Database (data provided by Main Roads – DBCA 2019b)	Database interrogated using Desktop Study Area boundary	Obtain records of WA TECs and/or DBCA-classified PECs within the Desktop Study Area
DBCA TEC and PEC lists (DBCA 2018; DBCA 2020b)	Review of current DBCA TEC and PEC lists	Identify whether there are any additional DBCA-listed TECs or PECs that could occur within the Desktop Study Area
DBCA Significant Flora Databases (WA Herbarium specimen database and Threatened and Priority Flora (TPFL) database) (data provided by Main Roads)	Database interrogated using Desktop Study Area boundary	Obtain records of listed significant flora within the Desktop Study Area
DAWE SPRAT Database (interrogated using the Protected Matters Search Tool) (DAWE 2019)	Database interrogated using approximate Desktop Study Area boundary (exact boundary cannot be used)	Identify Matters of National Environmental Significance (MNES), including Threatened flora and TECs, listed under the EPBC Act, that occur or have the potential to occur within the Desktop Study Area
DBCA <i>NatureMap</i> (WA Herbarium and TPFL records) (DBCA 2007-)	Database interrogated using approximate Desktop Study Area boundary (exact boundary cannot be used)	Obtain records of listed significant flora and introduced flora within the Desktop Study Area
2018 Statewide Vegetation Statistics (formerly the CAR Reserve Analysis) (Government of Western Australia 2019a and b)	Survey Area	Identify extent of Vegetation System Associations within the Survey Area

3.1.2 Personnel and Licensing

Table 3 lists the personnel involved in both fieldwork and plant identifications for survey. The Project Manager (Kim Kershaw) has extensive experience (> 10 years) in conducting similar flora surveys in the SCP bioregion. David Coultas has extensive experience in undertaking plant identifications of flora from the SCP. All plant material was collected under the *Flora Taking (Biological Assessment) licences* and *Authorisation to Take or Disturb Threatened Species* pursuant to the *Biodiversity Conservation Act 2016*, sections 40, 274 and 275, as listed in Table 3.

Table 3: Personnel and Licensing Information (Flora and Vegetation)

Personnel and Qualifications	Flora Collecting Permit (BC Act)	Experience in the SCP bioregion	Role
Kim Kershaw BSc (Environmental Science)	FB62000054 TFL22-1819	>20 years	Project Manager/ Field Manager
David Coultas BSc (Environmental Biology) (Hons)	FB62000051 TFL23-1819	>10 years	Field survey / Plant identifications
Marlee Starcevich BSc (Environmental Science) (Hons)	FB62000056 TFL26-1819	>2 years	Field survey / Plant identifications
Emalyn Loudon BAg (Hons)	-	>3 years	Field survey
Emma Marsh BSc (Biology and Conservation Science)	FB62000233	<1 year	Field survey
Greg Woodman BSc (Environmental Science) (Hons)	FB62000053 TFL19-1819	>20 years	Field survey
Jaroslav Hruban BSc (Botany) (Hons) Mgr (Ecological and Evolutionary Biology)	FB62000251	< 1 year	Field survey
Leah Firth BSc (Conservation Biology)	FB62000055 TFL145-1920	< 1 year	Field survey
Marco Pratissoli PgD (Environmental Biology and Management)	FB62000057 TFL143-1920	>2 years	Field survey

3.1.3 Aerial Photography Interpretation and Survey Design

Initial interpretation of ortho-rectified aerial photography at a scale of 1:5,000 was conducted to determine preliminary vegetation patterns present within the Assessed Area, with quadrats allocated based on these patterns. A minimum of three quadrats were allocated to each major discernible vegetation pattern where possible. For smaller patterns, fewer quadrats were allocated based on the size of the pattern.

Whilst other historical consultant survey data and reports from within the Survey Area were reviewed during the desktop study (see Section 5.1.1.2), quadrat data from these surveys was not used for floristic analysis purposes, and areas covered by such surveys were re-sampled by Woodman Environmental during the current survey.

3.1.4 Field Survey Methods

The flora and vegetation field survey was undertaken over a number of visits as listed below, with survey aspects detailed in parentheses:

- 27th and 29th August 2019 (reconnaissance and targeted flora survey (four person days);
- 17th–20th September 2019 (detailed vegetation survey (14 person days);
- 1st–3rd October 2019 (detailed vegetation survey (12 person days);
- 16th and 22nd October 2019 (detailed vegetation survey (6 person days);
- 26th–28th November 2019 (targeted flora survey (5 person days);
- 17th–18th December 2019 (targeted flora survey (8 person days); and
- 17th and 19th March 2020 (targeted flora survey (7 person days).

The reconnaissance survey involved on-ground inspection of vegetated areas (as defined through initial aerial photography interpretation) within the Assessed Area, with data being collected to allow for preliminary descriptions of the plant communities to be developed. This information formed the basis of a detailed survey plan (including targeted survey), the implementation of which is described below.

The Assessed Area was accessed by vehicle using existing access tracks and via foot transects with access primarily via Tonkin Highway. The detailed survey involved the survey of 33 non-permanent flora survey quadrats in intact vegetation within the Assessed Area in 2019. All quadrats measured 10 m x 10 m covering an area of 100 m². The quadrat size used is the indicative size for flora and vegetation surveys in the SCP Bioregion, as outlined in Table 1 of the Technical Guidance for Flora and Vegetation Surveys for Environmental Impact Assessment (EPA 2016a). Quadrats were only established in vegetation that was spatially large enough, and in at least Good condition (see Section 3.1.8).

All vascular flora taxa that were visually identifiable within each quadrat were recorded. At least one reference specimen of most taxa encountered (excluding common, distinctive taxa) was collected for verification and identification purposes. The following information was recorded at each quadrat:

- Personnel;
- Unique quadrat number;
- Date of survey;
- Size and shape of quadrat;
- GPS (Global Positioning System) coordinates at start corner of quadrat;
- Site photograph, taken diagonally into quadrat from start corner;
- Compass bearing for two sides of quadrat that commence at start corner of quadrat;
- Topography (including landform type and aspect);
- Soil colour and type (including the presence of any rock outcropping and surface stones);
- Vegetation condition (EPA 2016a; scale presented in Appendix A);
- Approximate time since fire;
- Presence and type of disturbance (if any);
- Percentage foliage cover (for each vascular plant taxon, including cover within the quadrat of individuals rooted outside of the quadrat);
- Height (m) (average for each taxon, excluding climbers/aerial shrubs); and
- Additional flora taxa present immediately outside of the quadrat.

A number of areas of vegetation in the Assessed Area are on narrow road reserves that are not spatially large enough to allow for quadrats to be established. Such areas were also often in Good or poorer condition (see Section 3.1.8). These cases necessitated the establishment and survey of relevés rather than quadrats. Relevés surveyed an area approximately within a radius of 10 m around a central point. All data recorded for quadrats (as listed above) was also recorded for relevés, however, only dominant taxa were generally recorded, as well as taxa not previously observed elsewhere. A total of 48 relevés were established and surveyed in the Assessed Area.

Areas of the Assessed Area that were located in cleared, highly modified or revegetated areas were sampled via a brief inspection, either on foot or from a vehicle, with notes and photographs taken.

Notes on vegetation pattern boundaries and distribution were also taken while traversing the Survey Area, including a GPS location at the point where the notes were taken, a brief description of the vegetation including dominant and characteristic taxa, and a photograph. These notes were used to aid in the mapping of polygons of vegetation patterns that were not allocated quadrats. Not all vegetation pattern polygons received quadrats due condition of vegetation; however, many polygons could be confidently allocated to a final VT using a combination of mapping notes and aerial photograph interpretation. Additional flora taxa were also recorded opportunistically in the Assessed Area during traverses on foot between quadrats and relevés, with GPS locations of such taxa recorded. Locations of any significant flora and introduced flora taxa encountered opportunistically while traversing between quadrats and relevés were also recorded.

Targeted survey for significant flora taxa was undertaken as part of the survey, with a list of significant flora taxa likely to be encountered compiled as part of the desktop study. Such survey was undertaken primarily during spring 2019 to coincide with the flowering period of most of the target taxa. Supplementary survey was conducted in March 2020, following the completion of quadrat surveys in 2019, for specific perennial taxa that can be identified outside of their flowering periods. Appropriate habitat for significant flora taxa in the Assessed Area was specifically transected on foot at spacings of 5 to 10 m. If populations of known significant flora taxa were identified, a representative collection of material was made, and the abundance and spatial distribution of individuals within each population was recorded using GPS coordinates. Locations of significant flora recorded within the Development Envelope were revisited in subsequent field trips and recorded using a Differential GPS (DGPS) for greater accuracy.

Locations of any introduced flora taxa encountered while traversing between quadrats and relevés, and while conducting targeted searching for significant flora taxa, were also recorded using the same method as for significant flora taxa.

3.1.5 Plant Collection and Identification

Specimens of any unknown taxa were collected and pressed for later identification at the WA Herbarium. External experts of particular families or genera were consulted for any specimens considered to be difficult to identify or of taxonomic interest.

Taxon nomenclature generally follows *FloraBase* (WA Herbarium 1998-) with all names checked against the current DBCA Max database to ensure their validity. However, in cases where names of plant taxa have been published recently in scientific literature but have not yet been adopted on *FloraBase*, nomenclature in the published literature is followed. The conservation status of each taxon was checked against *FloraBase*, which provides the most up-to-date information regarding the conservation status of flora taxa in Western Australia. Specimens of interest, including significant flora taxa, range extensions of taxa and potential new taxa, will be sent to the WA Herbarium for consideration for vouchering as soon as practicable. However, this process is via donation, and the WA Herbarium may not voucher

all specimens, in accordance with its own requirements. The specimen vouchering will be supported by completed Threatened and Priority Flora Report Forms (TPFRFs) submitted to DBCA (Species and Communities Branch) in the case of listed significant flora (e.g. Threatened and Priority flora taxa).

3.1.6 Floristic Analysis

Classification analysis of floristic data from the Survey Area was conducted using 33 quadrats established in the Survey Area by Woodman Environmental. Classification analysis methods generally followed those presented in Gibson *et al.* (1994). As per Gibson *et al.* (1994), singletons (i.e. any taxon occurring only once in the quadrat dataset) were removed from the dataset prior to analysis. A preliminary analysis undertaken with singletons included found that their inclusion had little effect on the analysis results. In contrast to Gibson *et al.* (1994), introduced taxa were also removed from the dataset prior to analysis. It is considered that the distribution of introduced taxa is generally most strongly influenced by the disturbance history of the site rather than other natural ecological drivers, and therefore their inclusion in such an analysis is not desirable. Hybrids were also excluded, as well as taxa whose identification was unclear due to poor available material, except when such a taxon (with multiple records in the dataset) was known to be unique in the dataset (i.e. although not identifiable to species level, there was enough material to indicate a unique taxon).

As per Gibson *et al.* (1994), a single-layer data matrix (i.e. presence/absence data only) was used in the classification analysis, with PATN (V3.12) (Belbin and Collins 2009) utilised to perform the classification and ordination analysis of the data matrix. The Bray-Curtis coefficient was used to generate an association matrix for the classification analysis, also as per Gibson *et al.* (1994). This association matrix consisted of pairwise coefficients of similarities between quadrats based on floristic data. Agglomerative hierarchical clustering, using flexible Unweighted Pair Group Method with Arithmetic Mean (UPGMA) ($\beta = -0.1$), was used to generate a quadrat classification dendrogram (Sneath and Sokal 1973).

The above classification analysis aggregated quadrats into a group classification. The resulting dendrogram and taxon group matrix were initially examined at a group level determined by PATN as potentially appropriate for the dataset, to determine the plausibility of groups with regard to taxon groups, in combination with field observations.

In addition to the above classification analysis, additional classification analyses were conducted using Woodman Environmental quadrats and DBCA's amended SCP floristic quadrat dataset ('amended SCP dataset') (Keighery *et al.* 2012), as well as Woodman Environmental quadrats and DBCA's original SCP dataset (Gibson *et al.* 1994). The amended SCP dataset contains those quadrats established by Gibson *et al.* (1994), as well as over 500 additional sites (quadrats and relevés) established by DBCA subsequent to that survey. This analysis was conducted with the aim of examining the relationship of Woodman Environmental quadrats to those in the SCP quadrat datasets, and therefore their relationships to the vegetation of the wider southern SCP, as opposed to the local vegetation relationships examined by the first classification analysis. As for the first analysis, the resultant dendrogram and taxon group matrices were examined; of particular focus was whether the quadrat groups produced by the first classification analysis were maintained in

the subsequent classification analysis dendrograms. It was assumed that dissolution of groups of quadrats from the first classification analysis likely indicated that the vegetation represented by such quadrats was relatively dissimilar in a regional context; this may not have been obviously evident in the local context of the first classification analysis due to the comparatively limited size of the dataset being analysed.

For the additional classification analyses, methods and parameters were as for the first analysis; however, as per Gibson *et al.* (1994), introduced taxa were included in the dataset.

3.1.7 Vegetation Type Definition, Mapping and Description

As outlined in Section 3.1.4, survey of vegetation in the Survey Area used both quadrats and relevés as the size of some areas of vegetation did not allow for the establishment of quadrats. Therefore, VTs were defined using a combination of floristic composition classification (i.e. via a floristic classification analysis as outlined in Section 3.1.6), and structural vegetation classification as defined in the technical guidance for flora and vegetation surveys (EPA 2016a).

The classification analysis of Survey Area floristic data (Section 3.1.6) aggregated quadrats into a group classification. The resulting dendrogram and taxon group matrix were initially examined at a group level determined by PATN as potentially appropriate for the dataset, to determine the plausibility of groups with regard to taxon groups, in combination with field observations. This process determined a final number of clusters which were considered to represent VTs. Although quadrats were initially allocated based on patterns visible on aerial photography, and despite confidence that enough quadrats were allocated to expected vegetation types, the classification analysis split vegetation types in a way that resulted in some VTs with less than three quadrats (Section 5.1.3.2).

Floristic and structural data recorded at relevés were examined to determine whether vegetation sampled by the relevé was analogous to any of the VTs defined by floristic composition classification. Any such vegetation that was not considered to be analogous with any of the VTs defined by floristic composition classification was considered to represent a discrete VT.

VT descriptions have been adapted from the National Vegetation Information System (NVIS) Australian Vegetation Attribute Manual Version 6.0 (Executive Steering Committee for Australian Vegetation Information (ESCAVI) 2003), as stipulated by EPA (2016a). This model follows nationally-agreed guidelines to describe and represent VTs, so that comparable and consistent data are produced nation-wide. It should be noted that the NVIS system utilises vegetation descriptions derived from structural characteristics of the individual community units, while a number of the VTs presented in this report are defined based on the results of a floristic classification analysis, excluding any structural data. Such VTs therefore may include multiple structural types. Considering the effect of disturbance factors such as fire on vegetation structure, this approach is designed to provide a map of VTs that reflect taxon composition and the influences of the physical and chemical environment rather than disturbance history.

It should also be noted that this report describes VTs at the NVIS Sub-Association level, rather than the Association level as stipulated by EPA (2016a). This level is considered more appropriate for the vegetation of the Survey Area, as often the vegetation possessed one or more additional strata to the traditional three-stratum classification system used at the Association level.

For VTs defined via floristic composition classification, indicator taxa were defined via Indicator Taxon Analysis (INDVAL). This was conducted using PC-Ord (V6.08) (McCune and Mefford 2011) via the method of Dufrene and Legendre (1997). This generates INDVAL values (a measure of taxon fidelity to a given VT) that range from 0 to 100; an INDVAL value of 100 indicates that a taxon is present in all quadrats within a particular VT, and absent from all other quadrats included in the analysis. The INDVAL values were then tested for significance of the indicator taxa using a Monte Carlo permutation test. Indicator taxa were defined as taxa with an INDVAL value > 20, and a significance p value of either < 0.05, < 0.01 or < 0.001.

The locations of quadrats and/or relevés within each VT were used in conjunction with aerial photograph interpretation and field notes taken during the survey to develop VT mapping polygon boundaries. These VT mapping polygon boundaries were then digitised using Geographic Information System (GIS) software.

3.1.8 Vegetation Condition Mapping

Vegetation condition was described using the vegetation condition scale presented in EPA (2016a) (see Appendix A). Notes on vegetation condition were taken during the field survey via vehicle traverses and during foot traverses undertaken within the Survey Area. Vegetation condition was also recorded at all quadrats and relevés. Vegetation condition category polygon boundaries were developed using this information and were digitised using GIS software as for VT polygon boundaries.

3.1.9 Significant Flora and Vegetation

3.1.9.1 Significant Flora

As per EPA (2016b), flora taxa may be significant for a range of reasons, including, but not limited to the following:

- Being identified as a Threatened (T) or Priority (P) species (formally listed significant taxa – includes taxa listed under both State and Commonwealth legislation, and classified as Priority by DBCA) (Appendix B presents conservation code classifications as per DBCA (2019a));
- Locally endemic or associated with a restricted habitat type (e.g. surface water or groundwater dependent ecosystems (GDEs));
- New species or species with anomalous features that indicate a potential new species;
- Representative of the range of a species (particularly at the extremes of range, recently discovered range extensions, or isolated outliers of the main range);
- Unusual species, including restricted subspecies, varieties or naturally occurring hybrids; and
- Relictual status, being representative of taxonomic groups that no longer occur widely in the broader landscape.

Significant taxa recorded within the Survey Area are discussed in Section 5.1.2.2 with reference to the above categories. In this section, point locations, individuals and populations known from the Survey Area are discussed. It is worthy of note that a population in the context of this survey is defined as a discrete group of individuals of a taxon separated by more than 500 m from the nearest discrete group of individuals (DBCA 2017a). However, this definition can only be tentatively applied if the intervening 500 m has not been surveyed.

3.1.9.2 Significant Vegetation

As per EPA (2016b), vegetation may be significant for a range of reasons, including, but not limited to the following:

- Being identified as a TEC or PEC (formally listed significant vegetation – includes vegetation listed under Commonwealth legislation, endorsed as a TEC by the Western Australian Government, or classified as a PEC by DBCA) (Appendix C);
- Having restricted distribution;
- Having a degree of historical impact from threatened processes;
- Playing a role as a refuge; and
- Providing an important function required to maintain ecological integrity of a significant ecosystem.

The vegetation described by the study of the southern SCP by Gibson *et al.* (1994), together with supplementary vegetation description to this study published in Government of Western Australia (2000), is the current baseline used when assessing the significance of vegetation on the southern SCP. The vast majority of terrestrial TECs and PECs that occur on the southern SCP are Floristic Community Types (FCTs) described by this Study; the Study also provides information on the distribution of all FCTs described, as well as their conservation status.

Consequently, further floristic analyses were undertaken to determine relationships between VTs from the Survey Area that were defined via floristic composition classification and SCP FCTs defined by Gibson *et al.* (1994), with the aim of aligning VTs with SCP FCTs. As there is no formal guidance available on the most appropriate way to undertake this process, several different analytical approaches were employed in an attempt to build supporting evidence for aligning VTs with SCP FCTs. These were:

- Analysis of the Woodman Environmental quadrat dataset from the Survey Area with the original SCP dataset (Gibson *et al.* 1994);
- Analysis of the Woodman Environmental quadrat dataset from the Survey Area with the amended SCP dataset (Keighery *et al.* 2012) that includes more than 500 additional survey sites;
- Single site insertion analysis of representative quadrats of VTs described in the Survey Area with the original SCP dataset (Gibson *et al.* 1994) (at least two representative quadrats from each VT analysed, excluding those represented by a single quadrat only); and
- Single site insertion analysis of representative quadrats of VTs described in the Survey Area with the amended SCP dataset (Keighery *et al.* 2012) (at least two representative

quadrats from each VT analysed, excluding those represented by a single quadrat only).

It should be noted that the metadata for the amended SCP dataset explicitly states that it is not suitable for FCT analysis due to “inconsistencies in the grouping and splitting of some species compared to that used in the Gibson *et al.* (1994) analysis”. However, the exact dataset that DBCA used (that included the more than 500 additional sites established on the SCP subsequent to the Gibson *et al.* (1994) study), which is referred to in the aforementioned metadata, does not appear to be publicly available. Therefore, the amended SCP dataset was used for analysis by this assessment, as the alternative of not using this dataset, and hence not considering a significant volume of data, was considered inappropriate in the absence of formal guidance on analysis methods. The argument that “inconsistencies in the grouping and splitting of some species compared to that used in the Gibson *et al.* (1994) analysis” is not considered to be reason enough to discount the dataset in this context; such issues are likely to frequently arise when a historical dataset is only periodically updated to reflect current taxonomic concepts. However, it is considered unlikely that such issues would have a significant bearing on the analysis results in this current context.

Further to this, as noted above, a dataset similar to the amended SCP dataset has been re-analysed by DBCA on behalf of the former Department of Environmental Protection (Government of Western Australia 2000) with supplementary SCP FCT descriptions published as a result; however, the methods of this analysis are not documented in Government of Western Australia (2000), and apparently were never fully documented (V. English *pers. comm.* 2015). It is apparent that DBCA used the ALOC non-hierarchical classification technique, whereby the groups of quadrats that formed the basis of the original SCP FCTs were ‘locked’ in place, and additional quadrats were allocated to these groups or to new groups via analysis (V. English *pers. comm.* 2015). It is assumed, although there is no documented evidence, that the single site insertion approach was then used, whereby quadrats were added singly to the locked dataset. FCTs were then assigned to the additional survey sites contained in the amended SCP dataset based on the results of the analyses (Keighery *et al.* 2012). It is assumed that these methods were used as re-analysis of the entire amended SCP dataset would have caused significant disruption (based on previous unpublished analyses conducted by Woodman Environmental) to the original quadrat groupings that were used to define FCTs in Gibson *et al.* (1994) given such a large volume of data was added. The original FCTs described by Gibson *et al.* (1994) could not have been maintained using this approach. The ALOC analysis approach does not appear to be widely used; DBCA does not appear to have published any studies that have used this method, with recent studies published by DBCA using the classification methods outlined in Section 3.1.6.

Analysis methods and parameters were the same as used for the analysis of the Woodman Environmental quadrat dataset as outlined in Section 3.1.6; as noted in Section 3.1.6, these are the same methods utilised by Gibson *et al.* (1994).

The resultant analysis dendrograms were then reviewed to determine the position of Woodman Environmental quadrats in relation to quadrats from the SCP quadrat datasets;

from this, VT and FCT relationships were inferred. It is important to note that all of the analytical approaches outlined above do not maintain the original quadrat groupings that formed the basis of the original FCTs defined by Gibson *et al.* (1994) in the resultant dendrograms. As a result, there is inherent ambiguity in inferences made from examination of the dendrograms alone. To provide further support for the inferences made, taxon lists of Woodman Environmental quadrats were also compared to the typical species lists for SCP FCTs presented in Gibson *et al.* (1994), as well as quadrat taxon lists, soils, topography and geographical distribution data from this study. Note that quadrats from the amended SCP dataset were not considered as part of this process.

For VTs from the Survey Area defined via structural vegetation classification, only the similarity in dominant taxa, soils, topography and geographical distribution between these VTs and SCP FCTs can be considered when attempting to align VTs with SCP FCTs. Therefore, taxon lists of Woodman Environmental relevés were compared to the typical species lists for SCP FCTs presented in Gibson *et al.* (1994), as well as quadrat taxon lists from this study, with VTs aligned with SCP FCTs if possible where there appeared to be relatively high similarity.

With regard to other TECs and PECs listed in Western Australia that were not described in the Gibson *et al.* (1994) study, generally only broad descriptions are provided in the respective TEC and PEC lists published by DBCA to allow for diagnosis. The vegetation of the Survey Area was therefore manually compared to such descriptions to determine whether any vegetation may represent such a TEC or PEC. A similar process was followed for TECs listed under the EPBC Act, with the vegetation of the Survey Area assessed against the appropriate listing and conservation advice for any TECs likely to occur in the Survey Area.

3.2 Fauna

3.2.1 Desktop Study Methods

The purpose of the desktop review is to produce a species list that can be considered to represent the vertebrate fauna assemblage of the Survey Area based on unpublished and published data using a precautionary approach.

3.2.1.1 Sources of Information

Information on the fauna assemblage of the Desktop Study Area was drawn from a wide range of sources. These included state and federal government databases and results of regional studies. Databases access are listed in Table 4. Information from those sources was supplemented with species expected in the area based on general patterns of distribution. Sources of information used for these general patterns were:

- Frogs: Tyler and Doughty (2009) and Anstis (2013)
- Reptiles: Storr *et al.* (1983, 1990, 1999 and 2002) and Wilson and Swan (2017)
- Birds: Johnstone and Storr (1998, 2004) and Barrett *et al.* (2003)
- Mammals: Menkhorst and Knight (2010); Armstrong (2011); Churchill (2008); and Van Dyck and Strahan (2008).

Table 4: Searches Undertaken for the Desktop Study (Fauna)

Source	Search Attributes	Search Purpose
DBCA Protected Fauna Search (data provided by Main Roads – DBCA 2019c)	Line search: along Tonkin Highway from Roe Hwy to Maddington Road plus 5 km buffer.	Fauna in the DBCA database. Includes historical data and records on Threatened and Priority species in WA.
NatureMap (DBCA 2007-)	Line search: along Tonkin Highway from Roe Hwy to Maddington Road plus 5 km buffer.	Records in the WAM and DBCA databases. Includes historical data and records on Threatened and Priority species in WA.
BirdLife Australia Atlas Database (BirdLife Australia 2019)	Search over 5 km buffer around Tonkin Highway from Roe Hwy to Maddington Road using polygon search tool.	Records of bird observations in Australia, 1998-2018.
Atlas of Living Australia (ALA 2019)	Two point search: -28.8460°, 120.2145° and -28.8141°, 120.3831° plus 40 km buffer.	Contributions of fauna data in Australia, hosted by CSIRO.
DAWE SPRAT Database (interrogated using the Protected Matters Search Tool) (DAWE 2019)	Line search: along Tonkin Highway from Roe Hwy to Maddington Road plus 5 km buffer.	Records on matters of national environmental significance protected under the EPBC Act.

Multiple fauna surveys and studies have been conducted in the general area. References include:

- AECOM (2015). *Tonkin Highway / Hale Road, Tonkin Highway / Welshpool Road and Tonkin Highway / Kelvin Road Biological Assessment*.
- Shepherd, B., Bamford, M.J. and Bamford, A.R. (2018) *City of Armadale Reserves, Forrestdale Lake Nature Reserve Fauna Survey*.
- Bamford Consulting Ecologists (1996). Roe Highway stage 4. Update of fauna assessment.
- Bamford Consulting Ecologists (1998). Roe Highway stages 5, 6 and 7. Report on ecologically sustainable development and biodiversity.
- Bamford Consulting Ecologists (2004). Maddington – Kenwick Strategic Industrial Area. Fauna.
- Metcalf, B. and Bamford, M. (2003). Western Power; southern terminal to Cannington terminal transmission line. Review of faunal impacts

3.2.1.2 Interpretation of Species Lists

Species lists generated from the review of sources of information are generous as they include records drawn from a large region and possibly from environments not represented in the Survey Area. Therefore, some species that were returned by one or more of the data searches have been excluded because their ecology, or the environment within the Survey Area, meant that it is highly unlikely that these species will be present. Such species can include, for example, seabirds that might occur as extremely rare vagrants at a terrestrial, inland site, but for which the site is of no importance. Some waterbirds were included, because there are environments suitable for these species within the project site, such as creeks, ponds and dams.

Species returned from the databases and not excluded on the basis of ecology or environment are therefore considered potentially present or expected to be present in the Survey Area at least occasionally, whether or not they were recorded during field surveys,

and whether or not the survey area is likely to be important for them. This list of expected species is therefore subject to interpretation by assigning each a predicted status in the survey area.

The status categories used are:

- **Resident:** species with a population permanently present in the Survey Area;
- **Regular visitor or migrant:** species that occur within the survey area regularly in at least moderate numbers, such as part of annual cycle and includes breeding migrants;
- **Irregular Visitor:** species that occur within the survey area irregularly such as nomadic and irruptive species. The length of time between visitations could be decades but when the species is present, it uses the Survey Area in at least moderate numbers and for some time;
- **Vagrant:** species that occur within the survey area unpredictably, in small numbers and/or for very brief periods. Therefore, the Survey Area is unlikely to be of importance for the species; and
- **Locally extinct:** species that would have been present but has not been recently recorded in the local area and therefore is almost certainly no longer present in the Survey Area.

These status categories make it possible to distinguish between vagrant species, which may be recorded at any time but for which the site is not important in a conservation sense, and species which use the site in other ways but for which the site is important at least occasionally. This is particularly useful for birds that may naturally be migratory or nomadic, and for some mammals that can also be mobile or irruptive, and further recognises that even the most detailed field survey can fail to record species which will be present at times, or may have been previously confirmed as present. The status categories are assigned conservatively. For example, a lizard known from the general area is assumed to be a resident unless there is very good evidence that the site will not support it, and even then it may be classed as a vagrant rather than assumed to be absent if the site might support dispersing individuals.

3.2.1.3 Conservation Significant Species

Bamford Consulting divides conservation significance into three separate classes, denoted as CS1, CS2 and CS3. These are discussed in detail in Appendices D and E. Species classed as CS1 are those listed under Commonwealth and State legislation (EPBC Act and WA BC Act respectively), while those classed as CS2 are formally listed as Priority by the DBCA, but not listed under legislation. The CS3 class is more subjective but includes locally significant species that have declined extensively in an area due to natural or human-induced impacts, and species that occur at the edge of their range. This makes their presence in the Survey Area significant as populations on the edge of a species' range are often less abundant and more vulnerable to extinction than populations at the centre of the range (Curnutt *et al.* 1996).

3.2.2 Personnel and Licensing

Table 5 lists all personnel involved in the fauna field surveys undertaken for the project.

Table 5: Personnel and Licensing Information (Fauna)

Personnel and Qualifications	Experience in the SCP bioregion	Role
Dr Barry Shepherd (B.Sc. Hons. (Env. Biol.), Ph.D. (Ecol.))	>10 years	Project Manager/ Field survey
Andrew Moore (B.Sc. Botany. and Geog., M.Sc. Ren. Energy)	>15 years	Field survey

The reconnaissance survey was undertaken across the Survey Area on the 13th September 2019 by Dr Barry Shepherd (B.Sc. Hons. (Env. Biol.), Ph.D. (Ecol.)). The Level 1 Survey and targeted Black-Cockatoo Habitat survey of the Development Envelope was subsequently conducted by Barry Shepherd over several visits: 2nd, 3rd, 7th and 8th October, and the 14th and 19th November 2019. A total of six and a half days was spent on survey with the majority of that being within the Development Envelope.

The pole cam inspection of nesting hollows was undertaken on the 19th November and was conducted by Andrew Moore (B.Sc. Botany. and Geog., M.Sc. Ren. Energy). The fauna assessment report was prepared by Dr Barry Shepherd (B.Sc. Hons. (Env. Biol.), Ph.D. (Ecol.)) and reviewed by Dr Mike Bamford ((B.Sc. (Biol.), Hons. (Biol.), Ph.D. (Biol.)).

3.2.3 Field Survey Methods

3.2.3.1 Survey Overview

The field survey incorporated a site walkover to:

- Identify Vegetation and Substrate Associations (VSAs) (habitats for fauna)
- Search for suitable vegetation and habitat that could support conservation significant fauna
- Record signs of conservation significant fauna, e.g. Black- Cockatoo nesting hollows, Quenda diggings
- Record opportunistic fauna observations.

The assessment of the environmental features relevant to conservation significant fauna was conducted by vehicle within the surrounding Survey Area, with the site investigation was conducted on foot and vehicle over the Development Envelope. The site visit involved driving and walking over the area to enable environmental descriptions to be prepared and opportunistic observations on fauna to be made.

In the context of fauna assessment, Vegetation System Associations (VSAs) are the environments that provide habitats for fauna. VSAs combine vegetation types (provided by Woodman Environmental), the soils or other substrate with which they are associated, and the landform (as observed in the field assessment), and were mapped in a GIS environment using vegetation type polygons provided by Woodman Environmental in conjunction with site inspection notes taken within the Development Envelope.

3.2.3.2 Black-Cockatoo Nesting Tree Survey

During the Level 1 survey, the Development Envelope was surveyed systematically on foot and potential nest trees for Black-Cockatoos recorded. This included assessing suitably sized trees that appeared to contain hollows of adequate size for nesting Black-Cockatoos. Potential nest trees were those species known to be used for nesting in the area (e.g. Wandoo, Jarrah and Marri) and with a diameter-at-breast-height (DBH) greater than 300 mm (Wandoo) or 500 mm (other species). Habitat plant species included the above eucalypts and known food plants including Banksia, Sheoak, pines etc.

Trees meeting the DBH criterion were then assigned a rank reflecting their likely value for breeding with respect to likelihood or presence of hollows. This ranking system has been developed by Bamford Consulting Ecologists and the ranks are:

1. Active nest observed; adult (or immature) bird seen entering or emerging from hollow. The rank of 1 is retained if a hollow is known to have been used within the previous three years.
2. Hollow of suitable size and angle (i.e. near-vertical) visible with chew marks around entrance. While it cannot with certainty be assumed that such chew marks were made by a Black-Cockatoo, they indicate activity of a parrot at a hollow potentially suitable for use by Black-Cockatoos.
3. Potentially suitable hollow visible but no chew marks present; or potentially suitable hollow present (as suggested by structure of tree, such as large, vertical trunk broken off at a height of >10m).
4. Tree with large hollows or broken branches that might contain large hollows but hollows or potential hollows are not vertical or near-vertical; thus a tree with or likely to have hollows of sufficient size but not to have hollows of the angle preferred by Black-Cockatoos.
5. Tree lacking large hollows or broken branches that might have large hollows; a tree with more or less intact branches and a spreading crown.
0. Dead or stunted tree meeting the DBH requirement but with no potential to form a suitable hollow at a suitable height.

The Survey Area was inspected for the presence of suitable nesting trees and their distribution to place the nesting trees found within the Development Envelope into context. Individual trees within the Survey Area were not recorded and no hollows were inspected.

3.2.3.3 Black-Cockatoo Roosting and Foraging Habitat Survey

The suitability of the Development Envelope for foraging by Black-Cockatoos was assessed by inspecting the Development Envelope on foot, and then calculating a foraging score for areas of suitable vegetation type/condition based upon the types of forage plants present (see Appendix F). The foraging score provides a numerical value that reflects the significance of vegetation as foraging habitat for Black-Cockatoos, and this numerical value is derived to provide the information required by DAWE to assess impact significance and offset requirements. The foraging value of the vegetation depends upon the type, density and condition of trees and shrubs in an area and can be influenced by the context such as the availability of foraging habitat and availability of water nearby. The Bamford Consulting scoring system for value of foraging habitat has three components as detailed in Appendix F.

These three components are drawn from the DAWE offset calculator but with the scoring approach developed by Bamford Consulting:

- A score out of six for the vegetation composition, condition and structure
- A score out of three for the context of the site
- A score out of one for species density.

Foraging value can thus be assigned a score out of six, based upon site vegetation characteristics, or a score out of 10 if context and species density are also considered. In this report, a score out of six is used so that vegetation characteristics and value can be compared across the Survey Area. A score out of 10 is presented for the purposes of aiding offset calculations. The score out of 10 is calculated only for vegetation of at least Low to Moderate foraging value (vegetation characteristics score of ≥ 3). Vegetation with No, Negligible or Low foraging value is effectively assigned context and species density scores of '0' as context and species density are of little relevance if the vegetation does not support foraging by the birds. Foraging value scores are calculated differently for the three Black-Cockatoo species (Appendix F) depending upon the vegetation present. Throughout the survey the surveyors were constantly looking for signs that indicated Black-Cockatoos had foraged in the Survey Area, checking Marri and Jarrah nuts and Banksia and Sheoak cones. Some of these (e.g. Marri nuts) can be used to determine which species of Black-Cockatoo from the shapes of the chew-marks whilst others such as Banksia cones are generally targeted by only one species (Carnabys Black-Cockatoo) at this location. Locations where foraging were noted are not presented in this report, due to the highly mobile nature of the species, however was used to assist in determination of appropriate foraging habitat.

Potential Black-Cockatoo roosting habitat was assessed by making note of areas that appeared suitable (large trees near water). Additionally, records of known roosting sites in the area were consulted (Peck *et al.* 2017).

The broader Survey Area was inspected to assess the availability of foraging and roosting habitat for Black-Cockatoos. This was conducted to place the quantity of Black-Cockatoo habitat within the Development Envelope into context of the surrounding landscape for the three species of Black-Cockatoo endemic to the south west of Western Australia.

3.2.4 Taxonomy and Nomenclature

As per the recommendations of EPA (2016c), the nomenclature and taxonomic order presented in this report are based on the Western Australian Museum's (WAM) Checklist of the Fauna of Western Australia 2017. The authorities used for each vertebrate group were: amphibians (Doughty *et al.* 2019a), reptiles (Doughty *et al.* 2019b), birds (Birdlife Australia 2019), and mammals (Travouillon 2019). In some cases, more widely recognised names and naming conventions have been followed, particularly for birds where there are national and international naming conventions in place (e.g. the BirdLife Australia working list of names for Australian Birds). English names of species where available are used throughout the text; Latin species names are presented with corresponding English names in tables in the appendices.

4. ADEQUACY AND LIMITATIONS OF SURVEY

4.1 Flora and Vegetation

4.1.1 Adequacy of Survey

The Assessed Area covers approximately 177.92 ha, the majority of which (55.6%) is either cleared or highly modified. Within the remaining 44.4 % of the Survey Area (total of 78.97 ha), 33 quadrats and 48 relevés were established in all preliminary vegetation patterns discernible by initial aerial photograph interpretation, both to adequately sample variation in vegetation throughout the Survey Area and to ensure adequacy of sampling for vascular plant taxa. The number of quadrats and relevés established in the Survey Area is considered to be an acceptable number given the limited amount of intact vegetation present. Traverses in the Assessed Area are mapped as track logs in Appendix G along with quadrat and relevé locations.

To provide an indication of the adequacy of this survey, a taxon accumulation curve was produced using PC-Ord (McCune and Mefford 2011). Taxon accumulation curves represent a theoretical model of the relationship between sampling intensity and taxon accumulation; when sampling intensity is increased, taxon accumulation is reduced, and a taxon accumulation curve becomes asymptotic.

The taxon accumulation curve for quadrat data from the Survey Area was generated using all native taxa (both annual and perennial) recorded within each quadrat. Taxon accumulation calculations for the Survey Area were then undertaken utilising the Chao-2 estimator for species richness (Chao 1987) and compared to the actual number of taxa recorded in the Survey Area. This provides some indication as to whether sufficient quadrats were surveyed to adequately sample the species richness in the Survey Area. As the generation of species accumulation curves includes quadrat data only, and not taxa recorded in relevés or during targeted searching or otherwise opportunistically recorded, the indication of adequacy of survey provided is considered to be conservative.

Figure 6 presents the species accumulation curve generated from quadrat data from the Survey Area. Using the Chao-2 estimator, the recorded number of native taxa within quadrats is equivalent to 76.4 % of the estimated native taxon richness in the Survey Area. It is of interest that the estimated number of native taxa in the Survey Area from quadrats only using Chao-2 was 284. When opportunistic records of taxa are included, 287 native taxa were recorded in the Survey Area (Section 5.1.2). Based on this, the analysis indicates that the Survey Area was relatively well-sampled. despite that fact that only a very small area of vegetation was sampled via quadrats.

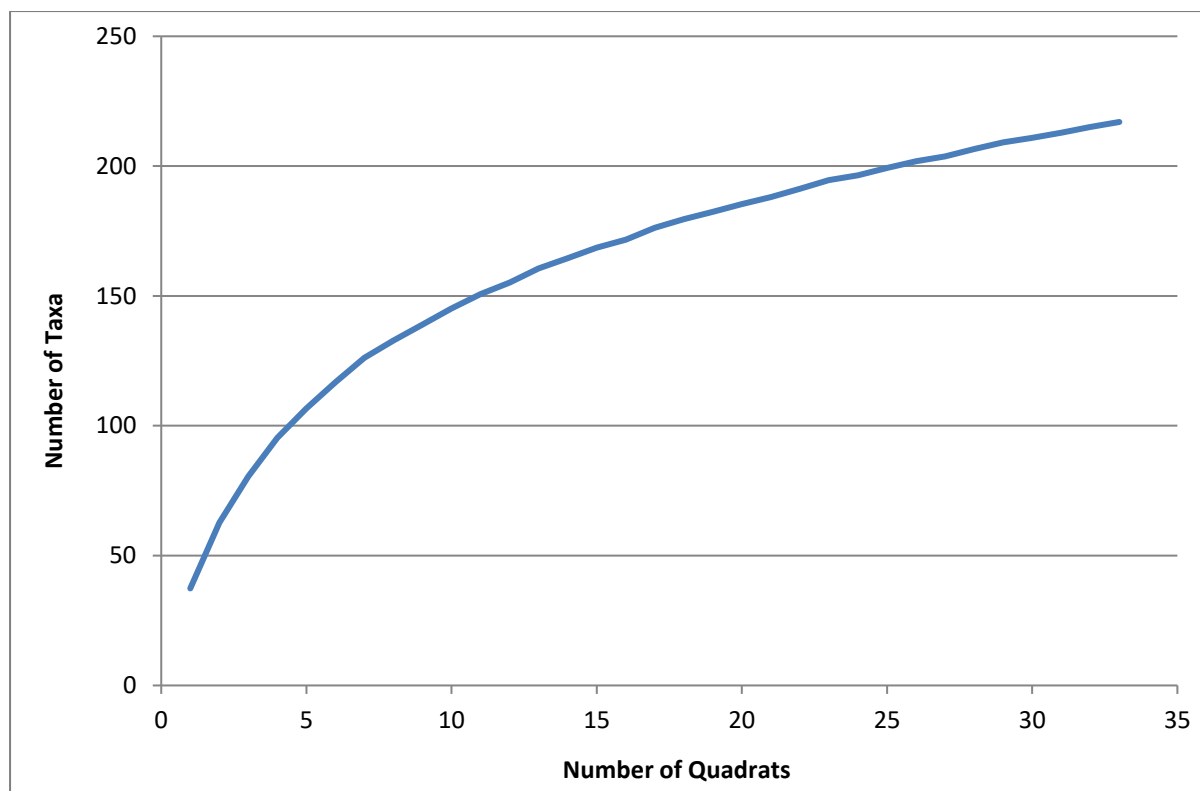


Figure 6: Survey Area Quadrat Data Species Accumulation Curve

Another adequacy of survey measure is that developed by Mueller-Dombois and Ellenberg (1974), who suggest that an adequacy cut-off point might be when a 10 % increase in quadrats surveyed results in a 5 % (or less) increase in taxa recorded. This measure was also calculated using all native taxa recorded within each quadrat. The number of quadrats established in the Survey Area satisfies this adequacy measure suggested by Mueller-Dombois and Ellenberg (1974), with the final taxon increase value of 2.86 % recorded following the final 10 % increase in quadrats.

4.1.2 Limitations of Survey

Table 6 presents the limitations of the flora and vegetation study of the Survey Area in accordance with EPA (2016a). Overall, there were no significant constraints which affected the results of the survey of the Assessed Area (which includes the Development Envelope), other than the impact of reduced vegetation condition due to previous disturbances and fire on reliability of vegetation type mapping in such areas. The extent of the whole Survey Area is not considered to have been surveyed adequately due to significant access restrictions.

Table 6: Limitations of the Flora and Vegetation Survey of the Survey Area

Limitation	Limitation of Survey	Comment
Effort and Extent	No	Detailed survey undertaken across the entire Survey Area. Multiple quadrats and/or relevés were established in each vegetation pattern identified in the Survey Area. No constraints prevented appropriate sampling techniques (quadrat establishment, foot transects etc.) being employed. Relative ease of access within the Survey Area enabled detailed vegetation type and condition mapping to be undertaken throughout the Survey Area via foot and vehicle transects. Mapping reliability is therefore considered to be high. During the Targeted Survey for significant flora taxa, areas were searched on foot in their entirety, with transects generally undertaken at 10 m intervals. A 10 m interval was considered to be adequate to provide appropriate data on the distribution of significant flora taxa within the survey area. Due to the intensity of the survey method used the numbers of individuals presented are considered to be an accurate estimate of the numbers of individuals actually present.
Competency/experience of the team carrying out the survey	No	Project Manager has extensive experience (> 10 years) in conducting similar assessments on the SCP. Personnel conducting and overseeing plant identifications have > 10 years' experience in identification of SCP flora. Senior personnel provided guidance to less experienced botanists throughout the survey where necessary. Relevant experts at the WA Herbarium were consulted regarding taxonomic identifications where required. The experience and competency of personnel is therefore not considered to be a limitation of the survey.
Proportion of flora identified, recorded and/or collected	No	All vascular groups that were present in the Survey Area were sampled. A high proportion of perennial vascular taxa were recorded based on the intensity and method of survey, and almost all could be positively identified. A total of 97.3 % of specimens were identified to species (or subspecies / variant) level. Specimens with incomplete identifications were generally sterile and were likely to be representative of other identified taxa. None of the specimens with incomplete identifications resembled significant flora taxa. A high proportion of annual vascular taxa were recorded based on the intensity and method of survey; however, detection and identification of some annual taxa may have been limited by below average rainfall recorded prior to the survey (Section 2.1; see timing/weather/season/cycle below). Unknown vascular taxa were collected, and specimens were identified at the WA Herbarium.
Sources of information e.g. previously available information (whether historic or recent) as distinct from new data	No	Good contextual information for the Survey Area was available prior to the survey. Sources of information used included government databases (including DBCA and DAWE), previous unpublished reports and data from the vicinity of the Survey Area (AECOM 2015; GHD 2015, 2016, 2018; Natural Area 2016; Perth Airport 2018; Strategen 2016, 2019; 360 Environmental 2018) as well as numerous general sources pertaining to the climate, geomorphology, flora and vegetation of the SCP.

Limitation	Limitation of Survey	Comment
Timing/weather/season/cycle	No	The majority of the survey was conducted within what is considered to be the appropriate season for survey in the SCP bioregion (Spring). However, the lower than average rainfall in May–December 2019, in combination with higher than average temperatures in 2019, may potentially have resulted in the abundance of annual taxa being affected, as well as sooner than expected senescence of such taxa. It is not known if the rainfall received was insufficient for germination of any taxa. Some targeted survey was conducted in March 2020; however, this survey targeted perennial taxa that are distinct at any time of year.
Disturbances (e.g. fire, flood, accidental human intervention etc.), which affected results of survey	Possible	There was evidence of significant impact to vegetation composition and structure throughout the Survey Area as a result of human activities, including clearing and very high levels of introduced (weed) taxa. There were also several areas of vegetation which had been burnt relatively recently (within the last five years) including the block of vegetation between Tonkin Hwy and Hartfield Golf Club. For the most part these disturbances did not affect the results of the survey, with the vegetation able to be confidently assigned to a VT and taxa mature enough to be easily identified or collected. However, in some cases the level of disturbance may have affected the interpretation of Vegetation Type boundaries. In addition, there was a small area adjacent to Woodlupine Brook which contained post-fire coloniser taxa (such as <i>Acacia pulchella</i>), making the Vegetation Type of this area difficult to discern. The remainder of the Assessed Area had not been significantly affected by fire in recent years.
Remoteness and/or access problems	Yes	The Development Envelope and Assessed Area was accessed either via main roads, tracks or on foot and there were no access issues that hindered the survey extent. Access to the wider Survey Area was restricted due to tenure and landowner permission issues.

4.2 Fauna

The EPA Guidance Statement 56 (EPA 2016a) outlines a number of limitations that may arise during investigations for fauna values. These survey limitations are discussed in the context of the fauna investigation of the project area in Table 7.

Overall, there were no major constraints to vertebrate fauna investigations affecting the results of the survey within the Development Envelope, with extrapolated VSA mapping over the rest of the Assessed Area. As a Level 1 Reconnaissance survey was undertaken no survey work was conducted regarding significant invertebrate. The extent of the whole Survey Area is not considered to have been surveyed adequately due to significant access restrictions

Table 7: Limitations of the Fauna Survey of the Survey Area

Limitation	Limitation of Survey	Comment
Effort and Extent	No	The Level 1 survey (desktop study and field investigation) was completed to the required expectations. The report provides provisional fauna values for the Survey Area and targeted surveys for Black-Cockatoo. Survey intensity is deemed adequate to fully support detailed regulatory approvals based on the condition of the Survey Area, scale of the project and potential scale of impacts of the development.
Competency/experience of the team carrying out the survey	No	The ecologists who conducted the Level 1 and targeted surveys have had extensive experience in conducting fauna surveys and have conducted many similar fauna studies within the region.
Scope. (What faunal groups were sampled and were some sampling methods not able to be employed because of constraints?)	No	Level 1 reconnaissance survey undertaken. The survey focussed on vertebrate fauna, and fauna values for of the significant species potentially occurring.
Proportion of fauna identified, recorded and/or collected	No	Level 1 survey and therefore species recorded during the site inspection in October 2019 are considered to be a small proportion of those that are likely to be present. Most species of conservation significance expected in the area were either confirmed or it was concluded they would not be present based upon habitat availability
Sources of information e.g. previously available information (whether historic or recent) as distinct from new data	No	Abundant information is available from databases e.g. DBCA, EPBC and previous studies, e.g. AECOM (2015). Shepherd <i>et al.</i> (2018).
Timing/weather/season/cycle	No	Survey was conducted in October and November 2019 and Level 1 survey can be conducted at any time of the year in this area. Black-Cockatoo surveys can be conducted at any time of the year but is optimal during spring to identify breeding behaviour in the peak breeding period.
Disturbances (e.g. fire, flood, accidental human intervention etc.), which affected results of survey	No	None
Remoteness and/or access problems	Yes	The Development Envelope was accessed either via main roads, tracks or on foot and there were no access issues that hindered the survey extent. Access to the wider Survey Area was restricted due to tenure and landowner permission issues.

5. RESULTS AND DISCUSSION

5.1 Flora and Vegetation

5.1.1 Desktop Study

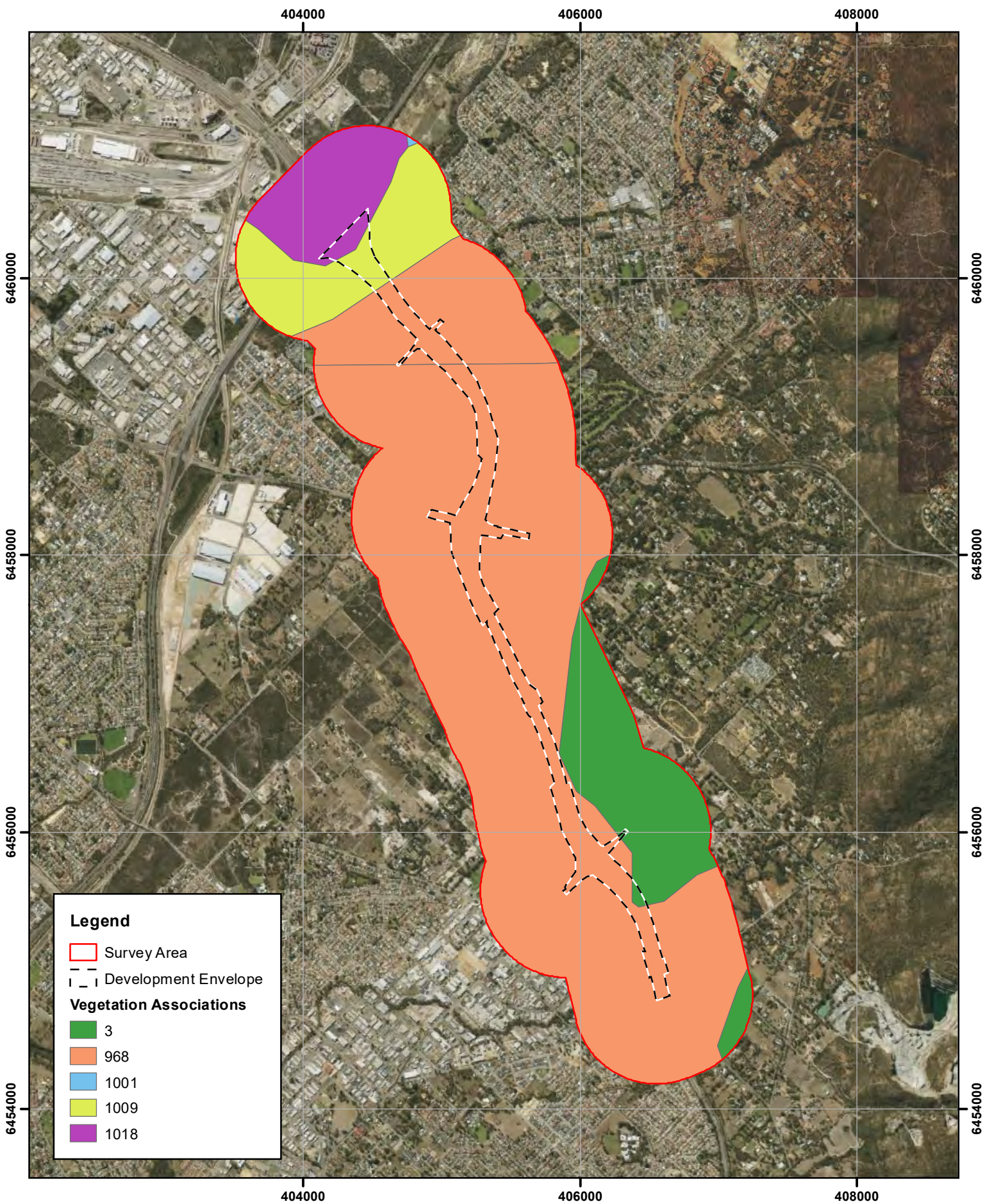
5.1.1.1 Regional Vegetation



The vegetation of Western Australia as it was presumed to have existed prior to European settlement has been mapped at a scale of 1:250,000 as vegetation associations, with the Pre-European Vegetation spatial database created (Beard *et al.* 2013).

A total of five vegetation associations occur in the Survey Area, as summarised in Table 8 and presented on Figure 7. Table 8 also presents the current extent of each vegetation association in relation to its pre-European extent (Government of Western Australia 2019a), and the percentage of the current extent of each vegetation association currently protected for conservation at statewide level. All five vegetation associations have been subject to some clearing, ranging from to 16.5 % remaining (vegetation association 1009) to 67.8 % (vegetation association 3) remaining. There are also limited proportions of each association protected for conservation ranging from 0.02 % (vegetation association 1009) to 26.9 % (vegetation association 3) (Government of Western Australia 2019a).

Table 8: Vegetation Associations occurring within the Survey Area (Government of Western Australia 2019a)

Vegetation Association	Description	Current Extent (ha)	Pre-European Extent Remaining (%)	Current Extent Protected for Conservation (%)
3	Medium forest; jarrah-marri	1803437	67.8	26.9
968	Medium woodland; jarrah, marri and wandoo	95049	32	11.1
1001	Medium very sparse woodland; jarrah, with low woodland; <i>Banksia</i> and <i>Casuarina</i>	12660	22.1	2.8
1009	Medium woodland; marri and river gum	3004	16.5	0.02
1018	Mosaic: Medium forest; jarrah-marri / Low woodland; <i>Banksia</i> / Low forest; teatree / Low woodland; <i>Casuarina obesa</i>	2445	17.4	0.7

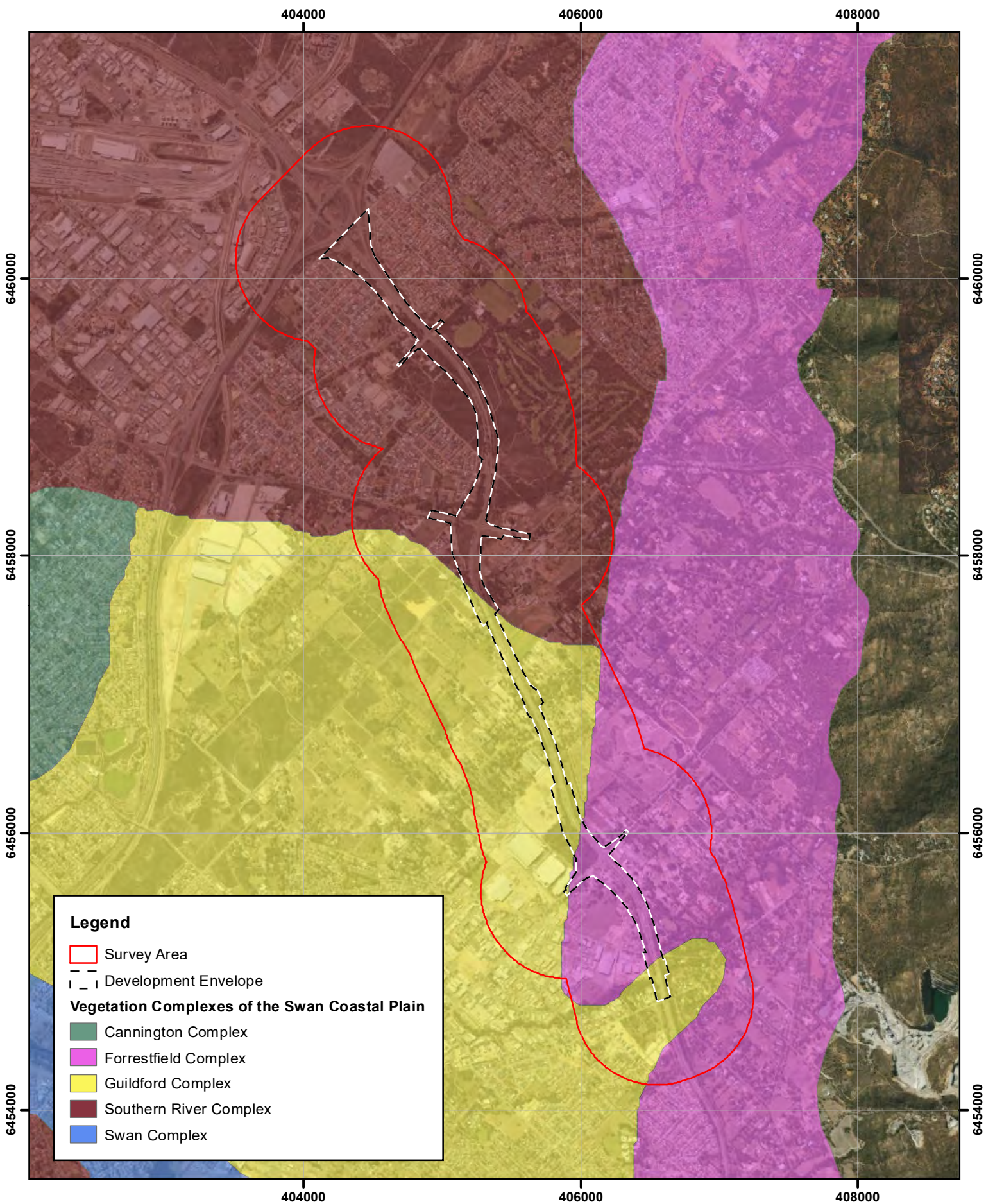




Vegetation Associations of the Survey Area	Author: Marlee Starcevich	
	WEC Ref: MR19-34-01	
 <small>This map should only be used in conjunction with WEC report MR19-34-01.</small>	Filename: MR19-34-01-f07	Figure 7
	Scale: 1:35,000 (A4)	
	Projection: GDA 1994 MGA Zone 50	
	Revision: A - 05 June 2020	

Vegetation within the Perth Metropolitan area has been described by Heddle *et al.* (1980) as vegetation complexes with updates from Webb *et al.* (2016). Three vegetation complexes occur in the Survey Area, as summarised in Table 9 and presented on Figure 8. Table 9 also presents the current extent of each vegetation complex in relation to its pre-European extent (Government of Western Australia 2019b), and the percentage of the current extent of each vegetation system association currently protected for conservation at statewide level. The Forrestfield, Guildford and Southern River vegetation complexes have less than 20% of their pre-European extent remaining, with a very small proportion (1.4 %, 0.3 % and 1.2 %, respectively) of the remaining extent protected for conservation.

Table 9: Vegetation Complexes Occurring within the Survey Area (Government of Western Australia 2019b)

Vegetation Complex	Description	Current Extent (ha)	Percentage of Pre-European Extent Remaining	Percentage of Current Extent Protected for Conservation
Forrestfield Complex (29)	Vegetation ranges from open forest of <i>Corymbia calophylla</i> (Marri) - <i>Eucalyptus wandoo</i> (Wandoo) - <i>Eucalyptus marginata</i> (Jarrah) to open forest of <i>Eucalyptus marginata</i> (Jarrah) - <i>Corymbia calophylla</i> (Marri) - <i>Allocasuarina fraseriana</i> (Sheoak) - <i>Banksia</i> species. Fringing woodland of <i>Eucalyptus rudis</i> (Flooded Gum) in the gullies that dissect this landform	2,803	12.3	1.4
Guildford Complex (32)	Mixture of open forest to tall open forest of <i>Corymbia calophylla</i> (Marri) - <i>Eucalyptus wandoo</i> (Wandoo) - <i>Eucalyptus marginata</i> (Jarrah) and woodland of <i>Eucalyptus wandoo</i> (Wandoo) (with rare occurrences of <i>Eucalyptus lane-poolei</i> (Salmon White Gum)). Minor components include <i>Eucalyptus rudis</i> (Flooded Gum) - <i>Melaleuca raphiophylla</i> (Swamp Paperbark)	4,607	5.1	0.3
Southern River Complex (42)	Mosaic of low woodland of <i>Allocasuarina fraseriana</i> - <i>Corymbia ficifolia</i> - <i>Banksia ilicifolia</i> - <i>Banksia attenuata</i> - <i>Banksia occidentalis</i> on slopes in perhumid zone to sedgeland of <i>Cyperaceae</i> spp., tall shrubland of <i>Myrtaceae</i> spp. and an open woodland of <i>Melaleuca preissiana</i> with some <i>Eucalyptus marginata</i> subsp. <i>marginata</i> on broad depressions in perhumid and humid zones	10,832	18.4	1.2

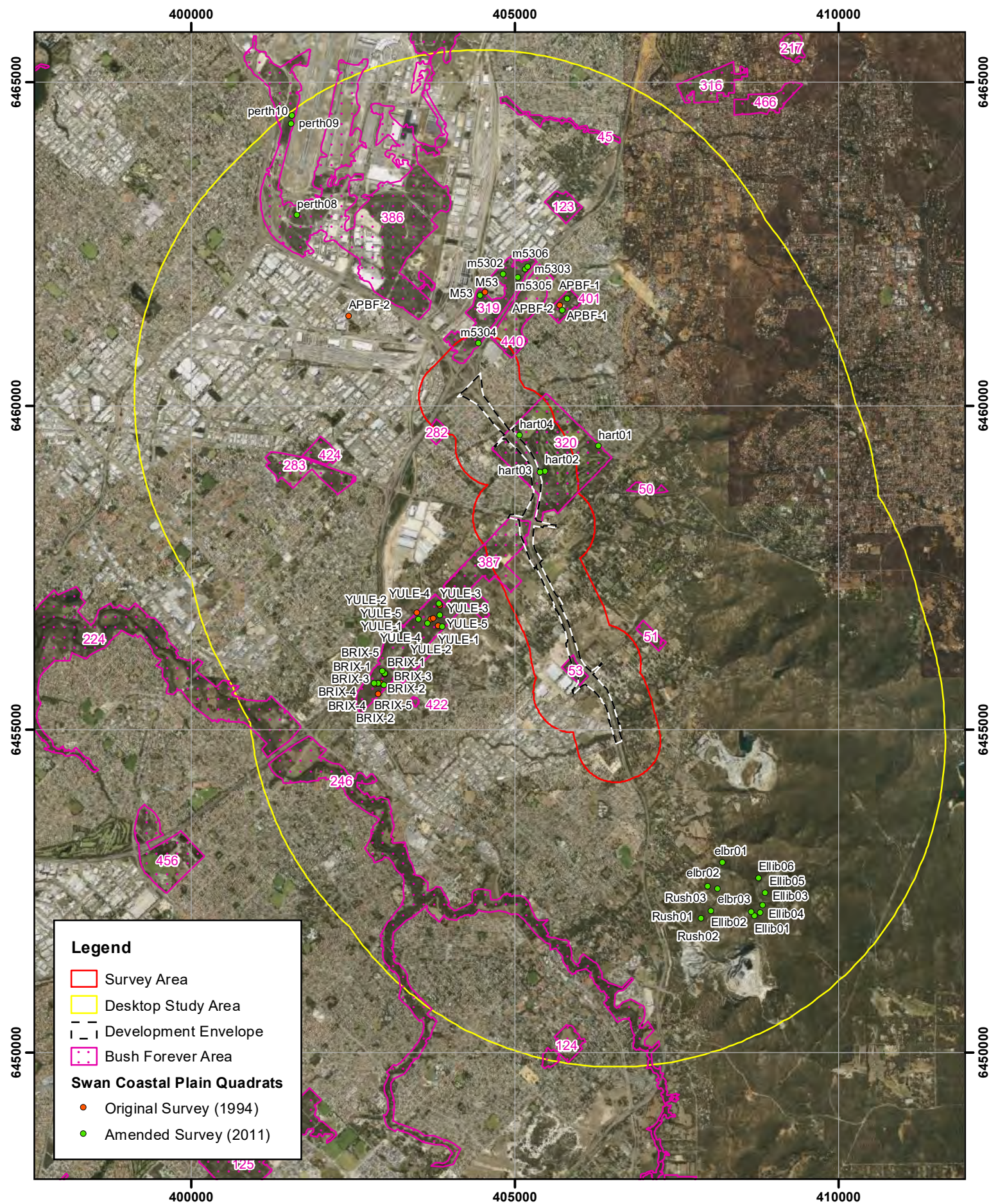




Vegetation Complexes of the Survey Area	Author: Marlee Starcevich	
	WEC Ref: MR19-34-01	
 <p>This map should only be used in conjunction with WEC report MR19-34-01.</p>	Filename: MR19-34-01-f08	Figure 8
	Scale: 1:35,000 (A4)	
	Projection: GDA 1994 MGA Zone 50	
	Revision: 0 - 30 July 2020	

The patterning of plant communities on the southern SCP was the subject of a detailed floristic survey by DBCA (as the Department of Conservation and Land Management) and the Conservation Council (Gibson *et al.* 1994). This survey established quadrats across the SCP, with subsequent classification analysis defining FCTs. Four quadrats (m5304, hart02, hart03 and hart04) were established within the Survey Area (Figure 9). Quadrats hart02, hart03 and hart04 are located within the Hartfield Park Bushland on the eastern side of Tonkin Highway between Hale Road and Welshpool Road. Quadrats hart02 and hart03 are considered to represent FCT S02, which is a community of 'Northern *Pericalymma ellipticum* dense low shrublands'. Quadrat hart04 is considered to represent FCT 23a, which is a community of 'Central *Banksia attenuata* - *Banksia menziesii* woodlands'. FCT 23a corresponds to listed PEC 'Banksia dominated woodlands of the Swan Coastal Plain IBRA region' (P3) in WA, which is a component of the EPBC listed TEC 'Banksia Woodlands of the Swan Coastal Plain ecological community' (Endangered). Quadrat m5304 is located within Dundas Road Bushland near the intersection with Roe Highway and Tonkin Highway. This quadrat is considered to represent FCT 2, which is community of 'Southern wet shrublands'. FCT 2 corresponds to listed TEC SCP02 'Southern wet shrubland, Swan Coastal Plain' in WA (Endangered).

Several areas of remnant vegetation intersected by the Survey Area have previously been identified as areas of regionally significant bushland through the Government of Western Australia's Bush Forever project (Government of Western Australia 2000). The vegetation present within these areas was also described in the context of SCP FCTs. The Bush Forever sites intersected by the Survey Area are:

- Clifford Street Bushland (Site 53) (vegetation north of Kelvin Road, between Clifford Street and Tonkin Highway);
- Tomah Road Bushland (Site 282) (vegetation between Roe Highway and St John Road, in the north-west of the Survey Area outside the Development Envelope);
- Dundas Road Bushland (Site 319) (vegetation between Dundas Road and Roe Highway, near the intersection between Roe Highway and Tonkin Highway, in the Survey Area outside the Development Envelope);
- Hartfield Park Bushland (Site 320) (vegetation on both sides of Tonkin Highway, from Hale Road to Welshpool Road);
- Greater Brixton Street Wetlands (387) (vegetation south of Welshpool Road, on west side of Tonkin Highway); and
- Pioneer Park Bushland (440) (vegetation east of Roe Highway, in the north of the Survey Area outside the Development Envelope).



SCP Study Quadrats and Bush Forever Sites within the Desktop Study Area	Author: Marlee Starceвич	
	WEC Ref: MR19-34-01	
 <p>This map should only be used in conjunction with WEC report MR19-34-01.</p>	Filename: MR19-34-01-f09	Figure 9
	Scale: 1:75,000 (A4)	
	Projection: GDA 1994 MGA Zone 50	
	Revision: 0 - 30 July 2020	

5.1.1.2 Local Flora and Vegetation Surveys

A number of flora and vegetation surveys that are publicly available have been undertaken within the Desktop Study Area, the results of which are summarised in Table 10. Those surveys with study areas that overlap the Development Envelope or Survey Area are shaded in green.

A total of four Priority taxa, three Threatened taxa, one PEC and four TECs have been recorded during previous surveys as presented in Table 9. Of these, the priority taxon *Isopogon autumnalis* (P3), Threatened taxon *Conospermum undulatum* and 'Banksia attenuata woodlands over species rich dense shrublands (SCP20a)' TEC were recorded by surveys that overlapped the Development Envelope or Survey Area.

Surveys conducted prior to 2016 were undertaken to meet the requirements of a Level 1 or Level 2 Survey, which consisted of background research/desktop study and reconnaissance survey, followed by either a targeted survey (Level 1) or detailed or comprehensive survey (Level 2). The level of survey required was determined from Table 2 of the Environmental Protection Authority's Guidance Statement No. 51 (EPA 2004). Since 2016 the Environmental Protection Authority have released new advice ('Technical Guidance for Flora and Vegetation Surveys for Environmental Impact Assessment' (EPA 2016a)), which supersedes Guidance Statement No 51. The original Level 1 survey has been replaced by a Reconnaissance Survey and Targeted Survey, and Level 2 with a Detailed Survey.

Table 10: Summary of Flora and Vegetation Surveys Previously Conducted in the Local Area

Report Title and Author	Location	Scope	Key Findings (Flora and Vegetation only)
Tonkin Highway / Hale Road, Tonkin Highway / Welshpool Road and Tonkin Highway / Kelvin Road Biological Assessment – Main Roads WA by AECOM Australia Pty Ltd (AECOM) (2015)	Along Tonkin Highway including Hale Road / Welshpool Road and Kelvin Road intersections – overlaps Development Envelope	Level 1 Flora and Vegetation Assessment (now a Reconnaissance Survey and Targeted Survey) – 43.78 ha	<ul style="list-style-type: none"> Recorded 151 taxa from 38 families and 102 genera. Unspecified number of sites assessed. Field survey was conducted in spring (October) 2014. One EPBC Act listed threatened taxon was recorded; <i>Conospermum undulatum</i>. Two priority taxa were recorded; <i>Isopogon drummondii</i> (now <i>Isopogon autumnalis</i>) (P3) and <i>Verticordia lindleyi</i> subsp. <i>lindleyi</i> (P4). 33 introduced taxa were recorded. 21 vegetation communities were mapped within survey area. Three communities described by this survey were considered to represent the State / EPBC listed TEC <i>Banksia attenuata</i> woodland over species rich dense shrublands (SCP20a).
PSP Pioneer Park Flora and vegetation survey - GatewayWA Alliance by GHD Pty Ltd (GHD) (2015)	East side of Roe Highway, 0.4 km NE of the Survey Area	Level 1 flora and vegetation assessment (now a Reconnaissance Survey and Targeted Survey) of the Public Shared Path (PSP) – 0.17 ha	<ul style="list-style-type: none"> Recorded 29 taxa from 14 families. Meandering transects of the survey area and one quadrat (10 x 10 m) undertaken. Field survey was conducted in summer (February) 2015. No significant flora taxa recorded. 16 introduced taxa were recorded. One vegetation community was mapped within the survey area. Vegetation within the survey area was largely in Good to Degraded condition.
Kenwick Freight Facility Flora and Black Cockatoo Habitat Assessment – Public Transport Authority by GHD (2016)	East of Roe Highway, south of Welshpool Road East, 1.1 km west of the Survey Area	Level 1 flora survey (out of season) (now a Reconnaissance Survey and Targeted Survey) – 17.81 ha	<ul style="list-style-type: none"> Recorded 55 taxa from 26 families and 47 genera. Three quadrats were assessed. Field survey was conducted in autumn (April) 2016. No significant flora taxa were recorded. 42 introduced taxa were recorded. Two vegetation communities were mapped within project area. None of the vegetation types were considered to be equivalent to any TECs or PECs. The majority of the vegetation in the project area (89 %) was completely cleared or highly degraded.

Report Title and Author	Location	Scope	Key Findings (Flora and Vegetation only)
Hartfield Park Flora Survey – Shire of Kalamunda by Natural Area Holdings Pty Ltd (Natural Area) (2015)	Hartfield Park, Forrestfield bordering the east side of the NE portion of the Survey Area	Level 2 flora survey (now a Detailed survey) – 1.5 ha	<ul style="list-style-type: none"> Recorded 84 taxa from 28 families. Four quadrats (10 x 10 m) were assessed. Field survey was conducted in spring (October/November) 2014. No significant flora taxa were recorded. 24 introduced taxa were recorded. Two vegetation communities were mapped within the survey area. One vegetation type was considered to be represent the <i>Corymbia calophylla</i> and <i>Kingia australis</i> Woodland on heavy soils of the Swan Coastal Plain TEC (SCP3a). Vegetation condition ranged from Completely Degraded to Excellent within the site, with the majority considered to be in Degraded condition.
Spring Flora and Vegetation Survey and Targeted <i>Conospermum undulatum</i> Search, Lot 107 Clifford Road, Maddington (CPS7063/1) – Juceda Investments Pty Ltd by Strategen Environmental (Strategen) (2016)	Between Clifford Street and Tonkin Highway within the Survey Area	Flora and vegetation survey and targeted survey – 2.36 ha	<ul style="list-style-type: none"> Three quadrats were assessed. Field survey was conducted in spring (September) 2016. No significant flora taxa were recorded. Four vegetation types were mapped within survey area. Vegetation condition ranged from Good to Completely Degraded.
New Runway Project Preliminary Draft Major Development Plan. Volume B: Environment, Heritage and Traffic Assessment – Perth Airport Pty Ltd (Perth Airport) (2018)	Perth Airport proposed New Runway Project – 0.5 km NW of the Survey Area	Compilation of survey data undertaken by numerous consultants from 2013 to 2018 as part of the New Runway Project for Perth Airport – 293 ha	<ul style="list-style-type: none"> Two EPBC Act listed threatened taxa were recorded; <i>Conospermum undulatum</i> and <i>Macarthuria keigheryi</i>. Three priority taxa were recorded; <i>Platysace ramosissima</i> (P3), <i>Schoenus benthamii</i> (P3) and <i>Verticordia lindleyi</i> subsp. <i>lindleyi</i> (P4). Seven vegetation types were mapped within survey area. Banksia Woodlands of the Swan Coastal Plain TEC was recorded in the survey area. Vegetation within the survey area ranged from Excellent to Completely Degraded.

Report Title and Author	Location	Scope	Key Findings (Flora and Vegetation only)
Roe Highway and Kalamunda Road Upgrade Flora, Vegetation, Fauna and Black Cockatoo Assessment – Main Roads WA by 360 Environmental Pty Ltd (360 Environmental) (2018)	Along Roe Highway including Kalamunda and Maida Vale Road intersections – approximately 2.3 km NE of the Survey Area	Detailed flora and vegetation survey – 80.8 ha.	<ul style="list-style-type: none"> Recorded 120 taxa from 37 families and 95 genera. Two quadrats (10 x 10 m) and three relevés assessed. Field survey was conducted in spring (October) 2017. One EPBC Act listed threatened taxon was recorded; <i>Conospermum undulatum</i>. One priority taxon was recorded: <i>Isopogon drummondii</i> (now <i>Isopogon autumnalis</i>) (P3). 34 introduced taxa were recorded. Five vegetation associations were described, and 17 vegetation units were mapped. Two vegetation associations were determined to have affiliations with FCT SCP20a and two vegetation associations were determined to have affiliations with FCT SCP3c.
Thornlie-Cockburn Link Project Flora and fauna survey – Public Transport Authority by GHD (2018)	Proposed 18 km railway alignment from Beckenham Station to Cockburn Central Station, northern part of alignment is 2.8 km SW of the Survey Area	Detailed flora and vegetation survey – 157.9 ha	<ul style="list-style-type: none"> Recorded 187 taxa from 52 families and 140 genera. 12 quadrats (10 x 10 m) and 9 relevés assessed. Field survey was conducted in spring (September/October) 2017 and summer/autumn/spring (February/March/September/October) 2018. One EPBC Act listed threatened taxon was recorded; <i>Caladenia huegelii</i>. No priority taxa were recorded. 68 introduced taxa were recorded. 11 vegetation types were mapped within survey area. Two conservation significant ecological communities were considered to be present within the survey area, these being: Banksia Woodlands of the SCP TEC and the Low lying <i>Banksia attenuata</i> woodlands or shrublands PEC (SCP21c).
Tonkin Highway Welshpool Road to Hale Road Vegetation condition assessment – Main Roads WA by Strategen Environmental (Strategen) (2019)	Along Tonkin Highway between Roe Highway and approximately 400 m north of Kelvin Road, Wattle Grove – overlaps northern/central Development Envelope	Vegetation condition assessment – 57.1 ha	<ul style="list-style-type: none"> Vegetation condition recorded – no flora or vegetation recorded. 25 sites inspected. Field survey was conducted in autumn (May) 2019. Vegetation within the Survey Area was largely in Degraded to Completely Degraded condition.

5.1.1.3 Significant Flora

The search of the DBCA WA Herbarium specimen Database and TPFL Database (data provided by Main Roads as per Section 3.1.1 (DBCA 2019b)) returned a total of 85 significant vascular flora taxa that have records in the Desktop Study Area. This includes 21 Threatened taxa (as classified under the BC Act) and 64 DBCA-classified Priority flora.

A search of these databases using *NatureMap* (DBCA 2007-) was also undertaken as part of the Desktop Study to check for any recently added records and confirm the records returned from the DBCA WA Herbarium specimen database and TPFL database search (Appendix H). The *NatureMap* search did not return any additional significant flora taxa.

The search of the DAWE SPRAT Database (DAWE 2019) with regard to MNES listed under the EPBC Act identified 29 flora taxa listed as Threatened Species, or habitat for such species, that may occur in the Desktop Study Area. The full results of the DAWE Database search are presented in Appendix I.

A list of significant flora taxa known from within the Desktop Study Area is presented in Table 11 and on Figure 10. This list has been compiled from the results of searches of DBCA's Threatened Flora Databases and DAWE's SPRAT Database. A total of 95 significant taxa are known from the Desktop Study Area including 30 Threatened taxa and 65 Priority taxa. Of these, 15 taxa are known to occur in the Survey Area itself; these are shaded in green in Table 11.

Appendix B presents conservation codes for Western Australia flora (DBCA 2019a).

Table 11: Significant Flora Taxa Known from Within the Desktop Study Area

Taxon	Status	Source*	Flowering Period (WA Herbarium 1998-)	Habitat (WA Herbarium 1998-)
<i>Acacia anomala</i>	T	DAWE; DBCA	August to September	Yellow or grey-brown sandy loam or sandy clay with laterite pebbles over laterite. Slopes and flats
<i>Acacia aphylla</i>	T	DBCA	July to October	Brown or yellow sandy loam or clay loam on laterite and granite outcrops. Slopes and flats
<i>Acacia horridula</i>	P3	DBCA	May to November	Brown or yellow loam or sandy loam with granite or laterite. Granite outcrops, slopes
<i>Acacia lasiocarpa</i> var. <i>bracteolata</i> long peduncle variant (G.J. Keighery 5026)	P1	DBCA	May, August	Sand. Winter-wet flats and swamps
<i>Acacia oncinophylla</i> subsp. <i>patulifolia</i>	P4	DBCA	March to April or September to December	Granite, occasionally on laterite. Brown loam
<i>Allocasuarina grevilleoides</i>	P3	DBCA	September to November	Brown or grey sand or clay loam with laterite and granite. Slopes, outcrops and plains
<i>Andersonia gracilis</i>	T	DAWE; DBCA	August to November	White or grey sand, sandy clay or gravelly loam. Winter-wet areas and near swamps
<i>Andersonia</i> sp. <i>Blepharifolia</i> (F. & J. Hort 1919)	P2	DBCA	September to November	Brown or red sandy loam with granite or laterite. Slopes and hilltops
<i>Anthocercis gracilis</i>	T	DAWE; DBCA	September to October	Sandy or loamy soils. Granite outcrops
<i>Aponogeton hexatepalus</i>	P4	DBCA	February, May to November	Brown, grey or black clay. Growing in shallow water in major drainage lines and wetlands, claypans
<i>Asteridea gracilis</i>	P3	DBCA	February, September to October	Brown or yellow sandy loam with laterite and granite. Slopes, flats and plains
<i>Austrostipa bronwenae</i>	T	DAWE; DBCA	September to November	Brown or grey loam or sandy clay, sometimes on Muchea limestone. Winter-wet flats, swamps and wetlands
<i>Babingtonia urbana</i>	P3	DBCA	December to March	Brown clay loam and sand. Winter-wet flats and wetlands
<i>Banksia kippistiana</i> var. <i>paenepeccata</i>	P3	DBCA	October to November	Slopes and hills. Sandy soils with laterite.
<i>Banksia mimica</i>	T	DAWE; DBCA	September to January	Grey or white sand. Hilltops, slopes and flats
<i>Banksia pteridifolia</i> subsp. <i>vernalis</i>	P3	DBCA	August to November	White, grey or brown sand and loamy sand over laterite. Slopes and flats
<i>Beaufortia purpurea</i>	P3	DBCA	August to December	Brown sandy loam with laterite, sometimes over granite. Slopes

Taxon	Status	Source*	Flowering Period (WA Herbarium 1998-)	Habitat (WA Herbarium 1998-)
<i>Bolboschoenus fluviatilis</i>	P1	DBCA	November to December	Grey or brown sand or silt. Wet soils in littoral zones, edges of watercourses and seeps
<i>Boronia humifusa</i>	P1	DBCA	June, September to October	Slopes, valleys and hills. Gravelly sand or loam over laterite.
<i>Boronia tenuis</i>	P4	DBCA	August to November	Brown loam or sandy clay over granite or laterite. Slopes and outcrops
<i>Byblis gigantea</i>	P3	DBCA	September to January	Sand or sandy loam. Winter-wet flats and drainage lines
<i>Caladenia huegelii</i>	T	DAWE; DBCA	August to October	Grey or brown sand, clay loam
<i>Calandrinia uncinella</i>	P1	DBCA	September to October	Brown, grey or white sand or loam. Swamps, winter-wet flats and saline river flats
<i>Calothamnus accedens</i>	P4	DBCA	July to January	Brown or grey loam or clay loam over laterite. Slopes and hilltops
<i>Calothamnus graniticus</i> subsp. <i>leptophyllus</i>	P4	DBCA	June to August, September, November	Clay or sandy loam with granite or laterite. Hillsides and slopes.
<i>Calytrix breviseta</i> subsp. <i>breviseta</i>	T	DAWE; DBCA	September to November	Grey or brown sandy loam or clay. Flats and winter-wet depressions
<i>Carex tereticaulis</i>	P3	DBCA	September to November	Grey or brown loam or sandy clay with laterite. Edges of drainage lines
<i>Chamaescilla gibsonii</i>	P3	DBCA	August to November	Brown or grey sandy clay. Winter-wet clay pans and flats
<i>Chamelaucium lullfitzii</i>	T	DAWE	September to December	Sand, sometimes gravelly. Slopes and undulating plains
<i>Comesperma griffinii</i>	P2	DBCA	October to January	Grey or brown clayey sand or sandy loam, sometimes gravelly. Slopes, winter-wet flats and depressions
<i>Comesperma rhadinocarpum</i>	P3	DBCA	October to January	Sand or sandy loam with laterite. Slopes, undulating plains and flats
<i>Conospermum undulatum</i>	T	DAWE; DBCA	May to October	Sand and sandy clay, often over laterite. Flats and slopes
<i>Cyanicula ixioides</i> subsp. <i>ixioides</i>	P4	DBCA	August to October	Slopes, gullies and hillsides with clay or sandy gravel often with laterite or granite outcropping,
<i>Darwinia apiculata</i>	T	DAWE; DBCA	July, October to November	Brown or grey sandy loam with granite or laterite. Granite outcrops, ridges and flats

Taxon	Status	Source*	Flowering Period (WA Herbarium 1998-)	Habitat (WA Herbarium 1998-)
<i>Diplolaena andrewsii</i>	T	DAWE	August to November	Brown sandy loam over granite. Granite outcrops and slopes
<i>Diuris drummondii</i>	T	DAWE	November to December	Wet brown or grey sandy loam or peat. Winter-wet swamps, watercourses and floodplains.
<i>Diuris micrantha</i>	T	DAWE	September to October	Brown loamy clay. Winter-wet swamps, in shallow water
<i>Diuris purdiei</i>	T	DAWE; DBCA	September to October	Grey-black sand, moist. Winter-wet swamps
<i>Drakaea elastica</i>	T	DAWE	October to November	White or grey sand. Low-lying situations adjoining winter-wet swamps
<i>Drakaea micrantha</i>	T	DAWE	September to November	White-grey sand
<i>Drosera occidentalis</i>	P4	DBCA	October to November	Swampy or damp flats, sandy floodplain
<i>Eleocharis keigheryi</i>	T	DAWE; DBCA	August to November	Clay or sandy loam. Growing in shallow water in creeks and claypans
<i>Eremophila glabra</i> subsp. <i>chlorella</i>	T	DAWE; DBCA	June to January	Brown, grey or white sand or clay. Swamps, winter-wet flats and lower slopes
<i>Eryngium pinnatifidum</i> subsp. <i>Palustre</i> (G.J. Keighery 13459)	P3	DBCA	September to November	Grey, brown or black sand or clay. Winter-wet flats and claypans
<i>Eryngium</i> sp. <i>Subdecumbens</i> (G.J. Keighery 5390)	P3	DBCA	September to January	Grey clay. Winter-wet flats, claypans and swamps
<i>Eucalyptus x balanites</i>	T	DAWE	October to December or January to February	Sandy soils with lateritic gravel
<i>Goodenia arthrotricha</i>	T	DAWE; DBCA	March, November to December	Brown sandy loam, sometimes with laterite and granite. Outcrops, slopes, hilltops and flats
<i>Grevillea curviloba</i>	T	DAWE	August to October	Grey, white or brown sand or sandy loam. Flats, drainage lines and lower slopes
<i>Grevillea thelemanniana</i>	T	DAWE; DBCA	September to December	Grey or brown sandy loam and clay. Winter-wet swamps and flats
<i>Haemodorum loratum</i>	P3	DBCA	October to November	White, grey or brown sand, sometimes over granite or laterite. Slopes, plains and flats
<i>Halgania corymbosa</i>	P3	DBCA	September to October	Brown sandy loam or sandy clay over laterite or granite. Slopes
<i>Haloragis scoparia</i>	P1	DBCA	April	Plains or flats with white/grey clay
<i>Hibbertia montana</i>	P4	DBCA	August to September	Brown sandy loam with laterite or granite. Slopes, gullies, breakaways and hilltops

Taxon	Status	Source*	Flowering Period (WA Herbarium 1998-)	Habitat (WA Herbarium 1998-)
<i>Hydrocotyle lemnoides</i>	P4	DBCA	August to November	Brown or grey clay or clayey sand. Growing in shallow water in wetlands, swamps and claypans
<i>Hydrocotyle striata</i>	P1	DBCA	November	Winter wet depressions and creeks with peat or sand.
<i>Isopogon autumnalis</i>	P3	DBCA	February to June	Grey or yellow sand, sometimes with laterite. Plains, flats and lower slopes
<i>Isotropis cuneifolia</i> subsp. <i>glabra</i>	P3	DBCA	September to October	Grey or brown sand or clay. Winter-wet depressions and flats
<i>Jacksonia gracillima</i>	P3	DBCA	September to November	Grey sand. Winter-wet flats and wetlands
<i>Lasiopetalum bracteatum</i>	P4	DBCA	September to February	Brown or yellow clayey sand, sometimes over granite. Hilltops, slopes and drainage lines
<i>Lasiopetalum glutinosum</i> subsp. <i>glutinosum</i>	P3	DBCA	September to December	Sandy loam or clay with granite. Granite outcrops and slopes
<i>Lasiopetalum pterocarpum</i>	T	DAWE	September to November	Red-brown loam or clayey sand with granite or laterite. Sloping banks near creeklines
<i>Lepidosperma rostratum</i>	T	DAWE; DBCA	June to December	Peaty sand or clay. Winter-wet swamps
<i>Lepyrodia curvescens</i>	P2	DBCA	June, September to January	Grey sandy loam or peaty sand. Slopes and winter-wet depressions
<i>Macarthuria keigheryi</i>	T	DAWE; DBCA	August to November	Grey or white sand. Low-lying plains and low rises, particularly in recently burnt vegetation
<i>Meionectes tenuifolia</i>	P3	DBCA	October to December	Wetlands, swamps
<i>Melaleuca viminalis</i> [^]	P2	DBCA	November to May	Brown or grey sand or sandy clay. Drainage lines and flats
<i>Myriophyllum echinatum</i>	P3	DBCA	September to October	Brown or grey sandy clay. Wetlands and winter-wet depressions
<i>Ornduffia submersa</i>	P4	DBCA	August to November	Grey or brown clay. Growing in shallow water in wetlands and drainage lines
<i>Pimelea rara</i>	P4	DBCA	November to March	Grey, brown or yellow sandy loam with granite or laterite. Ridges and slopes
<i>Pithocarpa corymbulosa</i>	P3	DBCA	January to April	Gravelly or sandy loam. Amongst granite outcrops
<i>Platysace ramosissima</i>	P3	DBCA	November to January	Sand. Undulating plains, slopes and flats
<i>Ptilotus pyramidatus</i>	T	DAWE; DBCA	October	Grey or white sandy clay. Flats
<i>Ptilotus sericostachyus</i> subsp. <i>roseus</i>	P1	DBCA	September to December	-
<i>Schoenus benthamii</i>	P3	DBCA	August to November	Grey or white clayey sand. Swamps, wetlands and winter-wet flats

Taxon	Status	Source*	Flowering Period (WA Herbarium 1998-)	Habitat (WA Herbarium 1998-)
<i>Schoenus capillifolius</i>	P3	DBCA	October to November	Brown clay or sandy clay. Winter-wet claypans and flats
<i>Schoenus loliaceus</i>	P2	DBCA	September to November	Grey or brown clay loam or peaty clay. Growing in shallow water in swamps and winter-wet flats
<i>Schoenus natans</i>	P4	DBCA	September to December	Brown or grey sandy clay. Growing in shallow water in creeklines, claypans and wetland
<i>Schoenus pennisetis</i>	P3	DBCA	August to November	Grey or peaty sand, sandy clay. Swamps, winter-wet depressions
<i>Schoenus</i> sp. Beaufort (G.J. Keighery 6291)	P1	DBCA	September to October	Brown or grey clay. Growing in shallow water in creeklines and claypans
<i>Schoenus</i> sp. Waroona (G.J. Keighery 12235)	P3	DBCA	October to November	Brown or grey clay or sandy clay. Winter-wet flats and wetlands
<i>Senecio gilbertii</i>	P1	DBCA	September to November	Valleys and slopes with laterite.
<i>Senecio leucoglossus</i>	P4	DBCA	October to December	Brown loam with laterite or granite. Slopes
<i>Stackhousia</i> sp. Red-blotched corolla (A. Markey 911)	P3	DBCA	September to November	Slopes with clay with granite or sometimes laterite.
<i>Stylidium aceratum</i>	P3	DBCA	October to November	Grey or brown sandy loam or clay. Wetlands, swamps and winter-wet flats
<i>Stylidium longitubum</i>	P4	DBCA	July to November	Brown or grey clay loam. Wetlands and winter-wet flats
<i>Stylidium striatum</i>	P4	DBCA	September to December	Brown or yellow sandy clay with laterite. Slopes and flats
<i>Styphelia filifolia</i>	P3	DBCA	February to April	Sand. Sandplains, slopes and flats
<i>Synaphea</i> sp. Fairbridge Farm (D. Papenfus 696)	T	DAWE; DBCA	September to October	Grey or brown clayey sand or sand with laterite. Winter-wet flats
<i>Tetralia australiensis</i>	T	DBCA	September to December	Brown or grey sandy loam or sand. Winter-wet flats
<i>Thelymitra dedmaniarum</i>	T	DAWE	November to January	Grey loam. Granite
<i>Thelymitra magnifica</i>	P1	DBCA	September to October	Brown loam with granite or laterite. Granite outcrops, gullies and slopes
<i>Thelymitra stellata</i>	T	DAWE; DBCA	October to November	Brown or grey sand or clay loam with laterite. Ridges, gullies and rocky slopes
<i>Thysanotus anceps</i>	P3	DBCA	November to January	Sand or sandy loam with laterite. Ridges, hilltops and slopes

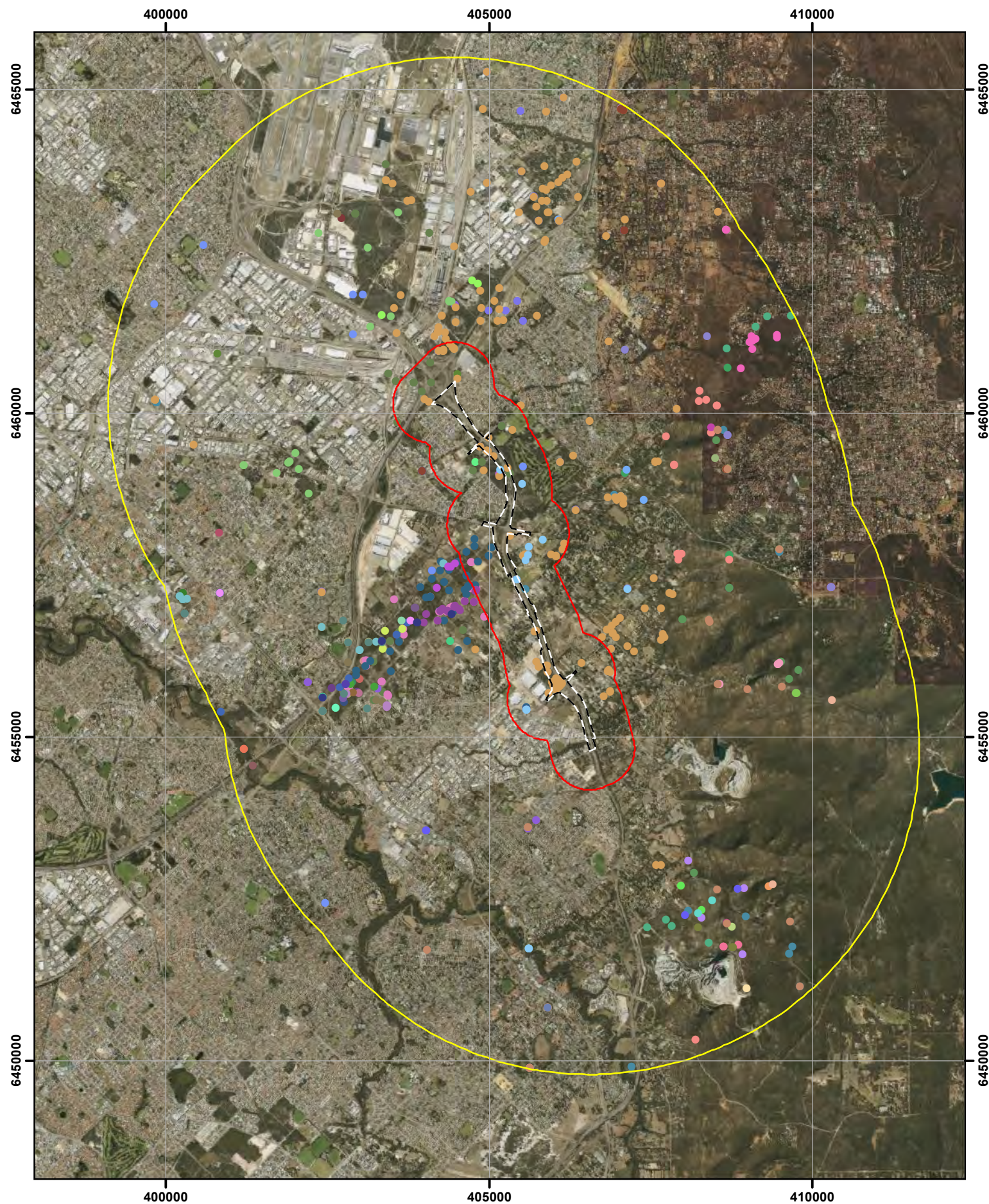
Taxon	Status	Source*	Flowering Period (WA Herbarium 1998-)	Habitat (WA Herbarium 1998-)
<i>Thysanotus</i> sp. Badgingarra (E.A. Griffin 2511)	P2	DBCA	January, December	Slopes and hills with sand or sandy clay with laterite or granite.
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	DBCA	October to May	Sand or sandy clay. Winter-wet flats and depressions



* Sources are:

DAWE – SPRAT Database Search (DAWE 2019);




DBCA - DBCA's Significant Flora Databases (data provided by Main Roads) (DBCA 2019b) and NatureMap DBCA (2007-) (see Section 3.1.1)

^ *Melaleuca viminalis* is indigenous to the Kimberley Region of Western Australia and has been introduced to the Survey Area (see Section 5.1.2.6).















































































Desktop Study Area Significant Flora Records	Author: Marlee Starceвич		
	WEC Ref: MR19-34-01		
	Filename: MR19-34-01-f10-1		Figure 10.1
This map should only be used in conjunction with WEC report MR19-34-01.	Scale: 1:75,000 (A4)		
	Projection: GDA 1994 MGA Zone 50		
	Revision: 0 - 30 July 2020		

Legend

-  Desktop Study Area
-  Development Envelope
-  Survey Area

Significant Flora

-  *Acacia anomala* (T)
-  *Acacia aphylla* (T)
-  *Acacia horridula* (P3)
-  *Acacia lasiocarpa* var. *bracteolata* long peduncle variant (G.J. Keighery 5026) (P1)
-  *Acacia oncinophylla* subsp. *patulifolia* (P4)
-  *Allocasuarina grevilleoides* (P3)
-  *Andersonia gracilis* (T)
-  *Andersonia* sp. *Blepharifolia* (F. & J. Hort 1919) (P2)
-  *Anthocercis gracilis* (T)
-  *Aponogeton hexatepalus* (P4)
-  *Asteridea gracilis* (P3)
-  *Austrostipa bronwenae* (T)
-  *Babingtonia urbana* (P3)
-  *Banksia mimica* (T)
-  *Banksia pteridifolia* subsp. *vernalis* (P3)
-  *Beaufortia purpurea* (P3)
-  *Bolboschoenus fluviatilis* (P1)
-  *Boronia tenuis* (P4)
-  *Byblis gigantea* (P3)
-  *Caladenia huegelii* (T)
-  *Calandrinia uncinella* (P1)
-  *Calothamnus accedens* (P4)
-  *Calothamnus graniticus* subsp. *leptophyllus* (P4)
-  *Calytrix breviseta* subsp. *breviseta* (T)
-  *Carex tereticaulis* (P3)
-  *Chamaescilla gibsonii* (P3)
-  *Comesperma griffinii* (P2)
-  *Comesperma rhadinocarpum* (P3)
-  *Conospermum undulatum* (T)
-  *Darwinia apiculata* (T)
-  *Diuris purdiei* (T)
-  *Drosera occidentalis* (P4)
-  *Eleocharis keigheryi* (T)
-  *Eremophila glabra* subsp. *chlorella* (T)
-  *Eryngium pinnatifidum* subsp. *Palustre* (G.J. Keighery 13459) (P3)
-  *Eryngium* sp. *Subdecumbens* (G.J. Keighery 5390) (P3)
-  *Goodenia arthrotricha* (T)
-  *Grevillea thelemanniana* (T)
-  *Haemodorum loratum* (P3)
-  *Halgania corymbosa* (P3)
-  *Hydrocotyle lemnoides* (P4)
-  *Isopogon autumnalis* (P3)
-  *Isotropis cuneifolia* subsp. *glabra* (P3)
-  *Jacksonia gracillima* (P3)
-  *Lasiopetalum bracteatum* (P4)
-  *Lasiopetalum glutinosum* subsp. *glutinosum* (P3)
-  *Lepidosperma rostratum* (T)
-  *Lepyrodia curvescens* (P2)
-  *Macarthuria keigheryi* (T)
-  *Meionectes tenuifolia* (P3)
-  *Melaleuca viminalis* (P2)
-  *Myriophyllum echinatum* (P3)
-  *Ornduffia submersa* (P4)
-  *Pimelea rara* (P4)
-  *Pithocarpa corymbulosa* (P3)
-  *Platysace ramosissima* (P3)
-  *Ptilotus pyramidatus* (T)
-  *Stylidium aceratum* (P3)
-  *Schoenus benthamii* (P3)
-  *Stylidium longitubum* (P4)
-  *Schoenus loliaceus* (P2)
-  *Schoenus natans* (P4)
-  *Schoenus* sp. *Beaufort* (G.J. Keighery 6291) (P1)
-  *Schoenus* sp. *Waroona* (G.J. Keighery 12235) (P3)
-  *Styphelia filifolia* (P3)
-  *Schoenus pennisetis* (P3)
-  *Stackhousia* sp. *Red-blotched corolla* (A. Markey 911) (P3)
-  *Senecio leucoglossus* (P4)
-  *Stylidium striatum* (P4)
-  *Schoenus capillifolius* (P3)
-  *Synaphea* sp. *Fairbridge Farm* (D. Papenfus 696) (T)
-  *Tetraria australiensis* (T)
-  *Thelymitra magnifica* (P1)
-  *Thelymitra stellata* (T)
-  *Thysanotus anceps* (P3)
-  *Verticordia lindleyi* subsp. *lindleyi* (P4)

Desktop Study Area Significant Flora Records

Author: Marlee Starcevich

WEC Ref: MR19-34-01



Filename: MR19-34-01-f10-2

Scale: 1:75,000 (A4)

Projection: GDA 1994 MGA Zone 50

Revision: 0 - 30 July 2020

Figure

10.2



WOODMAN
ENVIRONMENTAL

This map should only be used in conjunction with WEC report MR19-34-01.

5.1.1.4 Significant Vegetation

The interrogation of the DBCA TEC and PEC Database (data provided by Main Roads as per Section 3.1.1 (DBCA 2019b) and DAWE's SPRAT Database (DAWE 2019) returned a total of 15 significant communities that have records in (or buffers that intersect) the Desktop Study Area. These are presented in Table 11. The names of the communities in Table 12 are as presented in WA TEC / PEC lists (DBCA 2018; 2020b) unless otherwise noted.

As outlined in Table 12, many of the significant communities are listed by both WA and the Commonwealth, often under slightly different names, or the WA community is listed as a component of a Commonwealth community. Four of the communities are listed as PECs in Western Australia with the remaining communities listed as TECs under either state and/or federal legislation. Nine of these communities have buffer polygons that intersect the Survey Area itself, highlighted in green in Table 12. The locations of significant vegetation are presented on Figure 11.

Appendix C presents definitions, categories and criteria for TECs and PECs (DBCA 2013a).

Table 12: Significant Vegetation Returned from DBCA Database Searches

Community	Conservation Status (WA)	EPBC Act Ranking	Source*
Banksia woodlands of the Swan Coastal Plain	Priority 3	Endangered^	DBCA; DAWE
Central Northern Darling Scarp Granite Shrubland Community (Com 5, Markey)	Priority 4	-	DBCA
SCP02 - Southern wet shrublands, Swan Coastal Plain	Endangered	-	DBCA
SCP3a - <i>Corymbia calophylla</i> - <i>Kingia australis</i> woodlands on heavy soils, Swan Coastal Plain (WA); <i>Corymbia calophylla</i> - <i>Kingia australis</i> woodlands on heavy soils of the Swan Coastal Plain (Commonwealth)	Critically Endangered	Endangered	DBCA ; DAWE
SCP3b - <i>Corymbia calophylla</i> - <i>Eucalyptus marginata</i> woodlands on sandy clay soils of the southern Swan Coastal Plain	Vulnerable	-	DBCA
SCP07 - Herb rich saline shrublands in clay pans (WA); Clay Pans of the Swan Coastal Plain (Commonwealth)	Vulnerable	Critically Endangered~	DBCA ; DAWE
SCP08 - Herb rich shrublands in clay pans (WA); Clay Pans of the Swan Coastal Plain (Commonwealth)	Vulnerable	Critically Endangered~	DBCA ; DAWE
SCP10a - Shrublands on dry clay flats (WA); Clay Pans of the Swan Coastal Plain (Commonwealth)	Endangered	Critically Endangered~	DBCA ; DAWE
SCP20a - <i>Banksia attenuata</i> woodlands over species rich dense shrublands (WA); Banksia Woodlands of the Swan Coastal Plain (Commonwealth)	Endangered	Endangered^	DBCA ; DAWE
SCP20b - <i>Banksia attenuata</i> and/or <i>Eucalyptus marginata</i> woodlands of the eastern side of the Swan Coastal Plain (WA); Banksia Woodlands of the Swan Coastal Plain (Commonwealth)	Endangered	Endangered^	DBCA ; DAWE
SCP20c - Shrublands and woodlands of the eastern side of the Swan Coastal Plain	Critically Endangered	Endangered	DBCA
SCP21c - Low lying <i>Banksia attenuata</i> woodlands or shrublands (WA); Banksia Woodlands of the Swan Coastal Plain (Commonwealth)	Priority 3	Endangered^	DBCA ; DAWE
Shrublands and woodlands on Muchea Limestone	Endangered	Endangered	DBCA
Tuart (<i>Eucalyptus gomphocephala</i>) woodlands of the	Priority 3	Critically	DAWE

Community	Conservation Status (WA)	EPBC Act Ranking	Source*
Swan Coastal Plain (WA); Tuart (<i>Eucalyptus gomphocephala</i>) Woodlands and Forests of the Swan Coastal Plain (Commonwealth)		Endangered	

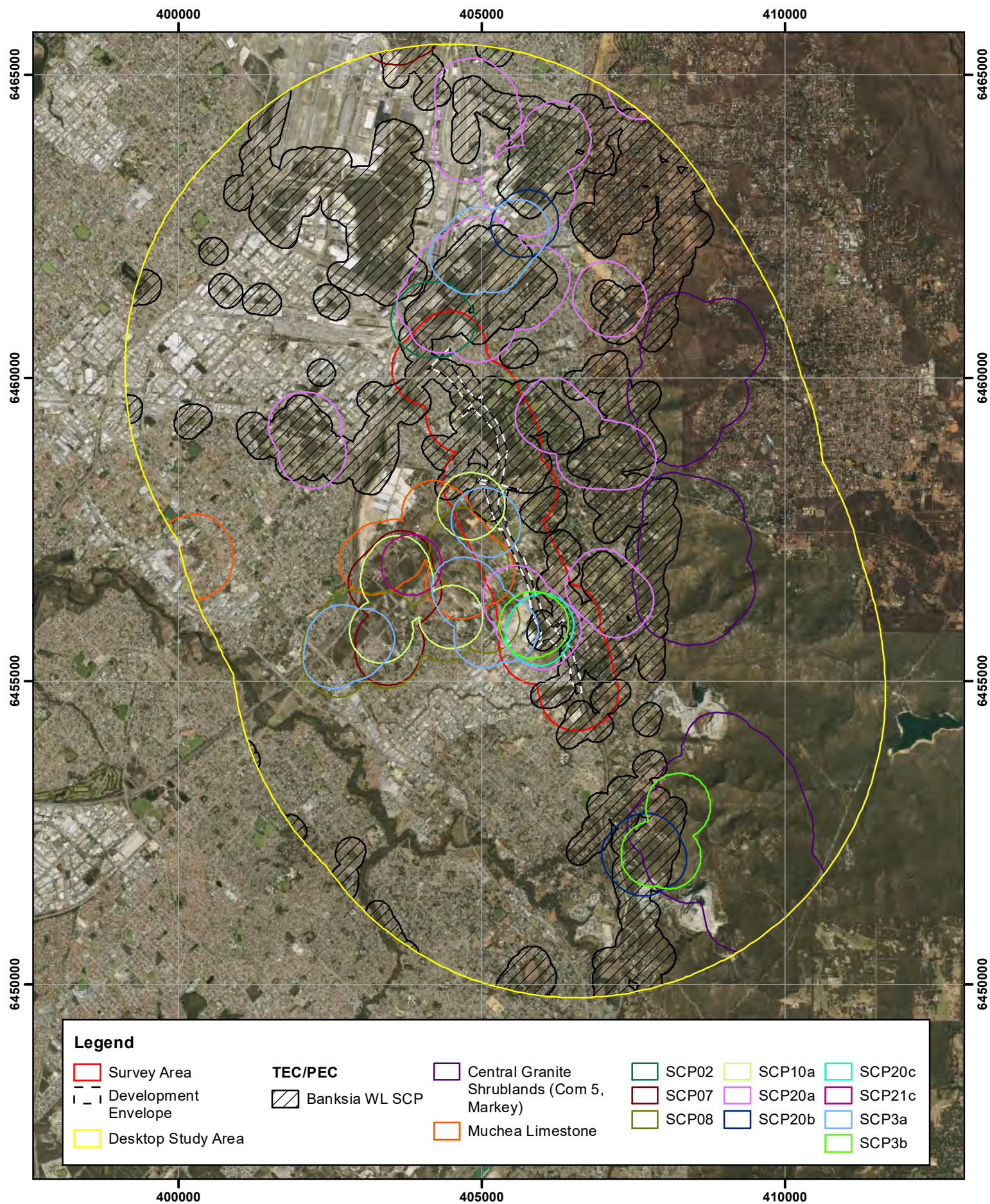
^: can be a component of the EPBC listed TEC 'Banksia Woodlands of the Swan Coastal Plain'.



~: can be a component of the EPBC listed TEC 'Clay Pans of the Swan Coastal Plain'.

* Sources are:

DBCA - DBCA's TEC and PEC Database, data provided by Main Roads (DBCA 2019b) and *NatureMap* (see Section 3.1.1); and

DAWE - SPRAT Database Search (DAWE 2019).



<p>Desktop Study Area Significant Vegetation</p>	<p>Author: Marlee Starcevich</p>	
	<p>WEC Ref: MR19-34-01</p>	
 <p>WOODMAN ENVIRONMENTAL</p> <p>This map should only be used in conjunction with WEC report MR19-34-01.</p>	<p>Filename: MR19-34-01-f11</p>	<p>Figure</p> <p>11</p>
	<p>Scale: 1:80,000 (A4)</p>	
	<p>Projection: GDA 1994 MGA Zone 50</p>	
	<p>Revision: 0 - 30 July 2020</p>	

5.1.1.5 Introduced Flora

A total of 280 introduced taxa are known to occur within the Desktop Study Area. Of these, 15 are Declared Pests listed under the BAM Act (DPIRD 2019) and 18 are listed Weeds of National Significance (WoNS) (Australian Weeds Committee (AWC) 2019), as presented in Table 13. The full list of introduced flora taxa known from within the Desktop Study Area is presented in Appendix J. The information presented has been compiled from the DBCA *NatureMap* search (DBCA 2007-) and DAWE's SPRAT Database (DAWE 2019).

Table 13: Declared Pests and WoNS known from within the Desktop Study Area

Taxon	Common Name	Source*	Comments
<i>Asparagus aethiopicus</i>	Asparagus Fern	DAWE	WoNS
<i>Asparagus asparagoides</i>	Bridal Creeper	DAWE	Declared Pest; WoNS
<i>Asparagus declinatus</i>	Bridal Veil	DAWE	WoNS
<i>Asparagus plumosus</i>	Climbing Asparagus-fern	DAWE	WoNS
<i>Chrysanthemoides monilifera</i> subsp. <i>monilifera</i>	Boneseed	DAWE; <i>NatureMap</i>	Declared Pest; WoNS
<i>Echium plantagineum</i>	Paterson's Curse	<i>NatureMap</i>	Declared Pest
<i>Eichhornia crassipes</i>	Water Hyacinth	DAWE	WoNS
<i>Genista linifolia</i>	Flax-leaved Broom	DAWE; <i>NatureMap</i>	WoNS
<i>Genista monspessulana</i>	Cape Broom	DAWE	WoNS
<i>Gomphocarpus fruticosus</i>	Narrowleaf Cottonbush	<i>NatureMap</i>	Declared Pest
<i>Lantana camara</i>	Lantana	DAWE; <i>NatureMap</i>	WoNS
<i>Lycium ferocissimum</i>	African Boxthorn	DAWE	WoNS
<i>Moraea flaccida</i>	One-leaf Cape Tulip	<i>NatureMap</i>	Declared Pest
<i>Opuntia monacantha</i>	Barbary Fig	<i>NatureMap</i>	Declared Pest; WoNS
<i>Opuntia</i> spp.	Prickly Pears	DAWE	WoNS
<i>Opuntia stricta</i>	Common Prickly Pear	<i>NatureMap</i>	WoNS
<i>Rubus anglocandicans</i>		<i>NatureMap</i>	Declared Pest
<i>Rubus fruticosus</i> aggregate	Blackberry	DAWE	Declared Pest; WoNS
<i>Rubus laudatus</i>		<i>NatureMap</i>	Declared Pest
<i>Sagittaria platyphylla</i>	Arrowhead	DAWE	Declared Pest; WoNS
<i>Salix</i> spp. (except <i>S. babylonica</i> , <i>S.x calodendron</i> and <i>S.x reichardtii</i>)	Willows	DAWE	Declared Pest (majority of <i>Salix</i> spp.); WoNS
<i>Salvinia molesta</i>	Salvinia	DAWE; <i>NatureMap</i>	WoNS
<i>Solanum linnaeanum</i>	Apple of Sodom	<i>NatureMap</i>	Declared Pest
<i>Tamarix aphylla</i>	Athel Pine	DAWE	Declared Pest; WoNS
<i>Vicia tetrasperma</i>		<i>NatureMap</i>	Declared Pest
<i>Zantedeschia aethiopica</i>	Arum Lily	<i>NatureMap</i>	Declared Pest

* Sources are:

DAWE - DAWE (2019); and

NatureMap - DBCA (2007-).

5.1.2 Field Survey Results - Flora

5.1.2.1 Vascular Flora Census

A total of 355 discrete vascular flora taxa were recorded in the Survey Area during this survey, representing 67 families and 202 genera. The most well-represented families are Myrtaceae (49 taxa), Fabaceae (45 taxa), Proteaceae (35 taxa) and Cyperaceae (30 taxa). Fifty-six are annual taxa. Sixty-eight of the total taxa recorded are introduced taxa (see Section 5.1.2.6). Given the very small area of intact vegetation in the Survey Area and history of disturbance of this vegetation (most areas are in narrow road reserves), the floristic diversity is considered to be relatively high.

Average taxon richness per quadrat (excluding hybrids) was 46.4 (\pm 13.7), with the greatest number of taxa recorded in a single quadrat being 79, and the lowest number being 24. A full list of taxa is presented in Appendix K, with raw quadrat data and parameters presented in Appendix L.

5.1.2.2 Significant Flora Taxa

Table 14 presents a summary of data relating to significant flora taxa recorded by Woodman Environmental within the Survey Area. A total of 11 significant flora taxa were recorded within the Survey Area, including four Threatened taxa and seven Priority flora taxa (discussed in Section 5.1.2.3). Appendix B presents conservation codes for Western Australia flora (DBCA 2019a). It should be noted that the data presented in Table 14 is considered to supersede all data previously recorded in the Development Envelope.

There are DBCA records of *Banksia mimica* (T) and *Isopogon autumnalis* (P3), the coordinates of which plot within the Development Envelope. These records were investigated and were found to be within cleared road verge with no plants being recorded at this location. Further investigations were conducted with regards to locality information which found the GPS location information for these locations were erroneous.

Grevillea thelemanniana is a listed Threatened taxon which is only known from the Brixton Street Wetlands in the Kenwick area. This species is typically found in winter-wet low-lying flats (WA Herbarium 1998-), whereas individuals recorded by Woodman Environmental within the Survey Area were recorded in dry habitats in revegetated areas adjacent to Tonkin Highway. All recorded individuals of this taxon were deemed to be planted and are considered not naturally present in the areas surveyed by Woodman Environmental, therefore have not been considered significant and are not discussed further in this report in the context of significant flora.

Locations of significant flora taxa recorded by Woodman Environmental in the Survey Area are presented in Table 1 of Appendix M, and Appendix N. Completed TPFRRs for significant flora taxa recorded during the survey are presented in Appendix O. Specimens of significant flora taxa that represented new populations were submitted to the WA Herbarium for lodgement under Woodman Environmental transmittal number WTO-422, with WA Herbarium accession number yet to be provided.

Table 14: Summary of Significant Flora Taxa Recorded within the Survey Area

Taxon	Status	Number of Locations Recorded			Number of Individuals Recorded			Vegetation Types [^]
		Survey Area outside Development Envelope	Development Envelope	Total	Survey Area outside Development Envelope	Development Envelope	Total	
<i>Andersonia gracilis</i>	T	5	10	15	24	10	34	5 [^]
<i>Banksia mimica</i>	T	17	2	19	27	3	30	2 [^] , 4 [^] , 5
<i>Byblis gigantea</i>	P3	1	0	1	1	0	1	4 [^]
<i>Conospermum undulatum</i>	T	309	469	778	644	470	1114	1 [^] , 2, 3, 4 [^] , 5, 7, 8 CC/AC/CU, CC/AC/KG, CC/MV, RV4 C NA
<i>Isopogon autumnalis</i>	P3	17	12	29	37	12	49	1 [^] C
<i>Jacksonia gracillima</i>	P3	442	155	597	1493	183	1676	1,2,3,4 [^] ,5 [^] ,6 [^] ,7 [^] ,8 RV5 C NA
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	63	164	227	109	173	282	1 [^] , 2, 3, 4 [^] , 5 C, CC/AC/CU, LL RV4
<i>Lasiopetalum bracteatum</i>	P4	2	0	2	4	0	4	3 [^]
<i>Styphelia filifolia</i>	P3	17	10	27	20	10	30	1 [^] ,4 [^] ,5, 6 C
<i>Tetraria australiensis</i>	T	295	238	533	441	240	681	1 [^] , 2 [^] , 3 [^] C, CC/AC/KG, W
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	316	151	467	776	157	933	1,2,4,5,6,7 C NA

Note: all data collected by Woodman Environmental, 2019-2020.

[^]: represents preferred habitat by the taxon.

5.1.2.3 Listed Significant Flora Taxa

***Andersonia gracilis* (Threatened)**

Andersonia gracilis (T) is a slender erect or open straggly shrub growing to approximately 0.5 m high (Plate 1) in winter-wet areas (WA Herbarium 1998-). This taxon is endemic to Western Australia (ALA 2020), occurring over a range of 180 km from Perth (Kenwick wetlands) to north-west of Cataby in the north (DBCA 2007-). The Assessed Area is located within this range. There are 61 records of this taxon in Western Australia representing approximately 27 populations, four of which occur in DBCA-managed tenure including Conservation Park (R 49363), Kenwick Wetlands (R 49200 & R 50529) and Wongonderrah Nature Reserve (R 26248) (DBCA 2007-).

This species was searched for as part of targeted survey within the Assessed Area. A total of 34 individuals were recorded at 15 locations with 10 individuals from 10 locations recorded within the Development Envelope (Table 14; Appendix M). It is considered unlikely that any further locations of this taxon occur in the Assessed Area. These records represent one discrete population, occurring within Hartfield Park West of Tonkin Highway (R 17098) (Appendix N, Sheet N1). This species has not been previously recorded in the Hartfield Park Area therefore the population recorded at Hartfield Park is considered to be a new population.

VT 5 represents preferred habitat for this taxon.



Plate 1: *Andersonia gracilis* (Threatened) in Cooljarloo (Photo: Woodman Environmental)

***Banksia mimica* (Threatened)**

Banksia mimica (T) is a prostrate, lignotuberous shrub growing to 0.4 m high (Plate 2) on sandy slopes and flats (WA Herbarium 1998-). It is found over a range of approximately 320 km in Western Australia (where it is endemic (ALA 2020)), from south of Busselton to near Mogumber to the north (DBCA 2007-). The Assessed Area is located within this range. This taxon is known from 69 records representing approximately 25 populations, 11 of which occur in DBCA-managed tenure including Blackwood State Forest, Boonanarring Nature Reserve, Fynes Nature Reserve, Jarrahwood State Forrest, Whicher National Park, Crown Freehold – Department Interest blocks - 1497/392, 2745/531, 2654/215 and un-named Nature Reserve (R 46899).

This species was searched for as part of targeted survey within the Assessed Area. A total of 30 individuals were recorded at 19 locations, with three individuals from two locations recorded within the Development Envelope (Table 14; Appendix M). It is considered unlikely that any further locations of this taxon occur in the Assessed Area. These records represent two discrete populations, occurring within Hartfield Park East and West of Tonkin Highway (R 17098) (Appendix N, Sheets N1, N2). Both populations have previously been recorded in the Survey Area and represent DBCA populations 15a and b (DBCA 2019b).

VTs 2 and 4 represent the preferred habitat for this taxon.



Plate 2: *Banksia mimica* (Threatened) (Photo: Woodman Environmental)

***Byblis gigantea* (P3)**

Byblis gigantea (P3) is a small, branched perennial, herb growing to 0.45 m high (Plate 3) in sandy-peat swamps and seasonally wet areas (WA Herbarium 1998-). It is found over a range of approximately 285 km in Western Australia (where it is endemic (ALA 2020)), from north-west of Quindanning in the south to south-east of Cervantes in the north (DBCA 2007-). The Assessed Area is located within this range. This taxon is known from 56 records representing approximately 26 populations, five of which occur in DBCA-managed tenure including Kenwick Wetlands (R 50529), Conservation Park (R 49363), Harris River State Forest, Clare State Forest and Jarrahdale State Forest.

This species was searched for as part of targeted survey within the Assessed Area. One individual of this species was recorded at one location within the Assessed Area (Table 14; Appendix M), within Hartfield Park (R 17098) east of Tonkin Highway (Appendix N, Sheet N1). This species has previously been recorded in the Survey Area (DBCA 2019b), in close proximity to the recorded survey location. It is considered unlikely that any further locations of this taxon occur in the Assessed Area.

VT 4 represents the preferred habitat for this taxon.



Plate 3: *Byblis gigantea* (P3) (Photo: B.A. Fuhrer and J. Hort, courtesy of Florabase (WA Herbarium 1998-))

***Conospermum undulatum* (Threatened)**

Conospermum undulatum (T) is an erect, compact shrub growing to 2 m high (Plate 4) in plains, flats and swamps (WA Herbarium 1998-). This taxon is endemic to Western Australia (ALA 2020), occurring over a range of 21 km from near Martin in the south to near Hazelmere in the north (DBCA 2007-). The Assessed Area is located within this range. There are 216 records of this taxon in Western Australia representing approximately 28 populations, three of which occur in DBCA-managed tenure including Kalamunda National Park and Korung National Park (DBCA 2007-).

This species was searched for as part of targeted survey within the Assessed Area. A total of 1114 individuals were recorded at 778 locations with 470 individuals from 469 locations recorded within the Development Envelope (Table 14; Appendix M). These records represent four discrete populations, with two occurring within Hartfield Park East and West of Tonkin Highway (R 17098), one within Bush forever Site 53 in Orange Grove and one adjacent to Tonkin Highway north of Kelvin Road on the eastern road verge (Appendix N: Sheets N1, N2, N3). It is considered unlikely that any further locations of this taxon occur in the Assessed Area. This taxon had previously been recorded in the Survey Area by AECOM (2015) and DBCA (DBCA 2019b) and represent DBCA subpopulations 10a, 10c, 10e, 10g, 13a and 30.

VTs 1 and to a lesser extent VT 4 represent preferred habitat for this taxon.



Plate 4: *Conospermum undulatum* (Threatened) (Photo: Woodman Environmental)

***Isopogon autumnalis* (P3)**

Isopogon autumnalis (P3) is a shrub growing to 1 m high (Plate 5) on sandy soils on slopes and plains (WA Herbarium 1998-). This taxon is found over a range of approximately 260 km in Western Australia (where it is endemic (ALA 2020)), from near Serpentine in the south to north-west of Jurien Bay in the north (DBCA 2007-). The Assessed Area is located within this range. There are 57 records of this taxon in Western Australia representing approximately 44 populations, eight of which occur in DBCA-managed tenure including Lesueur National Park, Moore River Nature Reserve, Boonanarring Nature Reserve, unnamed Crown Conservation Park R 41986, unnamed Crown reserve 2654/215 and unnamed Crown freehold 1497/392 (DBCA 2007-).

This species was searched for as part of targeted survey within the Assessed Area. A total of 49 individuals were recorded at 29 locations with 12 individuals from 12 locations recorded within the Development Envelope (Table 14; Appendix M). It is considered unlikely that any further locations of this taxon occur in the Assessed Area. These records represent three discrete populations, with two occurring within Hartfield Park East and West of Tonkin Highway (R 17098) and one within Bush Forever site 53 in Orange Grove (Appendix N, Sheets N1, N2). This taxon has previously been recorded in the Survey Area by DBCA (DBCA 2019b) and AECOM (2015).

VT 1 represents the preferred habitat for this taxon.



Plate 5: *Isopogon autumnalis* (P3) (Photo: Woodman Environmental)

***Jacksonia gracillima* (P3)**

Jacksonia gracillima (P3) is a prostrate, spreading or scrambling shrub, growing to 1.5 m high (Plate 6) on well drained slopes, flats and wetlands with sand (WA Herbarium 1998-). This taxon is found over a range of approximately 200 km in Western Australia (where it is endemic (ALA 2020)), from near Busselton in the south to Forrestfield in the north (DBCA 2007-). The Assessed Area is located within this range. There are 38 records of this taxon in Western Australia representing approximately 23 populations, five of which occur in DBCA-managed tenure including unnamed Crown freehold reserve, Modong Nature Reserve, Piara Nature Reserve and Shirley Balla Swamp Reserve (DBCA 2007-).

This species was searched for as part of targeted survey within the Assessed Area. A total of 1676 individuals were recorded at 597 locations with 183 individuals from 155 locations recorded within the Development Envelope (Table 14; Appendix M). It is considered unlikely that any further locations of this taxon occur in the Assessed Area. These records represent two discrete populations, occurring within Hartfield Park East and West of Tonkin Highway (R 17098) (Appendix N: Sheets N1, N2). This taxon has previously been recorded within Hartfield Park west of Tonkin Highway (DBCA 2019b), therefore the population recorded within Hartfield Park east of Tonkin Highway is considered to be a new population.

VTs 4, 5 and 7, and to a lesser extent VT 6 represented the preferred habitat for this taxon.



Plate 6: *Jacksonia gracillima* (P3) at Mundijong (Photo: Woodman Environmental)

***Johnsonia pubescens* subsp. *cygnorum* (P2)**

Johnsonia pubescens subsp. *cygnorum* (P2) is a tufted perennial herb, growing to 0.25m high (Plate 7) on flats and seasonally-wet sites with grey-white-yellow sand (WA Herbarium 1998-). This taxon is found over a range of 68 km in Western Australia (where it is endemic (ALA 2020)), from Como in the Perth metropolitan area to Pinjarra in the south (DBCA 2007-). This recording within Assessed Area is a slight range extension approximately 12 kilometres to the east of the northern most extent. There are 17 records of this taxon in Western Australia representing approximately 13 populations, two of which occur in DBCA-managed tenure within the unnamed Nature Reserve (R 51784).

This species was searched for as part of targeted survey within the Assessed Area. A total of 282 individuals were recorded at 227 locations with 109 individuals from 635 locations recorded within the Development Envelope (Table 14; Appendix M). It is considered unlikely that any further locations of this taxon occur in the Assessed Area. These records represent four discrete populations, with two occurring within Hartfield Park East and West of Tonkin Highway (R 17098), one within bush forever site 53 in Orange Grove and one adjacent to Tonkin Highway north of Kelvin Road on eastern road verge (Appendix N: Sheet N1, N2). These represent new populations of this taxon.

Johnsonia pubescens subsp. *cygnorum* (P2) has not been recorded by previous surveys within the Assessed Area. No *Johnsonia* species have been recorded at all and it is strongly suspected that this taxon has been missed by previous surveys despite four surveys (reviewed as part of the Desktop Assessment in Section 5.1.1.2) identifying *Johnsonia pubescens* and the typical subspecies *Johnsonia pubescens* subsp. *pubescens* as occurring in the Survey Area during their desktop assessments (GHD 2015, 2016, 2018; 360 Environmental 2018). There was some initial uncertainty when identifying specimens from this current Assessed Area given that it was collected widely across the Assessed Area and had not been reported before. However, the specimens clearly represent subsp. *cygnorum*, possessing the white floral bracts with a central green and fawn stripe, greenish flowers and a generally narrowly cylindrical inflorescence (cf. white floral bracts with a central pink flush, pink/purple flowers and a generally ovoid inflorescence) (Keighery 2001). In addition, the identification of similar, recently collected specimens from the Perth Airport Estate was confirmed as *Johnsonia pubescens* subsp. *cygnorum* (P2) by the WA Herbarium (M. Hislop pers. comm. 2019; Woodman Environmental 2019). Although it is noted that the two subspecies are easily distinguished (Keighery 2001), examination of recently collected material from the Perth area at the WA Herbarium indicates that this may not be the case.

Keighery (2001) noted that the two subspecies were separated geographically; recent collections, including from this survey, indicate that this is no longer the case (DBCA 2007-). Further investigation appears to be required to determine whether the current situation of maintaining two subspecies is tenable, or whether the characters used to separate the subspecies occur across a continuum and only a single, variable species should be recognised.

VT 1, and to a lesser extent VT 4 represent the preferred habitat for this taxon.



Plate 7: *Johnsonia pubescens* subsp. *cygnorum* (P2) at Perth Airport (Photo: Woodman Environmental)

***Lasiopetalum bracteatum* (P4)**

Lasiopetalum bracteatum (P4) is an erect, open shrub, growing to 1.5 m high (Plate 8) along drainage lines, creeks, gullies and on granite outcrops with sandy-clay, clay or lateritic gravel soil (WA Herbarium 1998-). This taxon is found over a range of 128 km in Western Australia (where it is endemic (ALA 2020)), from near Helena Valley in the west to near Narrogin in the southeast (DBCA 2007-). The Assessed Area is located within this range. There are 48 records of this taxon in Western Australia representing approximately 24 populations, 16 of which occur in DBCA-managed tenure including Beelu National Park, Greenmount National Park, Lesmurdie Falls National Park, Kenwick Wetlands, Korung National Park, Midgegooroo National Park, Youraling State Forest, Jarrahdale State Forest and Lol Gray State Forest.

This species was searched for as part of targeted survey within the Assessed Area. Four individuals of this species were recorded at two locations within the Assessed Area (Table 14; Appendix M). These records represent one population, occurring in the south east corner of Hartfield Park East reserve (Appendix N, Sheet N2); which represents a new population of this taxon. It is considered unlikely that any further locations of this taxon occur in the Assessed Area.

Both records of this taxon were recorded in VT 3, which represents the preferred habitat for this taxon.



Plate 8: *Lasiopetalum bracteatum* (P4) (Scanned specimen: Woodman Environmental)

***Styphelia filifolia* (P3)**

Styphelia filifolia (P3) is an erect shrub, growing to 0.9 m high (Plate 9) in low-lying situations, usually in Banksia or Jarrah (*Eucalyptus marginata*) woodlands with sandy soil (WA Herbarium 1998-). This taxon is found sporadically over a range of 390 km in Western Australia (where it is endemic (ALA 2020)), from near Bunbury in the south to northwest of Eneabba in the north (DBCA 2007-). The Assessed Area is located within this range. There are 36 records of this taxon in Western Australia representing approximately 34 populations, 19 of which occur in DBCA-managed tenure including Byrd Swamp Nature Reserve, Neaves Road Nature Reserve, Gngangara-Moore River State Forest, Chandala Nature Reserve, Boonanarring Nature Reserve, an unnamed Nature Reserve east of Beekeepers Nature Reserve and an unnamed Crown freehold (1497/392).

This species was searched for as part of targeted survey within the Assessed Area. A total of 30 individuals were recorded at 27 locations with 10 individuals from 10 locations recorded within the Development Envelope (Table 14; Appendix M). These records represent two discrete populations, occurring within Hartfield Park East and West of Tonkin Highway (R 17098) (Appendix N, Sheet N1). It is considered unlikely that any further locations of this taxon occur in the Assessed Area. This taxon has previously been recorded within Hartfield

Park west and east of Tonkin Highway (DBCA 2019b), therefore the populations recorded within Hartfield Park east and west of Tonkin Highway are not considered to be new populations.

VTs 1 and 4 represent preferred habitat for this taxon.



Plate 9: *Styphelia filifolia* (P3) (Photo: Woodman Environmental)

***Tetraria australiensis* (Threatened)**

Tetraria australiensis (T) is a rhizomatous, tufted perennial herb (sedge) or grass-like plant growing to 1 m high (Plate 10) in winter-wet swampy depressions, drainage lines or rises surrounding swamps in open forests or Marri (*Corymbia calophylla*) woodland on grey sand over clay (Keighery 1993). This taxon is listed as Vulnerable under both the BC Act and EPBC Act (DBCA 2018c, DAWE 2020). It is endemic to Western Australia (ALA 2020), occurring over a range of approximately 197 km from Ferndale (Perth) in the north to near Busselton in the south (DBCA 2007-). This recording within Assessed Area is a slight range extension approximately seven kilometres to the east of the northern most extent. There is currently no Interim Recovery Plan for this taxon and the Approved Conservation Advice is out of date (DAWE 2008); therefore, there is no accurate population and abundance estimate publicly available for the taxon. However, there are 66 location records of this taxon in DBCA's databases; it is currently unknown how many populations these represent, but it appears to be at least 20, with several new populations found recently by Woodman Environmental (field observations). At least three occur in conservation tenure (Watkins Road Nature Reserve, Lambkin Nature Reserve, Ruabon Nature Reserve) (DBCA 2007-).

This species was searched for as part of targeted survey within the survey area. A total of 681 individuals were recorded at 533 locations with 441 individuals from 295 locations recorded within the Development Envelope (Table 14; Appendix M). These records represent one discrete population, occurring within Bush Forever site 53 in Orange Grove (Appendix N, Sheets N2, N3); this population is considered a new population. It is considered unlikely that any further locations of this taxon occur in the Assessed Area.

VTs 1, 2 and 3 represent preferred habitat for this taxon.



Plate 10: *Tetraria australiensis* (Threatened) (Photo: Woodman Environmental)

***Verticordia lindleyi* subsp. *lindleyi* (P4)**

Verticordia lindleyi subsp. *lindleyi* (P4) is an erect shrub growing to 0.75 m high (Plate 11) in winter-wet depressions on sand or sandy clay (WA Herbarium 1998-). This taxon is found over a range of 222 km in Western Australia (where it is endemic (ALA 2020)), from near Cervantes in the north to Serpentine in the south east (DBCA 2007-). The Assessed Area is located within this range. There are 112 records of this taxon in Western Australia representing approximately 64 populations, 10 of which occur in DBCA-managed tenure including Moore River National Park, Moore River Nature Reserve, Boonanarring Nature Reserve, Nature Reserve 2654/215 and Kenwick Wetlands.

This species was searched for as part of targeted survey within the Assessed Area. A total of 933 individuals were recorded at 467 locations with 157 individuals from 151 locations recorded within the Development Envelope (Table 14; Appendix M). These records

represent two discrete populations, occurring Hartfield Park East and West of Tonkin Highway (R 17098) (Appendix N, Sheets N1, N2). It is considered unlikely that any further locations of this taxon occur in the Assessed Area. This taxon has previously been recorded in the Survey Area by DBCA (DBCA 2019b) with both populations previously known.

VTs 4 and 5 represent preferred habitat for this taxon.



Plate 11: *Verticordia lindleyi* subsp. *lindleyi* at Perth Airport (P4) (Photo: Woodman Environmental)

5.1.2.4 Distribution Extensions and Distribution Gaps

Table 15 presents taxa where the collections of flora taxa from the Assessed Area represent extensions to the known distribution of such taxa or otherwise fill gaps within the known distribution of such taxa according to *NatureMap* (DBCA 2007-).

Table 15: Taxa Where Collections Represent Range Extensions to the Known Ranges of these Taxa or Fill Distribution Gaps (DBCA 2007-)

Taxon	Description
<i>Lepidosperma carphoides</i>	Fills gap in known distribution

This taxon has a very large range with 75 records within Florabase extending from 175 km east of Esperance to the Cobertup Nature Reserve located west of Albany on the south coast, and from 7 km north of Margaret River to Mt Peron located north east of Jurien on the west coast. The record within the Survey Area is approximately 30 km north of the single previous record in the Perth area located near Mundijong, with a further 215 km gap to the northern most location at Mt Peron.

5.1.2.5 Likelihood of Occurrence of Further Significant Flora Taxa

As detailed in Section 5.1.1.3, a total of 94 significant flora taxa were identified as occurring within the Desktop Study Area prior to survey (excluding *Melaleuca viminalis* (P2)). Of these, 10 were recorded within the Survey Area by this survey as well as an additional taxon, as detailed in Section 5.1.2.2. Table 16 presents an assessment of the likelihood of the remaining 84 taxa being present within the Survey Area and Development Envelope. Of the additional 84 taxa, none are considered likely to occur in the Development Envelope.

Table 16: Likelihood of Significant Flora Taxa Occurring Within the Survey Area and Development Envelope

Taxon	Status	Flowering Period (WA Herbarium 1998-)	Habitat (WA Herbarium 1998-)	Identifiable During Survey?	Likelihood of Occurrence	
					Survey Area	Development Envelope
<i>Acacia anomala</i>	T	August to September	Yellow or grey-brown sandy loam or sandy clay with laterite pebbles over laterite. Slopes and flats	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Acacia aphylla</i>	T	July to October	Brown or yellow sandy loam or clay loam on laterite and granite outcrops. Slopes and flats	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Acacia horridula</i>	P3	May to November	Brown or yellow loam or sandy loam with granite or laterite. Granite outcrops, slopes	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Acacia lasiocarpa</i> var. <i>bracteolata</i> long peduncle variant (G.J. Keighery 5026)	P1	May, August	Sand. Winter-wet flats and swamps	Yes	Possible: habitat present	Unlikely: habitat present, however all potential habitat inspected during survey
<i>Acacia oncinophylla</i> subsp. <i>patulifolia</i>	P4	March to April or September to December	Granite, occasionally on laterite. Brown loam	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Allocasuarina grevilleoides</i>	P3	September to November	Brown or grey sand or clay loam with laterite and granite. Slopes, outcrops and plains	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Anthocercis gracilis</i>	T	September to October	Sandy or loamy soils. Granite outcrops	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Andersonia</i> sp. <i>Blepharifolia</i> (F. & J. Hort 1919)	P2	September to November	Brown or red sandy loam with granite or laterite. Slopes and hilltops	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Aponogeton hexatepalus</i>	P4	February, May to November	Brown, grey or black clay. Growing in shallow water in major drainage lines and wetlands, claypans	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present

Taxon	Status	Flowering Period (WA Herbarium 1998-)	Habitat (WA Herbarium 1998-)	Identifiable During Survey?	Likelihood of Occurrence	
					Survey Area	Development Envelope
<i>Asteridea gracilis</i>	P3	February, September to October	Brown or yellow sandy loam with laterite and granite. Slopes, flats and plains	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Austrostipa bronwenae</i>	T	September to November	Brown or grey loam or sandy clay, sometimes on Muchea limestone. Winter-wet flats, swamps and wetlands	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Babingtonia urbana</i>	P3	December to March	Brown clay loam and sand. Winter-wet flats and wetlands	Yes	Possible: habitat present	Unlikely: habitat present, however all potential habitat inspected during survey
<i>Banksia kippistiana</i> var. <i>paenepeccata</i>	P3	October to November	Slopes and hills. Sandy soils with laterite.	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Banksia pteridifolia</i> subsp. <i>vernalis</i>	P3	August to November	White, grey or brown sand and loamy sand over laterite. Slopes and flats	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Beaufortia purpurea</i>	P3	August to December	Brown sandy loam with laterite, sometimes over granite. Slopes	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Bolboschoenus fluviatilis</i>	P1	November to December	Grey or brown sand or silt. Wet soils in littoral zones, edges of watercourses and seeps	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Boronia humifusa</i>	P1	June, September to October	Slopes, valleys and hills. Gravelly sand or loam over laterite.	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Boronia tenuis</i>	P4	August to November	Brown loam or sandy clay over granite or laterite. Slopes and outcrops	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Caladenia huegelii</i>	T	August to October	Grey sand, Bassendean dunes	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present

Taxon	Status	Flowering Period (WA Herbarium 1998-)	Habitat (WA Herbarium 1998-)	Identifiable During Survey?	Likelihood of Occurrence	
					Survey Area	Development Envelope
<i>Calandrinia uncinella</i>	P1	September to October	Brown, grey or white sand or loam. Swamps, winter-wet flats and saline river flats	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Calothamnus accedens</i>	P4	July to January	Brown or grey loam or clay loam over laterite. Slopes and hilltops	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Calothamnus graniticus</i> subsp. <i>leptophyllus</i>	P4	June to August, September, November	Clay or sandy loam with granite or laterite. Hillsides and slopes.	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Calytrix breviseta</i> subsp. <i>breviseta</i>	T	September to November	Grey or brown sandy loam or clay. Flats and winter-wet depressions	Yes	Known to occur	Unlikely: habitat not considered to be present
<i>Carex tereticaulis</i>	P3	September to November	Grey or brown loam or sandy clay with laterite. Edges of drainage lines	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Chamaescilla gibsonii</i>	P3	August to November	Brown or grey sandy clay. Winter-wet clay pans and flats	Yes	Possible: habitat present	Unlikely: habitat not considered to be present
<i>Chamelaucium lullfitzii</i>	T	September to December	Sand, sometimes gravelly. Slopes and undulating plains	Yes	Unlikely: similar habitat may be present, however, survey area not close to known range.	Unlikely: similar habitat may be present, however, survey area not close to known range.
<i>Comesperma griffinii</i>	P2	October to January	Grey or brown clayey sand or sandy loam, sometimes gravelly. Slopes, winter-wet flats and depressions	Yes	Possible: similar habitat present	Unlikely: habitat present, however all potential habitat inspected during survey
<i>Comesperma rhadinocarpum</i>	P3	October to January	Sand or sandy loam with laterite. Slopes, undulating plains and flats	Yes	Possible: habitat present	Unlikely: habitat present, however all potential habitat inspected during survey

Taxon	Status	Flowering Period (WA Herbarium 1998-)	Habitat (WA Herbarium 1998-)	Identifiable During Survey?	Likelihood of Occurrence	
					Survey Area	Development Envelope
<i>Cyanicula ixiooides</i> subsp. <i>ixiooides</i>	P4	August to October	Slopes, gullies and hillsides with clay or sandy gravel often with laterite or granite outcropping,	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Darwinia apiculata</i>	T	July, October to November	Brown or grey sandy loam with granite or laterite. Granite outcrops, ridges and flats	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Diplolaena andrewsii</i>	T	August to November	Brown sandy loam over granite. Granite outcrops and slopes	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Diuris drummondii</i>	T	November to December	Wet brown or grey sandy loam or peat. Winter-wet swamps, watercourses and floodplains.	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Diuris micrantha</i>	T	September to October	Brown loamy clay. Winter-wet swamps, in shallow water	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Diuris purdiei</i>	T	September to October	Grey-black sand, moist. Winter-wet swamps	Yes	Possible: habitat present	Unlikely: habitat not considered to be present
<i>Drakaea elastica</i>	T	October to November	White or grey sand. Low-lying situations adjoining winter-wet swamps	Yes	Unlikely: similar habitat present, but all such habitat surveyed	Unlikely: habitat not considered to be present
<i>Drakaea micrantha</i>	T	September to November	White or grey sand. Low-lying situations adjoining winter-wet swamps	Yes	Unlikely: similar habitat present, but all such habitat surveyed	Unlikely: habitat not considered to be present
<i>Drosera occidentalis</i>	P4	October to November	Swampy or damp flats, sandy floodplain	Yes	Known to occur	Unlikely: habitat not considered to be present
<i>Eleocharis keigheryi</i>	T	August to November	Clay or sandy loam. Growing in shallow water in creeks and claypans	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present

Taxon	Status	Flowering Period (WA Herbarium 1998-)	Habitat (WA Herbarium 1998-)	Identifiable During Survey?	Likelihood of Occurrence	
					Survey Area	Development Envelope
<i>Eremophila glabra</i> subsp. <i>chlorella</i>	T	June to January	Brown, grey or white sand or clay. Swamps, winter-wet flats and lower slopes	Yes	Possible: habitat present	Unlikely: habitat present, however all potential habitat inspected during survey
<i>Eryngium pinnatifidum</i> subsp. <i>Palustre</i> (G.J. Keighery 13459)	P3	September to November	Grey, brown or black sand or clay. Winter-wet flats and claypans	Yes	Possible: habitat present	Unlikely: habitat not considered to be present
<i>Eryngium</i> sp. <i>Subdecumbens</i> (G.J. Keighery 5390)	P3	September to January	Grey clay. Winter-wet flats, claypans and swamps	Yes	Possible: habitat present	Unlikely: habitat not considered to be present
<i>Eucalyptus x balanites</i>	T	October to December or January to February	Sandy soils with lateritic gravel	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Goodenia arthrotricha</i>	T	March, November to December	Brown sandy loam, sometimes with laterite and granite. Outcrops, slopes, hilltops and flats	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Grevillea curviloba</i>	T	August to October	Grey, white or brown sand or sandy loam. Flats, drainage lines and lower slopes	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Grevillea thelemanniana</i>	T	September to December	Grey or brown sandy loam and clay. Winter-wet swamps and flats	Yes	Known to occur	Unlikely: habitat present, however all potential habitat inspected during survey. Note taxon observed in Development Envelope but as planted individuals

Taxon	Status	Flowering Period (WA Herbarium 1998-)	Habitat (WA Herbarium 1998-)	Identifiable During Survey?	Likelihood of Occurrence	
					Survey Area	Development Envelope
<i>Haemodorum loratum</i>	P3	October to November	White, grey or brown sand, sometimes over granite or laterite. Slopes, plains and flats	Yes	Possible: habitat present	Unlikely: habitat present, however all potential habitat inspected during survey
<i>Halgania corymbosa</i>	P3	September to October	Brown sandy loam or sandy clay over laterite or granite. Slopes	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Haloragis scoparia</i>	P1	April	Plains or flats with white/grey clay	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Hibbertia montana</i>	P4	August to September	Brown sandy loam with laterite or granite. Slopes, gullies, breakaways and hilltops	Yes	Unlikely: habitat not considered to be present. Record in Survey Area erroneous; <i>H. commutata</i> complex has been revised and range of <i>H. montana</i> no longer coincides with Survey Area (Thiele 2019)	Unlikely: habitat not considered to be present. Record in Survey Area erroneous; <i>H. commutata</i> complex has been revised and range of <i>H. montana</i> no longer coincides with Survey Area (Thiele 2019)
<i>Hydrocotyle lemnoides</i>	P4	August to November	Brown or grey clay or clayey sand. Growing in shallow water in wetlands, swamps and claypans	Yes	Possible: habitat present	Unlikely: habitat not considered to be present
<i>Hydrocotyle striata</i>	P1	November	Winter wet depressions and creeks with peat or sand.	Yes	Possible: habitat present	Unlikely: habitat not considered to be present
<i>Isotropis cuneifolia</i> subsp. <i>glabra</i>	P3	September to October	Grey or brown sand or clay. Winter-wet depressions and flats	Yes	Possible: habitat present	Unlikely: habitat present, however all potential habitat inspected during survey

Taxon	Status	Flowering Period (WA Herbarium 1998-)	Habitat (WA Herbarium 1998-)	Identifiable During Survey?	Likelihood of Occurrence	
					Survey Area	Development Envelope
<i>Lasiopetalum glutinosum</i> subsp. <i>glutinosum</i>	P3	September to December	Sandy loam or clay with granite. Granite outcrops and slopes	Yes	Unlikely: habitat not considered to be present. Record in Survey Area erroneous; record is from summit of scarp in Crystal Brook area (WA Herbarium 1998-)	Unlikely: habitat not considered to be present
<i>Lasiopetalum pterocarpum</i>	T	September to November	Red-brown loam or clayey sand with granite or laterite. Sloping banks near creeklines	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Lepidosperma rostratum</i>	T	June to December	Peaty sand or clay. Winter-wet swamps	Yes	Known to occur	Unlikely: habitat not considered to be present
<i>Lepyrodia curvescens</i>	P2	June, September to January	Grey sandy loam or peaty sand. Slopes and winter-wet depressions	Yes	Possible: habitat present	Unlikely: habitat present, however all potential habitat inspected during survey
<i>Macarthuria keigheryi</i>	T	August to November	Grey or white sand. Low-lying plains and low rises, particularly in recently burnt vegetation	Yes	Possible: habitat present	Unlikely: habitat present, however all potential habitat inspected during survey
<i>Meionectes tenuifolia</i>	P3	October to December	Wetlands, swamps, with shallow water	Yes	Possible: habitat present	Unlikely: habitat not considered to be present
<i>Mysiophyllum echinatum</i>	P3	September to October	Brown or grey sandy clay. Wetlands and winter-wet depressions with shallow water	Yes	Possible: habitat present	Unlikely: habitat not considered to be present
<i>Ornduffia submersa</i>	P4	August to November	Grey or brown clay. Growing in shallow water in wetlands and drainage lines	Yes	Possible: habitat present	Unlikely: habitat not considered to be present

Taxon	Status	Flowering Period (WA Herbarium 1998-)	Habitat (WA Herbarium 1998-)	Identifiable During Survey?	Likelihood of Occurrence	
					Survey Area	Development Envelope
<i>Pimelea rara</i>	P4	November to March	Grey, brown or yellow sandy loam with granite or laterite. Ridges and slopes	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Pithocarpa corymbulosa</i>	P3	January to April	Gravelly or sandy loam. Amongst granite outcrops	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Platysace ramosissima</i>	P3	November to January	Sand. Undulating plains, slopes and flats	Yes	Possible: habitat present	Unlikely: habitat present, however all potential habitat inspected during survey
<i>Ptilotus pyramidatus</i>	T	October	Grey or white sandy clay. Winter wet clay flats	Yes	Possible: habitat present	Unlikely: habitat not considered to be present
<i>Ptilotus sericostachyus</i> subsp. <i>roseus</i>	P1	September to December	Unknown	Yes	Unlikely: this taxon has not been recorded in WA for over 100 years	Unlikely: this taxon has not been recorded in WA for over 100 years
<i>Schoenus benthamii</i>	P3	August to November	Grey or white clayey sand. Swamps, wetlands and winter-wet flats	Yes	Possible: habitat present	Unlikely: habitat present, however all potential habitat inspected during survey
<i>Schoenus capillifolius</i>	P3	October to November	Brown clay or sandy clay. Winter-wet claypans and flats	Yes	Possible: habitat present	Unlikely: habitat not considered to be present
<i>Schoenus loliaceus</i>	P2	September to November	Grey or brown clay loam or peaty clay. Growing in shallow water in swamps and winter-wet flats	Yes	Possible: habitat present	Unlikely: habitat not considered to be present
<i>Schoenus natans</i>	P4	September to December	Brown or grey sandy clay. Growing in shallow water in creeklines, claypans and wetland	Yes	Possible: habitat present	Unlikely: habitat not considered to be present

Taxon	Status	Flowering Period (WA Herbarium 1998-)	Habitat (WA Herbarium 1998-)	Identifiable During Survey?	Likelihood of Occurrence	
					Survey Area	Development Envelope
<i>Schoenus pennisetis</i>	P3	August to November	Grey or peaty sand, sandy clay. Swamps, winter-wet depressions	Yes	Possible: habitat present	Unlikely: habitat present, however all potential habitat inspected during survey
<i>Schoenus</i> sp. Beaufort (G.J. Keighery 6291)	P1	September to October	Brown or grey clay. Growing in shallow water in creeklines and claypans	Yes	Possible: habitat present	Unlikely: habitat not considered to be present
<i>Schoenus</i> sp. Waroona (G.J. Keighery 12235)	P3	October to November	Brown or grey clay or sandy clay. Winter-wet flats and wetlands	Yes	Possible: habitat present	Unlikely: habitat present, however all potential habitat inspected during survey
<i>Senecio gilbertii</i>	P1	September to November	Valleys and slopes with laterite.	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Senecio leucoglossus</i>	P4	October to December	Brown loam with laterite or granite. Slopes	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Stackhousia</i> sp. Red-blotched corolla (A. Markey 911)	P3	September to November	Slopes with clay with granite or sometimes laterite.	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Stylidium aceratum</i>	P3	October to November	Grey or brown sandy loam or clay. Wetlands, swamps and winter-wet flats	Yes	Possible: habitat present	Unlikely: habitat present, however all potential habitat inspected during survey
<i>Stylidium longitubum</i>	P4	July to November	Brown or grey clay loam. Wetlands and winter-wet flats	Yes	Possible: habitat present	Unlikely: habitat present, however all potential habitat inspected during survey
<i>Stylidium striatum</i>	P4	September to December	Brown or yellow sandy clay with laterite. Slopes and flats	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present

Taxon	Status	Flowering Period (WA Herbarium 1998-)	Habitat (WA Herbarium 1998-)	Identifiable During Survey?	Likelihood of Occurrence	
					Survey Area	Development Envelope
<i>Synaphea</i> sp. Fairbridge Farm (D. Papenfus 696)	T	September to October	Grey or brown clayey sand or sand with laterite. Winter-wet flats	Yes	Possible: habitat present	Unlikely: habitat not considered to be present
<i>Thelymitra dedmaniarum</i>	T	November to January	Grey loam. Granite	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Thelymitra magnifica</i>	P1	September to October	Brown loam with granite or laterite. Granite outcrops, gullies and slopes	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Thelymitra stellata</i>	T	October to November	Brown or grey sand or clay loam with laterite. Ridges, gullies and rocky slopes	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Thysanotus anceps</i>	P3	November to January	Sand or sandy loam with laterite. Ridges, hilltops and slopes	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present
<i>Thysanotus</i> sp. Badgingarra (E.A. Griffin 2511)	P2	January, December	Slopes and hills with sand or sandy clay with laterite or granite.	Yes	Unlikely: habitat not considered to be present	Unlikely: habitat not considered to be present

5.1.2.6 Introduced Taxa

A total of 68 introduced taxa were recorded within the Survey Area during this survey. Table 17 lists the number of locations recorded and comments regarding the significance of these taxa, including ecological impact and invasiveness ratings for each introduced taxon under the *Department of Parks and Wildlife Swan Region Species Prioritisation Process* (DBCA 2016a). Location details of introduced taxa are presented in Table 2 of Appendix MN, with locations mapped in Appendix P.

Four of the recorded taxa, highlighted in yellow in Table 17, are Declared Pests under the BAM Act (DPIRD 2020) within the location of the Survey Area (Perth Metropolitan Region). Two of these taxa are also WoNS (*Asparagus asparagoides* and *Opuntia stricta*). Of the four Declared Pest taxa, one (Prickly Pear; *Opuntia stricta*) is classified as Declared Pest – s22(2) (C3 –Restricted) (for the Whole of the State). C3 management is described as ‘Organisms that should have some form of management applied that will alleviate the harmful impact of the organism, reduce the numbers or distribution of the organism or prevent or contain the spread of the organism’.

Three Declared Pest taxa (One-leaf Cape Tulip: *Moraea flaccida*; Bridal Creeper: *Asparagus asparagoides*; and Paterson’s Curse: *Echium plantagineum*) are classified as Declared Pest – s22(2) Exempt (for the Whole of State). These taxa are example from keeping; ‘No permit or conditions are required for keeping. There may be other requirements under BAM Act such as those required for entry of livestock, pigeons and doves, or waybill requirements for stock movement. An organism in the exempt keeping category may also be regulated by other legislation such as the *Wildlife Conservation Act 1950* (WCA), administered by DPaW’ (now BC Act administered by DBCA).

One other introduced taxon (Narrow leaf Cotton Bush: *Gomphocarpus fruticosus*) is a Declared Pest for other regions within Western Australia (s22(2) (C3)) however is not a listed Declared Pest for the Perth Metropolitan Region (DPIRD 2020). This taxon is not highlighted in Table 17.

Table 17: Summary of Introduced Taxa Recorded within the Survey Area

Taxon	Common Name	Number of Locations	Status and Ecological Impact and Invasiveness Rating (DBCA 2016a)
* <i>Acacia iteaphylla</i>	Flinders Ranges wattle	1	High ecological impact and rapid invasiveness
* <i>Acacia longifolia</i>	Sydney Golden Wattle	4	High ecological impact and rapid invasiveness
* <i>Acacia podalyriifolia</i>	Queensland Silver Wattle	4	High ecological impact and moderate invasiveness
* <i>Aira cupaniana</i>	Hairgrass	1	Unknown ecological impact and invasiveness
* <i>Arctotheca calendula</i>	Cape Weed	4	High ecological impact and rapid invasiveness
* <i>Arundo donax</i>	Bamboo	2	High ecological impact and slow invasiveness

Taxon	Common Name	Number of Locations	Status and Ecological Impact and Invasiveness Rating (DBCA 2016a)
* <i>Asparagus asparagoides</i>	Bridal Creeper	38	Declared Pest - s22(2); WoNS; High ecological impact and rapid invasiveness
* <i>Avena barbata</i>	Bearded Oat	17	High ecological impact and rapid invasiveness
* <i>Brachypodium distachyon</i>	False Brome	2	Unknown ecological impact and rapid invasiveness
* <i>Briza maxima</i>	Blowfly Grass	34	Unknown ecological impact and rapid invasiveness
* <i>Bromus diandrus</i>	Great Brome	9	High ecological impact and rapid invasiveness
* <i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i>	River Sheoak	2	Low ecological impact and slow invasiveness
* <i>Cenchrus clandestinus</i>	Kikuyu Grass	3	High ecological impact and slow invasiveness
* <i>Chamaecytisus palmensis</i>	Tagasaste	2	Medium ecological impact and medium invasiveness
* <i>Cortaderia selloana</i>	Pampas Grass	1	High ecological impact and rapid invasiveness
* <i>Cucumis myriocarpus</i>	Prickly Paddy Melon	1	Low ecological impact and medium invasiveness
* <i>Disa bracteata</i>	South African Orchid	1	Unknown ecological impact and rapid invasiveness
* <i>Echium plantagineum</i>	Paterson's Curse	9	Declared Pest - s22(2); High ecological impact and moderate invasiveness
* <i>Ehrharta calycina</i>	Perennial Veldtgrass	50	High ecological impact and rapid invasiveness
* <i>Ehrharta longiflora</i>	Annual Veldtgrass	5	Medium ecological impact and rapid invasiveness
* <i>Eragrostis curvula</i>	African Lovegrass	24	High ecological impact and rapid invasiveness
* <i>Erodium botrys</i>	Long Storksbill	1	Unknown ecological impact and moderate invasiveness
* <i>Erythrina xsykesii</i>	Coral Tree	1	Low ecological impact and slow invasiveness
* <i>Eucalyptus ?resinifera</i>	Red Mahogany	1	Unknown ecological impact and slow invasiveness
* <i>Euphorbia terracina</i>	Geraldton Carnation Weed	6	High ecological impact and rapid invasiveness
* <i>Fumaria capreolata</i>	Climbing Fumitory	5	High ecological impact and rapid invasiveness
* <i>Gladiolus caryophyllaceus</i>	Pink Gladiolus	43	High ecological impact and rapid invasiveness
* <i>Gomphocarpus fruticosus</i>	Narrow leaf cotton bush	1	Declared Pest - s22(2) but not for the Perth Metropolitan Region; High ecological impact and rapid invasiveness
* <i>Hesperantha falcata</i>	Hesperantha	1	High ecological impact and rapid invasiveness
* <i>Hypochaeris glabra</i>	Flatweed	19	High ecological impact and rapid invasiveness

Taxon	Common Name	Number of Locations	Status and Ecological Impact and Invasiveness Rating (DBCA 2016a)
* <i>Ipomoea cairica</i>	Coast Morning Glory	2	High ecological impact and medium invasiveness
* <i>Lagurus ovatus</i>	Hare's Tail Grass	1	High ecological impact and rapid invasiveness
* <i>Leontodon rhagadioloides</i>	Cretan Weed	2	Ecological impact and invasiveness not assessed
* <i>Leptospermum laevigatum</i>	Victorian Teatree	25	High ecological impact and rapid invasiveness
* <i>Lolium rigidum</i>	Wimmera Ryegrass	1	High ecological impact and rapid invasiveness
* <i>Lotus subbiflorus</i>	Hairy Birdsfoot Trefoil	1	High ecological impact and rapid invasiveness
* <i>Lupinus angustifolius</i>	Narrowleaf Lupin	1	High ecological impact and moderate invasiveness
* <i>Lysimachia arvensis</i>	Scarlet Pimpernel	1	Unknown ecological impact and rapid invasiveness
* <i>Malva parviflora</i>	Marshmallow	1	Low ecological impact and unknown invasiveness
* <i>Melilotus indicus</i>	Common Melilot	1	Unknown ecological impact and rapid invasiveness
* <i>Moraea flaccida</i>	One leaf cape tulip	3	Declared Pest - s22(2); High ecological impact and rapid invasiveness
* <i>Olea europaea</i>	Olive	1	High ecological impact and rapid invasiveness
* <i>Opuntia stricta</i>	Common Prickly Pear	1	Declared Pest - s22(2); WoNS; Ecological impact and invasiveness not assessed
* <i>Oxalis glabra</i>	Finger Leaf Oxalis	5	High ecological impact and slow invasiveness
* <i>Oxalis pes-caprae</i>	Soursob	3	High ecological impact and slow invasiveness
* <i>Oxalis</i> sp.	-	2	High ecological impact and slow invasiveness
* <i>Paspalum dilatatum</i>	Paspalum	1	High ecological impact and medium invasiveness
* <i>Pelargonium capitatum</i>	Rose Pelargonium	2	High ecological impact and rapid invasiveness
* <i>Pentameris airoides</i> subsp. <i>airoides</i>	False Hairgrass	3	Unknown ecological impact and rapid invasiveness
* <i>Pinus pinaster</i>	Pinaster Pine	3	Unknown ecological impact and medium invasiveness
* <i>Pinus radiata</i>	Radiata Pine	1	Unknown ecological impact and medium invasiveness
* <i>Plantago bellardii</i>	Hairy Plantain	1	Ecological impact and invasiveness not assessed
* <i>Raphanus raphanistrum</i>	Wild Radish	1	Unknown ecological impact and medium invasiveness
* <i>Ricinus communis</i>	Castor Oil Plant	1	Medium ecological impact and rapid invasiveness
* <i>Romulea rosea</i>	Guildford Grass	3	Unknown ecological impact and rapid invasiveness

Taxon	Common Name	Number of Locations	Status and Ecological Impact and Invasiveness Rating (DBCA 2016a)
* <i>Schinus terebinthifolius</i>	Brazilian Pepper	2	High ecological impact and medium invasiveness
* <i>Solanum nigrum</i>	Black Berry Nightshade	1	Medium ecological impact and rapid invasiveness
* <i>Sonchus asper</i>	Rough Sowthistle	1	Unknown ecological impact and rapid invasiveness
* <i>Sonchus oleraceus</i>	Common Sowthistle	3	Unknown ecological impact and rapid invasiveness
* <i>Stachys arvensis</i>	Staggerweed	1	Unknown ecological impact and rapid invasiveness
* <i>Trifolium angustifolium</i>	Narrowleaf Clover	1	Unknown ecological impact and unknown invasiveness
* <i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover	1	Unknown ecological impact and unknown invasiveness
* <i>Ursinia anthemoides</i>	Ursinia	36	Unknown ecological impact and rapid invasiveness
* <i>Urtica urens</i>	Small Nettle	1	Unknown ecological impact and rapid invasiveness
* <i>Vicia hirsuta</i>	Hairy Vetch	1	Unknown ecological impact and unknown invasiveness
* <i>Vicia sativa</i>	Common Vetch	1	Unknown ecological impact and unknown invasiveness
* <i>Vulpia bromoides</i>	Squirrel's Tail Fescue	2	High ecological impact and rapid invasiveness
* <i>Vulpia myuros</i> forma <i>myuros</i>	Rat's Tail Fescue	4	High ecological impact and rapid invasiveness
* <i>Watsonia meriana</i>	Bulbil Watsonia	33	High ecological impact and rapid invasiveness
* <i>Watsonia</i> sp.	-	1	High ecological impact and rapid invasiveness
*? <i>Watsonia</i> sp.	-	1	High ecological impact and rapid invasiveness

In addition to the above, a total of 21 taxa were recorded in the Survey Area that are native to WA but are not indigenous to the area. These taxa were either planted or are presumed garden escapes:

- *Agonis flexuosa*;
- *Banksia victoriae*;
- *Callistemon* sp.;
- *Calothamnus rupestris*;
- *Chamelaucium uncinatum*;
- *Darwinia citriodora*;
- *Eucalyptus camaldulensis*;
- *Eucalyptus cornuta*;
- *Eucalyptus decipiens*;
- *Eucalyptus torquata*;
- *Eucalyptus wandoo*;
- *Grevillea leucopteris*;
- *Grevillea obtusifolia*;

- *Grevillea thelemanniana*;
- *Kunzea glabrescens*;
- *Melaleuca huegelii* subsp. *huegelii*;
- *Melaleuca incana* subsp. *incana*;
- *Melaleuca leucadendra*;
- *Melaleuca nesophila*;
- *Melaleuca viminalis*; and
- *Melia azedarach*.

It should be noted that *Melaleuca viminalis* is indigenous to the Kimberley Region of Western Australia and is known from very few locations. It is therefore listed as Priority Flora (P2) in the Kimberley based on this limited natural distribution (it is also indigenous to the Northern Territory, Queensland and New South Wales) (Craven *et al.* 2010). However, this taxon is widely cultivated as a street and garden tree and has become naturalised in some areas of the south-west of WA including the Perth Metropolitan area. Given the recorded individuals of *Melaleuca viminalis* are not naturally present in the areas surveyed by Woodman Environmental, they have not been considered significant and are not discussed further in this report in the context of significant flora.

5.1.3 Field Survey Results – Vegetation

Vegetation Types (VTs) (comprising of intact native vegetation), other modified areas (including highly modified areas, revegetation and cleared areas) were mapped within the Survey Area, with the total areas of each presented in Table 18 and described below.

A total of 193.64 ha, equating to 16.6% of the Survey Area was mapped with the units described above (Assessed Area). 'Areas Not Assessed' accounted for the remaining 83.3% of the Survey Area. Areas Not Assessed comprised land tenure where permission to access for survey were withheld.

Table 18: Total Areas Mapped within the Survey Area

Description	Mapped Unit	Mapped Extent (ha)	Survey Area (%)	Assessed Area (%)
Vegetation Mapping (Table 19)	VT1	28.97	2.71	16.28
	VT2	6.58	0.62	3.70
	VT3	8.32	0.78	4.68
	VT4	13.7	1.28	7.7
	VT5	8.13	0.76	4.57
	VT6	2.09	0.2	1.18
	VT7	3.2	0.3	1.8
	VT8	7.99	0.75	4.49
Highly Modified Areas (Table 20)	AF/CC/CM/EC/ER	0.4	0.04	0.23
	AF/EC/ECo	0.47	0.04	0.27
	AF/EC/MA	0.48	0.05	0.27
	AFr	0.01	0.00	0
	AFr/CM/EG/PR	0.36	0.03	0.2
	C/P	0.05	0	0.03
	CC	1.13	0.11	0.64
	CC/AC/CU	2.07	0.19	1.16
CC/AC/KG	0.25	0.02	0.14	

Description	Mapped Unit	Mapped Extent (ha)	Survey Area (%)	Assessed Area (%)
	CC/EC	1.7	0.16	0.95
	CC/EC/ER	0.35	0.03	0.2
	CC/EC/ES	0.1	0.01	0.06
	CC/EC/PR	0.65	0.06	0.37
	CC/MP	0.35	0.03	0.2
	CC/MV	3.13	0.29	1.76
	CC/XP	0.06	0.01	0.03
	CM/EM/ER	0.64	0.06	0.36
	CO/CC/EM/ER/EW	1.26	0.12	0.71
	EC	0.07	0.01	0.04
	EC/CQ	0.29	0.03	0.16
	EC/ES	0.17	0.02	0.09
	EC/PR	0.22	0.02	0.12
	ET	0.14	0.01	0.08
	LL	0.53	0.05	0.3
	LL/AC	0.21	0.02	0.12
	W	0.17	0.02	0.09
Revegetated Areas (Table 21)	RV1	4.87	0.46	2.74
	RV2	0.57	0.05	0.32
	RV3	0.05	0.00	0.03
	RV4	0.4	0.04	0.22
	RV5	0.38	0.04	0.21
	RV6	1.02	0.1	0.57
Cleared	C	76.38	7.15	42.93
Areas Not Assessed	NA	891.06	83.36	-
TOTAL		1068.98	100	100

5.1.3.1 Floristic Classification Results

The final dataset used in the classification analysis contained 151 taxa. All taxa amalgamated or omitted from the classification analysis (excluding the above noted taxa) are presented in Appendix Q.

The PATN software package (Belbin and Collins 2009) initially suggested that a six-group classification of quadrats may be appropriate for the data analysed. The resulting dendrogram (Appendix R) and taxon group matrix (Appendix S) were therefore initially examined at this level, to determine the plausibility of groups with regard to taxon groups and also field observations. This process identified that one of the groups could feasibly be divided further into two plausible groups. Additionally, review of the resulting dendrogram of the further classification analyses using Woodman Environmental quadrats and DBCA's SCP quadrat datasets (as detailed in Section 3.1.6) also supported this division. This process ultimately determined that there were seven plausible groups that are considered to represent VTs; these groups were resolved at differing levels of similarity. The groups are ordered from 1 to 7 from top to bottom in the dendrogram in Appendix R. The initial six clusters are also indicated on the dendrogram by the colour of each individual quadrat stem.


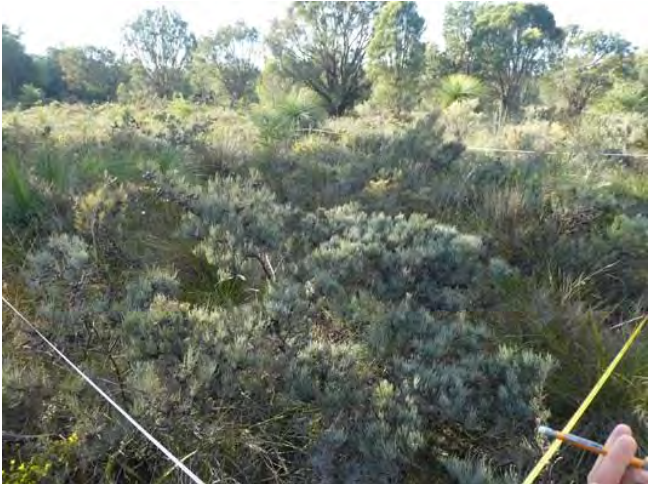
5.1.3.2 Vegetation Types



As noted above, seven VTs were defined via floristic composition classification. An additional VT was defined via structural vegetation classification following review of relevé data and comparison of such data with quadrat data. A total of eight VTs were therefore defined and mapped in the Survey Area. Vegetation types covered only 78.97 ha (7.38 %) of the Assessed Area.


Table 19 presents a description of each of the VTs mapped in the Survey Area, including location, area mapped, sampling regime, significant flora recorded, indicator taxa, average taxon richness and a description of variation found within the VT. The method of definition (structural or floristic composition) is also denoted under each VT.



Appendix T presents a taxon-VT matrix, Appendix U the indicator taxa results, and Appendix V presents the detailed vegetation type mapping.


Table 19: Summary of Vegetation Types Mapped in the Survey Area



VT	Summary	Photograph
1	<p>Description: Low woodland dominated by <i>Eucalyptus marginata</i> subsp. <i>marginata</i>, <i>Banksia menziesii</i> and <i>Allocasuarina fraseriana</i> over tall isolated shrubs dominated by <i>Xanthorrhoea preissii</i> and <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> over mid isolated shrubs dominated by <i>Allocasuarina humilis</i> and <i>Melaleuca trichophylla</i> over low open shrubland dominated by <i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i> and <i>Eremaea pauciflora</i> var. <i>pauciflora</i> over mid sparse sedgeland of <i>Mesomelaena pseudostygia</i> over mid sparse forbland of <i>Patersonia occidentalis</i> var. <i>occidentalis</i> and <i>Dasypogon bromeliifolius</i> on grey sand on plains and gentle slopes</p> <p>Definition method: floristic composition classification</p> <p>Area mapped: 28.97 ha (2.71 % of Survey Area / 16.28 % of Assessed Area / 38.68 % of VT mapped extent)</p> <p>Sampling: 12 quadrats (GSI-01, GSI-02, GSI-05, GSI-06, GSI-07, GSI-09, GSI-11, GSI-12, GSI-21, GSI-22, GSI-27, GSI-33) and nine relevés (GSI-R03, GSI-R05, GSI-R07, GSI-R09, GSI-R11, GSI-R13, GSI-R23, GSI-R24, GSISITE3)</p> <p>Significant Taxa: <i>Conospermum undulatum</i> (T), <i>Jacksonia gracillima</i> (P3), <i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2), <i>Styphelia filifolia</i> (P3)</p> <p>Indicator Taxa: <i>Alexgeorgea nitens</i>, <i>Allocasuarina fraseriana</i>, <i>Bossiaea eriocarpa</i>, <i>Burchardia congesta</i>, <i>Lomandra hermaphrodita</i>, <i>Mesomelaena pseudostygia</i>, <i>Patersonia occidentalis</i> var. <i>occidentalis</i></p> <p>Average taxon richness per quadrat: 50.1 ± 6.0</p> <p>Total Native Taxa Recorded: 165</p> <p>Similar VTs: This VT is floristically most similar to VTs 2 and 3 (Appendix S), however is easily distinguished from both of these VTs by the presence of an upper layer dominated by <i>Eucalyptus marginata</i> subsp. <i>marginata</i> and <i>Banksia menziesii</i>. VT 1 can also be distinguished from VT 3 by the general lack of <i>Corymbia calophylla</i> in the upper layer (recorded in only one quadrat in VT 1 but characteristic of VT 3)</p>	 <p>Plate 12: Typical VT 1 (Quadrat GSI-01)</p>  <p>Plate 13: Variant of VT 1 – tree layer absent and mid shrub layer dominated by <i>Allocasuarina humilis</i> (Quadrat GSI-06)</p>


VT	Summary	Photograph
	<p>Variation: The most noticeable structural variation was the abundance of <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> and <i>Allocasuarina humilis</i> in the tall and mid shrub stratum layers, respectively; often these taxa were completely absent, while in some areas the stratum layers approached open shrubland. A structural variant of this VT was observed in one area where the upper tree layer was missing completely (Plate 13)</p>	
2	<p>Description: Mid sparse shrubland of <i>Lambertia multiflora</i> var. <i>darlingensis</i> or <i>Hakea undulata</i> or <i>Hakea trifurcata</i> over low sparse shrubland of <i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>, <i>Allocasuarina humilis</i> and <i>Eremaea pauciflora</i> var. <i>pauciflora</i> over mid sparse sedgeland of mixed species dominated by <i>Cyathochaeta equitans</i> and <i>Mesomelaena tetragona</i> over mid sparse forbland of mixed species dominated by <i>Haemodorum laxum</i> on grey sand on lower slopes and flats</p> <p>Definition method: floristic composition classification</p> <p>Area mapped: 6.58 ha (0.62 % of Survey Area / 3.7 % of Assessed Area / 8.33 % of VT mapped extent)</p> <p>Sampling: Two quadrats (GSI-04, GSI-39) and one relevé (GSISITE4)</p> <p>Significant Taxa: <i>Tetraria australiensis</i> (T)</p> <p>Indicator Taxa: <i>Acacia applanata</i>, <i>Caladenia flava</i>, <i>Chamaescilla corymbosa</i> var. <i>corymbosa</i>, <i>Conostylis aurea</i>, <i>Conostylis latens</i>, <i>Desmocladus fasciculatus</i>, <i>Gompholobium confertum</i>, <i>Lambertia multiflora</i> var. <i>darlingensis</i>, <i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841), <i>Stylidium tenue</i> subsp. <i>majusculum</i>, <i>Tripterococcus brunonis</i></p> <p>Average taxon richness per quadrat: 61.5 ± 7.8</p> <p>Total Native Taxa Recorded: 101</p> <p>Similar VTs: This VT is floristically most similar to VTs 1 and 3 (Appendix S), however is easily distinguished from both of these VTs by the general absence of an upper tree layer</p> <p>Variation: This VT demonstrated some structural variation, primarily involving the tree and tall shrub layers. While the understorey taxa were similar, one variant had a low open woodland layer of <i>Eucalyptus todtiana</i> and tall shrubland layer of <i>Hakea undulata</i> and <i>Hakea trifurcata</i> (Plate 15). This variant was characterised by a greater fire age (> 5 years</p>	 <p>Plate 14: Typical VT 2 (Quadrat GSI-39)</p>  <p>Plate 15: Variant of VT 2 – low open woodland and tall</p>


VT	Summary	Photograph
3	<p>since last fire for the variant as opposed to < 5 years for typical VT 2)</p> <p>Description: Low woodland to closed forest of <i>Corymbia calophylla</i> over mid open shrubland of mixed species dominated by <i>Acacia pulchella</i> over low sparse shrubland of mixed species dominated by <i>Gompholobium tomentosum</i> over mid sparse sedgeland of mixed species dominated by <i>Mesomelaena pseudostygia</i> and <i>Mesomelaena tetragona</i> on grey-brown sandy clay loam and light clay on lower slopes and flats</p> <p>Definition method: floristic composition classification</p> <p>Area mapped: 8.32 ha (0.78 % of Survey Area / 4.68 % of Assessed Area / 10.54 % of VT mapped area)</p> <p>Sampling: Two quadrats (GSI-08, GSI-35) and three relevés (GSI-37R, GSI-R34, GSISITE1)</p> <p>Significant Taxa: <i>Lasiopetalum bracteatum</i> (P4)</p> <p>Indicator Taxa: <i>Corymbia calophylla</i>, <i>Gompholobium marginatum</i>, <i>Hakea undulata</i></p> <p>Average taxon richness per quadrat: 38.5 ± 13.4</p> <p>Total Native Taxa Recorded: 83</p> <p>Similar VTs: This VT is floristically most similar to VTs 1 and 2 (Appendix S), however is easily distinguished from both of these VTs by the upper tree layer dominated by <i>Corymbia calophylla</i>. Some areas of VT 4 also have an upper storey of <i>Corymbia calophylla</i>; VT 3 can be distinguished from VT4 by the lack of forbland dominated by <i>Phlebocarya ciliata</i>, <i>Dasypogon bromeliifolius</i> and/or <i>Dasypogon obliquifolius</i></p> <p>Variation: This VT demonstrated minor structural and floristic variation whereby greater cover of <i>Corymbia calophylla</i> in the upper layer corresponded to decreased diversity in the understorey layers</p>	<p>shrubland layers (Quadrat GSI-04)</p>  <p>Plate 16: Typical VT 3 (Quadrat GSI-35)</p>

VT	Summary	Photograph
4	<p>Description: Occasionally with low open woodland of mixed species dominated by <i>Corymbia calophylla</i>, <i>Eucalyptus todtiana</i> and <i>Eucalyptus patens</i> over tall sparse shrubland of mixed species dominated by <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> and <i>Beaufortia squarrosa</i> over mid sparse shrubland of mixed species dominated by <i>Xanthorrhoea preissii</i> over low open shrubland of mixed species dominated by <i>Eremaea pauciflora</i> var. <i>pauciflora</i>, <i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777), <i>Melaleuca seriata</i> and <i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i> var. <i>dallanneyi</i> over mid sparse sedgeland of mixed species dominated by <i>Mesomelaena tetragona</i>, <i>Cyathochaeta avenacea</i> and <i>Cyathochaeta equitans</i> over low sparse rushland of mixed species dominated by <i>Alexgeorgea nitens</i> over low open forbland of mixed species dominated by <i>Phlebocarya ciliata</i>, <i>Dasypogon bromeliifolius</i> and <i>Dasypogon obliquifolius</i> on grey sand and sandy loam on lower slopes and flats</p> <p>Definition method: floristic composition classification</p> <p>Area mapped: 13.7 ha (1.28 % of Survey Area / 7.7 % of Assessed Area / 17.35 % of VT mapped extenta)</p> <p>Sampling: Nine quadrats (GSI-03, GSI-13, GSI-16, GSI-19, GSI-20, GSI-23, GSI-24, GSI-25, GSI-26) and eight relevés (GSI-R04, GSI-R12, GSI-R14, GSI-R15, GSI-R17, GSI-R19, GSI-R25, GSI-R30)</p> <p>Significant Taxa: <i>Banksia mimica</i> (T), <i>Byblis gigantea</i> (P3), <i>Conospermum undulatum</i> (T), <i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2), <i>Styphelia filifolia</i> (P3), <i>Verticordia lindleyi</i> subsp. <i>lindleyi</i> (P4)</p> <p>Indicator Taxa: <i>Conostylis juncea</i>, <i>Dampiera linearis</i>, <i>Jacksonia floribunda</i>, <i>Stirlingia latifolia</i></p> <p>Average taxon richness per quadrat: 38.1 ± 6.7</p> <p>Total Native Taxa Recorded: 123</p> <p>Similar VTs: Areas with <i>Corymbia calophylla</i> upper storey are similar to VT 3 (discussed in VT 3 section). The understoreys of VTs 4 and 5 are floristically similar, with both being dominated by <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>, <i>Beaufortia squarrosa</i>, <i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777) and <i>Melaleuca seriata</i>. VT 4 can be distinguished from VT 5 by the presence of a forbland layer of mixed species</p>	<p data-bbox="1608 161 1738 188">Photograph</p>  <p data-bbox="1429 679 1917 707">Plate 17: Typical VT 4 (Quadrat GSI-23)</p>  <p data-bbox="1308 1230 2038 1257">Plate 18: Variant of VT 4 – tree layer absent (Quadrat GSI-13)</p>

VT	Summary	Photograph
	<p>dominated by <i>Phlebocarya ciliata</i>, <i>Dasypogon bromeliifolius</i> and <i>Dasypogon obliquifolius</i> and the general greater species richness</p> <p>Variation: This VT demonstrated minor structural variation whereby some areas were lacking the upper tree layer. These areas were typically characterised by greater cover of shrubs in the understorey layers</p>	
5	<p>Description: Tall open shrubland of <i>Callitris pyramidalis</i> and <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> over mid sparse shrubland of mixed species dominated by <i>Hakea sulcata</i>, <i>Beaufortia squarrosa</i>, <i>Melaleuca seriata</i>, <i>Kingia australis</i> and <i>Hakea varia</i> over low sparse shrubland dominated by <i>Pericalymma ellipticum</i> var. <i>floridum</i> and <i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777) over mid sparse sedgeland of <i>Mesomelaena tetragona</i> over mid sparse rushland of <i>Cytogonidium leptocarpoides</i> on brown and grey sand and sandy clay loam on lower slopes and flats</p> <p>Definition method: floristic composition classification</p> <p>Area mapped: 8.13 ha (0.76 % of Survey Area / 4.57 % of Assessed Area / 10.29 % of VT mapped extent)</p> <p>Sampling: Five quadrats (GSI-10, GSI-14, GSI-15, GSI-17, GSI-28) and three relevés (GSI-41R, GSI-R21, GSI-R27)</p> <p>Significant Taxa: <i>Andersonia gracilis</i> (T), <i>Jacksonia gracillima</i> (P3), <i>Verticordia lindleyi</i> subsp. <i>lindleyi</i> (P4)</p> <p>Indicator Taxa: <i>Schoenus laevigatus</i></p> <p>Average taxon richness per quadrat: 24.8 ± 5.2</p> <p>Total Native Taxa Recorded: 73</p> <p>Similar VTs: The understoreys of VTs 4 and 5 are similar (discussed in VT 4 section). VT 5 is floristically most similar to VT 6 (Appendix S) but can be distinguished structurally from VT 6 by the absence of a tree layer of <i>Melaleuca preissiana</i>. This VT also demonstrates some floristic similarity to VT 7 (Appendix S) but can be distinguished from this VT by the presence of sedgeland and rushland layers</p>	 <p>Plate 19: Typical VT 5 (Quadrat GSI-15)</p>

VT	Summary	Photograph
	<p>Variation: This VT demonstrated slight structural variation whereby some areas were characterised by mid closed shrubland layers (Plate 20)</p>	 <p>Plate 20: Variant of VT 5 – mid closed shrubland layer (Quadrat GSI-14)</p>
6	<p>Description: Low open forest of <i>Melaleuca preissiana</i> over tall sparse shrubland of <i>Melaleuca viminea</i> subsp. <i>viminea</i> over mid sparse shrubland of <i>Kingia australis</i>, <i>Xanthorrhoea brunonis</i>, <i>Xanthorrhoea preissii</i> and <i>Regelia ciliata</i> over low sparse rushland of <i>Leptocarpus coangustatus</i> on grey clay loam in drainage lines</p> <p>Definition method: floristic composition classification</p> <p>Area mapped: 2.09 ha (0.2 % of Survey Area / 1.18 % of Assessed Area / 2.65 % of VT mapped extent)</p> <p>Sampling: One quadrat (GSI-18); mapped on Appendix V (Sheet: V1; V4)</p> <p>Significant Taxa: <i>Verticordia lindleyi</i> subsp. <i>lindleyi</i> (P4)</p> <p>Indicator Taxa: NA</p> <p>Average taxon richness per quadrat: 29.0</p> <p>Total Native Taxa Recorded: 36</p>	 <p>Plate 21: Typical VT 6 (Quadrat GSI-18)</p>

VT	Summary	Photograph
	<p>Similar VTs: This VT is floristically most similar to VTs 5 and 7 but can be distinguished structurally from these VTs by the presence of a tree layer of <i>Melaleuca preissiana</i></p> <p>Variation: NA</p>	
7	<p>Description: Tall open shrubland of <i>Melaleuca viminea</i> subsp. <i>viminea</i> over mid sparse shrubland of mixed species dominated by <i>Verticordia densiflora</i>, <i>Kunzea micrantha</i> subsp. <i>micrantha</i>, <i>Kingia australis</i> and <i>Petrophile rigida</i> over low open shrubland dominated by <i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777) on grey-brown sandy clay loam on lower slopes and flats</p> <p>Definition method: floristic composition classification</p> <p>Area mapped: 3.20 ha (0.3 % of Survey Area / 1.8 % of Assessed Area / 4.05 % of VT mapped extent)</p> <p>Sampling: Two quadrats (GSI-29, GSI-31) and one relevé (GSI-R29)</p> <p>Significant Taxa: <i>Verticordia lindleyi</i> subsp. <i>lindleyi</i> (P4)</p> <p>Indicator Taxa: <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>, <i>Crassula colorata</i> var. <i>colorata</i>, <i>Hypolaena exsulca</i>, <i>Trachymene pilosa</i></p> <p>Average taxon richness per quadrat: 30.5 ± 3.5</p> <p>Total Native Taxa Recorded: 55</p> <p>Similar VTs: This VT is floristically most similar to VTs 5 and 6 (Appendix S) (discussed in VT 5 and 6 sections)</p> <p>Variation: NA</p>	 <p>Plate 22: Typical VT 7 (Quadrat GSI-29)</p>

VT	Summary	Photograph
8	<p>Description: Mid open woodland of <i>Corymbia calophylla</i> over low woodland of mixed species dominated by <i>Eucalyptus rudis</i>, <i>Melaleuca raphiophylla</i> and <i>Melaleuca preissiana</i> over tall sparse shrubland of mixed species dominated by <i>Acacia saligna</i> over mid sparse shrubland of <i>Acacia pulchella</i> over mid tussock grassland of mixed species dominated by *<i>Avena barbata</i>, *<i>Eragrostis curvula</i> and *<i>Ehrharta calycina</i> over mid forbland of *<i>Watsonia meriana</i> on grey and brown sandy loam and clay loam on plains, flats and drainage lines</p> <p>Definition method: structural vegetation classification</p> <p>Area mapped: 7.99 ha (0.75 % of Survey Area / 4.49 % of Assessed Area / 10.1 % of VT mapped extent)</p> <p>Sampling: Nine relevés (GSI-R02, GSI-R06, GSI-R26, GSI-R28, GSI-R31, GSI-R33, GSI-R35, GSI-R37, GSI-R47)</p> <p>Significant Taxa: <i>Conospermum undulatum</i> (T), <i>Jacksonia gracillima</i> (P3)</p> <p>Indicator Taxa: NA</p> <p>Average taxon richness per quadrat: NA</p> <p>Total Native Taxa Recorded: 24</p> <p>Similar VTs: Not especially similar to any other VTs</p> <p>Variation: This VT demonstrated some variation whereby <i>Allocasuarina fraseriana</i> was common at some occurrences. Given the general poor condition of this VT it is possible that this is a function of disturbance or the taxon has colonised areas where the soil has become drier</p>	 <p>Plate 23: Typical VT 8 (Relevé GSI-R02)</p>

5.1.3.3 Other Areas Described

Areas where natural vegetation has been completely and apparently permanently removed, with no native taxa remaining, have been mapped as 'Cleared' (C). This includes roads (and associated infrastructure including culverts), tracks and areas cleared for farming activities. A total of 76.38 ha of 'Cleared' land was mapped, representing 7.15 % of the Survey Area and 42.93% of the Assessed Area (Appendix V).

Due to the long history of disturbance within the Survey Area, there are many areas that still possess tree or large shrub taxa but are highly modified otherwise, with understoreys usually completely comprised of introduced taxa. In many cases the trees or large shrubs are native species and are probably remnant; however, in other cases these taxa have likely colonised the area following disturbance (e.g. in drains). Occasionally, some areas contained a mixture of native taxa and non-native taxa that have presumably been planted or have escaped from nearby plantings. All of the above-described areas have therefore been mapped as 'Highly Modified Areas', and no attempt has been made to align any such areas with VTs. Each HM type has been assigned to either being dominated by native taxa, or non-native taxa, however a mixture of both was generally present. A total of 15.3 ha of 'Highly Modified Areas' were mapped, representing 1.43 % of the Survey Area and 8.6 % of the Assessed Area. Table 20 outlines the different types of 'Highly Modified Areas' mapped in the Assessed Area (Appendix V).

Table 20: Description of Highly Modified Areas Mapped in the Survey Area

Code	Description	Dominated by Native or Non-Native	Area Mapped (ha)	Proportion of Area mapped as Highly Modified (%)
AFr	Individual or stands of <i>Allocasuarina fraseriana</i> on cleared land	Native	0.01	0.06
AFr/CM/EG/PR	Individual or stands of <i>Allocasuarina fraseriana</i> , * <i>Corymbia maculata</i> , * <i>Eucalyptus globulus</i> and * <i>Pinus radiata</i> over <i>Acacia</i> sp. and <i>Melaleuca</i> sp. on cleared land	Non-Native	0.36	2.38
AF/EC/MA	Individual or stands of <i>Agonis flexuosa</i> , <i>Eucalyptus camaldulensis</i> , <i>Eucalyptus</i> sp., * <i>Melia azedarach</i> and * <i>Pinus radiata</i> over <i>Melaleuca nesophila</i> and <i>Melaleuca viminalis</i> over <i>Chamelaucium uncinatum</i> over introduced species including * <i>Avena barbata</i> , * <i>Ehrharta calycina</i> and * <i>Eragrostis curvula</i> on various soils and topographical positions	Native	0.48	3.15
AF/EC/ECo	Individual or stands of <i>Agonis flexuosa</i> , <i>Eucalyptus camaldulensis</i> and <i>Eucalyptus cornuta</i> over * <i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i> over * <i>Acacia iteaphylla</i> over introduced species including * <i>Ehrharta calycina</i> and * <i>Ehrharta longiflora</i> on various soils and topographical positions	Native	0.47	3.1

Code	Description	Dominated by Native or Non-Native	Area Mapped (ha)	Proportion of Area mapped as Highly Modified (%)
AF/CC/CM/EC/ER	Individual or stands of <i>Agonis flexuosa</i> , <i>Corymbia calophylla</i> , * <i>Corymbia maculata</i> , <i>Eucalyptus camaldulensis</i> and * <i>Eucalyptus resinifera</i> over * <i>Acacia iteaphylla</i> , * <i>Schinus terebinthifolia</i> and <i>Chamelaucium uncinatum</i> over introduced species on various soils and topographical positions	Native	0.40	2.63
CC	Individual or stands of <i>Corymbia calophylla</i> over introduced species including * <i>Avena barbata</i> , * <i>Bromus diandrus</i> and * <i>Ehrharta calycina</i> on various soils and topographical positions	Native	1.13	7.39
CC/AC/CU	Individual or stands of <i>Corymbia calophylla</i> over * <i>Acacia iteaphylla</i> , <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> and <i>Chamelaucium uncinatum</i> over introduced species including * <i>Avena barbata</i> , * <i>Bromus diandrus</i> , * <i>Ehrharta calycina</i> , * <i>Eragrostis curvula</i> , * <i>Lagurus ovatus</i> and * <i>Leptospermum laevigatum</i> on various soils and topographical positions	Native	2.07	13.52
CC/AC/KG	Individual or stands of <i>Corymbia calophylla</i> over <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> and <i>Kunzea glabrescens</i> over introduced species including * <i>Eragrostis curvula</i> , * <i>Leptospermum laevigatum</i> and * <i>Oxalis glabra</i> on various soils and topographical positions	Native	0.25	1.63
CC/EC	Individual or stands of <i>Corymbia calophylla</i> and <i>Eucalyptus camaldulensis</i> over * <i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i> , <i>Melaleuca preissiana</i> , <i>Jacksonia sternbergiana</i> and * <i>Schinus terebinthifolia</i> over introduced species on various soils and topographical positions	Native	1.70	11.09
CC/EC/ER	Individual or stands of <i>Corymbia calophylla</i> , <i>Eucalyptus camaldulensis</i> and <i>Eucalyptus rudis</i> over introduced species on various soils and topographical positions	Native	0.35	2.29
CC/EC/ES	Individual or stands of <i>Corymbia calophylla</i> , <i>Eucalyptus camaldulensis</i> and * <i>Erythrina x sykesii</i> over introduced species on cleared land	Native	0.10	0.68
CC/MP	Individual or stands of <i>Corymbia calophylla</i> and * <i>Pinus radiata</i> over <i>Melaleuca preissiana</i> over * <i>Leptospermum laevigatum</i> , <i>Melaleuca nesophila</i> and * <i>Schinus terebinthifolia</i> over introduced species on various soils and topographical positions	Native	0.35	2.31
CM/EM/ER	Individual or stands of * <i>Corymbia maculata</i> <i>Eucalyptus marginata</i> and * <i>Eucalyptus resinifera</i> on cleared land	Native	0.64	4.19

Code	Description	Dominated by Native or Non-Native	Area Mapped (ha)	Proportion of Area mapped as Highly Modified (%)
CC/MV	Individual or stands of <i>Corymbia calophylla</i> over <i>Melaleuca viminalis</i> over <i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i> and <i>Chamelaucium uncinatum</i> over introduced species including <i>*Asparagus asparagoides</i> on various soils and topographical positions	Native	3.13	20.49
CC/XP	Individual or stands of <i>Corymbia calophylla</i> over <i>Xanthorrhoea preissii</i> over introduced species including <i>*Avena barbata</i> , <i>*Ehrharta calycina</i> and <i>*Eragrostis curvula</i> on various soils and topographical positions	Native	0.06	0.39
CC/EC/PR	Individual or stands of <i>Corymbia calophylla</i> , <i>Eucalyptus camaldulensis</i> and <i>*Pinus radiata</i> over <i>Acacia saligna</i> over introduced species on various soils and topographical positions	Native	0.65	4.28
CO/CC/EM/ER/EW	Individual or stands of <i>Casuarina obesa</i> , <i>Corymbia calophylla</i> , <i>Eucalyptus marginata</i> , <i>Eucalyptus rudis</i> and <i>Eucalyptus wandoo</i> over <i>Melaleuca huegelii</i> subsp. <i>huegelii</i> , <i>Melaleuca preissiana</i> and <i>Melaleuca raphiophylla</i> over <i>*Leptospermum laevigatum</i> and <i>*Acacia podalyriifolia</i> over introduced species on various soils and topographical positions	Native	1.26	8.24
C/P	Individual or stands of Exotic Palms and <i>Callitris</i> on cleared land	Non-Native	0.05	0.34
EC/CQ	Individual or stands of <i>Eucalyptus camaldulensis</i> over <i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i> , <i>Chamelaucium uncinatum</i> and <i>Grevillea thelemanniana</i> over introduced species including <i>*Bromus diandrus</i> , <i>*Ehrharta calycina</i> , <i>*Eragrostis curvula</i> , <i>*Euphorbia terracina</i> and <i>*Oxalis pes-caprae</i> on various soils and topographical positions.	Native	0.29	1.92
EC	Individual or stands of <i>Eucalyptus camaldulensis</i> on cleared land	Native	0.07	0.44
EC/ES	Individual or stands of <i>Eucalyptus camaldulensis</i> and <i>*Erythrina x sykesii</i> on cleared land	Native	0.17	1.09
EC/PR	Individual or stands of <i>Eucalyptus camaldulensis</i> and <i>*Pinus radiata</i> over introduced species on various soils and topographical positions	Native	0.22	1.45
ET	Individual or stands of <i>Eucalyptus todtiana</i> on cleared land	Native	0.14	0.92
LL	Individual or stands of <i>*Leptospermum laevigatum</i> over introduced species on various soils and topographical positions	Non-Native	0.53	3.48
LL/AC	Individual or stands of <i>*Leptospermum laevigatum</i> over <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> and <i>Jacksonia sternbergiana</i> over introduced species on various soils and topographical positions	Native	0.21	1.40

Code	Description	Dominated by Native or Non-Native	Area Mapped (ha)	Proportion of Area mapped as Highly Modified (%)
W	Dense <i>*Watsonia meriana</i> within isolated native species on brown clay on flats and drainage lines	Non-Native	0.17	1.08

* denotes introduced taxon

Additionally, there are several areas where tree and shrub species have clearly been planted for the purposes of revegetation. Although these areas were often dominated by native taxa, in some cases the majority of the taxa present were not indigenous to the area. As these taxa had clearly been planted the resulting taxon combinations did not resemble remnant vegetation. Areas of non-native revegetation were also mapped, most particularly RV3 which was dominated by the non-native taxon **Jacaranda mimosifolia*. These areas were mapped as 'Revegetated Areas'. A total of 7.28 ha of 'Revegetated Areas' were mapped, representing 0.68 % of the Survey Area and 4.09 % of the Assessed Area Table 21 outlines the different types of 'Revegetated Areas' mapped in the Survey Area.

Table 21: Description of Revegetated Areas Mapped in the Survey Area

Code	Description	Area Mapped (ha)	Proportion of Areas mapped as Revegetated (%)
RV1	Recent revegetated road reserve with <i>Corymbia calophylla</i> , <i>*Eucalyptus ?resinifera</i> , <i>Eucalyptus</i> sp., <i>Eucalyptus torquata</i> and <i>*Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i> over <i>Melaleuca huegelii</i> subsp. <i>huegelii</i> and <i>Melaleuca incana</i> subsp. <i>incana</i> over <i>Acacia lasiocarpa</i> , <i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i> , <i>Grevillea thelemanniana</i> and <i>Hakea prostrata</i> over introduced species including <i>*Avena barbata</i> , <i>*Bromus diandrus</i> , <i>*Ehrharta calycina</i> , <i>*Eragrostis curvula</i> , <i>*Euphorbia terracina</i> , <i>*Fumaria capreolata</i> and <i>*Sonchus asper</i>	4.87	66.93
RV2	Recent revegetated road reserve with <i>Kunzea glabrescens</i> , <i>Melaleuca incana</i> subsp. <i>incana</i> and <i>Melaleuca teretifolia</i> over <i>Astartea scoparia</i> over <i>Juncus pallidus</i> , <i>Schoenoplectus tabernaemontani</i> and <i>Typha domingensis</i> (artificial wetland)	0.57	7.83
RV3	Historically revegetated road reserve with <i>*Jacaranda mimosifolia</i> over introduced species on cleared land	0.05	0.65
RV4	Historically revegetated road reserve with <i>Allocasuarina fraseriana</i> , <i>Nuytsia floribunda</i> and <i>Eucalyptus camaldulensis</i> over <i>Acacia saligna</i> , <i>Chamelaucium uncinatum</i> , <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> and <i>*Leptospermum laevigatum</i> over <i>Xanthorrhoea preissii</i> and <i>Cyathochaeta avenacea</i> over introduced species including <i>*Avena barbata</i> , <i>*Ehrharta calycina</i> , <i>*Ehrharta longiflora</i> and <i>*Pelargonium capitatum</i>	0.40	5.46

Code	Description	Area Mapped (ha)	Proportion of Areas mapped as Revegetated (%)
RV5	Historically revegetated road reserve with <i>Corymbia calophylla</i> , <i>Eucalyptus cornuta</i> , <i>Eucalyptus rudis</i> and <i>Eucalyptus</i> sp. over <i>Acacia saligna</i> , <i>Grevillea leucopteris</i> and <i>Melaleuca viminalis</i> over <i>Cyathochaeta avenacea</i> over introduced species including <i>*Avena barbata</i> , <i>*Eragrostis curvula</i> and <i>*Pelargonium capitatum</i>	0.38	5.16
RV6	Historically revegetated road reserve with <i>Eucalyptus camaldulensis</i> over <i>Acacia saligna</i> , <i>Allocasuarina humilis</i> , <i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i> , <i>Grevillea leucopteris</i> , <i>Melaleuca huegelii</i> subsp. <i>huegelii</i> and <i>Melaleuca nematophylla</i> over introduced species	1.02	13.97

5.1.3.4 Relationships of VTs to SCP FCTs

As described in Section 3.1.9.2, further floristic analysis was undertaken to determine relationships between VTs defined by floristic composition classification in the Survey Area and SCP FCTs defined by Gibson *et al.* (1994) with the aim of aligning VTs with SCP FCTs. Several different analytical approaches were employed to build supporting evidence for aligning VTs with SCP FCTs. In addition, taxon lists of Woodman Environmental quadrats were compared to typical species lists for SCP FCTs as presented in Gibson *et al.* (1994), as well as quadrat taxon lists, soil, topography and geographical distribution data from this survey. Table 22 presents a summary of the results of this process.

- As outlined in Table 22, only two of the seven VTs of the Survey Area defined by floristic composition have been confidently aligned with SCP FCTs, with VT 1 and VT 6 being aligned with SCP FCTs 20a and 4 respectively. For the remaining VTs defined via floristic composition classification, the results of the analyses undertaken were inconclusive, and therefore these VTs could not confidently be aligned with any specific SCP FCT. Two of the VTs (VTs 2 and 3) have affinities to two different SCP FCTs (FCT 3 and 20); however, both of these VTs were only represented by two quadrats. It is considered that this limited data likely accounts for the inconclusive analysis results. It is considered likely that VTs 4, 5, and 7 represent communities not sampled by quadrats in the SCP datasets; the areas within which these VTs were mapped are considered poorly sampled in the context of the SCP datasets. Excerpts from classification analysis dendrograms are presented in appendices as follows:
 - Analysis of the Woodman Environmental quadrat dataset from the Survey Area with the original SCP dataset (Gibson *et al.* 1994) – Appendix W;
 - Analysis of the Woodman Environmental quadrat dataset from the Survey Area with the amended SCP dataset (Keighery *et al.* 2012) – Appendix X;
 - Single site insertion analysis of representative quadrats of VTs described in the Survey Area with the original SCP dataset (Gibson *et al.* 1994) – Appendix Y; and
 - Single site insertion analysis of representative quadrats of VTs described in the Survey Area with the amended SCP dataset (Keighery *et al.* 2012) – Appendix Z.

The only VT defined via structural vegetation classification, VT 8, was not sampled using quadrats because of the degraded condition of the vegetation, and associated loss of most

of the native understorey. Review of SCP FCT descriptions and relevé taxon lists indicates that VT 8 may possibly represent FCT 11 or 14 however a conclusive determination could not be made due to the degraded condition of this VT.

As discussed in Section 3.1.9.2, due to the lack of formal guidance regarding the appropriate methodology for aligning vegetation with SCP FCTs, and also the lack of information regarding how new quadrats contained in the amended SCP dataset were assigned to SCP FCTs, the VT-FCT alignment determinations presented in Table 22 for VTs 1 and 6 cannot be considered absolutely conclusive. However, the determinations were generally supported by the results of multiple analyses, including analyses that follow DBCA's standard analysis methods. Comparisons of quadrat taxon lists also generally supported the determinations for VTs 1 and 6. There were a number of cases where the results of the analyses did not support the final determination made. This was not unexpected; as discussed in Section 3.1.9.2, quadrat groupings are usually disrupted, sometimes significantly, when data is added to or removed from a dataset and analysed. Even if exactly the same parameters are used, many quadrats that were originally classified together can be re-classified in completely different groups when such changes are made.

Table 22: Summary of Analyses to Determine Relationships of VTs to SCP FCTs

VT	Analysis with Survey Area and Original SCP Quadrat Dataset Quadrats (App. T)	Analysis with Survey Area and Amended SCP Quadrat Dataset Quadrats (App. U)	Single Insertion with Original SCP Quadrat Dataset Quadrats (App. V)	Single Insertion with Amended SCP Quadrat Dataset Quadrats (App. W)	Final determination
1	<p>FCT 20a</p> <p>Quadrats classified within a group of SCP quadrats that all represent FCT 20a, except for a single quadrat that represents FCT 21c.</p>	<p>FCT 20a</p> <p>Quadrats classified within a group of SCP quadrats that all represent FCT 20a, except for a single quadrat that represents FCT 21c.</p>	<p>FCT 20</p> <p>Quadrats GSI-01, GSI-02, GSI-06, GSI-09, GSI-12 and GSI-22 analysed:</p> <ul style="list-style-type: none"> • Quadrat GSI-01 classified in a small group of SCP quadrats that all represent FCT 20a. This group is sister to a group of quadrats that mostly represent FCT 20b. • Quadrat GSI-02 classified with a single quadrat that represents FCT 21c. This group is sister to a group of quadrats that represent FCT 20c; • GSI-06 classified with a single quadrat that represents FCT 20a. This group is sister to a group of quadrats that represent FCT 20c; • Quadrats GSI-09 and GSI-12 classified with a single quadrat that represents FCT 21c. This subgroup is part of a larger group of quadrats that represent FCT 20c; • Quadrat GSI-22 classified with a single quadrat that represents FCT 20a. This group is sister to a group of quadrats that represent FCT 20c 	<p>Inconclusive</p> <p>Quadrats GSI-01, GSI-02, GSI-06, GSI-09, GSI-12 and GSI-22 analysed:</p> <ul style="list-style-type: none"> • Quadrat GSI-01 classified in a large group of SCP quadrats that mostly represent FCT 20a. This group is sister to a group of quadrats that are predominately FCT 20b; • Quadrat GSI-02 classified with a single quadrat that represented FCT 21c. This subgroup is part of a larger group of quadrats that mostly represent FCT 20a; • Quadrat GSI-06 classified in a small subgroup with two SCP quadrats that represented FCTs 20a and 21c. This subgroup is part of a larger group of quadrats that represent FCT 20a; • Quadrat GSI-09 classified with one SCP quadrat that represents FCT 23a. This subgroup is part of a larger group of quadrats that mostly represent FCT 23a; • Quadrat GSI-12 classified with one SCP quadrat that represented FCT 20c. This subgroup is part of a larger group of quadrats that represented FCT 20a; 	<p>FCT - 20a</p> <p>Statistical analysis with the original and amended SCP dataset broadly supports this determination. Some of the single insertion analyses with the amended dataset indicated a relationship with sites which represent FCT 23. SCP quadrat hart04, which occurs within VT1 in the Survey Area, represents FCT 23a accordingly to DBCA; this FCT includes <i>Banksia menziesii</i> in the overstorey but the typical understorey taxa do not reflect those of VT 1. SCP quadrats hart01, APBF-1, APBF-2, M53 and m5302, which all occur within 1 km of the Survey Area, represent FCT 20a.</p>

VT	Analysis with Survey Area and Original SCP Quadrat Dataset Quadrats (App. T)	Analysis with Survey Area and Amended SCP Quadrat Dataset Quadrats (App. U)	Single Insertion with Original SCP Quadrat Dataset Quadrats (App. V)	Single Insertion with Amended SCP Quadrat Dataset Quadrats (App. W)	Final determination
				<ul style="list-style-type: none"> Quadrat GSI-22 classified in a small subgroup with SCP quadrats that represent FCTs 20a, 23b and S09. This subgroup is part of a larger group of quadrats that represent FCT 23b. 	
2	<p>Inconclusive - possibly FCT 20</p> <p>Quadrats formed a small group with study area VT3 quadrats and no SCP quadrats, suggesting similar vegetation not sampled by that study. In the context of the SCP dataset, the most closely related quadrats predominantly represent FCT 20.</p>	<p>FCT 3</p> <p>Quadrats from this VT classified in a group with study area VT3 quadrats and SCP quadrats that represent FCT 3a. This group is sister to a group of quadrats that predominantly represent FCT 3b, however with some FCT S08, 20d and 20b.</p>	<p>FCT 20</p> <p>Quadrats GSI-04 and GSI-39 analysed:</p> <ul style="list-style-type: none"> Quadrat GSI-04 classified within a small group with SCP quadrats that represent FCT 20a. This group is sister to a larger group of quadrats that are predominately FCT 20b; Quadrat GSI-39 classified with one SCP quadrat that represents FCT 21c within a larger group of quadrats that represent FCT 20c. 	<p>Inconclusive - possibly FCT 3a/20c</p> <p>Quadrats GSI-04 and GSI-39 analysed:</p> <ul style="list-style-type: none"> Quadrat GSI-04 classified within a group of SCP quadrats that all represent FCT 3a; Quadrat GSI-39 classified with one SCP quadrat that represents FCT 21c within a larger group of quadrats that represent FCT 20c. 	<p>Inconclusive</p> <p>The analyses undertaken indicate that there is not enough data to confidently align VT 2 (represented by 2 quadrats) with a SCP FCT. The Assessed Area is poorly sampled in the SCP datasets. It is possible this VT represents 2 communities. VT 2 has affinities to 2 different SCP FCTs (FCT 3 and 20).</p>
3	<p>Inconclusive - possibly FCT 20</p> <p>Quadrats formed a small group with study area VT2 quadrats and no SCP quadrats, suggesting similar vegetation not sampled by that study. In the context of the SCP dataset, the most closely related quadrats predominantly represent FCT 20.</p>	<p>FCT 3</p> <p>Quadrats from this VT classified in a group with study area VT2 quadrats and SCP quadrats that represent FCT 3a. This group is sister to a group of quadrats that predominantly represent FCT 3b, however with some FCT S08, 20d and 20b.</p>	<p>FCT - 3c</p> <p>Quadrats GSI-08 and GSI-35 analysed:</p> <ul style="list-style-type: none"> Quadrat GSI-08 classified in a large group with SCP quadrats that predominately represent FCT 3c. Quadrat GSI-35 classified in a group with SCP quadrats that represent FCT 3c. 	<p>FCT 3</p> <p>Quadrats GSI-08 and GSI-35 analysed:</p> <ul style="list-style-type: none"> Quadrat GSI-08 classified in a subgroup with SCP quadrats that all represent FCT 3c. This subgroup is part of a larger group that includes quadrats that represented FCTs 25, 24, 18 and S08; Quadrat GSI-35 classified in a group of SCP quadrats that all represent FCT 3a. 	<p>Inconclusive</p> <p>The analyses undertaken indicate that there is not enough data to confidently align VT 3 (represented by 2 quadrats) with a SCP FCT. The Assessed Area is poorly sampled in the SCP datasets. It is possible this VT represents 2 communities. VT 3 has affinities to 2 different SCP FCTs (FCT 3a and 3c).</p>
4	<p>Inconclusive</p> <p>Quadrats from this VT formed a discrete group with study area</p>	<p>Inconclusive</p> <p>Quadrats from this VT formed a discrete group with study area</p>	<p>Inconclusive</p> <p>Quadrats GSI-03, GSI-16, GSI-19 and GSI-23 analysed:</p>	<p>Inconclusive</p> <p>Quadrats GSI-03, GSI-16, GSI-19 and GSI-23 analysed:</p>	<p>Inconclusive</p> <p>Does not align clearly with any SCP FCTs. Has some affinities to</p>

VT	Analysis with Survey Area and Original SCP Quadrat Dataset Quadrats (App. T)	Analysis with Survey Area and Amended SCP Quadrat Dataset Quadrats (App. U)	Single Insertion with Original SCP Quadrat Dataset Quadrats (App. V)	Single Insertion with Amended SCP Quadrat Dataset Quadrats (App. W)	Final determination
	VTs 5, 6 and 7. This indicated that similar vegetation had not been sampled by the original SCP dataset. The three mostly closely related groups are comprised of quadrats that represent SCP FCTs 2, 3a and 3c.	VTs 5, 6 and 7, and two SCP quadrats that represent FCT S02. This indicated that similar vegetation had not been sampled by the original SCP dataset. The three mostly closely related groups are comprised of quadrats that represent SCP FCTs 4, 5 and S02.	<ul style="list-style-type: none"> • Quadrat GSI-03 classified within a group of SCP quadrats that represent FCT 4, 6, 20b and 21c; • Quadrat GSI-16 classified within a small group with three SCP quadrats which represent FCT 21c; this group is sister to a group of quadrats that represent FCT 20c; • Quadrats GSI-19 and GSI-23 classified within a group of SCP quadrats that predominantly represent FCT 21c. 	<ul style="list-style-type: none"> • Quadrat GSI-03 classified within a group with SCP quadrats that all represent FCT 3a. • Quadrat GSI-16 classified within a group of SCP quadrats that predominately represent FCT 20a, except for one quadrat from FCT 20c; • Quadrats GSI-19 and GSI-23 classified within a group of SCP quadrats that represent FCT 4, 21a, 21c and S02. 	<p>the wetter low lying SCP FCT groups (SCP3 & 21). These VT 4 sites appear to have influences from the adjacent wetter areas, however, are drier and slightly higher in the landscape. It is possible that this VT represents undescribed vegetation or transitional vegetation. Although this VT has some affinity with SCP 21c, all quadrats are missing the <i>Banksia attenuata</i> and <i>Banksia menziesii</i> tree layer which is at variance to the FCT description.</p> <p>SCP quadrats hart02 and hart03, both of which are located within vegetation mapped as VT 4 in the study area, represent FCT S02. Limited information is available on SCP FCTs defined by Keighery <i>et al.</i> (2012), which includes S02. However, analysis of all WEC quadrats with the amended SCP dataset indicated some degree of similarity between these two quadrats and those of VT 4.</p>
5	<p>Inconclusive</p> <p>Quadrats from this VT formed a discrete group with study area VTs 4, 6 and 7. This indicated that similar vegetation had not been sampled by the original SCP dataset. The three mostly closely related groups are comprised of quadrats that represent SCP FCTs 2, 3a and 3c.</p>	<p>Inconclusive</p> <p>Quadrats from this VT formed a discrete group with study area VTs 4, 6 and 7, and two SCP quadrats that represent FCT S02. This indicated that similar vegetation had not been sampled by the original SCP dataset. The three mostly closely related groups are comprised of quadrats</p>	<p>Inconclusive</p> <p>Quadrats GSI-10, GSI-14 and GSI-15 analysed:</p> <ul style="list-style-type: none"> • Quadrat GSI-10 classified within a group of SCP quadrats that represent FCTs 5, 6, 7 and 10a; • Quadrat GSI-14 classified in a small group with SCP quadrats that represent FCT 13. 	<p>Inconclusive</p> <p>Quadrats GSI-10, GSI-14 and GSI-15 analysed:</p> <ul style="list-style-type: none"> • Quadrat GSI-10 classified within a group of SCP quadrats that predominantly represent FCT 10a and 10b; • Quadrat GSI-14 classified within a group of SCP quadrats that predominantly represent 	<p>Inconclusive</p> <p>Does not align clearly with any SCP FCTs. Has some affinities to the wetland SCP FCT groups (SCP4, 5, 6, 7, 10a, 10b, 13 and S02). It is possible that this VT represents undescribed vegetation. SCP quadrats hart02 and hart03, are similar to study area quadrats in VT 5 based on</p>

VT	Analysis with Survey Area and Original SCP Quadrat Dataset Quadrats (App. T)	Analysis with Survey Area and Amended SCP Quadrat Dataset Quadrats (App. U)	Single Insertion with Original SCP Quadrat Dataset Quadrats (App. V)	Single Insertion with Amended SCP Quadrat Dataset Quadrats (App. W)	Final determination
		that represent SCP FCTs 4, 5 and S02.	<ul style="list-style-type: none"> Quadrat GSI-15 classified with one SCP quadrat representing FCT 22. This group is sister to a group which represents FCT 2. 	<p>FCT S02, S03 4, 9 and 11, however is most closely related to Hartfield Park S02 quadrats.</p> <ul style="list-style-type: none"> Quadrat GSI-15 classified with two SCP quadrats from Hartfield Park that represented FCT S02. This group is sister to a group of quadrats that all represent FCT 2. 	analysis results. These quadrats represent FCT S02. Limited information is available on SCP FCTs defined by Keighery <i>et al.</i> (2012), which includes S02.
6	Inconclusive Quadrats from this VT formed a discrete group with study area VTs 4, 5 and 7. This indicated that similar vegetation had not been sampled by the original SCP dataset. The three mostly closely related groups are comprised of quadrats that represent SCP FCTs 2, 3a and 3c.	Inconclusive Quadrats from this VT formed a discrete group with study area VTs 4, 5 and 7, and two SCP quadrats that represent FCT S02. This indicated that similar vegetation had not been sampled by the original SCP dataset. The three mostly closely related groups are comprised of quadrats that represent SCP FCTs 4, 5 and S02.	FCT - 4 Quadrat GSI-18 analysed: <ul style="list-style-type: none"> Quadrat GSI-18 classified in a group of SCP quadrats that predominantly represented FCT 4. 	FCT - 4 Quadrat GSI-18 analysed: <ul style="list-style-type: none"> Quadrat GSI-18 classified in a group with SCP quadrats that predominantly represent FCT 4 and 21c. 	FCT - 4 Results of single insert analysis, as well as review of SCP FCT description, quadrat taxon list and quadrat species richness, broadly support this determination.
7	Inconclusive Quadrats from this VT formed a discrete group with study area VTs 4, 5 and 6. This indicated that similar vegetation had not been sampled by the original SCP dataset. The three mostly closely related groups are comprised of quadrats that represent SCP FCTs 2, 3a and 3c.	Inconclusive Quadrats from this VT formed a discrete group with study area VTs 4, 5 and 6, and two SCP quadrats that represent FCT S02. This indicated that similar vegetation had not been sampled by the original SCP dataset. The three mostly closely related groups are comprised of quadrats that represent SCP FCTs 4, 5 and S02.	Inconclusive Quadrats GSI-29 and GSI-31 analysed: <ul style="list-style-type: none"> Quadrat GSI-29 classified in a group of SCP quadrats that predominantly represent FCT 21c; Quadrat GSI-31 classified in a group of SCP quadrats that predominantly represent FCT 6. This group is sister to a group of quadrats that represent FCT 11. 	Inconclusive Quadrats GSI-29 and GSI-31 analysed: <ul style="list-style-type: none"> Quadrat GSI-29 classified in a group of SCP quadrats that predominantly represent FCT 4, with several quadrats representing FCT 21c; Quadrat GSI-31 classified in a group of SCP quadrats that predominantly represent FCT 6. 	Inconclusive The analyses undertaken indicate that there is not enough data to confidently align VT 7 (represented by 2 quadrats) with a SCP FCT. There are taxa present that indicate that this VT has affinities with SCP FCTs 4, 6 and 11.
8	NA – VT is represented by relevés only, therefore no analysis could	NA – VT is represented by relevés only, therefore no analysis could	NA – VT is represented by relevés only, therefore no analysis could	NA – VT is represented by relevés only, therefore no analysis could	Inconclusive - possibly FCT 11/14 The poor condition and

VT	Analysis with Survey Area and Original SCP Quadrat Dataset Quadrats (App. T)	Analysis with Survey Area and Amended SCP Quadrat Dataset Quadrats (App. U)	Single Insertion with Original SCP Quadrat Dataset Quadrats (App. V)	Single Insertion with Amended SCP Quadrat Dataset Quadrats (App. W)	Final determination
	be undertaken	be undertaken	be undertaken	be undertaken	associated loss of most of the native understorey of this VT did not allow for sampling via quadrats. Review of FCT descriptions and quadrat taxon lists identifies greatest floristic similarity to FCT 14; however, the Assessed Area is located well outside the range of this FCT. The presence of <i>Eucalyptus rudis</i> and <i>Melaleuca raphiophylla</i> may indicate that this VT could represent FCT 11. While there are no SCP quadrats located within close proximity to the Assessed Area, the Assessed Area is within the range of this FCT.

5.1.3.5 Significant Vegetation

A total of two formally described significant communities have been identified by this assessment as occurring within the Survey Area. Both of these significant communities are listed TECs under the BC Act or the EPBC Act:

- SCP20a - *Banksia attenuata* woodland over species rich dense shrublands: listed as Endangered under the State BC Act; although is not listed separately under the EPBC Act, it forms part of the EPBC Act-listed TEC 'Banksia woodlands of the Swan Coastal Plain';
- 'Banksia woodlands of the Swan Coastal Plain': listed as Endangered under the EPBC Act; listed as Priority 3 PEC by DBCA (2020b).

A total of five further significant types of vegetation as described by EPA (2016b) were also identified as potentially occurring within the Assessed Area. These include vegetation associated with VTs 2 and 3 (with reference to Table 22):

- SCP 20c - Shrublands and Woodlands of the eastern side of the Swan Coastal Plain: listed as Critically Endangered under the BC Act and Endangered under the EBCA Act. One quadrat of VT 2 has affinities to this TEC;
- SCP 3a - *Corymbia calophylla* – *Kingia australis* woodlands on heavy soils, Swan Coastal Plain: listed as Critically Endangered under the BC Act and Endangered under the EPBC Act. One quadrat of VT 2, and one quadrat from VT 3 have affinities to this TEC;
- SCP 3c - *Corymbia calophylla* – *Xanthorrhoea preissii* woodlands and shrublands, Swan Coastal Plain: listed as Critically Endangered under the BC Act and Endangered under the EPBC Act. One quadrat of VT 3 has affinities to this TEC.

There are a further three VTs which have not aligned with any SCP FCT. Gibson *et al* 1994 states that a number of land systems (including the Pinjarra Plain) were under sampled. Given the location of the survey area, this finding is not unexpected.

Each significant vegetation type is discussed further below (Table 23). Photographs of the significant vegetation types are presented in Appendix AA. The locations of significant vegetation types are presented in Appendix AB.

Table 23: Significant Vegetation Occurring within the Survey Area

Community	Conservation Status (WA)	Conservation Status (Commonwealth)	Representative VTs	No. of Patches / Occurrences	Total Area Mapped (ha)	Figure
SCP20a - <i>Banksia attenuata</i> woodland over species rich dense shrublands (WA)	Endangered (EN B ii))	Endangered*	1	10 occurrences	28.97	Appendix AB: Figures AB1-3
Banksia woodlands of the Swan Coastal Plain	Priority 3	Endangered	1	7 patches	27.93	Appendix AB: Figures AB1-3
Potential: SCP20c – Shrublands and Woodlands of the eastern side of the Swan Coastal Plain	Critically Endangered (CR B ii))	Endangered	Potentially part of VT 2 (GSI-39)	1 occurrence (8 polygons)	5.5	Appendix AB: Figures AB1-2
Potential: SCP3a – <i>Corymbia calophylla</i> – <i>Kingia australis</i> woodlands on heavy soils, Swan Coastal Plain	Critically Endangered (CR b ii))	Endangered	Potentially part of VT 2 (GSI-04)	1 occurrence (2 polygons)	1.08	Appendix AB: Figure AB2
Potential: SCP3a – <i>Corymbia calophylla</i> – <i>Kingia australis</i> woodlands on heavy soils, Swan Coastal Plain	Critically Endangered (CR b ii))	Endangered	Potentially part of VT 3 (GSI-35)	1 occurrence (7 polygons)	6.77	Appendix AB: Figures AB1-2
Potential SCP3c – <i>Corymbia calophylla</i> – <i>Xanthorrhoea preissii</i> woodlands and shrublands, Swan Coastal Plain	Critically Endangered (CR b ii))	Endangered	Potentially part of VT 3 (GSI-08)	3 occurrences (7 polygons)	1.55	Appendix AB: Figure AB2

Note: * indicates that the community itself is not listed by the Commonwealth but can be a component of the Banksia Woodlands of the Swan Coastal Plain TEC (Endangered).

As presented in Section 5.1.1.4, the buffer polygons of 15 significant vegetation types were identified as occurring within the Desktop Study Area, with buffer zones of nine of these significant vegetation types intersecting the Assessed Area. Although the actual occurrence of a significant vegetation type may not be within the Assessed Area or Development Envelope, according to the metadata information from the DBCA TEC and PEC Database. Buffers are placed around occurrences of TECs and PECs to ensure that impacts to surface water or groundwater in the vicinity of TECs or PECs, which the TEC or PEC may depend on, are identified. As the buffer zones of six of the significant vegetation types identified through the desktop review do not occur in the Assessed Area, and no representative vegetation of any of these six significant vegetation types were mapped or otherwise identified in the Assessed Area, these six types will not be discussed further.

Table 24 presents a summary of the presence of the remaining nine significant vegetation types within the buffer polygons in the Assessed Area.

Table 24: Status of Significant Vegetation Types with Buffer Polygons Intersecting the Survey Area

Community	Conservation Status	Comment
Banksia woodlands of the Swan Coastal Plain	Priority 3 (WA); Endangered (Commonwealth*)	Buffer polygons identified within the Survey Area and Development Envelope, including the northern half and southern portion of the Development Envelope (Figure 11; Appendix AB Sheets 1-3). Vegetation equivalent to this PEC/TEC has been mapped within the buffer polygons, with most vegetation mapped as this TEC occurring in existing buffer polygons; one small area has been mapped outside of the existing buffer polygon (Appendix AB Sheet 2). Further discussion regarding the extent of this PEC/TEC in the assessed area is provided below.
SCP02 - Southern wet shrublands, Swan Coastal Plain	Endangered (WA)	One buffer polygon intersects both the Survey Area and northern extent of the Development Envelope (Figure 11; Appendix AB Sheet 1). The vegetation associated with this buffer zone in the assessed area was mapped as RV1 (recently revegetated road reserve). This PEC/TEC does not occur in the assessed area.
SCP3a - <i>Corymbia calophylla</i> - <i>Kingia australis</i> woodlands on heavy soils, Swan Coastal Plain (WA); <i>Corymbia calophylla</i> - <i>Kingia australis</i> woodlands on heavy soils of the Swan Coastal Plain (Commonwealth)	Critically Endangered (WA); Endangered (Commonwealth)	Two buffer polygons intersect the Survey Area and Development Envelope (Figure 11; Appendix AB). The vegetation mapped within the assessed area within the northern buffer polygon (Appendix AB Sheet 2) did not align with SCP3a (VTs 8 and 4). However, a small area of VT 3 which showed affinity to SCP3a was mapped just to the north-east of this buffer zone (Appendix AB Sheets 1-2). Some vegetation showing affinity to SCP3a (VT 2) was mapped within the southern buffer zone (Appendix AB Sheets 2-3), however vegetation showing affinity to SCP 3c (VT 3) was also mapped in this buffer zone area. SCP3a is considered to potentially occur within the Survey Area based on the current level of data available.

Community	Conservation Status	Comment
SCP3b - <i>Corymbia calophylla</i> - <i>Eucalyptus marginata</i> woodlands on sandy clay soils of the southern Swan Coastal Plain	Vulnerable (WA)	One buffer polygon intersects the Survey Area and Development Envelope (Figure 11; Appendix AB Sheets 2-3). Areas of vegetation in the assessed area showed affinities to SCP 3a and 3c (VTs 2 and 3), as well as confirmed SCP 20a (VT 1) however not to SCP 3b. Other VTs mapped in the buffer polygon (VT 4, VT 8) likewise did not align with SCP3b. SCP3b is not considered to occur in the assessed area.
SCP08 - Herb rich shrublands in clay pans (WA); Clay Pans of the Swan Coastal Plain (Commonwealth)	Vulnerable (WA); Critically Endangered~ (Commonwealth)	One buffer polygon intersects the Survey Area however not the Development Envelope (Figure 11; Appendix AB Sheets 2-3). This buffer polygon is associated with locations known from the Brixton St Wetlands extending through the damplands to the east of these wetlands. This buffer polygon did not intersect the assessed area. No vegetation representing SCP08 was mapped within the assessed area.
SCP10a - Shrublands on dry clay flats (WA); Clay Pans of the Swan Coastal Plain (Commonwealth)	Endangered (WA); Critically Endangered~ (Commonwealth)	One buffer polygon intersects the Survey Area and the Development Envelope (Figure 11; Appendix AB Sheet 2). Vegetation representing SCP10a was not mapped within the assessed area within this buffer polygon. VTs 4 and 8 were mapped in the assessed area within this buffer polygon, neither of which aligned with SCP10a. Otherwise, vegetation in this buffer polygon in the assessed area was mapped as Highly Modified, Cleared or Not Assessed. No vegetation representing SCP10a was mapped in the assessed area.

Community	Conservation Status	Comment
SCP20a - <i>Banksia attenuata</i> woodlands over species rich dense shrublands (WA); Banksia Woodlands of the Swan Coastal Plain (Commonwealth)*	Endangered (WA); Endangered (Commonwealth*)	Two buffer polygons intersect the Survey Area and Development Envelope, with two further buffer polygons intersecting only the Survey Area (Figure 11; Appendix AB1 – 8). Vegetation representing SCP20a was mapped throughout the assessed area. The vegetation in the Development Envelope within the northern buffer zone (Appendix AB1) only contains Highly modified vegetation, and therefore SCP20a associated with this buffer zone is not extant in this area. However, a small area of VT1 (equivalent to SCP20a) was mapped on the edge of the Survey Area in this buffer polygon (Appendix AB2). The north-eastern buffer polygon (Appendix AB2-4) does not intersect the Development Envelope; however, SCP20a was mapped as occurring within this buffer polygon. A relatively large buffer polygon occurs on the southern extent of the Development Envelope; SCP20a was mapped in some intact portions of this area (Appendix AB6-7). One further buffer polygon occurs on the eastern side of the Survey Area (Appendix AB6), however this area was Not Assessed. This area does not intersect the Development Envelope.
SCP20c - Shrublands and woodlands of the eastern side of the Swan Coastal Plain	Critically Endangered (WA); Endangered (Commonwealth)	One buffer polygon occurs in the Survey Area and Development Envelope (Appendix AB5-8). None of the intact vegetation of the assessed area is confirmed as representative of SCP20c in this buffer area; SCP20a is known to occur (VT 1). One area of VT2 showing affinity to SCP20c was identified in the Survey Area, however this area occurs outside of the buffer polygon (Appendix AB4). SCP20c is considered to potentially occur within the Survey Area based on the current level of data available.
Shrublands and woodlands on Muchea Limestone	Endangered (WA); Endangered (Commonwealth)	One buffer polygon occurs in the Survey Area, however does not occur in the Development Envelope or assessed area (Appendix AB3; AB5). VTs4 and 8 were mapped in the assessed area closest to this buffer polygon; however, neither of these VTs align with this significant community. This significant community does not occur within the assessed area.

*: can be a component of the EPBC listed TEC 'Banksia Woodlands of the Swan Coastal Plain'.

Banksia Woodlands of the Swan Coastal Plain

The 'Banksia Woodlands of the Swan Coastal Plain' community is listed as a PEC in WA, and as a TEC under Commonwealth legislation. Therefore, these are discussed together in the context of the Commonwealth-listed TEC.

The Approved Conservation Advice (TSSC 2016) for this community stipulates a stepwise process for identifying this community. These steps are followed in the context of identifying whether vegetation of the Survey Area represents this TEC, as outlined below.

The first step involves key diagnostic characteristics (location and physical environment, soils and landform, structure, and composition). The Assessed Area itself satisfies the first two key diagnostic characteristics, as it occurs within the Swan Coastal Plain IBRA bioregion and contains sandplain and areas of sandy colluvium/aeolian sands. With regard to the remaining two key diagnostic characteristics, Only VT 1 is considered to possess these characteristics, as they almost always have a basic structure of a low woodland dominated by *Banksia attenuata* (with or without emergent trees such as *Eucalyptus marginata* subsp. *marginata*, *Corymbia calophylla* and *Corymbia haematoxylon*) of other species), over a relatively diverse understorey. It is acknowledged that in some areas of the above VTs, *Banksia attenuata* is not dominant, and may occur as isolated trees only, or may be completely absent. However, as outlined in the Approved Conservation Advice under the fourth step of the identification process (further information to assist in determining the presence of the community), this form variation often occurs in patches of the TEC, and therefore does not preclude such areas from being included as part of a larger occurrence of the TEC.

The next steps involve applying condition and size (spatial area) thresholds to patches of vegetation that meet the key diagnostic characteristics; a patch is defined as a discrete and mostly continuous area of the TEC, typically with any breaks (i.e. tracks, roads, vegetation that does not represent the TEC being less than 30 m in distance). A total of 10 patches of the above-mentioned VTs were defined within the Assessed Area using this definition.

The Approved Conservation Advice then specifies that a patch of the TEC must meet the Good vegetation condition category as per Gibson *et al.* (1994) to be considered a patch of the TEC under the EPBC Act; this is the same vegetation condition scale presented in EPA (2016a) that has been used during this current assessment. It then defines minimum patch sizes for each condition rating (Good and higher). However, as outlined under the fourth step of the Approved Conservation Advice, it is stipulated that a patch can vary in condition, and can include vegetation with a lower condition rating than Good; such areas may still retain important natural values and may be critical to protecting those portions of a patch that meet the condition threshold. In these cases, the condition rating mapped over the largest portion of the patch has been used when assessing the patch against the minimum patch size requirements. It also stipulates that vegetation occurring outside of the area of study, in this case the Assessed Area, needs to be considered when calculating patch sizes within the area of study, in cases where vegetation outside the area of study is contiguous with that inside. This was also considered, with the type of vegetation (i.e. is the vegetation also likely the TEC) inferred from aerial photography and field notes.

Using the condition and patch size requirements, a total of seven patches of this TEC are considered to occur within the Survey Area (Appendix AB). The remaining three patches are considered to be in Degraded condition and/or are below the minimum patch size for their entireties, and therefore do not meet the patch size/condition threshold requirements; they are therefore not considered to be patches of the TEC.

The seven patches of the TEC comprise a total of 27.93 ha. This area has been mapped as the following vegetation condition ratings (note; areas rounded for presentation purposes):

- Excellent condition – 17.66 ha;
- Very good condition – 8.54 ha;
- Good condition – 1.22 ha; and
- Degraded condition – 0.54 ha.

No patches (either wholly or partially) of TEC were considered to be in Pristine or Completely Degraded condition.

A summary of condition characteristics of individual patches is presented in Table 25 (note – areas rounded for presentation purposes).

Table 25: Summary of Condition Characteristics of Patches of 'Banksia Woodlands of the Swan Coastal Plain' TEC within the Survey Area

Patch No.	Area (ha) of each Vegetation Condition Rating within Patch				Total Area (ha)
	Excellent	Very Good	Good	Degraded	
1	0	1.39	0	0	1.39
2	7.41	6.09	0.18	0.12	13.80
3	0.17	0.68	0.87	0.43	2.15
4	1.46	0	0.15	0	1.61
5	4.34	0	0	0	4.34
6	1.10	0.07	0.02	0	1.18
7	3.15	0.31	0	0	3.46
Total	17.62	8.54	1.22	0.54	27.93

As outlined in Table 24, the 'Banksia Woodlands of the Swan Coastal Plain' TEC is already known to occur within the Survey Area based on records from DBCA's TEC and PEC database (DBCA 2019a). However, the records provided by the search are polygons that were determined by overlaying broad-scale vegetation over remnant vegetation polygons. Ground-truthing has not been undertaken to confirm occurrences in this dataset in most cases, and they are therefore considered to be indicative only, with on-ground assessment required to determine the actual extent of the TEC (if it is present at all). Therefore, the TEC as presented Appendix AB is considered to represent a more accurate extent than the occurrences contained in DBCA's TEC and PEC database. Consequently, no attempt has been made to correlate the extent of the TEC as defined above and presented in Appendix AB with these occurrences.

SCP20a - *Banksia attenuata* woodland over species rich dense shrublands

SCP20a - *Banksia attenuata* woodland over species rich dense shrublands was mapped at 10 occurrences within the Survey Area (Appendix AB (Sheets 1-3)) with statistical analysis with the original and amended SCP dataset broadly supporting this determination. This community is described as *Banksia attenuata* woodlands over species rich dense shrublands occurring on sands at the base of the Darling Scarp between Chittering and Gosnells (DBCA 2016b). The habitat critical to the survival of the community is the area of occupancy of known occurrences, the sandy soils on which the community occurs, the fresh superficial

groundwater that probably helps to sustain key dominant trees in the community, and the catchment for this groundwater (DBCA 2016b). The Interim Recovery Plan (DBCA 2016b) does not provide limitations for occurrences in terms of minimum patch size or condition for the community, therefore all occurrences mapped within the Survey Area are considered to be the TEC.

Potential SCP 3a (*Corymbia calophylla* – *Kingia australis* woodlands on heavy soils, Swan Coastal Plain) and Potential SCP 20c (Shrublands and woodlands of the eastern side of the Swan Coastal Plain) - Study Area VT 2

Study Area VT 2 was mapped at two locations across a total of 10 polygons (Appendix AB (Sheets 1-2) (northern location) and Appendix AB (Sheet2) (southern location)) and was noted during the analysis to have affinities to SCP FCTs 3a and 20c. However, analyses undertaken with the SCP dataset were inconclusive and indicated that there is not enough data to confidently align VT 2 with a SCP FCT (Table 21). In the absence of additional data, VT2 is being treated as potentially significant, and potentially represents SCP FCT 3a and/or SCP FCT 20c.

One quadrat (GSI-39) showing affinities to SCP 20c (Table 22) was established in the northern location of VT 2 (Appendix AB Sheets 1-2), with one potential occurrence mapped in this area. The vegetation in this location was mapped as being in Excellent condition.

TEC SCP 20c ('The Shrublands and Woodlands of the eastern Swan Coastal Plain ecological community') is described as being 'a woodland mainly on the transitional soils of the Ridge Hill Shelf, on the Swan Coastal Plain adjacent to the Darling Scarp, and extends onto the alluvial clays deposited on the eastern fringe of the Swan Coastal Plain, and also into adjacent aeolian deposits. The community mainly occurs as a shrubland, or a woodland of *Banksia attenuata* and *Banksia menziesii*, or *Corymbia calophylla*, sometimes with *Allocasuarina fraseriana*, over a shrub layer that can include *Adenanthos cygnorum*, *Hibbertia huegelii*, *Scaevola repens* var. *repens*, *Allocasuarina humilis*, *Bossiaea eriocarpa*, *Hibbertia hypericoides* and *Stirlingia latifolia*. A suite of herbs including *Conostylis aurea*, *Trachymene pilosa*, *Lomandra hermaphrodita*, *Burchardia umbellata* and *Patersonia occidentalis*, and the sedges *Mesomelaena pseudostygia*, *Mesomelaena tetragona*, and *Lyginia barbata* often occur in the community' (DAWE 2017).

TEC SCP 20c is known from relatively few locations, with two formally recognised occurrences (Talbot Road bushland in Stratton; Bushmead Rifle Range in Helena Valley) known, totalling 130 ha (DAWE 2017). TEC SCP 20c is listed as Critically Endangered under the BC Act and Endangered under the EPBC Act.

One quadrat (GSI-04) showing affinities to SCP 3a (Table 22) was established in the southern location of VT 2 (Appendix AB6-7), with one potential occurrence of the TEC mapped in this area. This location is in an area identified as within the buffer polygons of several significant vegetation types, including EPBC TEC 'Banksia woodlands of the Swan Coastal Plain', TEC SCP 20a, TEC SCP 20c, TEC SCP 3a and TEC SCP 3b (Section 5.1.1.4).

TEC SCP 3a (*Corymbia calophylla* – *Kingia australis* woodlands on heavy soils, Swan Coastal Plain) is described as 'a woodland community located on heavy soils of the eastern side of

the Swan Coastal Plain between Ruabon and Guildford'; it was listed due to its limited distribution and extent, with the remaining patches being highly fragmented (DAWE 2017b). Currently 41 occurrences with a total area of 192.5ha are known (DAWE 2017b). This TEC is listed as Critically Endangered under the BC Act and Endangered under the EPBC Act.

Potential SCP 3a (*Corymbia calophylla* – *Kingia australis* woodlands on heavy soils, Swan Coastal Plain) and Potential SCP3c (*Corymbia calophylla* – *Xanthorrhoea preissii* woodlands and shrublands, Swan Coastal Plain) - Study Area VT 3

Study Area VT 3 was also mapped at two locations, representing four occurrences across a total of 14 polygons (Appendix AB (Sheets 1-2) (northern location; one occurrence) and Appendix AB5-7 (southern location; three occurrences)); it was noted during the analysis that VT 3 has affinities to SCP FCTs 3a and 3c. Analyses undertaken with the SCP dataset were inconclusive and indicated that there is insufficient data to confidently align VT 3 with a SCP FCT (Table 21). In the absence of additional data, VT3 is being treated as potentially significant, representing SCP FCT 3a and/or SCP FCT 3c.

One quadrat (GSI-35) showing affinities to SCP 3a (Table 22) was established in the northern location of VT 3 (Appendix AB Sheets 1-2), with one potential occurrence mapped in this area. Other than being located in an area where the EPBC TEC 'Banksia woodlands of the Swan Coastal Plain' is noted as being likely to occur (Section 5.1.1.4), this location is not within the buffer polygon of any other known TEC or PEC. One occurrence of this community was mapped in this area, with the vegetation mapped as being in Very Good to Good condition. A description of the vegetation and known extent of TEC SCP 3a (*Corymbia calophylla* – *Kingia australis* woodlands on heavy soils, Swan Coastal Plain) is provided above.

One quadrat (GSI-08) showing affinities to SCP 3c was established in the southern location of VT 3 (Appendix AB (Sheet 2)); three potential occurrences of this TEC community in proximity to one another were mapped in this area. This location is in an area identified as within the buffer polygons of several significant vegetation types, including EPBC TEC 'Banksia woodlands of the Swan Coastal Plain', TEC SCP 20a, TEC SCP 20c, TEC SCP 3a and TEC SCP 3b (Section 5.1.1.4). The condition of the vegetation ranged from Excellent to Degraded.

The TEC SCP 3c (*Corymbia calophylla* – *Xanthorrhoea preissii* woodlands and shrublands, Swan Coastal Plain) is described as being located on 'heavy soils of the eastern side of the Swan Coastal Plain between Bullsbrook, and Capel', with dominant species in the community being '*Corymbia calophylla* (marri), and occasionally *Eucalyptus wandoo* (wandoo); the shrubs *Xanthorrhoea preissii*, *Acacia pulchella*, *Banksia dallanneyi*, *Gompholobium marginatum*, and *Hypocalymma angustifolium* and the herbs *Burchardia congesta*, *Cyathochaeta avenacea* and *Neurachne alopecuroidea*.' A total of 29 occurrences of this community are known with a total area of approximately 115 ha (DAWE 2017c).

5.1.3.6 Vegetation Condition

The majority of the Assessed Area was mapped as being either Cleared, Highly Modified or Revegetated (98.9 ha; 55.61 % of the Assessed Area); with the remainder being mapped as VTs (78.97 ha; 44.38 %). There has been significant evidence of impact to vegetation

composition and structure as a result of human activities, including clearing and very high levels of introduced (weed) taxa.

Areas in the Assessed Area that were mapped as 'Cleared' were given the vegetation condition rating of 'Cleared' and made up 42.93 % (76.38 ha) of the Assessed Area. Areas mapped as 'Highly Modified' and 'Revegetated Areas' were also mapped as Completely Degraded and made up 12.68 % (22.6 ha) of the Assessed Area.

Table 26 presents the area (ha) of each VT and corresponding condition rating mapped in the Assessed Area. The condition of the majority of the area mapped as VTs was in either Excellent or Very Good, condition, with limited area in Good, Degraded or Completely Degraded. No vegetation was mapped as being Pristine.

Detailed vegetation condition mapping presented in Appendix P.

Table 26: Vegetation Condition Ratings for each Vegetation Type Mapped within the Survey Area

VT	Completely Degraded	Degraded	Good	Very Good	Excellent	Pristine	Total (ha)
1	0	1.16	1.65	8.54	17.63	0	28.97
2	0	0	0.07	0.12	6.39	0	6.58
3	0	0.48	1.36	6.01	0.47	0	8.32
4	0	1.62	0.61	0.34	11.14	0	13.70
5	0	0	0.53	0.36	7.24	0	8.13
6	0	0	0	2.09	0	0	2.09
7	0	0	0	0.35	2.85	0	3.20
8	0.34	7.65	0	0	0	0	7.99
Total	0.34	10.90	4.22	17.81	45.71	0.00	78.97

5.1.3.7 Riparian Vegetation, Wetlands and Groundwater Dependent Vegetation

As noted in Section 2.3 and Figure 4, approximately half of the Development Envelope and surrounding lands is categorised within the geomorphic wetlands dataset as Palusplain; such areas are subject to seasonal waterlogging. This includes most of the areas mapped as VTs, as well as areas mapped as Cleared Lands, Highly Modified Types and Revegetated lands. No seasonal or permanent bodies of water were noted during the survey.

With regard to VTs mapped in the Survey Area, the majority of areas of VTs mapped on Appendix V (Sheets 1-2) (including all VTs 1, 2, 3, 4, 5, 6, 7, 8) can be considered to occur on palusplains. Seasonal waterlogging is likely to be longer for periods specifically mapped as VTs 5, 6, 7 and 8, and only for a limited period of time in areas mapped as VTs 1, 2, 3 and 4. VTs 5, 6, 7 and 8 all contain flora taxa which are usually found in wetter sites, including *Pericalymma ellipticum* var. *floridum*, *Hypocalymma angustifolium* subsp. Swan Coastal Plain (G.J. Keighery 16777), *Melaleuca viminea* subsp. *viminea*, *Melaleuca preissiana*, *Eucalyptus rudis* and *Melaleuca raphiophylla*.

Vegetation type 6, and some areas of VT 8, were noted to have been associated with drainage lines, with VT 6 mapped at least partially on drainage lines. VT 6 is presented on Appendix V (Sheet 1), south of Woodlupine Brook. Soils and vegetation patterning evident

on aerial photography indicates that, prior to the clearing of the vegetation surrounding Hartfield Park, this area may have been a brook. However it is not apparent that this area forms part of a currently recognisable drainage feature. This area is currently identified as 'Conservation' palusplain within the geomorphic wetlands dataset (Figure 4). VT 8 was mapped in small areas associated with palusplain and includes remnant riparian vegetation on Woodlupine Brook (Appendix V (Sheet 1), Yule Brook (Appendix V (Sheet 2) and Bickley Brook (Appendix V (Sheet 3)). The vegetation associated with all of these three drainage lines was mapped as either Degraded or Completely Degraded (Appendix P (Sheets 1-3)), however where vegetation is present it does represent riparian vegetation.

It is possible that all of the aforementioned VTs may have some dependence on groundwater, depending upon the depth to groundwater. In particular VT 1 (representing TEC SCP20a and TEC 'Banksia woodlands of the Swan Coastal Plain') may be considered locally groundwater dependent (DBCA 2016b). Banksia communities are known to be at least partially groundwater dependent if groundwater sources decline to exceed potential root reach or growth rate, or physiological tolerance (Sommer and Froend 2011).

5.2 Fauna

5.2.1 Fauna Habitats

Seven key vegetation and substrate associations (VSAs; habitat types for fauna) were recorded during the site visit and subsequently mapped within the Assessed Area. These were:

- VSA 1: Marri and mixed Woodland. Woodland of Marri *Corymbia calophylla*, *Eucalyptus* sp., *Agonis flexuosa* and/or *Allocasuarina* sp. over acacia and other shrubs over grassy weeds on sand to sandy loam flats (Plate 24; 25).
- VSA 2: Eucalypt Woodland. Woodland of *Eucalyptus* spp. and sometimes *Allocasuarina* sp. over acacia and other shrubs over grassy weeds on sand to sandy loam flats (Plate 26).
- VSA 3: Low Forest to tall Shrublands. Mixed small tree and/or tall shrubs over low shrubs on low-lying and seasonally damp flats of sands to clayey loams (Plate 27; 28).
- VSA 4: Parkland cleared. Mixed native and exotic trees over introduced grasses on various soil types (Plate 31).
- VSA 5: Woodland and Shrubland dominated by introduced species (Plate 29).
- VSA 6: Drainage lines and seasonally damp clay flats dominated by weeds (Plate 31).
- VSA 7: Cleared land. Grassland of introduced grasses and occasional shrubs (Plate 30).

Table 27 presents a description of the characteristics of these VSAs, as well as the total area mapped. Example photographs of the VSAs are shown in Plates 24 to 31 below. VSAs are mapped for the development envelope in Figure 12 (northern envelope) and Figure 13 (southern envelope).

Table 27: Total area of each Vegetation Substrate Association in the Assessment Area

VSA	Canopy/Overstorey	Midstorey	Understorey	Substrate	Other characteristics	Total Area (ha)	Percentage of Assessed Area (%)
VSA1: Marri and mixed Woodland. Woodland of Marri <i>Corymbia calophylla</i> , <i>Eucalyptus</i> sp., <i>Agonis flexuosa</i> and/or <i>Allocasuarina</i> sp. over acacia and other shrubs over grassy weeds on sand to sandy loam flats.	Intact or substantially intact. Retains all or most native species.	Intact or substantially intact. Retains all or most native species.	Variable levels of disturbance/function.	Predominantly sands or sandy-loams.	High proportion of potential hollow-bearing trees species.	40.20	22.60
VSA2: Eucalypt woodland. Woodland of <i>Eucalyptus</i> spp. and sometimes <i>Allocasuarina</i> sp. over acacia and other shrubs over grassy weeds on sand to sandy loam flats.	Intact or substantially intact. Retains all or most native species.	Intact or substantially intact. Retains all or most native species.	Variable levels of disturbance/function. Considerable incursion of introduced species.	Predominantly sands or sandy-loams.	Moderate proportion of potential hollow-bearing tree species.	31.99	17.98
VSA3: Low Forest to tall Shrublands. Mixed small tree and/or tall shrubs over low shrubs on low-lying and seasonally damp flats of sands to clayey loams.	Intact or substantially intact. Retains all or most native species.	Intact or substantially intact. Retains all or most native species.	Intact or substantially intact. Retains all or most native species.	Sands with some clay component.	Low proportion of potential hollow-bearing tree species.	20.57	11.56
VSA4: Parkland cleared. Mixed native and exotic trees over introduced grasses on various soil types. .	Intact or partially intact. Retains all or most native species.	Effectively (functionally) cleared or removed.	Effectively (functionally) cleared or removed. Where present, replaced with introduced species.	Variable.	High proportion of potential hollow-bearing trees species.	7.81	4.39
VSA5: Woodland and shrubland dominated by introduced species.	Intact or substantially intact. Retains all or most native species.	Replaced with introduced species.	Replaced with introduced species.	Predominantly sands or sandy-loams.	High proportion of potential hollow-bearing trees species.	0.79	0.45

VSA	Canopy/Overstorey	Midstorey	Understorey	Substrate	Other characteristics	Total Area (ha)	Percentage of Assessed Area (%)
VSA6: Drainage lines and seasonally damp clay flats dominated by weeds.	Substantially intact. Retains most native species but some incursion of introduced species.	Variable levels of disturbance/function. Considerable incursion of introduced species.	Variable levels of disturbance/function. Considerable incursion of introduced species.	Variable; often with clay component.	Moderate proportion of potential hollow-bearing tree species. Surface water present at least ephemerally.	0.17	0.09
VSA7: Cleared land.	Effectively (functionally) cleared or removed.	Effectively (functionally) cleared or removed.	Replaced with introduced species.	Variable		76.38	42.93
TOTAL						177.9	100%



Plate 24: VSA 1: Marri and mixed Woodland



Plate 25: VSA 1: Marri and mixed Woodland with a high proportion of *Allocasuarina* sp.



Plate 26: VSA 2: Eucalypt Woodland



Plate 27: VSA 3: Low Forest to tall Shrubland



Plate 28: VSA 3: Low Forest to tall Shrubland with Marri and mixed Woodland in background



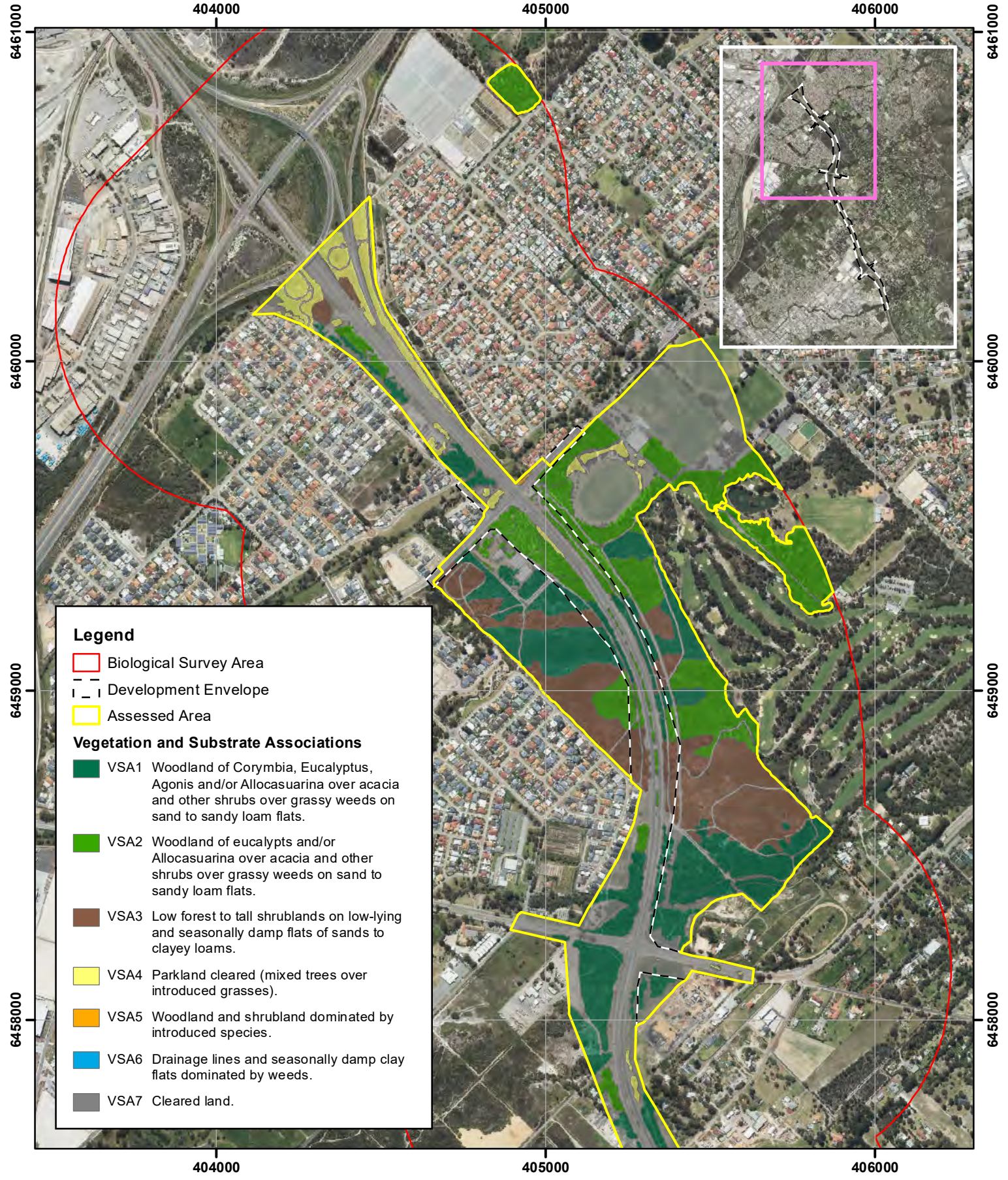
Plate 29: VSA 5: Woodland of introduced species; in this case a grove of pine trees over grass.






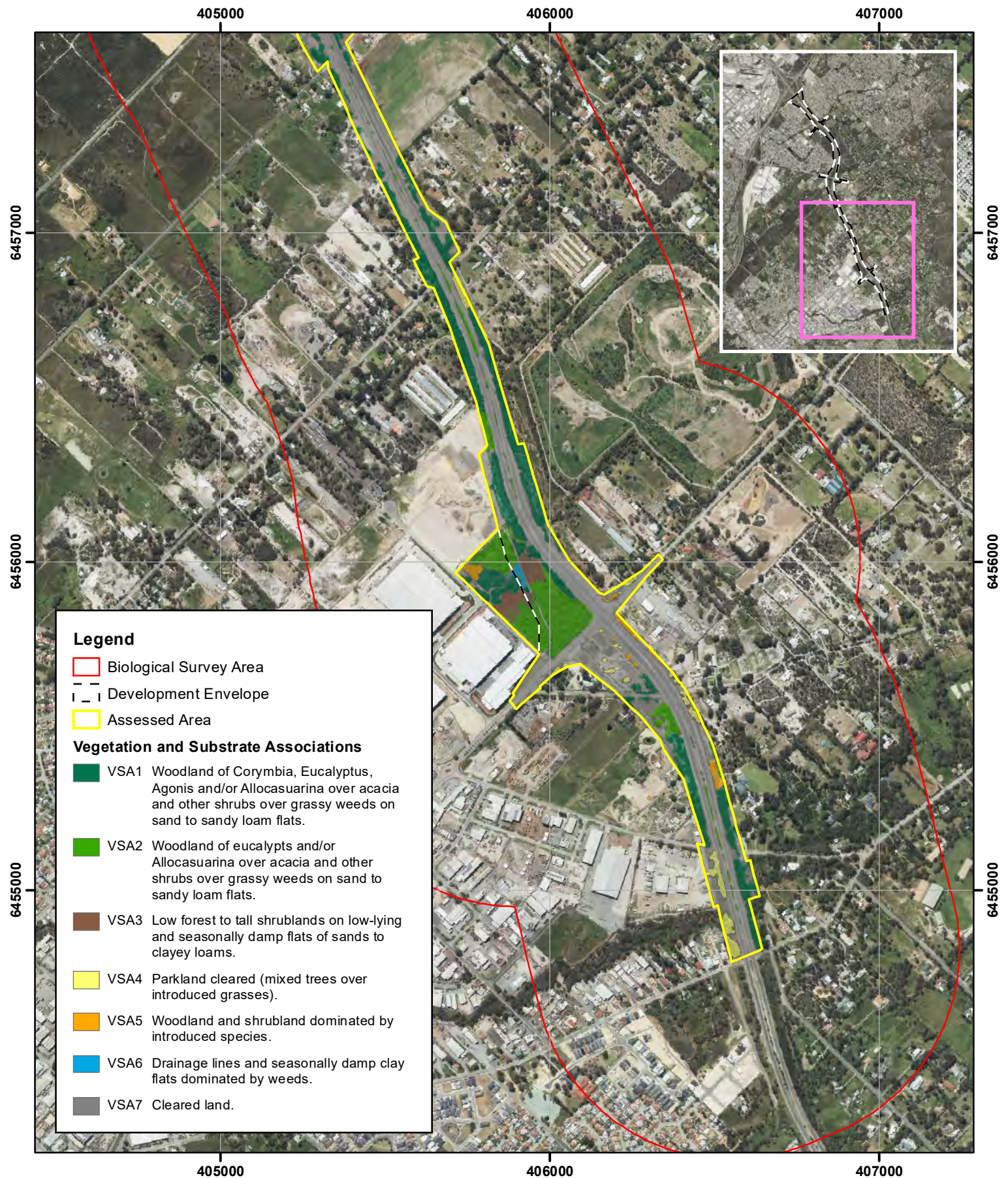
Plate 30: VSA 7: Cleared land



Plate 31: VSA 4 Parkland cleared over VSA 6 Drainage lines



Vegetation and substrate associations (northern Development Envelope)	Author: Cathy Godden	
	WEC Ref: MR19-34-01	
 	Filename: MR19-34-01-f12-13	Figure 12
	Scale: 1:15,000	
	Projection: GDA 1994 MGA Zone 50	
	Revision: 1 - 17 February 2021	
<small>This map should only be used in conjunction with WEC report MR19-34-01.</small>		



**Vegetation and substrate associations
(southern Development Envelope)**

Author: Cathy Godden

WEC Ref: MR19-34-01

Filename: MR19-34-01-f12-13

Scale: 1:15,000

Projection: GDA 1994 MGA Zone 50

Revision: 1 - 17 February 2021



Figure

13



WOODMAN
ENVIRONMENTAL

BAMFORD
CONSULTING
ECOLOGISTS



5.2.2 Faunal Assemblage

The desktop study identified 233 vertebrate fauna species as potentially occurring in the Survey Area, and therefore also potentially in the Development Envelope (summarised in Table 28 and listed in Appendix AC): four fish (including 1 introduced species); 11 frogs, 40 reptiles, 158 birds (including 8 introduced species) and 20 mammals (including 5 introduced species), as described further below. The assemblage includes 67 species of conservation significance (see Table 29 and discussed in Section 5.2.3). Note that this assemblage comes from databases and includes species that may occur occasionally in the Survey Area/Development Envelope, but for which it is not important (such as birds that rarely fly overhead). Many species may also occur as vagrants at the site. Some species occur in the region but have specific habitat requirements that are not present in the Survey Area. Eight species (two reptiles, one bird and five mammals) are considered to be locally extinct in the Survey Area (see Appendix AD). Species returned from databases that are unlikely to occur due to habitat requirements have been removed from the expected species list and are displayed separately in Appendix AE.

A total of 72 native vertebrate species were confirmed present during the six and a half days of survey in September, October and November 2019, including two frogs, eight reptiles, 59 birds and three mammals. A further six introduced birds and five introduced mammals or their signs were also recorded. This number is relatively rich for a Level 1 survey, but is reflective of the time spent conducting the Level 1 and targeted Black-Cockatoo survey. All records taken of fauna within the site are provided in Appendix AF and are also included in the fauna list in Appendix AD.

Fish. Up to four fish species may be present in the Survey Area and all are considered to be regular visitors given the uncertain permanency of damplands and watercourses in the area (all species require permanent water to persist). Should there be permanent water bodies within the Survey Area then some of the fish may be resident. The drainage systems that flow through the Survey Area, including Woodlupine Brook, Yule Brook and Bickley Brook, are likely to provide connectivity between permanent water bodies up and downstream of the Survey Area and are therefore important to provide dispersal opportunities in the wider area for these species; however, as no permanent water bodies are present in the Development Envelope it is unlikely that any of these taxa persist year-round in the Development Envelope, and no fish species were recorded during the survey. None of the expected fish species are conservation significant.

Frogs. Up to 11 frog species may be present in the Survey Area (and the Development Envelope) and all are considered resident, although adults may leave the survey area to breed in other areas. Two frog species were confirmed present through calls heard during survey. Most of the frog species are locally common and are regionally widespread. With the exception of *Myobatrachus gouldii* (Turtle Frog) which breeds independently of surface standing water, all other frogs in the area breed in association with wetlands, lakes and ponds where some such as *Heleioporus eyreii* (Moaning Frog) require natural hydrological cycles before neonates can develop and emerge. All the frog species rely on seasonal freshwater for breeding and are therefore sensitive to changes in hydrology and water

quality. Two frogs of conservation significance are expected to occur, and these are locally significant (CS3) as they tend to do poorly in urban environments.

Reptiles. Up to 40 reptile species (seven confirmed present) can be expected in the Survey Area (and the Development Envelope), but distributions can be patchy and therefore not all 40 species may be present in the development envelope. Those that are will most likely be resident (Table 28). The mosaic of VSAs is likely to support a diverse range of reptiles, but it is noted that many of these are unlikely to occur in the disturbed and degraded areas. The areas of native vegetation in the few reserves abutting the development envelope are likely to contain majority of the species expected in the area. Many species have specific habitat preferences and there are those that are well adapted to certain VSAs. For example, the loose-sandy substrate of VSA 1 is likely to support a range of fossorial species such as the sand swimmers *Lerista* spp. Two species of reptile are considered conservation significant and these are described in Section 5.2.3 below.

Birds. Up to 158 bird species may be present within the Survey Area, 65 of which were confirmed, visually or aurally. Within the Survey Area (including the Development Envelope) up to 49 are expected to be resident, 42 regular visitors, 26 irregular visitors and 41 vagrants (Table 28). This relatively high diversity is due to the area containing a wide range of environments including the urban, parkland, and minor waterways. Close proximity to the Darling Range to the east also influences the number of species potentially present. The bird assemblage includes a suite of up to 47 conservation significant species discussed in Section 5.2.3.

Mammals. The mammal assemblage is likely to be depauperate with several locally extinct species including the Woylie, Brush Wallaby, Honey Possum and Quokka (Appendix AD). Fifteen native mammals and five introduced mammal species may occur in the Survey Area and therefore also the Development Envelope, of which the Black Rat, House Mouse, Cat and Red Fox are known to impact on the diversity and abundance of native wildlife. The reduced diversity is typical of urban environments in the Perth region with a long history of development. Visual confirmation or signs (tracks, scats, burrows) of three native and five introduced mammals were acquired in the Survey Area, including an encounter with a mob of Western Grey Kangaroos within 20 m of the highway verge just north west of Kelvin Road. Quenda diggings were present throughout but more common adjacent the larger stands of native vegetation. Echidna tracks and diggings were found in the bush to the south of Hartfield Oval and the reserve that lies between Maamba Road and Tonkin Highway. These areas also had signs of Quenda. Signs of rat, cat and domestic dog were present throughout including the skull of a cat in the reserve that lies between Maamba Road and Tonkin Highway. Seven mammals of conservation significance are likely to occur in the Survey Area and therefore also the Development Envelope, and are discussed in Section 5.2.3.

The key features of the fauna assemblage expected in the Survey Area are:

- Uniqueness: The assemblage is likely to be reflective of the Perth Metropolitan region but with a few additional species due to the proximity with the Darling Scarp. Most species that are expected to occur in the Survey Area and Development Envelope are

widespread in the area, with a few species, such as the Lined Lerista, having restricted distributions.

- **Completeness:** The vertebrate fauna assemblage is expected to be incomplete for the eastern side of the Swan Coastal Plain. This is due to the impacts from development, reduced habitat availability and the presence of a number of introduced pest species, including Rainbow Lorikeets, foxes, rats, cats and domestic dogs. Due to the generally degraded and reduced diversity of the vegetation along the highway verge, the expected fauna will be reduced further within the development area whilst the fauna within the Survey Area will be markedly higher due to the wider variety of environments and better condition of the vegetation in reserves and other large stands.

Table 28: Composition of the Vertebrate Fauna Assemblage Expected in the Survey Area

Taxon	Number of species	Number of species in each status category				
		Resident	Migrant or regular visitor	Irregular visitor	Vagrant	Locally extinct
Fish	4	-	4	-	-	-
Frogs	11	11	-	-	-	-
Reptiles	40	33	-	7	-	2
Birds	158	49	42	26	41	3
Mammals	20	9	9	-	2	4
Total	233	102	55	33	43	9

5.2.3 Fauna of Conservation Significance

Sixty seven species of conservation significance may occur in the Survey Area, of which 31 are likely to be residents or regular visitors/migrants to the site (Table 30 and Appendix AD). A summary of the numbers in each vertebrate class (and also all invertebrates) is presented in Table 29. These species of conservation significance are indicated in the complete species list (Appendix AD) but are also listed in Table 30.

A map of the results of the DBCA threatened fauna search (data provided by Main Roads) is presented in Appendix AC.

A full explanation of the three levels of conservation significance used is provided in Appendix D but, in summary, species classed as CS1 are those listed under legislation (EPBC Act and BC Act), while those classed as CS2 are listed as Priority by the DBCA, but not listed under legislation. The CS3 class is more subjective but includes locally significant species that have declined extensively in an area due to natural or human-induced impacts, and species that occur at the edge of their range. This makes their presence in the Survey Area and Development Envelope significant as populations on the edge of a species' range are often less abundant and more vulnerable to extinction than populations at the centre of the range (Curnutt *et al.* 1996).

Table 29: Composition of Extant Conservation Significant Vertebrate Fauna within the Survey Area

See Appendix D for full explanation of Conservation Significance (CS) levels: CS1 = listed under WA State and/or Commonwealth legislation; CS2 = listed as Priority by DBCA; CS3 = considered locally significant.

Taxon	Conservation Significant Fauna			Total
	CS1	CS2	CS3	
Invertebrates	2	9	-	11
Fish	-	-	-	0
Frogs	-	-	2	2
Reptiles	-	2	-	2
Birds	11	1	35	47
Mammals	1	2	2	5
Total	14	14	39	67

Table 30: Conservation Significant Fauna Species Expected to Occur within both the Survey Area and Development Envelope

Species are listed in taxonomic order.

CS1, CS2, CS3 = (summary) levels of conservation significance. See Appendix D for full explanation.

EPBC Act listings: E = Endangered, V = Vulnerable, M = Migratory (see Appendix D).

WA Biodiversity Conservation Act 2016 listings: S1 to S7 = Schedules 1 to 7 (see Appendix D).

DBCA Priority species: P1 to P4 = Priority 1 to 4 (see Appendix D).

LS = considered by BCE to be of local significance (see Appendix D).

HS = habitat specialists with reduced populations on the Swan Coastal Plain by (DEP 2000).

WR = wide-ranging species with reduced populations on the Swan Coastal Plain (DEP 2000).

SPECIES	COMMON NAME	STATUS	EXPECTED OCCURRENCE	Marri and mixed Woodland.	Eucalypt Woodland.	Low Forest to tall Shrublands.	Parkland cleared.	Woodland and Shrubland dominated by introduced species.	Drainage lines.	Cleared land.
				VSA 1	VSA 2	VSA 3	VSA 4	VSA 5	VSA 6	VSA 7
<i>Westralunio carteri</i>	Carter's Freshwater Mussel	CS1 (V, S3)	Uncertain						+	
<i>Idiosoma sigillatum</i>	Swan Coastal Plain Trapdoor Spider	CS2 (P3)	Uncertain	+	+	+				
<i>Austroconops mcmillani</i>	McMillan's Biting Midge (Swan Coastal Plain)	CS2 (P2)	Uncertain	?	?	?	?	?	?	?
<i>Australotomurus morbidus</i>	Cemetery Springtail	CS2 (P3)	Uncertain	+	+	+	?	?	?	?
<i>Austrosaga spinifer</i>	Spiny Katydid (Swan Coastal Plain)	CS2 (P2)	Uncertain	+	+	+				
<i>Kawaniphila pachomai</i>	Grey Vernal Katydid (Southwest)	CS2 (P1)	Uncertain	+	+	+				

SPECIES	COMMON NAME	STATUS	EXPECTED OCCURRENCE	Marri and mixed Woodland.	Eucalypt Woodland.	Low Forest to tall Shrublands.	Parkland cleared.	Woodland and Shrubland dominated by introduced species.	Drainage lines.	Cleared land.
				VSA 1	VSA 2	VSA 3	VSA 4	VSA 5	VSA 6	VSA 7
<i>Throscodectes xiphos</i>	Styler Bush Cricket, Styler Throsco (Jandakot)	CS2 (P1)	Uncertain	+	+	+				
<i>Synemon gratiosa</i>	Graceful Sunmoth	CS2 (P4)	Uncertain	+	+	+				
<i>Glossurocolletes bilobatus</i>	a short-tongue bee	CS2 (P2)	Uncertain	?	?	?	?	?	?	?
<i>Hylaeus globuliferus</i>	Woollybush Bee	CS2 (P3)	Uncertain	+	+	+				
<i>Leioproctus douglasiellus</i>	a short-tongued bee	CS1 (CE, S2)	Uncertain	?	?	?	?	?	?	?
<i>Crinia georgiana</i>	Quacking Frog	CS3 (LS)	Resident			+			+	
<i>Myobatrachus gouldii</i>	Turtle Frog	CS3 (LS)	Resident	+	+	+				
<i>Lerista lineata</i>	Perth Lined Lerista	CS2 (P3)	Resident	+	+					
<i>Neelaps calonotos</i>	Black-striped Snake	CS2 (P3)	Irregular Visitor	+	+					
<i>Phaps chalcoptera</i>	Common Bronzewing	CS3 (HS)	Resident	+	+	+	+	+	+	+
<i>Phaps elegans</i>	Brush Bronzewing	CS3 (HS)	Irregular Visitor	+	+	+	+	+	+	+
<i>Apus pacificus</i>	Fork-tailed Swift	CS1 (M, S5)	Irregular Visitor	+	+	+	+	+	+	+
<i>Plegadis falcinellus</i>	Glossy Ibis	CS1 (M, S5)	Irregular Visitor				+		+	+

SPECIES	COMMON NAME	STATUS	EXPECTED OCCURRENCE	Marri and mixed Woodland.	Eucalypt Woodland.	Low Forest to tall Shrublands.	Parkland cleared.	Woodland and Shrubland dominated by introduced species.	Drainage lines.	Cleared land.
				VSA 1	VSA 2	VSA 3	VSA 4	VSA 5	VSA 6	VSA 7
<i>Ardea modesta</i>	Eastern Great Egret	CS1 (M, S5)	Irregular Visitor						+	
<i>Lophoictinia isura</i>	Square-tailed Kite	CS3 (WR)	Irregular Visitor	+	+	+	+	+	+	+
<i>Haliastur sphenurus</i>	Whistling Kite	CS3 (WR)	Regular Visitor	+	+	+	+	+	+	+
<i>Accipiter fasciatus</i>	Brown Goshawk	CS3 (WR)	Resident	+	+	+	+	+	+	+
<i>Accipiter cirrocephalus</i>	Collared Sparrowhawk	CS3 (WR)	Resident	+	+	+	+	+	+	+
<i>Aquila audax</i>	Wedge-tailed Eagle	CS3 (WR)	Regular Visitor	+	+	+	+	+	+	+
<i>Hieraaetus morphnoides</i>	Little Eagle	CS3 (WR)	Regular Visitor	+	+	+	+	+	+	+
<i>Falco berigora</i>	Brown Falcon	CS3 (WR)	Vagrant	+	+	+	+	+	+	+
<i>Falco peregrinus</i>	Peregrine Falcon	CS1 (S7)	Regular Visitor	+	+	+	+	+	+	+
<i>Turnix varius</i>	Painted Button-quail	CS3 (WR)	Irregular Visitor	+	+	+		+	+	
<i>Tringa glareola</i>	Wood Sandpiper	CS1 (M, S5)	Vagrant						+	
<i>Tringa nebularia</i>	Common Greenshank	CS1 (M, S5)	Vagrant						+	

SPECIES	COMMON NAME	STATUS	EXPECTED OCCURRENCE	Marri and mixed Woodland.	Eucalypt Woodland.	Low Forest to tall Shrublands.	Parkland cleared.	Woodland and Shrubland dominated by introduced species.	Drainage lines.	Cleared land.
				VSA 1	VSA 2	VSA 3	VSA 4	VSA 5	VSA 6	VSA 7
<i>Tringa stagnatilis</i>	Marsh Sandpiper	CS1 (M, S5)	Vagrant						+	
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	CS1 (M, S5)	Vagrant						+	
<i>Calyptorhynchus banksii naso</i>	Forest Red-tailed Black-Cockatoo	CS1 (V, S3)	Resident	+	+	+	+	+	+	
<i>Calyptorhynchus latirostris</i>	Carnaby's Black-Cockatoo	CS1 (E, S2)	Regular Visitor	+	+	+	+	+	+	
<i>Calyptorhynchus baudinii</i>	Baudin's Black-Cockatoo	CS1 (E, S2)	Regular Visitor	+	+	+	+	+	+	
<i>Platycercus icterotis</i>	Western Rosella	CS3 (WR)	Vagrant	+	+	+	+	+	+	
<i>Ninox connivens connivens</i>	Barking Owl	CS2 (P2)	Vagrant	+	+	+	+	+	+	
<i>Malurus splendens</i>	Splendid Fairy-wren	CS3 (HS)	Resident	+	+	+		+	+	
<i>Stipiturus malachurus</i>	Southern Emu-wren	CS3 (HS)	Vagrant	+	+	+		+	+	
<i>Sericornis frontalis</i>	White-browed Scrubwren	CS3 (HS)	Resident	+	+	+		+	+	
<i>Smicronis brevirostris</i>	Weebill	CS3 (HS)	Resident	+	+	+	+	+	+	
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	CS3 (HS)	Resident	+	+	+	+	+	+	+
<i>Acanthiza inornata</i>	Western Thornbill	CS3 (HS)	Resident	+	+	+			+	

SPECIES	COMMON NAME	STATUS	EXPECTED OCCURRENCE	Marri and mixed Woodland.	Eucalypt Woodland.	Low Forest to tall Shrublands.	Parkland cleared.	Woodland and Shrubland dominated by introduced species.	Drainage lines.	Cleared land.
				VSA 1	VSA 2	VSA 3	VSA 4	VSA 5	VSA 6	VSA 7
<i>Acanthiza apicalis</i>	Inland Thornbill	CS3 (HS)	Regular Visitor	+	+	+		+	+	
<i>Anthochaera lunulata</i>	Western Wattlebird	CS3 (WR)	Resident	+	+	+	+	+	+	
<i>Glyciphila melanops</i>	Tawny-crowned Honeyeater	CS3 (WR)	Regular Visitor	+	+	+	+	+	+	
<i>Melithreptus chloropsis</i>	Gilbert's Honeyeater	CS3 (WR)	Regular Visitor	+	+	+	+	+	+	
<i>Phylidonyris niger</i>	White-cheeked Honeyeater	CS3 (WR)	Resident	+	+	+	+	+	+	
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater	CS3 (WR)	Resident	+	+	+	+	+	+	
<i>Daphoenositta chrysoptera</i>	Varied Sittella	CS3 (HS)	Irregular Visitor	+	+	+	+	+	+	
<i>Pachycephala occidentalis</i>	Western Whistler	CS3 (HS)	Regular Visitor	+	+	+	+	+	+	
<i>Colluricincla harmonica</i>	Grey Shrike-thrush	CS3 (HS)	Regular Visitor	+	+	+			+	
<i>Artamus cinereus</i>	Black-faced Woodswallow	CS3 (WR)	Regular Visitor	+	+	+	+	+	+	+
<i>Artamus cyanopterus</i>	Dusky Woodswallow	CS3 (WR)	Vagrant	+	+	+	+	+	+	
<i>Artamus personatus</i>	Masked Woodswallow	CS3 (WR)	Vagrant	+	+	+	+	+	+	+
<i>Strepera</i>	Grey Currawong	CS3	Vagrant	+	+	+	+	+	+	+

SPECIES	COMMON NAME	STATUS	EXPECTED OCCURRENCE	Marri and mixed Woodland.	Eucalypt Woodland.	Low Forest to tall Shrublands.	Parkland cleared.	Woodland and Shrubland dominated by introduced species.	Drainage lines.	Cleared land.
				VSA 1	VSA 2	VSA 3	VSA 4	VSA 5	VSA 6	VSA 7
<i>versicolor</i>		(WR)								
<i>Eopsaltria georgiana</i>	White-breasted Robin	CS3 (LS)	Vagrant						+	
<i>Melanodryas cucullata</i>	Hooded Robin	CS3 (LS)	Vagrant	+	+	+		+	+	
<i>Petroica boodang</i>	Scarlet Robin	CS3 (HS)	Irregular Visitor	+	+	+		+	+	
<i>Petroica goodenovii</i>	Red-capped Robin	CS3 (HS)	Vagrant	+	+	+		+	+	
<i>Microeca fascinans</i>	Jacky Winter	CS3 (HS)	Vagrant	+	+	+		+	+	
<i>Tachyglossus aculeatus</i>	Short-beaked Echidna	CS3 (LS)	Resident	+	+	+	+	+	+	
<i>Dasyurus geoffroii</i>	Chuditch	CS1 (V, S3)	Vagrant	+	+	+		+	+	
<i>Isoodon fusciventer</i>	Quenda, Southern Brown Bandicoot	CS2 (P4)	Resident	+	+	+	+	+	+	+
<i>Trichosurus vulpecula</i>	Common Brushtail Possum	CS3 (LS)	Regular Visitor	+	+	+	+	+	+	
<i>Hydromys chrysogaster</i>	Water-rat, Rakali	CS2 (P4)	Regular Visitor						+	

5.2.3.1 Conservation Significance 1

Carter's Freshwater Mussel

Listed as Vulnerable under the EPBC Act and the BC Act, and with an uncertain expected occurrence in the survey area. DBCA database records (Appendix AC) show this species has been recorded both upstream (along Bickley Brook) and downstream (along Yule Brook) of the drainage lines that pass through the Survey Area (that also include a third drainage line, an upper tributary of Yule Brook: Woodlupine Brook).

Leioproctus douglasiellus (a short-tongued bee)

Listed as Critically Endangered under the EPBC Act and as Schedule 2 under the BC Act, and with an uncertain expected occurrence in the survey area. The species is only known from three locations (ranging from Cannington to Forrestdale) and has a very restricted geographic distribution. An inferred decline of suitable habitat (due to a large portion of the Swan Coastal Plain being significantly altered for human habitation and use) has reduced the potential area of occupancy for this species. *L. douglasiellus* has been collected on two plant species (both DBCA Priority Flora): *Goodenia filiformis* and *Anthotium junciforme*. The nearest record from the DBCA search (Appendix AC) is approximately 3 km from the Development Envelope.

Fork-tailed Swift

Listed as Migratory under the EPBC Act and as Schedule 5 under the BC Act. The swift is a largely aerial species of unpredictable occurrence in south-western Western Australia. Being aerial, it is effectively independent of terrestrial ecosystems.

Migratory waterbirds (waders, terns and the Glossy Ibis)

Species in this group are all listed as Migratory under the EPBC Act and as Schedule 5 under the BC Act, and are known to occur locally and regionally over a wide variety of wetland environments. All are expected to occur in the Survey Area as vagrants or irregular visitors (if at all), when favourable conditions, such as occur after considerable rainfall, prevail.

The international migrant waders in this category are: Eastern Great Egret, Wood Sandpiper and Common Greenshank, Marsh Sandpiper and Sharp-tailed Sandpiper. Given the limited areas of open wetland within the Survey Area, even when present these species would only ever be expected in very low numbers.

The Glossy Ibis occurs only in small numbers in the South-West region in general, and would be expected in the survey area only rarely, probably as transiting individuals that might stop occasionally at temporary wetlands.

Peregrine Falcon

Listed as Schedule 7 under the BC Act and is considered likely to be a regular visitor in the Survey Area. This species is almost certainly a resident of the Darling Scarp to the east and may forage out of the Survey Area on occasion. It is highly unlikely to be a resident in the Survey Area.

Forest Red-tailed Black-Cockatoo

Listed as Vulnerable under the EPBC Act and as Schedule 3 under the BC Act, and is considered to be a resident in the Survey Area. It feeds extensively on the seeds of Marri and Jarrah, and is also adapting to foraging on urban (introduced) plant species. As a result of the latter, Forest Red-tailed Black-Cockatoos have become increasingly common in the metropolitan area on the Swan Coastal Plain in the last decade. Breeding is possible within the Survey Area.

Carnaby's Black-Cockatoo

Listed as Endangered under the EPBC Act and as Schedule 2 under the BC Act, and is considered likely to be a regular migrant to the Survey Area. The Carnaby's Black-Cockatoo forages in proteaceous heath, banksia woodlands, eucalypt woodlands, gardens and streetscapes, and this foraging habitat is present throughout the Survey Area. Breeding is possible within the survey area. Some roost sites are known in the general region. These are discussed in more detail in the black-cockatoo habitat analysis.

Baudin's Black-Cockatoo

Listed as Vulnerable under the EPBC Act and as Schedule 2 under the BC Act, and is considered likely to be a regular visitor to the Survey Area. As for Forest Red-tailed Black-Cockatoo, this species relies on the seeds of Marri and Jarrah as a mainstay of its diet. In recent years there also appears to be an increase in the occurrence of Baudin's Black-Cockatoo west of the Darling Scarp on the Swan Coastal Plain. Breeding is unlikely within the Survey Area.

Chuditch

Listed as Vulnerable under the EPBC Act and as Schedule 3 under the BC Act, and is considered to be a vagrant to the Survey Area. The Chuditch is likely to be a wide-ranging resident in Marri-Jarrah woodland areas along the Darling Range, east of the survey area. The status of this species on the adjacent Swan Coastal Plain (including the survey area) is tenuous, although it may be present irregularly and unpredictably in very low numbers.

5.2.3.2 Conservation Significance 2

Short-range endemic invertebrates

Listed as Priority 1, 2, 3 or 4 by DBCA with an uncertain expected occurrence in the Survey Area. These species have a restricted distribution, generally, that has been exacerbated by urban development on the Swan Coastal Plain. The species in this category are: Swan Coastal Plain Trapdoor Spider, McMillan's Biting Midge (Swan Coastal Plain), Cemetery Springtail, Spiny Katydid (Swan Coastal Plain), Grey Vernal Katydid (Southwest), Stylet Bush Cricket, Stylet Throsco (Jandakot), Graceful Sunmoth, *Glossurocolletes bilobatus* (a short-tongue bee) and Woollybush Bee.

Scant information on the ecology of most of these species means that it is very difficult to ascertain their expected status in the Survey Area without a comprehensive survey. In some cases species are only potentially detectable seasonally, during brief periods of activity. While all species are a possibility of being present (even as vagrants) the dependency of these fauna on the Survey Area is unknown. Some further information follows:

- The Swan Coastal Plain Trapdoor Spider may occur in remnant habitats, usually Banksia woodland and heathland on sandy soils, within the Perth metropolitan area (including the Survey Area) where it is the dominant species in its genera (Rix *et al.* 2018). The eastern limit of the range of the Swan Coastal Plain Trapdoor Spider is along the sandy foothills of the Darling Escarpment where it abuts the western limits of the ranges of its congeners *Idiosoma jarrah* and *I. mclelementsorum* (Rix *et al.* 2018).
- McMillan's Biting Midge (Swan Coastal Plain) is known from only a small number of very localised populations between Yanchep and Darkan where it appears to be associated with areas of damp soil or open water (Borkent and Craig 2004). There were no DBCA records of this species within 5 km of the Survey Area (Appendix AC).
- The Cemetery Springtail is known from four urban remnants within the Perth region, where it occurs in Banksia heath (Greenslade and Jordana 2014). Two records of this species to the north-west of the Survey Area (in the vicinity of Perth Airport) were returned by the DBCA search (see Appendix AF).
- The Grey Vernal Katydid (Southwest), like other katydids, is likely to occur in areas of heath or mixed woodland (Rentz 1993) and is predominantly a near-coastal species (Moulds 2019).
- The Graceful Sunmoth was once a scheduled species under the (then) WA Wildlife Conservation Act 1950 but extensive surveys have revealed a broader distribution and greater population size than was initially thought. It now has a reduced conservation listing (priority by DBCA). This species is strongly associated with two mat rush (*Lomandra*) species (Bishop *et al.* 2010). This may be in Banksia woodland on deep sands (*L. hermaphrodita*) or in open areas of herbland, heathland and shrubland on sand and limestone (*L. maritima*). If either of these species are present within the Survey Area then the Graceful Sunmoth may occur but, probably, this species is likely to be, at most, an irregular visitor.
- The Woollybush Bee occurs south-west of a line from Dongara to Hopetoun with most Swan Coastal Plain records north of the Swan River (ALA 2020). If it were to occur in the Survey Area it would likely extend its metropolitan distribution (and there were no known records from DBCA within 5 km of the site; see Appendix AC). There is little specific information available on the distribution and habitat of this species but it is known to forage on the flowers of Woollybush (*Adenanthos cygnorum*) and *Banksia attenuata*, which are both present in Banksia woodland of the Survey Area. Advice from the WA Museum (T. Houston *pers. comm.*) suggests that the Woollybush Bee may be more widespread and common than realised.

Perth Lined Lerista and Black-striped Snake

Both listed as Priority 3 by DBCA. The Perth Lined Lerista is restricted to the Swan Coastal Plain south of the Swan River and is considered to be a resident in remnant woodlands and suburban gardens the Survey Area. The Black-striped snake is restricted to the west coast region from south of Dongara to Mandurah. The species is threatened by encroaching land development and has been recorded from coastal dunes and sandplains with heath and Banksia woodland; as such it could be an irregular visitor in the survey area.

Barking Owl

Listed as Priority 3 by DBCA and considered to be a vagrant to the survey area. This species has undergone a dramatic range reduction on the Swan Coastal Plain but may persist in the forests of the Darling Range to the east of the Survey Area.

Quenda, Southern Brown Bandicoot

Listed as Priority 4 by DBCA and considered to be a resident in the Survey Area. Extensive evidence of Quenda was noted throughout the site (see Appendix AF).

Water-rat, Rakali

Listed as Priority 3 by DBCA and considered to be an irregular visitor to the Survey Area. There are historic records of this species along the drainage lines (upstream) that pass through the survey area (see Appendix AC). Therefore, Water-rats may occasionally pass through the survey area but, given the ephemeral and small nature of the water courses, are unlikely to be resident.

5.2.3.3 Conservation Significance 3

Quacking Frog and Turtle Frog

Both species are expected to be residents within the Survey Area and are notable because they are uncommonly encountered within the urban matrix on the Swan Coastal Plain.

Ground-feeding granivorous birds and Western Rosella

These species are listed as either habitat specialists or wide-ranging species with reduced populations on the Swan Coastal Plain by DEP (2000) and forage on the ground for seeds. They may occur in the Survey Area as either residents or irregular visitors (see Table 30). The species in this category are: Common Bronzewing; Brush Bronzewing, Painted Button-quail and Western Rosella.

Birds of prey

These species are listed as either habitat specialists or wide-ranging species with reduced populations on the Swan Coastal Plain by DEP (2000) and forage on other fauna (e.g. reptiles, birds and mammals). They may occur in the Survey Area as either residents, regular visitors, irregular visitors or vagrants (see Table 30). The species in this category are: Square-tailed Kite, Whistling Kite, Brown Goshawk, Collared Sparrowhawk, Wedge-tailed Eagle, Little Eagle and Brown Falcon.

Insectivorous passerine birds and Grey Currawong

These species are listed as either habitat specialists or wide-ranging species with reduced populations on the Swan Coastal Plain by DEP (2000) and forage predominantly for invertebrates throughout (and above) the vegetation strata. They may occur in the Survey Area as either residents, regular visitors, irregular visitors or vagrants (see Table 29). The species in this category are: Splendid Fairy-wren, Southern Emu-wren, White-browed Scrubwren, Weebill, Yellow-rumped Thornbill, Western Thornbill, Inland Thornbill, Varied Sittella, Western Whistler, Grey Shrike-thrush, Black-faced Woodswallow, Dusky Woodswallow, Masked Woodswallow, White-breasted Robin, Hooded Robin, Scarlet Robin, Red-capped Robin, Jacky Winter and Grey Currawong.

Nectarivorous birds

These species are listed as either habitat specialists or wide-ranging species with reduced populations on the Swan Coastal Plain by DEP (2000) and forage on nectar within the vegetation strata. They may occur in the Survey Area as either residents, regular visitors or vagrants (see Table 29). The species in this category are: Western Wattlebird, Tawny-crowned Honeyeater, Gilbert's Honeyeater, White-cheeked Honeyeater and New Holland Honeyeater.

Short-beaked Echidna and Common Brushtail Possum

Both species have fragmented distribution within the metropolitan area on the Swan Coastal Plain. If present as residents then populations would be of local significance. Signs of the echidna were noted during the site inspection (and is considered a resident on the precautionary principle) and the possum is considered to be a regular visitor to the Survey Area (with a broader population base in the Darling Range to the east).

5.2.4 Black-Cockatoo Habitat Analysis

5.2.4.1 Breeding Tree Assessment

A total of 333 potential Black-Cockatoo nest-trees from at least six species were identified within the Development Envelope, as listed in Table 31. The numbers of potential nest-trees of each species recorded in each ranking category are shown in Table 32, and the locations of these trees are mapped in Figure 14.

Table 31: Species and Number of Potential Black-Cockatoo Nest-trees Recorded within the Development Envelope

Tree Species	Number of Trees
<i>Corymbia calophylla</i> Marri	159
<i>Eucalyptus gomphocephala</i> Tuart	2
<i>Eucalyptus marginata</i> Jarrah	12
<i>Eucalyptus rudis</i> Flooded Gum	40
<i>Eucalyptus todtiana</i> Coastal Blackbutt	18
Planted, non-native	89
Stag	13
Total	333

The vast majority (c99.4%) of potential nest-trees surveyed did not have hollows suited to Black-Cockatoos. No active nests were located, although seven trees had potential nest hollows for Black-Cockatoos.

The seven trees that had potential nest-hollows for black-cockatoos (i.e. category 2 and 3 trees) were further investigated by pole-camera. The raw results are presented in Appendix AG and a summary is provided in Table 33. No black-cockatoo nests were located. Five of the pole-camera-inspected trees had their nest-tree rank revised down (as indicated in

Table 33 and Appendix AG) where apparent hollows (as viewed from the ground on initial inspection) were subsequently found to not be suitable for black-cockatoo nesting. One tree (ID 204) was located on private property and, as such, unable to be inspected. This tree had evidence of Black Cockatoo chew marks however such chew marks are not necessarily evidence of use for breeding. One tree (ID 281) had at least one hollow that was unable to be accessed by the pole-camera. These two trees have retained their initial rank.

There is no present evidence to suggest that black-cockatoos nest within the Development Envelope and the number of potential nest-hollow bearing trees within the envelope is likely to be two or less (two trees that were not accessible or were unable to be assessed by pole-camera).

Table 32: The Number of Potential Nest-trees of each Species in each Nest-tree Rank Category in the Development Envelope

Category	Number of Trees							TOTAL	Percentage (of Grand Total)
	Marri	Planted, non-native	Flooded Gum	Coastal Blackbutt	Stag (dead, unidentified)	Jarrah	Tuart		
1 Active nest.	-	-	-	-	-	-	-	-	0.0
2 Potential hollow with chew-marks.	-	-	- (1)	1 (1)	- (1)	-	-	1 (3)	0.3
3 Potential hollow, no chew marks.	-	-	-	- (1)	1 (2)	- (1)	-	1 (4)	0.3
4 Potential hollow, unsuitable orientation.	1	1	2 (1)	1	5 (4)	1 (-)	-	11 (8)	3.3
5 Sufficient DBH, no observable hollows.	138	77	34	4 (3)	7 (6)	8	2	270 (268)	81.1
0 Sufficient DBH, otherwise unsuitable.	20	11	4	12	-	3	-	50	15.0
TOTAL:	159	89	40	18	13	12	2	333	100
Percentage (of Grand Total)	48.8	47.7	26.7	12.0	5.4	3.9	3.6	0.6	100

Numbers in parentheses show tallies prior to the pole-camera inspections

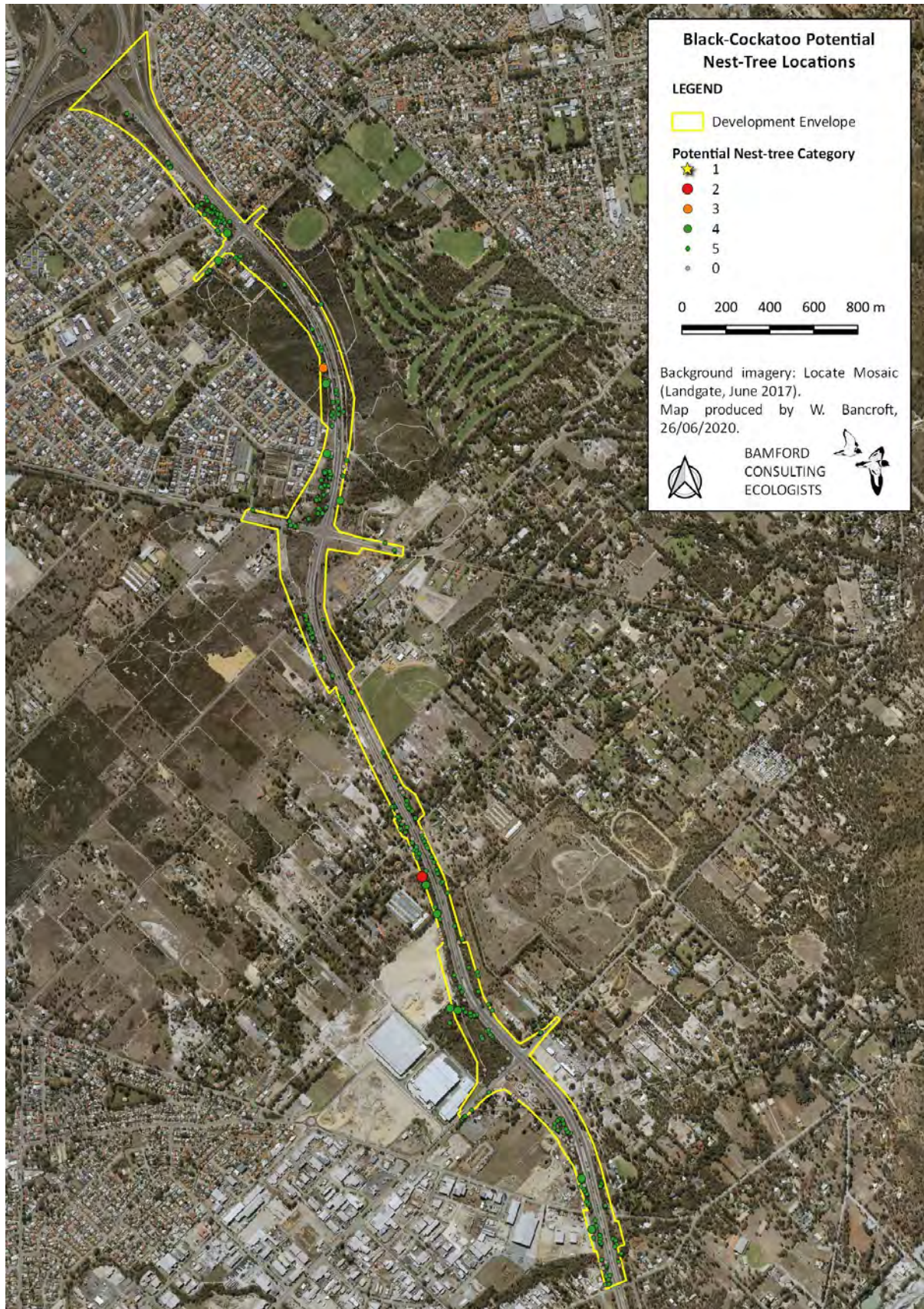


Figure 14: Location of Potential Nest-trees within the Development Envelope

Table 33: Summary Results from the Camera-pole Assessment of Potential Black-Cockatoo Nest-trees

Date	Tree ID	Easting	Northing	Tree Species	DBH (mm)	Status	Initial Rank	Pole-camera Inspection Notes	Revised Rank
7/10/2019	182	405879	6456051	Jarrah	1300	Alive	3	No suitable hollow. Active bee hive in base of tree.	4
7/10/2019	184	405843	6456060	Stag	1400	Dead	2	No suitable hollows.	4
7/10/2019	199	405784	6456489	Stag	900	Dead	3	Two hollows were inspected - hollows appear too shallow for black-cockatoos. Note active bee hive in base of tree so no photos recorded.	5
7/10/2019	204	405715	6456658	Coastal Blackbutt	900	Alive	2	Tree appears to be on private property. Not inspected.	NA
8/10/2019	279	405274	6458902	Coastal Blackbutt	800	Alive	3	Not a hollow.	5
8/10/2019	281	405267	6458969	Stag	1400	Dead	3	Hollow at end of upright branch appears too shallow for black-cockatoos. Other hollows inaccessible due to other trees blocking access.	NA
8/10/2019	304	404831	6459583	Flooded Gum	600	Alive	2	Hollows appear too shallow for black-cockatoos. Note active bee hive in base of tree.	4

5.2.4.2 Foraging Habitat Assessment

The foraging value of the Development Envelope was assessed on-ground for all three species of Black-Cockatoos that occur in the vicinity as summarised in Table 34.

Table 34: Areas (ha) and Proportions (%) of each Category (vegetation score, combined foraging score) of Foraging Habitat in the Development Envelope for the three Black-Cockatoo species present in south-western Australia

See Appendix F for explanation of vegetation, context, species density and (combined) foraging scores.

	Forest Red-tailed Black-Cockatoo		Carnaby's Black-Cockatoo		Baudin's Black-Cockatoo	
6: High	0	0	0	0	0	0
5: Moderate to High	11.9	12.3	0	0	11.9	12.3
4: Moderate	9.6	9.9	25.3	26.1	9.9	10.2
3: Low to Moderate	11.1	11.5	7.5	7.8	11	11.3
2: Low	4.5	4.6	3.9	4	4.3	4.4
1: Negligible	3.6	3.7	4	4.2	3.6	3.7
0: Nil	56.3	58	56.3	58	56.3	58
TOTAL	97	100	97	100	97	100
Context Score	1		1		1	
Species Density Score	1		1		1	
Foraging Score						
10	-	-	-	-	-	-
9	-	-	-	-	-	-
8	0	0	0	0	0	0
7	11.9	12.3	0	0	11.9	12.3
6	9.6	9.9	25.3	26.1	9.9	10.2
5	11.1	11.5	7.5	7.8	11	11.3
NA (Vegetation Score < 3)	64.4	66.3	64.2	66.2	64.2	66.1
TOTAL	97	100	97	100	97	100

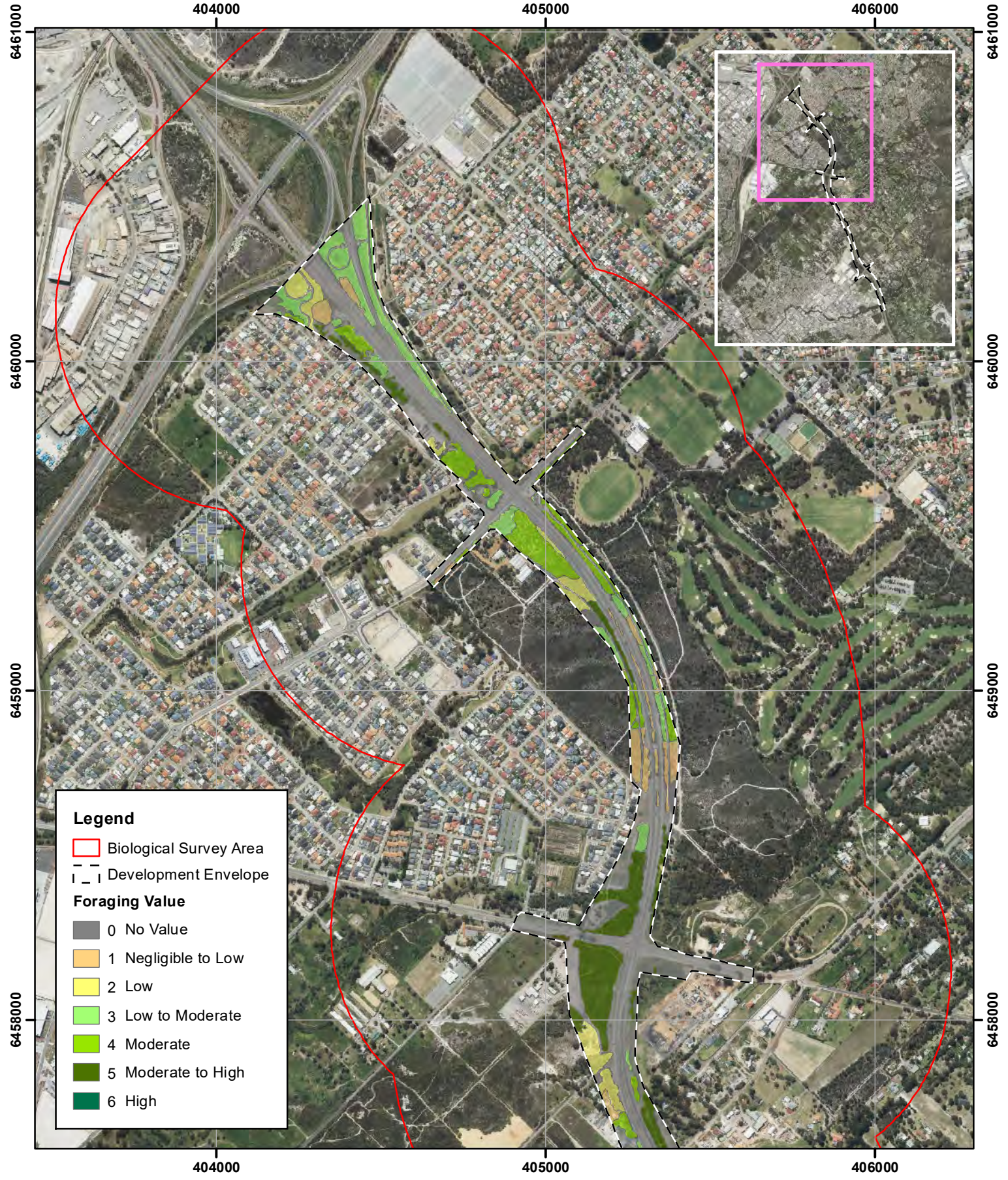
Forest Red-Tailed Black-Cockatoo




Foraging habitat for Forest Red-tailed Black-Cockatoo was present throughout the Development Envelope. This is primarily due to the occurrence of Marri, Jarrah and She-oak, known to be mainstays of the Forest Red-tailed Black-Cockatoo diet (Johnstone and Kirkby 1999). These trees were present in variable densities (from absent to high) across the Development Envelope. Maps of vegetation scores of the Development Envelope for Forest Red-tailed Black-Cockatoo foraging are presented in Figure 15 (northern envelope) and Figure 16 (southern envelope). The areas (and percentages) of each vegetation score are shown in Table 34.

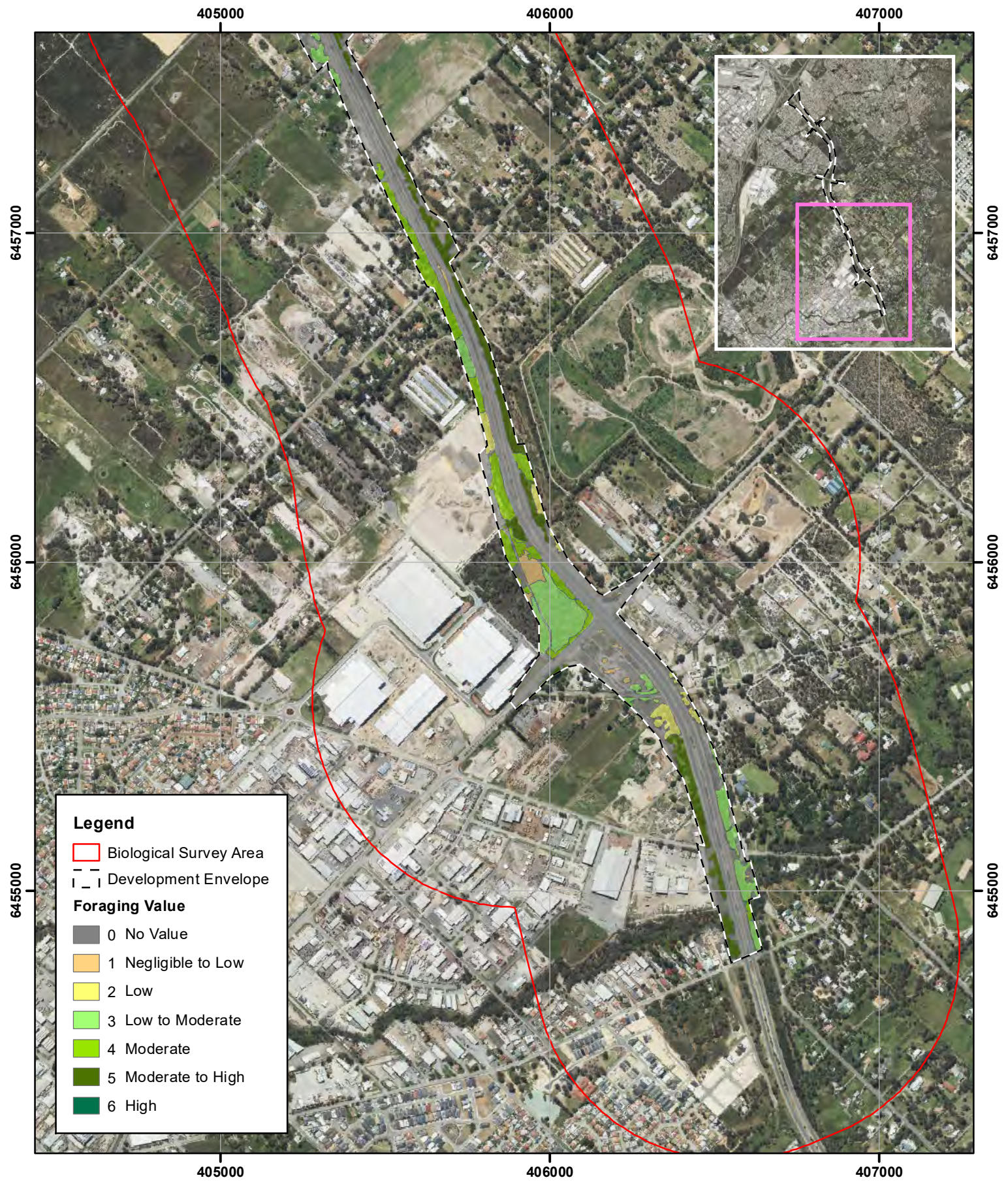
There are approximately 16,231 ha of remnant native vegetation (as assessed by DPIRD 2020) within 12 km of the Development Envelope, which itself has c. 20.5 ha of native vegetation. Therefore, the site comprises c. 0.12% of the native vegetation in the 'local area'




(as per the methods outlined in Appendix F). It is certain that the Forest Red-tailed Black-Cockatoo breeds within the local area, given the proximity to the Jarrah-Marri forests of the Darling Scarp (to the east). Thus, a 'context' score of 1 (out of 3) has been assigned to the development envelope for this species (see Appendix F). The Development Envelope was assigned a species density score for Forest Red-tailed Black-Cockatoo of 1 (out of 1; see Appendix F). These values have been added on to the vegetation scores to yield the overall foraging value scores (with areas and percentages) that are also presented in Table 34.

There was evidence of foraging by Forest Red-tailed Black-Cockatoos throughout the Development Envelope, particularly in the north-west and south-east. The Development Envelope is, generally, of moderate to low value for foraging by Forest Red-tailed Black-Cockatoos but there was evidence to show that this species presently (and previously) uses the site for feeding. Foraging evidence locations are presented in Appendix AH and locations maps are presented in Appendix AI.



Distribution of Forest Red-tailed Black-Cockatoo Foraging Habitat (northern Development Envelope)	Author: Cathy Godden	
	WEC Ref: MR19-34-01	
 	Filename: MR19-34-01-f15-16	Figure 15
	Scale: 1:15,000	
	Projection: GDA 1994 MGA Zone 50	
	Revision: 1 - 17 February 2021	
<small>This map should only be used in conjunction with WEC report MR19-34-01.</small>		



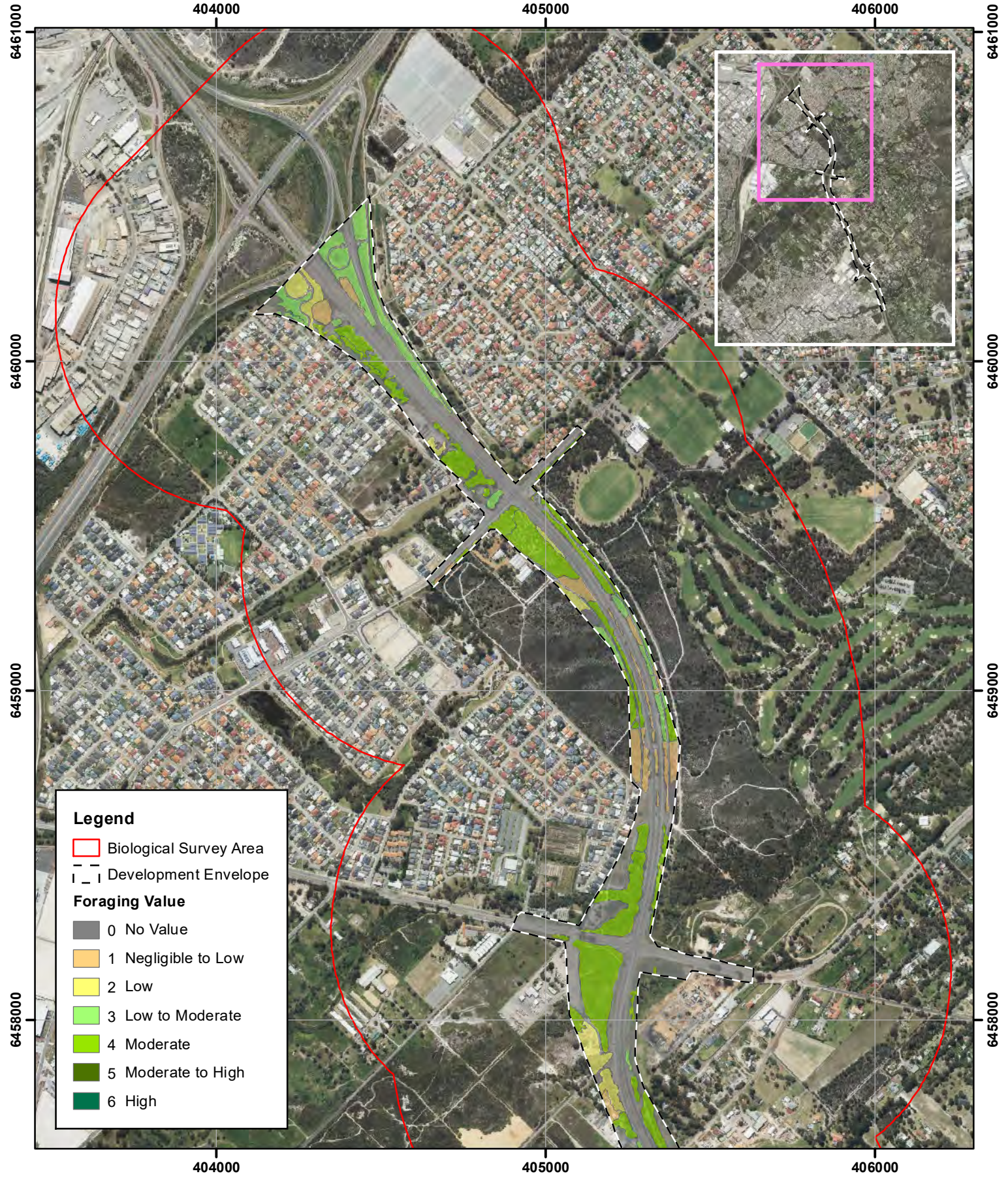
<p>Distribution of Forest Red-tailed Black-Cockatoo Foraging Habitat (southern Development Envelope)</p>	Author: Cathy Godden	
	WEC Ref: MR19-34-01	
 	Filename: MR19-34-01-f15-16	<p>Figure</p> <p>16</p>
	Scale: 1:15,000	
	Projection: GDA 1994 MGA Zone 50	
	Revision: 1 - 17 February 2021	
<p>This map should only be used in conjunction with WEC report MR19-34-01.</p>		




Carnaby's Black-Cockatoo

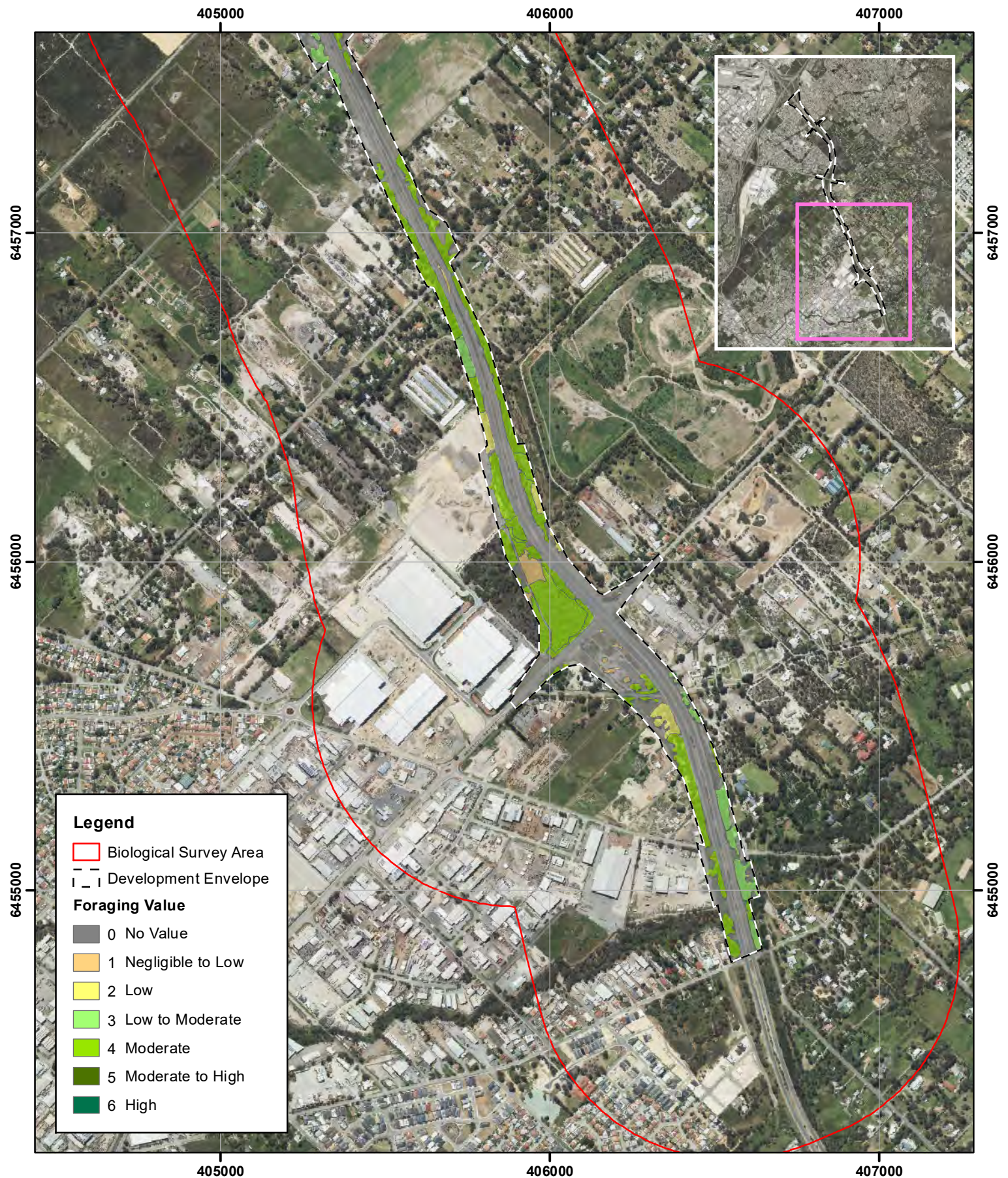
Foraging habitat for Carnaby's Black-Cockatoo was present throughout the Development Envelope. This is predominantly due to the presence of several plant species known to be mainstays of the Carnaby's Black-Cockatoo diet including *Banksia attenuata*, *B. menziesii* and Marri (Groom 2011). These trees were present in variable densities (from absent to high) across the development envelope. Maps of vegetation scores of the Development Envelope for Carnaby's Black-Cockatoo foraging are presented in Figure 17 (northern envelope) and Figure 18 (southern envelope). The areas (and percentages) of each vegetation score are shown in Table 35.





As noted for the Forest Red-tailed Black-Cockatoo the Development Envelope supports c. 0.12% of the native vegetation in the 'local area' (12 km buffer). It is likely that the Carnaby's Black-Cockatoo breeds within the local area, given the proximity to the Jarrah-Marri forests of the Darling Scarp (to the east). Thus, a 'context' score of 1 (out of 3) has been assigned to the development envelope for this species (see Appendix F). The Development Envelope was assigned a species density score for Carnaby's Black-Cockatoo of 1 (out of 1; see Appendix F). These values have been added on to the vegetation scores to yield the overall foraging value scores (with areas and percentages) that are also presented in Table 34. The Development Envelope is, generally, of moderate to low value for foraging by Carnaby's Black-Cockatoo.

In addition to the above, DBCA also provide indicative Carnaby's Black-Cockatoo feeding habitat for the Swan Coastal Plain and Jarrah Forest (DBCA 2020c, 2020d). Potential Carnaby's Black-Cockatoo feeding habitat is mapped for the local region (12 km) in Figure 19 and the areas of potential feeding habitat within the region, Survey Area and Development Envelope are provided in Table 35. The percentage of potential Carnaby's Black-Cockatoo feeding habitat within the Development Envelope (33.9%) is slightly higher than the regional representation of this habitat (28.7% of region). If all potential Carnaby's Black-Cockatoo feeding habitat was removed within the Development Envelope it would represent c. 0.1% of the available regional (12 km) habitat, and c. 13.2% of the available habitat within the Survey Area.



<p>Distribution of Carnaby's Black-Cockatoo Foraging Habitat (northern Development Envelope)</p>	Author: Cathy Godden	
	WEC Ref: MR19-34-01	
 	Filename: MR19-34-01-f17-18	<p>Figure</p> <p>17</p>
	Scale: 1:15,000	
	Projection: GDA 1994 MGA Zone 50	
	Revision: 1 - 17 February 2021	
<p>This map should only be used in conjunction with WEC report MR19-34-01.</p>		



<p>Distribution of Carnaby's Black-Cockatoo Foraging Habitat (southern Development Envelope)</p>	Author: Cathy Godden	
	WEC Ref: MR19-34-01	
   <p>This map should only be used in conjunction with WEC report MR19-34-01.</p>	Filename: MR19-34-01-f17-18	<p>Figure</p> <p>18</p>
	Scale: 1:15,000	
	Projection: GDA 1994 MGA Zone 50	
	Revision: 1 - 17 February 2021	

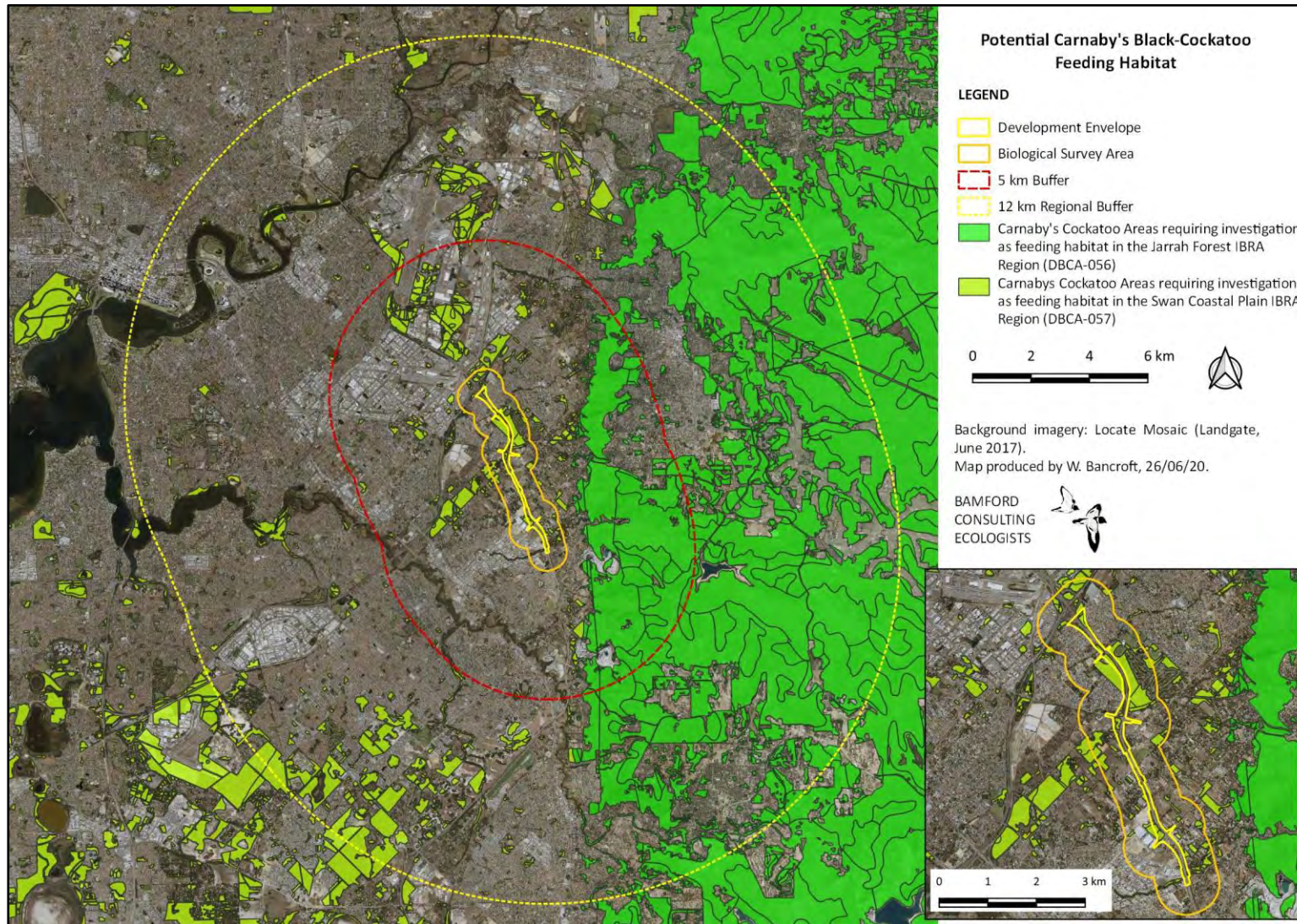


Figure 19: Potential Carnaby's Black-Cockatoo Feeding habitat (DBCA) within the 12 km regional buffer

Table 35: Potential Carnaby's Black-Cockatoo feeding habitat (DBCA) within the Region, Survey Area and Development Envelope

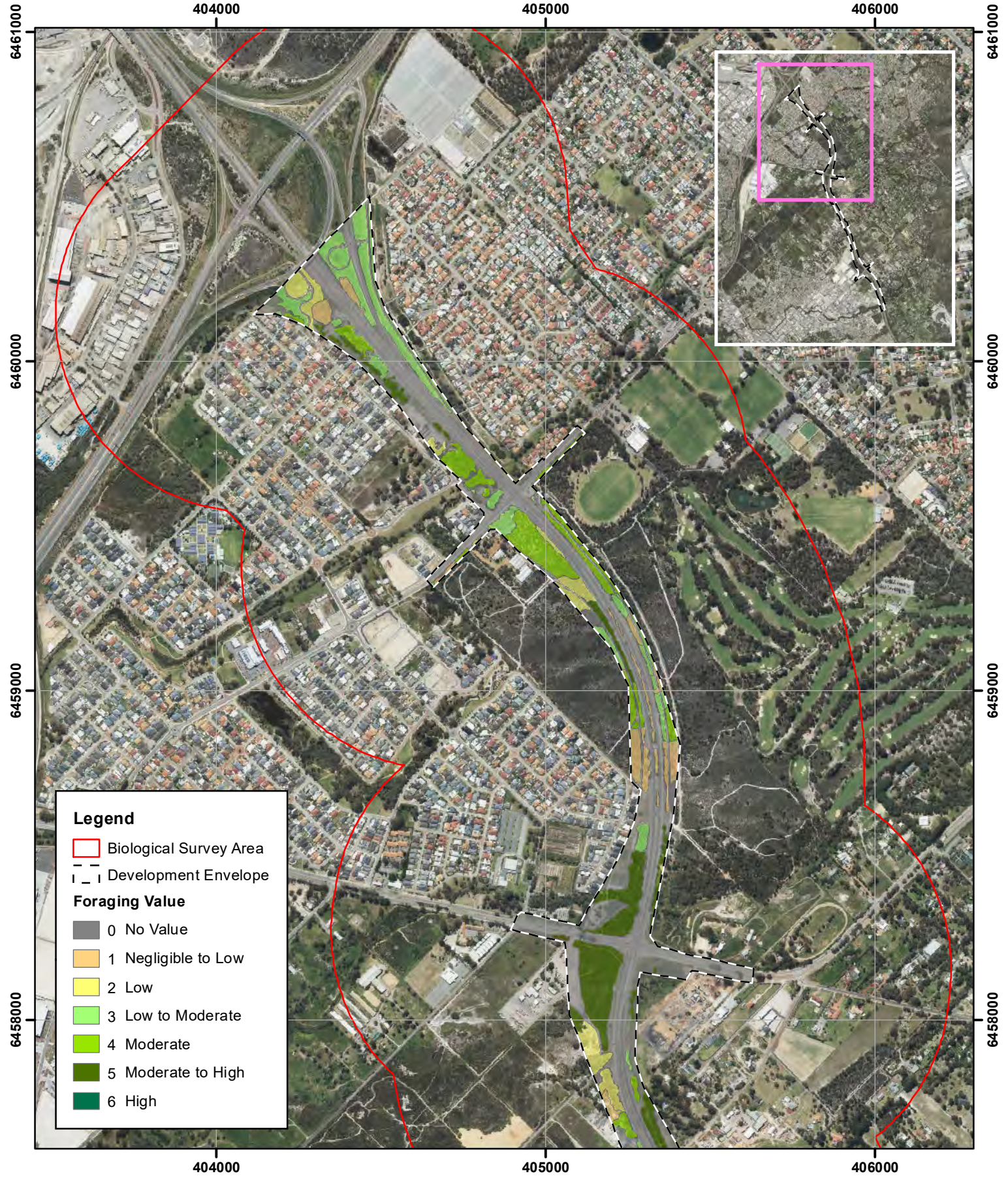
	Total Area (ha)	Area of DBCA Carnaby's Potential Feeding Habitat (ha)	%
Regional (12km) Buffer	60811.2	17479.6	28.7
Biological Survey Area	1069.6	157.5	14.7
Development Envelope	97	32.8	33.8

Baudin's Black-Cockatoo

Foraging habitat for Baudin's Black-Cockatoo was present throughout the Development envelope. This is primarily due to the occurrence of Marri, known to be the cornerstone of the Baudin's Black-Cockatoo diet, although the species will also forage on proteaceous shrubs/trees, insect larvae, orchard fruit and ornamental plants (Johnstone and Kirkby 2008, Lee *et al.* 2013. Marri trees were present in variable densities (from absent to high) across the Development Envelope. Maps of vegetation scores of the development envelope for Baudin's Black-Cockatoo foraging are presented in Figure 20 (northern envelope) and Figure Figure 21 (southern envelope). The areas (and percentages) of each vegetation score are shown in Table 33.

As noted for the other species, the Development Envelope supports c. 0.12% of the native vegetation in the 'local area' (12 km buffer). While the breeding biology of this species is poorly understood and that it is thought that most breeding occurs in the southernmost parts of the south-west of WA, it is possible that the Baudin's Black-Cockatoo breeds within 12 km of the Development Envelope (Johnstone and Kirby (2008). These authors noted a nest in the Jarrah forest near Serpentine and while, at present, it seems a stretch to consider this species would breed on the Swan Coastal Plain near Perth, the Forest Red-tailed Black-Cockatoo (a similar 'forest' cockatoo) has expanded its breeding range through metropolitan area in the last decade. Baudin's Black-Cockatoo has also been recorded more frequently in these areas (during the non-breeding period) in recent years. Thus, a 'context' score of 1 (out of 3) has been assigned (using the precautionary principle) to the Development Envelope for this species (see Appendix F). The Development Envelope was assigned a species density score for Baudin's Black-Cockatoo of 1 (out of 1; see Appendix F). These values have been added on to the vegetation scores to yield the overall foraging value scores (with areas and percentages) that are also presented in Table 34.

There was extensive evidence of foraging by Baudin's Black-Cockatoo throughout the Development Envelope. The Development Envelope is, generally, of moderate to low value for foraging by Baudin's Black-Cockatoo but there was evidence to show that this species presently (and previously) uses the site for feeding. Foraging evidence locations are presented in Appendix AH and locations maps are presented in Appendix AI.



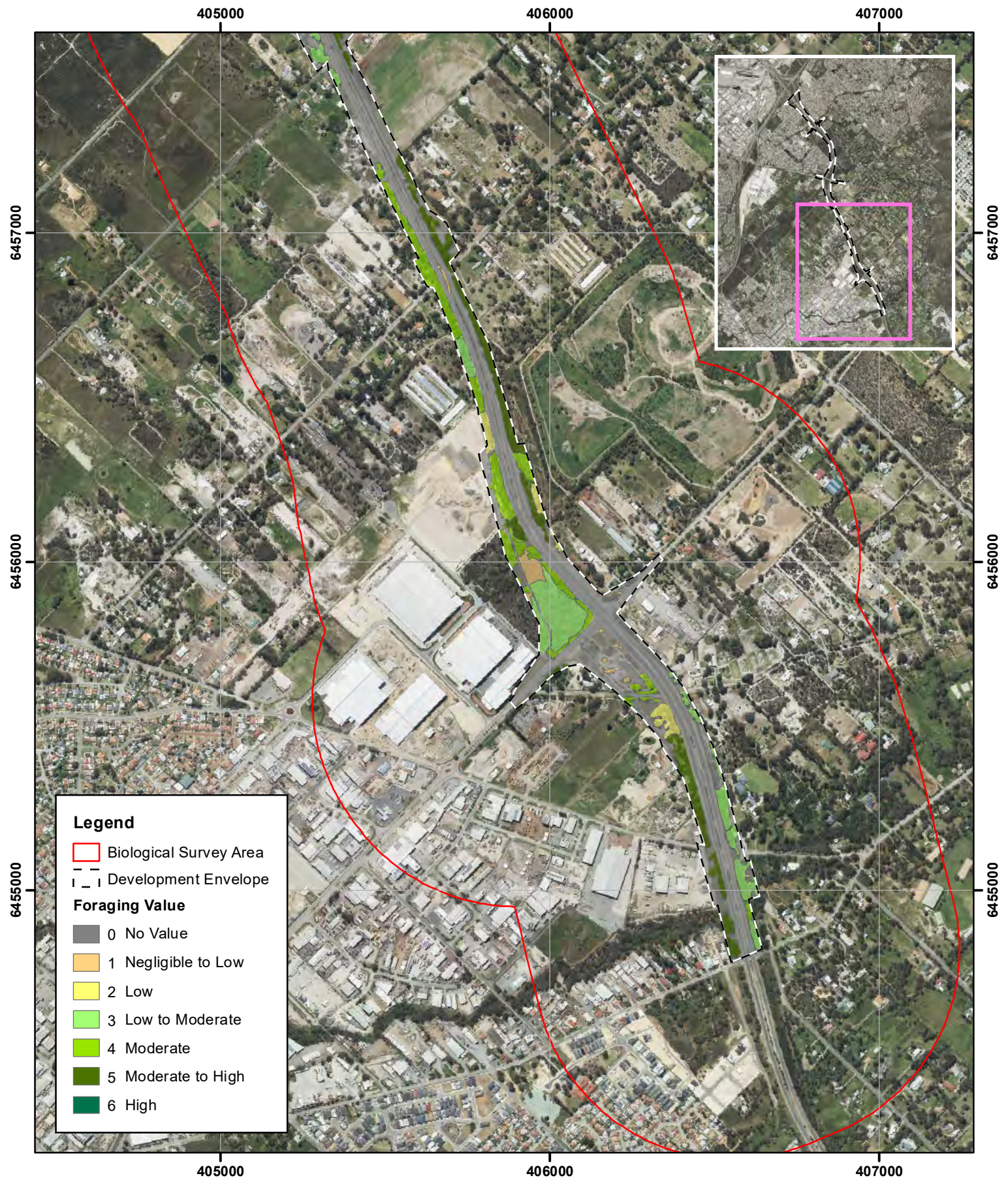
Legend




- Biological Survey Area
- Development Envelope

Foraging Value

- 0 No Value
- 1 Negligible to Low
- 2 Low
- 3 Low to Moderate
- 4 Moderate
- 5 Moderate to High
- 6 High

<p>Distribution of Baudin's Black-Cockatoo Foraging Habitat (northern Development Envelope)</p>	Author: Cathy Godden	
	WEC Ref: MR19-34-01	
<p>WOODMAN ENVIRONMENTAL</p> <p>BAMFORD CONSULTING ECOLOGISTS</p> <p><small>This map should only be used in conjunction with WEC report MR19-34-01.</small></p>	Filename: MR19-34-01-f20-21	<p>Figure</p> <p>20</p>
	Scale: 1:15,000	
	Projection: GDA 1994 MGA Zone 50	
	Revision: 1 - 17 February 2021	



Distribution of Baudin's Black-Cockatoo Foraging Habitat (southern Development Envelope)	Author: Cathy Godden	
	WEC Ref: MR19-34-01	
 	Filename: MR19-34-01-f20-21	Figure 21
	Scale: 1:15,000	
	Projection: GDA 1994 MGA Zone 50	
	Revision: 1 - 17 February 2021	
<small>This map should only be used in conjunction with WEC report MR19-34-01.</small>		

5.2.4.3 Roosting Habitat Assessment

The locations of confirmed, potential and unconfirmed black-cockatoo roost sites are mapped in Figure 22 (based on the Great Cocky Count 2017 records, Peck *et al.* 2017, and available DBCA data). There are no known roost sites within the Development Envelope. There may be one site within the Survey Area: the location appears to be in the vicinity of the Hartfield Golf Club (see Figure 22); no specific location details are available as only 1 km buffered locations are provided by DBCA). Most of the known roost sites within the region are located on the Darling Range (to the east of the Survey Area) or in the mid-Swan Coastal Plain (to the west of the Survey Area). Any areas with tall trees (especially eucalypts, pines; and in association with water bodies) may provide roost-sites for Black-Cockatoos.

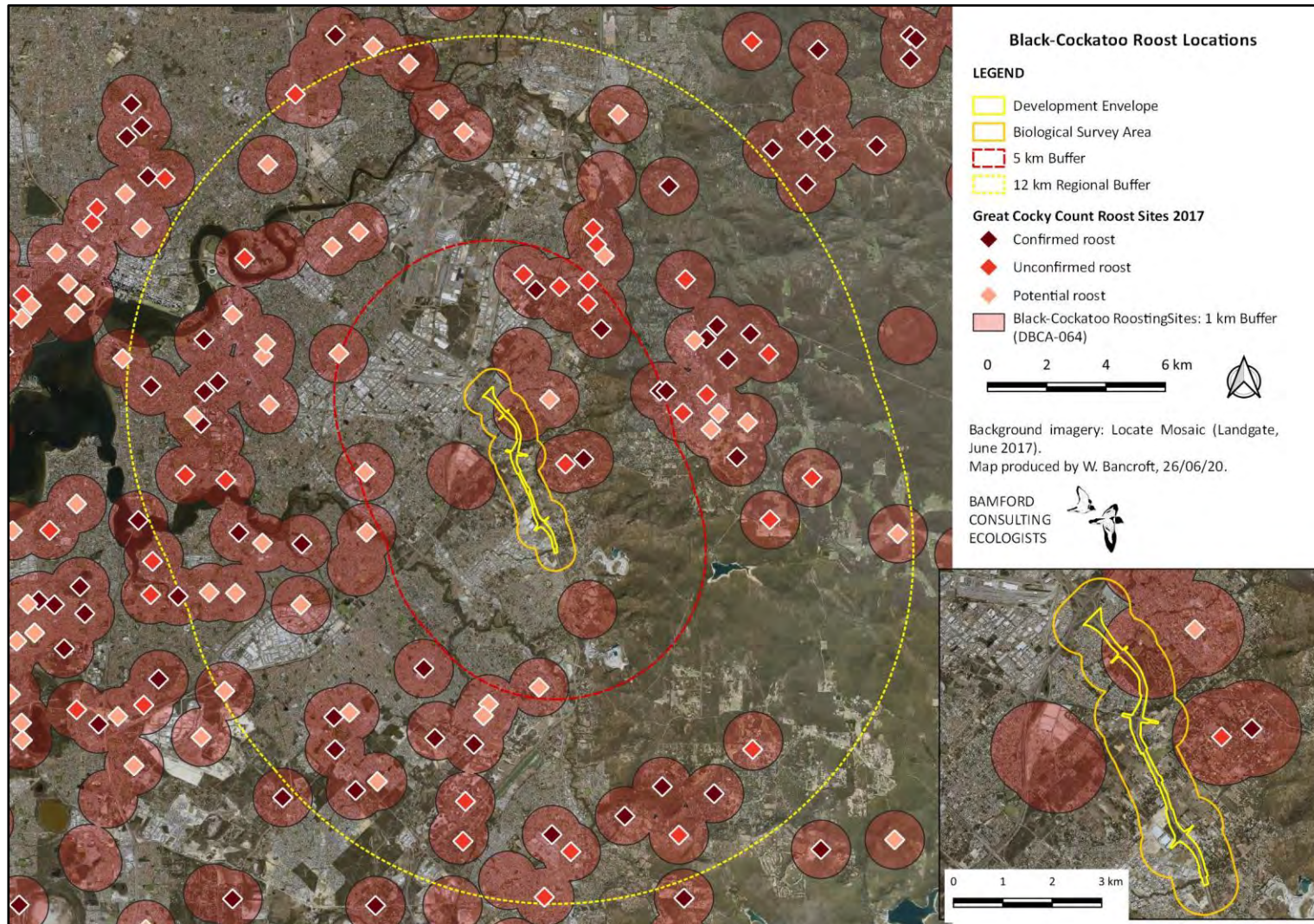


Figure 22: Black-Cockatoo Roost Locations within the 12 km Regional Buffer, based on point locations from Peck *et al.* (2017) and 1 km-buffered DBCA data (DBCA-064)

6. REFERENCES

- AECOM Australia Pty Ltd (AECOM) (2015)
Tonkin Highway / Hale Road, Tonkin Highway / Welshpool Road and Tonkin Highway / Kelvin Road Biological Assessment. Unpublished report prepared for Main Roads WA, December 2015.
- Antis, M. (2013)
Tadpoles and Frogs of Australia. New Holland Publishers, Chatswood, New South Wales
- Atlas of Living Australia (ALA) (2019)
The Australasian Virtual Herbarium. Council of Heads of Australasian Herbaria. Available: <http://avh.chah.org.au>. Fauna search accessed November 2019.
- Atlas of Living Australia (ALA) (2020)
The Australasian Virtual Herbarium. Council of Heads of Australasian Herbaria. Available: <http://avh.chah.org.au>. Last accessed February 2020.
- Australian Weeds Committee (AWC) (2019)
Weeds Australia - Weeds of National Significance. Available: <http://www.weeds.org.au/WoNS/>. Last accessed May 2020.
- Bamford Consulting Ecologists (1996)
Roe Highway Stage 4. Update of Fauna Assessment. Unpublished report prepared for Main Roads WA.
- Bamford Consulting Ecologists (1998)
Roe Highway Stages 5, 6 and 7. Report on ecologically sustainable development and biodiversity. Unpublished report prepared for ERM Mitchell McCotter.
- Bamford Consulting Ecologists (2004)
Maddington – Kenwick Strategic Industrial Area.. Fauna. Unpublished report prepared for BSD Consultants.
- Bamford, M. J., Bancroft, W. J. and Sibbel, N. (2010)
Twenty years and two transects; spatial and temporal variation in local patterns of biodiversity. *Ecological Society of Australia Conference, Canberra, Australian Capital Territory*.
- Barrett, G., Silcocks, A., Barry, S., Cunningham, R. and Poulter, R. (2003)
The New Atlas of Australian Birds. Royal Australasian Ornithologists Union, Melbourne.

- Beard, J. S. (1981)
Vegetation Survey of Western Australia, Swan 1:1 000 000. Map and Explanatory Notes to Sheet 7. Published by University of Western Australia Press, Perth.
- Beard, J.S. (1990)
Plant Life of Western Australia. Kangaroo Press, Perth.
- Beard, J.S., Beeston, G.R., Harvey, J.M., Hopkins, A.J.M. and Shepherd, D.P. (2013)
The vegetation of Western Australia at the 1:3,000,000 scale. Explanatory memoir. Second edition. *Conservation Science Western Australia* 9: 1-152.
- Belbin, L. and Collins, A. (2009)
PATN. Version 3.12, Blatant Fabrications Pty Ltd.
- BirdLife Australia. (2019)
The BirdLife Australia Working List of Australian Birds; Version 3.0.
www.birdlife.org.au/documents/BWL-BirdLife_Australia_Working_List_v3.xlsx
- Bishop, C., Williams, M., Mitchell, D. and Gamblin, T. (2010)
Survey guidelines for the Graceful sun-moth (Synemon gratiosa) & site habitat assessments. Department of Environment and Conservation.
<http://www.dec.wa.gov.au/content/view/5695/1813/>
- Borkent, A. and Craig, D. A. (2004)
Austroconops Wirth and Lee, a Lower Cretaceous genus of biting midges yet living in Western Australia: a new species, first description of the immatures and discussion of their biology and phylogeny (Diptera: Ceratopogonidae). *American Museum Novitates* **2004**: 1-67.
- Burbidge, A. A. and McKenzie, N. L. (1989)
Patterns in the modern decline of Western Australia's vertebrate fauna: causes and conservation implications. *Biological Conservation* **50**: 143-198.
- Bureau of Meteorology (2020a)
Climate Statistics for Australian Locations – Perth Airport. Available:
<http://www.bom.gov.au/climate/data/>. Sourced March, 2020.
- Bureau of Meteorology (2020b)
Groundwater Dependent Ecosystems Atlas. Available:
<http://www.bom.gov.au/water/groundwater/gde/map.shtml>. Accessed May 2020.
- Calver, M. C., Lymbery, A. J., McComb, J. and Bamford, M. J. (2009)
Environmental Biology. Cambridge University Press, Melbourne, Australia.
- Chao, A. (1987)
Estimating the population size for capture-recapture data with unequal catchability. *Biometrics* **43**: 783-791.

- Clevenger, A. P. and Waltho, N. (2000)
Factors influencing the effectiveness of wildlife underpasses in Banff National Park, Alberta, Canada. *Conservation Biology* **14**: 1-11.
- Churchill, S.K. (1998)
Australian Bats. Reed New Holland, Frenchs Forest, New South Wales.
- Commonwealth of Australia (2012)
Interim Biogeographic Regionalisation for Australia, Version 7. Department of Sustainability, Environment, Water, Population and Communities. Available: <http://www.environment.gov.au/parks/nrs/science/bioregion-framework/ibra/index.html#ibra>
- Craven, L.A., Lepschi, B.J. and Cowley, K.J. (2010)
Melaleuca (Myrtaceae) of Western Australia: five new species, three new combinations, one new name and a new state record. *Nuytsia* **20**: 27-36.
- Curnutt, J. L., Pimm, S. L. and Maurer, B. A. (1996)
Population variability of sparrows in space and time. *Oikos* **76**: 131-144.
- Department of Agriculture, Water and the Environment (DAWE) (as Department of the Environment, Water, Heritage and the Arts) (2008a)
Approved Conservation Advice for *Dryandra mimica* (Summer Honey-pot). Department of the Environment, Water, Heritage and the Arts, Canberra. Available: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/20348-conservation-advice.pdf>.
- Department of Agriculture, Water and the Environment (DAWE) (as Department of the Environment, Water, Heritage and the Arts) (2008b)
Approved Conservation Advice for *Tetraria australiensis* (Southern Tetraria). Department of the Environment, Water, Heritage and the Arts, Canberra. Available: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/10137-conservation-advice.pdf>.
- Department of Agriculture, Water and the Environment (DAWE) (as Department of Sustainability, Environment, Water, Populations and Communities) (2012)
EPBC Act referral guidelines for three threatened black cockatoo species: Carnaby's cockatoo (endangered) Calyptorhynchus latirostris, Baudin's cockatoo (vulnerable) Calyptorhynchus baudinii, Forest red-tailed black cockatoo (vulnerable) Calyptorhynchus banksii naso. Department of Sustainability, Environment, Water, Populations and Communities, Canberra.

Department of Agriculture, Water and the Environment (DAWE) (2017a)

Approved Conservation Advice for Shrublands and Woodlands of the Eastern Swan Coastal Plain (s226B of the *Environmental Protection and Biodiversity Conservation Act 1999*). Approved by Delegate of the Minister 13th July 2017. Available: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/20-conservation-advice.pdf>

Department of Agriculture, Water and the Environment (DAWE) (2017b)

Approved Conservation Advice for *Corymbia calophylla* – *Kingia australis* woodlands on heavy soils of the Swan Coastal Plain (s226B of the *Environmental Protection and Biodiversity Conservation Act 1999*). Approved by Delegate of the Minister 13th July 2017. Available: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/17-conservation-advice.pdf>

Department of Agriculture, Water and the Environment (DAWE) (2017c)

Approved Conservation Advice for *Corymbia calophylla* – *Xanthorrhoea preissii* woodlands and shrublands of the Swan Coastal Plain (s226B of the *Environmental Protection and Biodiversity Conservation Act 1999*). Approved by Delegate of the Minister 13th July 2017. Available: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/18-conservation-advice.pdf>

Department of Agriculture, Water and the Environment (DAWE) (as Department of the Environment and Energy) (DAWE) (2019)

Interrogation of Species Profile and Threats (SPRAT) Database using Protected Matters Search Tool. Queried 22/11/19, report reference 8TGOSF. Available: <https://www.environment.gov.au/epbc/protected-matters-search-tool>.

Department of Biodiversity, Conservation and Attractions (DBCA) (2007-)

NatureMap: Mapping Western Australia's Biodiversity. Available: <https://naturemap.dpaw.wa.gov.au/>. Last accessed May 2020.

Department of Biodiversity, Conservation and Attractions (DBCA) (as Department of Parks and Wildlife) (2013a)

Definitions, Categories and Criteria for Threatened and Priority Ecological Communities. Current January 2013. Available: https://www.dpaw.wa.gov.au/images/plants-animals/threatened-species/definitions_categories_and_criteria_for_threatened_and_priority_ecological_communities.pdf

Department of Biodiversity, Conservation and Attractions (DBCA) (as Department of Parks and Wildlife) (2013b)

A methodology for the evaluation of specific wetland types on the Swan Coastal Plain, Western Australia. Trial for 12 month period, August 2013.

Department of Biodiversity, Conservation and Attractions (DBCA) (as Department of the Parks and Wildlife) (2016a)

Ecological Impact and Invasiveness Ratings from the Department of Parks and Wildlife Swan Region Species Prioritisation Process 2016. Available: <https://www.dpaw.wa.gov.au/plants-and-animals/plants/weeds/156-how-does-dpaw-manage-weeds>.

Department of Biodiversity, Conservation and Attractions (DBCA) (as Department of the Parks and Wildlife) (2016b)

Banksia attenuata woodlands over species rich dense shrublands (Swan Coastal Plain community type 20a – Gibson et al. 1994). Interim Recovery Plan No. 359. Parks and Wildlife, Kensington, Western Australia.

Department of Biodiversity, Conservation and Attractions (DBCA) (2017a)

Threatened and Priority Flora Report Form – Field Manual. Version 1.3, August 2017. Available: <https://www.dpaw.wa.gov.au/images/documents/plants-animals/monitoring/forms/threatened-priority-flora-field-manual.pdf>

Department of Biodiversity, Conservation and Attractions (DBCA) (2017b)

A methodology for the evaluation of wetlands on the Swan Coastal Plain, draft prepared by the Wetlands Section of the Department of Biodiversity, Conservation and Attractions and the Urban Water Branch of the Department of Water and Environmental Regulation, Perth, December 2017.

Department of Biodiversity, Conservation and Attractions (DBCA) (2018)

List of Threatened Ecological Communities (TECs) Endorsed by the Western Australian Minister for Environment. Department of Biodiversity, Conservation and Attractions, 28th June 2018

Department of Biodiversity, Conservation and Attractions (DBCA) (2019a)

Conservation Codes for Western Australian Flora and Fauna. Current 3rd January 2019. Available: https://www.dpaw.wa.gov.au/images/documents/plants-animals/threatened-species/Listings/conservation_code_definitions.pdf

Department of Biodiversity, Conservation and Attractions (DBCA) (2019b)

Interrogation of the DBCA Western Australian Herbarium specimen database, Threatened and Priority Flora database and Threatened and Priority Flora List, search performed and data supplied by Main Roads.

Department of Biodiversity, Conservation and Attractions (DBCA) (2019c)

Interrogation of the DBCA Western Australian Threatened and Priority Fauna database, search performed and data supplied by Main Roads.

Department of Biodiversity, Conservation and Attractions (DBCA) (2020a)

Geomorphic Wetlands, Swan Coastal Plain Dataset. Available: <https://catalogue.data.wa.gov.au/dataset/geomorphic-wetlands-swan-coastal-plain>. Accessed January 2020.

- Department of Biodiversity, Conservation and Attractions (DBCA) (2020b)
Priority Ecological Communities for Western Australia, Version 28. Species and Communities Program, Department of Biodiversity, Conservation and Attractions, 5th May 2020.
- Department of Biodiversity, Conservation and Attractions (DBCA) (2020c)
Carnabys Cockatoo Areas requiring investigation as feeding habitat in the Jarrah Forest IBRA Region (DBCA-056). Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/carnabys-cockatoo-unconfirmed-feed-areas-jf>
- Department of Biodiversity, Conservation and Attractions (DBCA) (2020d)
Carnabys Cockatoo Areas requiring investigation as feeding habitat in the Swan Coastal Plain (SCP) IBRA Region (DBCA-057). Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/carnabys-cockatoo-unconfirm-feeding-areas-scp>
- Department of Environment and Conservation (DEC) (2007)
Records held in DEC's Declared Flora Database and rare flora files, Department of Environment and Conservation, Perth.
- Department of Primary Industries and Regional Development (DPIRD) (2019)
Soil-landscape zones Western Australia. Zones derived from soil-landscape mapping (best available) Version April 2018.
- Department of Primary Industries and Regional Development (DPIRD) (2020)
Declared Organism Search. Available: <http://www.agric.wa.gov.au/organisms>. Last accessed June 2020.
- Department of Primary Industries and Regional Development (DPIRD) (2020a)
Native Vegetation Extent (DPIRD-005) Department of Primary Industries and Regional Development. <https://catalogue.data.wa.gov.au/dataset/native-vegetation-extent>
- Doughty, P., Ellis, P. and Bray, R. (2019a)
Checklist of the Frogs of Western Australia. Department of Terrestrial Zoology, Western Australian Museum, Welshpool, Western Australia.
- Doughty, P., Ellis, P. and Bray, R. (2019b)
Checklist of the Reptiles of Western Australia. Department of Terrestrial Zoology, Western Australian Museum, Welshpool, Western Australia.
- Dufrene, M. and Legendre, P. (1997)
Species Assemblages and Indicator Species: The need for a flexible asymmetrical approach. *Ecological Monographs* 67: 345-366.

Dufty, A. C. (1989)

Some population characteristics of *Perameles gunnii* in Victoria. *Wildlife Research* **18**: 355-365.

Environmental Protection Authority (2004)

Guidance for the Assessment of Environmental Factors – Terrestrial Flora and Vegetation surveys for Environmental Impact Assessment in Western Australia, No. 51, June 2004. Unpublished report produced by the Environmental Protection Authority, Western Australia.

Environmental Protection Authority (EPA) (2016a)

Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment. EPA, Western Australia, December 2016.

Environmental Protection Authority (EPA) (2016b)

Environmental Factor Guideline – Flora and Vegetation. Published 13th December 2016 (www.epa.wa.gov.au/).

Environmental Protection Authority (EPA) (2016c)

Technical Guidance – Terrestrial Fauna Surveys. EPA, Western Australia.

Environmental Protection Authority (EPA) (2016d)

Environmental Factor Guideline – Terrestrial Fauna. EPA, Western Australia, December 2016.

Executive Steering Committee for Australian Vegetation Information (ESCAVI) (2003)

Australian Vegetation Attribute Manual: National Vegetation Information System, Version 6.0. Department of the Environment and Heritage, Canberra.

Fox, B. J. (1982)

Fire and mammalian secondary succession in an Australian coastal heath. *Ecology* **63**: 1332-1341.

GHD Pty Ltd (2015)

PSP Pioneer Park Flora and Vegetation Survey. Unpublished report prepared for GatewayWA Alliance, February 2015.

GHD Pty Ltd (2016)

Kenwick Freight Facility Flora and Black Cockatoo Habitat Assessment. Unpublished report prepared for Public Transport Authority, May 2016.

GHD Pty Ltd (2018)

Thornlie-Cockburn Link Project Flora and fauna survey. Unpublished report prepared for Public Transport Authority, October 2018.

- Gibson, N., Keighery, B., Keighery, G., Burbidge, A., and Lyons, M. (1994)
A Floristic Survey of the southern Swan Coastal Plain. Unpublished report for the Australian Heritage Commission prepared by the Department of Conservation and Land Management and the Conservation Council of Western Australia (Inc.), July 1994.
- Gill, A. M., Groves, R. H. and Noble, I. R. (Eds). (1981)
Fire and the Australian Biota. Australian Academy of Science, Canberra, Australian Capital Territory.
- Gleeson, J. and Gleeson, D. (2012)
Reducing the Impacts of Development on Wildlife. CSIRO Publishing, Collingwood, Victoria, Australia.
- Government of Western Australia (2000)
Bush Forever Volume 2. Directory of Bush Forever Sites. Published by the Department of Environmental Protection, Perth.
- Government of Western Australia (2019a)
2018 Statewide Vegetation Statistics (formerly the CAR Reserve Analysis) (Full Report). Report 1b. Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions. Available:
<https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>.
- Government of Western Australia (2019b)
2018 South West Vegetation Complex Statistics Report. Current as of March 2019. CAR Report SCP External. WA Department of Biodiversity, Conservation and Attractions. Available:
<https://catalogue.data.wa.gov.au/dataset/dbca/resource/3d067960-2896-42fd-ba52-1aa46b2edf13>.
- Greenslade, P. J. M. and Jordana, R. (2014)
Description and conservation status of a new species of *Australotomurus* (Collembola: Entomobryidae: Orchesellinae) from urban Perth remnant bushland. *Zootaxa* **3872**: 561-76.
- Groom, C. (2011)
Plants Used by Carnaby's Black Cockatoo. Department of Environment and Conservation, Perth, Western Australia.
- Harrington, R. (2002)
The effects of artificial watering points on the distribution and abundance of avifauna in an arid and semi-arid mallee environment. PhD thesis. Department of Zoology, University of Melbourne, Melbourne, Victoria.

- Harvey, M. S. (2002)
Short-range endemism among the Australian fauna: some examples from non-marine environments. *Invertebrate Systematics* **16**: 555-570.
- Hedde, E.M., Havel, J.J. and Loneragan, O.W. (1980)
Vegetation Complexes of the Darling System, Western Australia. In: Atlas of natural resources darling system, Western Australia. Department of Conservation and Environment, Perth.
- Hill, A.L., Semeniuk, C.A., Semeniuk, V. and Del Marco, A. (1996)
Wetlands of the Swan Coastal Plain (Vol. 2). Wetland mapping, classification and evaluation. Water and Rivers Commission and Department of Environmental Protection.
- How, R. A. and Dell, J. (1990)
Vertebrate fauna of Bold Park, Perth. *Western Australian Naturalist* **18**: 122-131.
- IUCN. (2012)
IUCN Red List Categories and Criteria, Version 3.1. Second edition. International Union for the Conservation of Nature, Gland, Switzerland and Cambridge, UK.
- Jackson, S. D. and Griffin, C. R. (2000)
A Strategy for Mitigating Highway Impacts on Wildlife. In: Messmer, T. A. and West, B. (Eds), *Wildlife and Highways: Seeking Solutions to an Ecological and Socio – economic Dilemma*, pp. 143-159. The Wildlife Society,
- Johnstone, R. E. and Kirkby, T. (1999)
Food of the Forest Red-tailed Black Cockatoo *Calyptorhynchus banksii naso* in south-west Western Australia. *The Western Australian Naturalist* **22**: 167-177.
- Johnstone, R. E. and Kirkby, T. (2008)
Distribution, status, social organisation, movements and conservation of Baudin's Cockatoo (*Calyptorhynchus baudinii*) in South-west Western Australia. *Records of the Western Australian Museum* **25**: 107-118.
- Johnstone, R.E. and Storr, G.M. (1998)
Handbook of Western Australian Birds. Volume 1: Nonpasserines (Emu to Dollarbird). Western Australian Museum, Perth.
- Johnstone, R.E. and Storr, G.M. (2004)
Handbook of Western Australian Birds. Volume 2: Passerines (Blue-winged Pitta to Goldfinch). Western Australian Museum, Perth.
- Jones, M. E. (2000)
Road upgrade, road mortality and remedial measures: impacts on a population of Eastern Quolls and Tasmanian Devils. *Wildlife Research* **27**: 289-296.

- Keighery, B.J., Keighery, G.J., Longman, V.M. and Clarke, K.A. (2012)
Native and Weed Flora of the Southern Swan Coastal Plain: 2005 Dataset.
Department of Environment and Conservation, Kensington, WA.
- Keighery, G.J. (1993)
'Re-discovery of *Tetraria australiensis* C.B. Clarke (Cyperaceae)', *Western Australian Naturalist*, Vol. 19.
- Keighery, G.J. (2001)
Taxonomic notes on the genus *Johnsonia* (Anthericaceae). *Nuytsia* 13 (3): 479-481.
- Kofoed, P. (1998)
A wizard with wavelengths. *Ecos* 96: 32-35.
- Lee, J. G. H., Finn, H. C. and Calver, M. C. (2013)
Ecology of black cockatoos at a mine-site in the eastern jarrah-marri forest, Western Australia. *Pacific Conservation Biology* 19: 76-90.
- Letnic, M., Dickman, C. R., Tischler, M. K., Tamayo, B. and Beh, C. L. (2004)
The responses of small mammals and lizards to post-fire succession and rainfall in arid Australia. *Journal of Arid Environments* 59: 85-114.
- McCune, B. and Mefford, M.J. (2011)
PC-Ord. Multivariate Analysis of Ecological Data, Version 6.08. MjM Software, Glenden Beach, Oregon.
- Metcalf, B. and Bamford, M. (2003)
Western Power; southern terminal to Cannington terminal transmission line. Review of faunal impacts. Unpublished report prepared for Woodman Environmental
- Moulds, T. (2019)
Conservation Significant and Short Range Endemic invertebrate desktop habitat assessment for Thornlie-Cockburn Link Proposal, Perth, Western Australia. Unpublished report for the Public Transport Authority by Invertebrate Solutions, Victoria Park, Western Australia.
- Mueller-Dombois, D. and Ellenberg, H. (1974)
Aims and Methods of Vegetation Ecology. Wiley and Sons, Canada.
- Natural Area Holdings Pty Ltd (Natural Area) (2015)
Hartfield Park Flora Survey. Unpublished report prepared for the Shire of Kalamunda, February 2015.

- Perth Airport Pty Ltd (Perth Airport) (2018)
New Runway Project Preliminary Draft Major Development Plan. Volume B: Environment, Heritage and Traffic Assessment. May 2018. Available: <https://www.perthairport.com.au/Home/corporate/planning-and-projects/projects/new-runway-project/section-downloads>.
- Purdie, B R, Tille, P J, and Schoknecht, N R. (2004)
Soil-landscape mapping in south-Western Australia: an overview of methodology and outputs. Department of Agriculture and Food, Western Australia. Report 280, 160p.
- Rentz, D. C. F. (1993)
Tettigoniidae of Australia 2. The Austrosaginae, Zaprochilinae and Phasmodinae. CSIRO Publishing, Australia.
- Rich, C. and Longcore, T. (Eds). (2006)
Ecological Consequences of Artificial Night Lighting. Island Press, Washington D.C., USA.
- Rix, M. G., Huey, J. A., Cooper, S. J. B., Austin, A. D. and Harvey, M. S. (2018)
Conservation systematics of the shield-backed trapdoor spiders of the nigrum-group (Mygalomorphae, Idiopidae, Idiosoma): integrative taxonomy reveals a diverse and threatened fauna from south-western Australia. *ZooKeys* **756**: 1-121.
- Scheick, B. K. and Jones, M. D. (1999)
Locating wildlife underpasses prior to expansion on Highway 64 in North Carolina. In: Evink, G. L., Garrett, P. and Ziegler, D. (Eds), *Proceedings of the Third International Conference on Wildlife Ecology and Transportation*, pp. 247-252. Florida Department of Transportation, Tallahassee, Florida, USA.
- Shepherd, B., Bamford, M.J. and Bamford, A.R. (2018)
City of Armadale Reserves, Forrestdale Lake Nature Reserve Fauna Survey. Unpublished report prepared for the City of Armadale
- Sneath, P.H.A, and Sokal, R.R. (1973)
Numerical Taxonomy: The Principles and Practice of Numerical Classification. Published by Freeman, San Francisco.
- Sommer, B and Froend R (2011)
Resilience of phreatophytic vegetation to groundwater drawdown: is recovery possible under a drying climate? *J Ecohydrology*. 4: 67-82.
- Soule, M. E., Mackey, B. G., Recher, H. F., Williams, J. E., Woinarski, J. C. Z., Driscoll, D., Dennison, W. C. and Jones, M. E. (2004)
The role of connectivity in Australian conservation *Pacific Conservation Biology* **10**: 266-279.

- Storr, G.M., Smith, L.A. and Johnstone, R.E. (1983)
Lizards of Western Australia. II. Dragons and Monitors. Western Australian Museum, Perth.
- Storr, G.M., Smith, L.A. and Johnstone, R.E. (1990)
Lizards of Western Australia. III. Geckoes and Pygopods. Western Australian Museum, Perth.
- Storr, G.M., Smith, L.A. and Johnstone, R.E. (1999)
Lizards of Western Australia. I. Skinks. 2nd edition. Western Australian Museum, Perth.
- Storr, G.M., Smith, L.A. and Johnstone, R.E. (2002)
Snakes of Western Australia. Western Australian Museum, Perth.
- Strategen Environmental (2016)
Spring Flora and Vegetation Survey and Targeted Conospermum undulatum Search, Lot 107 Clifford Road, Maddington (CPS7063/1). Unpublished report prepared for Juceda Investments Pty Ltd, 2016.
- Strategen Environmental (2019)
Tonkin Highway Welshpool Road to Hale Road Vegetation condition assessment. Unpublished report prepared for Main Roads WA, June 2019.
- Thiele, K.R. (2019)
A revision of the *Hibbertia commutata* (Dilleniaceae) species group. *Australian Systematic Botany*, 32(1), 71-109.
- Threatened Species Scientific Community (TSSC) (2016)
Approved Conservation Advice (including listing advice) for the Banksia Woodlands of the Swan Coastal Plain ecological community. Department of the Environment and Energy, Canberra. Available: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/131-conservation-advice.pdf>.
- Travouillon, K. (2019)
Checklist of the Mammals of Western Australia. Department of Terrestrial Zoology, Western Australian Museum, Welshpool, Western Australia.
- Tyler, M.J., Smith, L.A. and Johnstone, R.E. (2000)
Frogs of Western Australia. Western Australian Museum, Perth.
- Tyler, M. J. and Doughty, P. (2009)
Field Guide to Frogs of Western Australia. Western Australian Museum, Welshpool, Western Australia.
- Van Dyck, S. and Strahan, R. (eds) (2008)
The Mammals of Australia. 3rd Edition. Australian Museum/Reed Books, Sydney.

Webb A, Kinloch J, Keighery G, Pitt G (2016)

The extension of vegetation complex mapping to landform boundaries within the Swan Coastal Plain landform and forested region of south-west Western Australia. Department of Parks and Wildlife, Bunbury, Western Australia.

Western Australian Herbarium (WA Herbarium) (1998-)

Florabase. Available: <https://florabase.dpaw.wa.gov.au/>. Last accessed August, 2019.

Wilson, S. and Swan, G. (2017)

A Complete Guide to Reptiles of Australia New Holland, Australia.

Woodman Environmental Pty Ltd (Woodman Environmental) (2019)

Perth Airport Estate Flora and Vegetation Assessment. Unpublished report (PAIR18-71-01) prepared for Perth Airport Pty Ltd, November 2019.

360 Environmental Pty Ltd (360 Environmental) (2018)

Roe Highway and Kalamunda Road Upgrade Flora, Vegetation, Fauna and Black Cockatoo Assessment. Unpublished report (Report ref. 2385AB) prepared for Main Roads WA, January 2018.

Appendix A: Vegetation Condition Scale for the South-West and Interzone Botanical Provinces (EPA 2016a)

Condition Ranking	Description
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 B: Conservation Codes for Western Australian Flora and Fauna (DBCAs 2019a)

Threatened, Extinct and Specially Protected fauna or flora¹ are species² which have been adequately searched for and are deemed to be, in the wild, threatened, extinct or in need of special protection, and have been gazetted as such.

The *Wildlife Conservation (Specially Protected Fauna) Notice 2018* and the *Wildlife Conservation (Rare Flora) Notice 2018* have been transitioned under regulations 170, 171 and 172 of the *Biodiversity Conservation Regulations 2018* to be the lists of Threatened, Extinct and Specially Protected species under Part 2 of the *Biodiversity Conservation Act 2016*.

Categories of Threatened, Extinct and Specially Protected fauna and flora are:

T Threatened species

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

Threatened fauna is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

Threatened flora is that subset of 'Rare Flora' listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR Critically endangered species

Threatened species considered to be “*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*”.

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

EN Endangered species

Threatened species considered to be “*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*”.

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU Vulnerable species

Threatened species considered to be “*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*”.

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

Extinct species

Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild.

EX Extinct species

Species where “*there is no reasonable doubt that the last member of the species has died*”, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW Extinct in the wild species

Species that “*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*”, and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

MI Migratory species

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; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

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.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD Species of special conservation interest (conservation dependent fauna)

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS Other specially protected species

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

P Priority species

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

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. 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.

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. 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.

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. 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.

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.

Notes:

¹ The definition of flora includes algae, fungi and lichens

² Species includes all taxa (plural of taxon - a classificatory group of any taxonomic rank, e.g. a family, genus, species or any infraspecific category i.e. subspecies or variety, or a distinct population).

Last updated 3 January 2019

Appendix C: Definitions, Categories and Criteria for Threatened and Priority Ecological Communities (DBCA 2013)

1. GENERAL DEFINITIONS

Ecological Community: A naturally occurring biological assemblage that occurs in a particular type of habitat.

Note: The scale at which ecological communities are defined will often depend on the level of detail in the information source, therefore no particular scale is specified.

A **threatened ecological community** (TEC) is one which is found to fit into one of the following categories; “presumed totally destroyed”, “critically endangered”, “endangered” or “vulnerable”.

Possible threatened ecological communities that do not meet survey criteria are added to DEC’s Priority Ecological Community Lists under Priorities 1, 2 and 3. 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. These ecological communities require regular monitoring. Conservation Dependent ecological communities are placed in Priority 5.

An **assemblage** is a defined group of biological entities.

Habitat is defined as the areas in which an organism and/or assemblage of organisms lives. It includes the abiotic factors (e.g. substrate and topography), and the biotic factors.

Occurrence: a discrete example of an ecological community, separated from other examples of the same community by more than 20 metres of a different ecological community, an artificial surface or a totally destroyed community.

By ensuring that every discrete occurrence is recognised and recorded future changes in status can be readily monitored.

Adequately Surveyed is defined as follows:

“An ecological community that has been searched for thoroughly in most likely habitats, by relevant experts.”

Community structure is defined as follows:

“The spatial organisation, construction and arrangement of the biological elements comprising a biological assemblage” (e.g. *Eucalyptus salmonophloia* woodland over scattered small shrubs over dense herbs; structure in a faunal assemblage could refer to trophic structure, e.g. dominance by feeders on detritus as distinct from feeders on live plants).

Definitions of Modification and Destruction of an ecological community:

Modification: “changes to some or all of ecological processes (including abiotic processes such as hydrology), species composition and community structure as a direct or indirect result of human activities. The level of damage involved could be ameliorated naturally or by human intervention.”

Destruction: “modification such that reestablishment of ecological processes, species composition and community structure within the range of variability exhibited by the original community is unlikely within the foreseeable future even with positive human intervention.”

Note: Modification and destruction are difficult concepts to quantify, and their application will be determined by scientific judgement. Examples of modification and total destruction are cited below:

Modification of ecological processes: The hydrology of Toolibin Lake has been altered by clearing of the catchment such that death of some of the original flora has occurred due to dependence on fresh water. The system may be bought back to a semblance of the original state by redirecting saline runoff and pumping waters of the rising underground watertable away to restore the hydrological balance. Total destruction of downstream lakes has occurred due to hydrology being altered to the point that few of the original flora or fauna species are able to tolerate the level of salinity and/or water logging.

Modification of structure: The understorey of a plant community may be altered by weed invasion due to nutrient enrichment by addition of fertiliser. Should the additional nutrients be removed from the system the balance may be restored, and the original plant species better able to compete. Total destruction may occur if additional nutrients continue to be added to the system causing the understorey to be completely replaced by weed species, and death of overstorey species due to inability to tolerate high nutrient levels.

Modification of species composition: Pollution may cause alteration of the invertebrate species present in a freshwater lake. Removal of pollutants may allow the return of the original inhabitant species. Addition of residual highly toxic substances may cause permanent changes to water quality, and total destruction of the community.

Threatening processes are defined as follows:

“Any process or activity that threatens to destroy or significantly modify the ecological community and/or affect the continuing evolutionary processes within any ecological community.”

Examples of some of the continuing threatening processes in Western Australia include: general pollution; competition, predation and change induced in ecological communities as a result of introduced animals; competition and displacement of native plants by introduced species; hydrological changes; inappropriate fire regimes; diseases resulting from introduced microorganisms; direct human exploitation and disturbance of ecological communities.

Restoration is defined as returning an ecological community to its pre-disturbance or natural state in terms of abiotic conditions, community structure and species composition.

Rehabilitation is defined as the re-establishment of ecological attributes in a damaged ecological community although the community will remain modified.

2. DEFINITIONS AND CRITERIA FOR PRESUMED TOTALLY DESTROYED, CRITICALLY ENDANGERED, ENDANGERED AND VULNERABLE ECOLOGICAL COMMUNITIES

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.

An ecological community will be listed as presumed totally destroyed if there are no recent records of the community being extant **and either** of the following applies (A or B):

- A) Records within the last 50 years have not been confirmed despite thorough searches of known or likely habitats **or**
- B) All occurrences recorded within the last 50 years have since been destroyed

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.

An ecological community will be listed as **Critically Endangered** when it has been adequately surveyed and is found to be facing an extremely high risk of total destruction in the immediate future. This will be determined on the basis of the best available information, by it meeting **any one or more** of the following criteria (A, B or C):

- A) The estimated geographic range, and/or total area occupied, and/or number of discrete occurrences since European settlement have been reduced by at least 90% **and either or both** of the following apply (i or ii):
 - i) geographic range, and/or total area occupied and/or number of discrete occurrences are continuing to decline such that total destruction of the community is imminent (within approximately 10 years);
 - ii) modification throughout its range is continuing such that in the immediate future (within approximately 10 years) the community is unlikely to be capable of being substantially rehabilitated.
- B) Current distribution is limited, **and one or more** of the following apply (i, ii or iii):
 - i) geographic range and/or number of discrete occurrences, and/or area occupied is highly restricted and the community is currently subject to known threatening

- processes which are likely to result in total destruction throughout its range in the immediate future (within approximately 10 years);
- ii) there are very few occurrences, each of which is small and/or isolated and extremely vulnerable to known threatening processes;
 - iii) there may be many occurrences but total area is very small and each occurrence is small and/or isolated and extremely vulnerable to known threatening processes.
- C) The ecological community exists only as highly modified occurrences that may be capable of being rehabilitated if such work begins in the immediate future (within approximately 10 years).

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.

An ecological community will be listed as **Endangered** when it has been adequately surveyed and is not Critically Endangered but is facing a very high risk of total destruction in the near future. This will be determined on the basis of the best available information by it meeting **any one or more** of the following criteria (A, B, or C):

- A) The geographic range, and/or total area occupied, and/or number of discrete occurrences have been reduced by at least 70% since European settlement **and either or both** of the following apply (i or ii):
 - i) the estimated geographic range, and/or total area occupied and/or number of discrete occurrences are continuing to decline such that total destruction of the community is likely in the short term future (within approximately 20 years);
 - ii) modification throughout its range is continuing such that in the short term future (within approximately 20 years) the community is unlikely to be capable of being substantially restored or rehabilitated.
- B) Current distribution is limited, **and one or more** of the following apply (i, ii or iii):
 - i) geographic range and/or number of discrete occurrences, and/or area occupied is highly restricted and the community is currently subject to known threatening processes which are likely to result in total destruction throughout its range in the short term future (within approximately 20 years);
 - ii) there are few occurrences, each of which is small and/or isolated and all or most occurrences are very vulnerable to known threatening processes;
 - iii) there may be many occurrences but total area is small and all or most occurrences are small and/or isolated and very vulnerable to known threatening processes.

- C) The ecological community exists only as very modified occurrences that may be capable of being substantially restored or rehabilitated if such work begins in the short-term future (within approximately 20 years).

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.

An ecological community will be listed as **Vulnerable** when it has been adequately surveyed and is not Critically Endangered or Endangered but is facing a high risk of total destruction or significant modification in the medium (within approximately 50 years) to long-term future. This will be determined on the basis of the best available information by it meeting **any one or more** of the following criteria (A, B or C):

- A) The ecological community exists largely as modified occurrences that are likely to be capable of being substantially restored or rehabilitated.
- B) The ecological community may already be modified and would be vulnerable to threatening processes, is restricted in area and/or range and/or is only found at a few locations.
- C) The ecological community may be still widespread but is believed likely to move into a category of higher threat in the medium to long term future because of existing or impending threatening processes.

3. DEFINITIONS AND CRITERIA FOR PRIORITY ECOLOGICAL COMMUNITIES PRIORITY ECOLOGICAL COMMUNITY LIST

Possible threatened ecological communities that do not meet survey criteria or that are not adequately defined are added to the Priority Ecological Community Lists under Priorities 1, 2 and 3. These three categories are ranked in order of priority for survey and/or definition of the community. Ecological Communities that are adequately known, and 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. These ecological communities require regular monitoring. Conservation Dependent ecological communities are placed in Priority 5.

Priority One: Poorly-known ecological communities:

Ecological communities that are known from very few occurrences with a very restricted distribution (generally ≤ 5 occurrences or a total area of ≤ 100 ha). 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.

Priority Two: Poorly-known ecological communities:

Communities that are known from few occurrences with a restricted distribution (generally ≤ 10 occurrences or a total area of ≤ 200 ha). 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.

Priority Three: Poorly known ecological communities:

- (i) Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or:
- (ii) Communities known from a few widespread occurrences, which are either large or 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.

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.

Priority Four: Ecological communities:

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.

- (i) Rare. Ecological communities known from few occurrences 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 communities are usually represented on conservation lands.
- (ii) Near Threatened. Ecological communities that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for a higher threat category.
- (iii) Ecological communities that have been removed from the list of threatened communities during the past five years.

Priority Five: Conservation Dependent ecological communities:

Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.

Current as of January 2013

Appendix D: Explanation of Fauna Values

Fauna values are the features of a site and its fauna that contribute to biodiversity, and it is these values that are potentially at threat from a development proposal. Fauna values can be examined under the five headings outlined below. It must be stressed that these values are interdependent and should not be considered equal but contribute to an understanding of the biodiversity of a site. Understanding fauna values provides opportunities to predict and therefore mitigate impacts.

Assemblage characteristics

Uniqueness. This refers to the combination of species present at a site. For example, a site may support an unusual assemblage that has elements from adjacent biogeographic zones, it may have species present or absent that might be otherwise expected, or it may have an assemblage that is typical of a very large region. For the purposes of impact assessment, an unusual assemblage has greater value for biodiversity than a typical assemblage.

Completeness. An assemblage may be complete (i.e. has all the species that would have been present at the time of European settlement), or it may have lost species due to a variety of factors. Note that a complete assemblage, such as on an island, may have fewer species than an incomplete assemblage (such as in a species-rich but degraded site on the mainland).

Richness. This is a measure of the number of species at a site. At a simple level, a species rich site is more valuable than a species poor site, but value is also determined, for example, by the sorts of species present.

Vegetation/substrate associations (VSAs)

VSAs combine broad vegetation types, the soils or other substrate with which they are associated, and the landform. In the context of fauna assessment, VSAs are the environments that provide habitats for fauna. The term habitat is widely used in this context, but by definition an animal's habitat is the environment that it utilises (Calver *et al.* 2009), not the environment as a whole. Habitat is a function of the animal and its ecology, rather than being a function of the environment. For example, a species may occur in eucalypt canopy or in leaf-litter on sand, and that habitat may be found in only one or in several VSAs. VSAs are not the same as vegetation types since these may not incorporate soil and landform and recognise floristics to a degree that VSAs do not. Vegetation types may also not recognise minor but often significant (for fauna) structural differences in the environment. VSAs also do not necessarily correspond with soil types but may reflect some of these elements.

Because VSAs provide the habitat for fauna, they are important in determining assemblage characteristics. For the purposes of impact assessment, VSAs can also provide a surrogate for detailed information on the fauna assemblage. For example, rare, relict or restricted VSAs should automatically be considered a significant fauna value. Impacts may be significant if the VSA is rare, a large proportion of the VSA is affected and/or the VSA

supports significant fauna. The disturbance of even small amounts of habitat in a localised area can have significant impacts to fauna if rare or unusual habitats are disturbed.

Patterns of biodiversity across the landscape

This fauna value relates to how the assemblage is organised across the landscape. Generally, the fauna assemblage is not distributed evenly across the landscape or even within one VSA. There may be zones of high biodiversity such as particular environments or ecotones (transitions between VSAs). There may also be zones of low biodiversity. Impacts may be significant if a wide range of species is affected even if most of those species are not significant per se.

Species of conservation significance

Species of conservation significance are of special importance in impact assessment. The conservation status of fauna species in Australia is assessed under Commonwealth and State Acts such as the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the Western Australian *Biodiversity Conservation Act 2016* (BC Act). In addition, the Western Australian Department of Biodiversity, Conservation and Attractions (DBCA) recognises priority levels, while local populations of some species may be significant even if the species as a whole has no formal recognition. Therefore, two broad levels of conservation significance can be recognised and are used for the purposes of this report, as are outlined below.

Conservation Significance (CS) 1: Species listed under State or Commonwealth Acts.

Species listed under the EPBC Act are assigned to categories recommended by the International Union for the Conservation of Nature and Natural Resources (IUCN), or are listed as migratory. Migratory species are recognised under international treaties such as the China Australia Migratory Bird Agreement (CAMBA), the Japan Australia Migratory Bird Agreement (JAMBA), the Republic of South Korea Australia Migratory Bird Agreement (ROKAMBA), and/or the Convention on the Conservation of Migratory Species of Wild Animals (CMS; also referred to as the Bonn Convention). The BC Act uses a series of Schedules to classify status, but also recognizes the IUCN categories and ranks species within the Schedules using the categories of IUCN (2012).

Conservation Significance (CS) 2: Species listed as Priority by the DBCA but not listed under State or Commonwealth Acts.

In Western Australia, the DBCA has produced a supplementary list of Priority Fauna, being species that are not considered threatened under the BC Act but for which the DBCA feels there is cause for concern. Some Priority species are also assigned to the Conservation Dependent category of the IUCN.

Conservation Significance (CS) 3: Species not listed under Acts or in publications, but considered of at least local significance because of their pattern of distribution.

This level of significance has no legislative or published recognition and is based on interpretation of distribution information, but is used here as it may have links to preserving biodiversity at the genetic level (EPA 2002). If a population is isolated but a subset of a

widespread (common) species, then it may not be recognised as threatened, but may have unique genetic characteristics. Conservation significance is applied to allow for the preservation of genetic richness at a population level, and not just at a species level. Species on the edge of their range, or that are sensitive to impacts such as habitat fragmentation, may also be classed as CS3, as may colonies of waterbirds. The Western Australian Department of Environmental Protection, now DBCA, used this sort of interpretation to identify significant bird species in the Perth metropolitan area as part of the Perth Bushplan (DEP 2000).

Invertebrates

Invertebrate species considered to be short range endemics (SREs) have no legislative or published recognition and their significance is based on interpretation of distribution information. Harvey (2002) notes that the majority of species that have been classified as short-range endemics have common life history characteristics such as poor powers of dispersal or confinement to discontinuous habitats. Several groups, therefore, have particularly high instances of short-range endemic species: Gastropoda (snails and slugs), Oligochaeta (earthworms), Onychophora (velvet worms), Araneae (mygalomorph spiders), Pseudoscorpionida (pseudoscorpions), Schizomida (schizomids), Diplopoda (millipedes), Phreatoicidea (phreatoicidean crustaceans), and Decapoda (freshwater crayfish). The poor understanding of the taxonomy of many of the short-range endemic species hinders their conservation (Harvey 2002).

Introduced species

In addition to these conservation levels, species that have been introduced (INT) are indicated throughout the report. Introduced species may be important to the native fauna assemblage through effects by predation and/or competition.

Ecological processes upon which the fauna depend

These are the processes that affect and maintain fauna populations in an area and as such are very complex; for example, populations are maintained through the dynamic of mortality, survival and recruitment being more or less in balance, and these are affected by a myriad of factors. The dynamics of fauna populations in a project may be affected by processes such as fire regime, landscape patterns (such as fragmentation and/or linkage), the presence of feral species and hydrology. Impacts may be significant if processes are altered such that fauna populations are adversely affected, resulting in declines and even localised loss of species. Threatening processes are effectively the ecological processes that can be altered to result in impacts upon fauna.

Appendix E: Categories Used in the Assessment of Conservation Status

IUCN categories (based IUCN 2012) as used for the *Environment Protection and Biodiversity Conservation Act 1999* and the *Western Australian Biodiversity Conservation Act 2016*.

Extinct	Taxa not definitely located in the wild during the past 50 years.
Extinct in the Wild (Ex)	Taxa known to survive only in captivity.
Critically Endangered (CR)	Taxa facing an extremely high risk of extinction in the wild in the immediate future.
Endangered (E)	Taxa facing a very high risk of extinction in the wild in the near future.
Vulnerable (V)	Taxa facing a high risk of extinction in the wild in the medium-term future.
Near Threatened	Taxa that risk becoming Vulnerable in the wild.
Conservation Dependent	Taxa whose survival depends upon ongoing conservation measures. Without these measures, a conservation dependent taxon would be classed as Vulnerable or more severely threatened.
Data Deficient (Insufficiently Known)	Taxa suspected of being Rare, Vulnerable or Endangered, but whose true status cannot be determined without more information.
Least Concern.	Taxa that are not Threatened.

Schedules used in the *WA Biodiversity Conservation Act 2016*

Schedule 1 (S1)	Critically Endangered fauna.
Schedule 2 (S2)	Endangered fauna
Schedule 3 (S3)	Vulnerable Migratory species listed under international treaties.
Schedule 4 (S4)	Presumed extinct fauna
Schedule 5 (S5)	Migratory birds under international agreement
Schedule 6 (S6)	Conservation dependant fauna
Schedule 7 (S7)	Other specially protected fauna

WA DBCA Priority species (species not listed under the *WA Biodiversity Conservation Act 2016*, but for which there is some concern).

Priority 1 (P1)	Taxa with few, poorly known populations on threatened lands.
Priority 2 (P2)	Taxa with few, poorly known populations on conservation lands; or taxa with several, poorly known populations not on conservation lands.
Priority 3 (P3)	Taxa with several, poorly known populations, some on conservation lands. Taxa in need of monitoring.
Priority 4 (P4)	Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. Taxa in need of monitoring.
Priority 5 (P5)	Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years (IUCN Conservation Dependent).

Appendix F: Scoring System for the Assessment of Foraging Value of Vegetation for Black-Cockatoos

Introduction

Application of the Offset Assessment Guide (offsets guide) developed by the federal environment department for assessing black-cockatoo foraging habitat requires the calculation of a score out of 10. The following system has been developed by Bamford Consulting to provide an objective scoring system that is practical and can be used by trained field zoologists with experience in the environments frequented by the species.

Calculating the total score (out of 10) requires the following steps:

- A Determining a score out of six for the vegetation composition, condition and structure; plus
- B Determining a score out of three for the context of the site; plus
- C Determining a score out of one for species density.
- D Determining the total score out of 10, which may require moderation for context and species density with respect to the vegetation composition. This includes consideration of pine plantations as a special case for foraging value.

Calculation of scores and the moderation process are described in detail below

A. Vegetation Composition, Condition and Structure Scoring

Site Score	Description of Vegetation Values		
	Carnaby's Black-Cockatoo	Baudin's Black-Cockatoo	Forest Red-tailed Black-Cockatoo
0	<p>No foraging value. No Proteaceae, eucalypts or other potential sources of food. Examples:</p> <ul style="list-style-type: none"> Water bodies (e.g. salt lakes, dams, rivers); Bare ground; Developed sites devoid of vegetation (e.g. infrastructure, roads, gravel pits). 	<p>No foraging value. No eucalypts or other potential sources of food. Examples:</p> <ul style="list-style-type: none"> Water bodies (e.g. dams, rivers); Bare ground; Developed sites devoid of vegetation (e.g. infrastructure, roads, gravel pits). 	<p>No foraging value. No eucalypts or other potential sources of food. Examples:</p> <ul style="list-style-type: none"> Water bodies (e.g. dams, rivers); Bare ground; Developed sites devoid of vegetation (e.g. infrastructure, roads, gravel pits).
1	<p>Negligible to low foraging value. Examples:</p> <ul style="list-style-type: none"> Scattered specimens of known food plants but projected foliage cover of these is < 2%. This could include urban areas with scattered foraging trees; Paddocks that are partly vegetated with melons or other known food-source weeds (e.g. <i>Erodium</i> spp.) that represent a short-term and/or seasonal food source; Blue Gum plantations (foraging by Carnaby's Black-Cockatoos has been reported but appears to be unusual). 	<p>Negligible to low foraging value. Scattered specimens of known food plants but projected foliage cover of these < 1%. This could include urban areas with scattered foraging trees.</p>	<p>Negligible to low foraging value. Scattered specimens of known food plants but projected foliage cover of these < 1%. Could include urban areas with scattered foraging trees.</p>

Site Score	Description of Vegetation Values		
	Carnaby's Black-Cockatoo	Baudin's Black-Cockatoo	Forest Red-tailed Black-Cockatoo
2	<p>Low foraging value. Examples:</p> <ul style="list-style-type: none"> • Shrubland in which species of foraging value, such as shrubby banksias, have < 10% projected foliage cover; • Woodland with tree banksias 2-5% projected foliage cover; • Open eucalypt woodland/mallee of small-fruited species; • Paddocks that are densely vegetated with melons or other known food-source weeds (e.g. <i>Erodium</i> spp.) that represent a short-term and/or seasonal food source. 	<p>Low foraging value. Examples:</p> <ul style="list-style-type: none"> • Woodland with scattered specimens of known food plants (e.g. Marri and Jarrah) 1-5% projected foliage cover; • Urban areas with scattered foraging trees. 	<p>Low foraging value. Examples:</p> <ul style="list-style-type: none"> • Woodland with scattered specimens of known food plants (e.g. Marri, Jarrah or Sheoak) 1-5% projected foliage cover; • Urban areas with scattered food plants such as Cape Lilac, <i>Eucalyptus caesia</i> and <i>E. erythrocorys</i>.

Site Score	Description of Vegetation Values		
	Carnaby's Black-Cockatoo	Baudin's Black-Cockatoo	Forest Red-tailed Black-Cockatoo
3	<p>Low to Moderate foraging value. Examples:</p> <ul style="list-style-type: none"> • Shrubland in which species of foraging value, such as shrubby banksias, have 10-20% projected foliage cover; • Woodland with tree banksias 5-20% projected foliage cover; • Eucalypt Woodland/Mallee of small-fruited species; • Eucalypt Woodland with Marri < 10% projected foliage cover. 	<p>Low to Moderate foraging value. Examples:</p> <ul style="list-style-type: none"> • Eucalypt Woodland with known food plants (especially Marri) 5-20% projected foliage cover; • Parkland-cleared Eucalypt Woodland/Forest with known food plants 10-40% projected foliage cover (poor long-term viability without management); • Younger areas of (managed) revegetation with known food plants 10-40% projected foliage cover (establishing food sources with good long-term viability). 	<p>Low to Moderate foraging value. Examples:</p> <ul style="list-style-type: none"> • Eucalypt Woodland with known food plants (especially Marri and Jarrah) 5-20% projected foliage cover; • Parkland-cleared Eucalypt Woodland/Forest with known food plants 10-40% projected foliage cover (poor long-term viability without management); • Younger areas of (managed) revegetation with known food plants 10-40% projected foliage cover (establishing food sources with good long-term viability).

Site Score	Description of Vegetation Values		
	Carnaby's Black-Cockatoo	Baudin's Black-Cockatoo	Forest Red-tailed Black-Cockatoo
4	<p>Moderate foraging value. Examples:</p> <ul style="list-style-type: none"> Woodland/forest with tree banksias 20-40% projected foliage cover; Eucalypt Woodland/Forest with Marri 20-40% projected foliage cover. 	<p>Moderate foraging value. Examples:</p> <ul style="list-style-type: none"> Marri-Jarrah Woodland/Forest with 20-40% projected foliage cover; Marri-Jarrah Forest with 40-60% projected foliage cover but vegetation condition reduced due to weed invasion and/or some tree deaths. Eucalypt Woodland/Forest with diverse, healthy understorey and known food trees (especially Marri) 10-20% projected foliage cover. Orchards with highly desirable food sources (e.g. apples, pears, some stone fruits). 	<p>Moderate foraging value. Examples:</p> <ul style="list-style-type: none"> Marri-Jarrah Woodland/Forest with 20-40% projected foliage cover; Marri-Jarrah Forest with 40-60% projected foliage cover but vegetation condition reduced due to weed invasion and/or some tree deaths; Sheoak Forest with 40-60% projected foliage cover.
5	<p>Moderate to High foraging value. Examples:</p> <ul style="list-style-type: none"> Banksia Forest with 40-60% projected foliage cover; Banksia Forest with > 60% projected foliage cover but vegetation condition reduced due to weed invasion and/or some tree deaths; Pine plantations with trees more than 10 years old (but see pine note below in moderation section). 	<p>Moderate to High foraging value. Examples:</p> <ul style="list-style-type: none"> Marri-Jarrah Forest with 40-60% projected foliage cover; Marri-Jarrah Forest with > 60% projected foliage cover but vegetation condition reduced due to weed invasion and/or some tree deaths. 	<p>Moderate to High foraging value. Examples:</p> <ul style="list-style-type: none"> Marri-Jarrah Forest with 40-60% projected foliage cover; Marri-Jarrah Forest with > 60% projected foliage cover but vegetation condition reduced due to weed invasion and/or some tree deaths. Sheoak Forest with > 60% projected foliage cover.

Site Score	Description of Vegetation Values		
	Carnaby's Black-Cockatoo	Baudin's Black-Cockatoo	Forest Red-tailed Black-Cockatoo
6	<p>High foraging value. Example:</p> <ul style="list-style-type: none"> Banksia Forest with > 60% projected foliage cover and vegetation condition good with low weed invasion and/or low tree deaths (indicating it is robust and unlikely to decline in the medium term). 	<p>High foraging value. Example:</p> <ul style="list-style-type: none"> Marri-Jarrah Forest with > 60% projected foliage cover and vegetation condition good with low weed invasion and/or low tree deaths (indicating it is robust and unlikely to decline in the medium term). 	<p>High foraging value. Example:</p> <ul style="list-style-type: none"> Marri-Jarrah Forest with > 60% projected foliage cover and vegetation condition good with low weed invasion and/or low tree deaths (indicating it is robust and unlikely to decline in the medium term).

Vegetation structural class terminology follows Gibson *et al* (1994)

B. Site Context

The maximum score is given in situations where foraging habitat is supporting breeding birds. It can also be given in fragmented landscapes where there is little foraging habitat remaining and thus what is left has a high contextual value. The site context score is species-specific as it depends upon factors such as the vegetation type and extent, and the presence of breeding birds, and the following table, developed by Bamford consulting in conjunction with DAWE, provides a *guide* to the assignment of site context scores (note that 'local area' is defined as within a 15 km radius of the centre point of the study site):

Site Context Score	Percentage of the existing native vegetation within the 'local' area that the study site represents.	
	'Local' breeding known/likely	'Local' breeding unlikely
3	> 5%	> 10%
2	1 - 5%	5 - 10%
1	0.1 - 1%	1 - 5%
0	< 0.1%	< 0.1%

C. Species Density

Assignment of the species density score (0 or 1) is based upon the black-cockatoo species being either abundant or not abundant and is species specific. A score of 1 is used where the species is seen or reported regularly and/or there is abundant foraging evidence. Regularly is when the species is seen at intervals of every few days or weeks for at least several months of the year. A score of 0 is used when the species is recorded or reported very infrequently and there is little or no foraging evidence.

Note that context and species density scores are affected by the vegetation score and this is discussed below.

D. Moderation of Scores for the Calculation of a Value out of 10

The foraging value score provides a numerical value that reflects the significance of vegetation as foraging habitat for Black-Cockatoos, and this numerical value is designed to provide the information needed by the Federal Department of the Environment and Energy (DoEE) to assess impact significance and offset requirements. The foraging value of the vegetation depends upon the type, density and condition of trees and shrubs in an area and can be influenced by the context such as the availability of foraging habitat nearby. The BCE scoring system for value of foraging habitat has three components as detailed above. These three components are drawn from the DoEE offsets guide but the scoring approach was developed by Bamford Consulting Ecologists.

- A A score out of six for the vegetation composition, condition and structure; plus

- B A score out of three for the context of the site; plus
- C A score out of one for species density.

Foraging value can thus be assigned a score out of six, based upon site vegetation characteristics, or a score out of 10 if context and species density are considered. Assigning a score out of 10 represents step D and may require moderation rather than simple addition.

The score out of six for vegetation characteristics and value can be compared across a site, while a score out of 10 is the overall foraging value and is used for the purposes of aiding offset calculations. The calculation out of 10 requires the vegetation characteristics (out of 6) to be combined with the scores given for context and species density. It is considered that the context and density scores are not independent of vegetation characteristics; otherwise habitat of absolutely no value for black-cockatoo foraging (such as concrete or a wetland) could get a foraging score out of 10 as high as 4 if it occurred in an area where the species breed (context score of 3) and are abundant (species density score of 1). Similarly, vegetation of negligible or low characteristics which could not support Black-Cockatoos could be assigned a score as high as 6 out of 10. In that case, the score of 6 would be more a reflection of nearby vegetation of high characteristics than of the foraging value of the negligible to low scoring vegetation. The Black-Cockatoos would only be present because of vegetation of high characteristics, so applying the context and species density scores to vegetation of low characteristics would not give a true reflection of their foraging value.

For this reason, the context and species density scores need to be moderated for the vegetation characteristic score to prevent vegetation of little or no foraging value receiving an excessive score out of 10. A simple approach is to assign a context and species density score of zero to sites with a characteristic score of low (2), negligible (1) or none (0), on the basis that birds will not use such areas unless they are adjacent to at least low-moderate quality foraging habitat (≥ 3). Pine plantations are an exception to this rule (see below). The approach to calculating a score out of 10 can be summarised as follows:

Vegetation composition, condition and structure score	Context score	Species density score
3-6 (low/moderate to high value)	Assessed as per B above	Assessed as per C above
0-2 (no to low value; except pines)	0	0

Pine Plantations

Pine plantations are an important foraging resource for Carnaby's Black-Cockatoo (only) but are not directly comparable with native vegetation. In comparing native vegetation with pine plantations for the purpose of calculating offsets, the following should be noted:

- Pine plantations are a commercial crop established with the intention of being harvested and thus have short-term availability (30-50 years), whereas native vegetation is available indefinitely if protected.
- Although pines provide a high abundance of food in the form of seeds, they are a limited food resource compared with native vegetation which provides seeds, insect larvae, flowers and nectar. The value of insect larvae in the diet of Carnaby's Black-Cockatoo has not been quantified, but in the vicinity of Perth, the birds forage very heavily on insect larvae in young cones of *Banksia attenuata* in winter, ignoring the seeds in these cones and seeds in older cones on the same trees (Scott and Black 1981; M. Bamford *pers. obs.*). This suggests that insect larvae are of high nutritional importance immediately prior to the breeding season.
- Pine plantations have very little biodiversity value other than their importance as a food source for Carnaby's Black-Cockatoos. They inhibit growth of other flora. While this is not a factor for direct consideration with respect to Carnaby's Black-Cockatoo, it is a factor in regional conservation planning of which offsets for the cockatoos are a part.
- Due to the temporary nature of pines as a food source, site context differs between pines and native vegetation.

Taking the above points into consideration, it is possible to assign pine plantations a foraging value as follows:

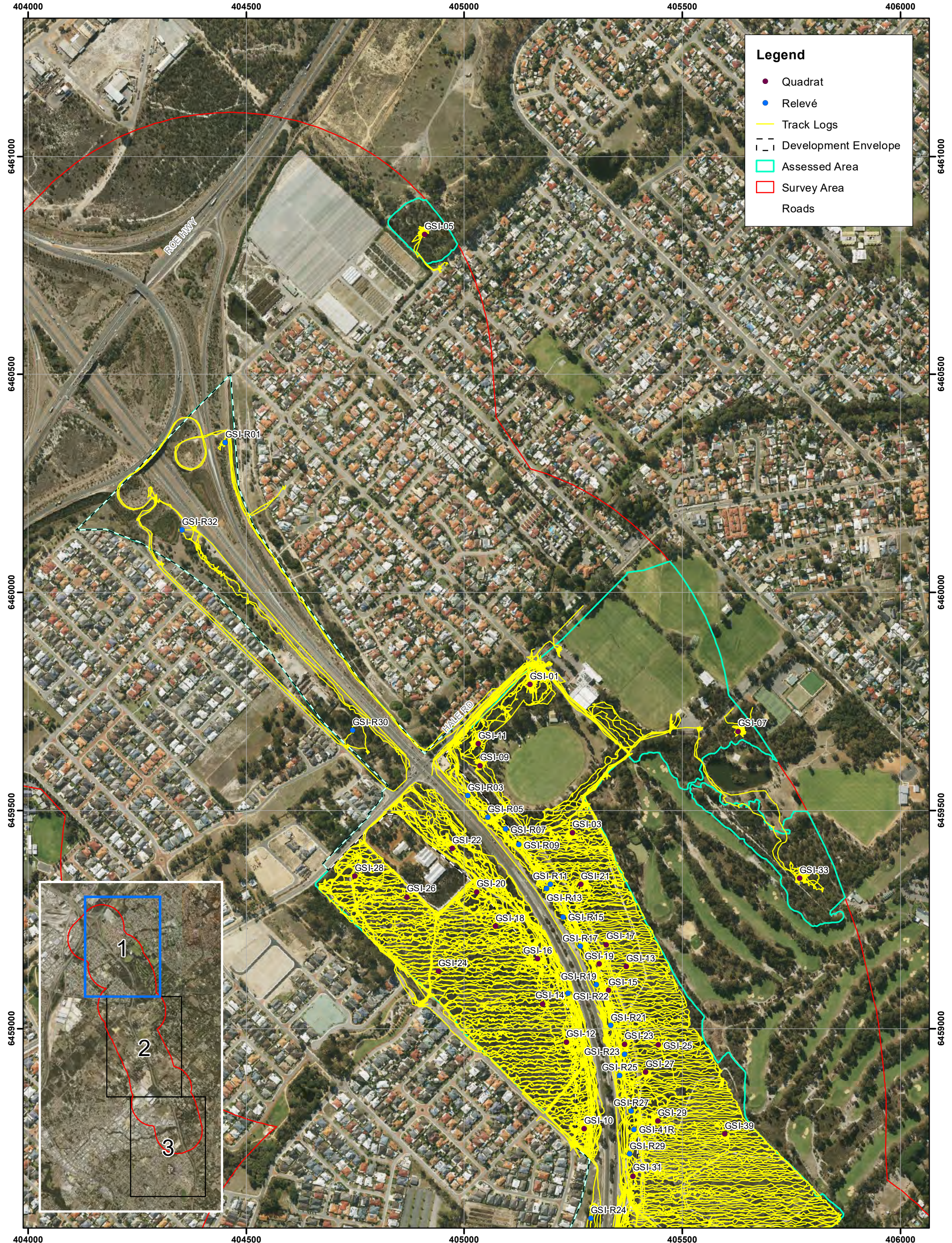
- Site condition. The actual foraging value of pines is high. Stock *et al.* (2013) report that it takes nearly twice as many seeds of *Pinus pinaster* to meet the daily energy requirements for Carnaby's Black-Cockatoo compared with Marri, and three times as many *P. pinaster* seeds compared with Slender Banksia. However, pines are planted at a high density so the food supply per hectare can be high. Taking account of the lack of variety of food from pines, this suggests a site condition score of 4 or 5 out of 6 (5 is used in Section A above). As a source of food, pines are thus comparable to the best banksia woodland. This site condition score then needs to be adjusted to take account of the short-term nature of the food supply (for pine plantations to be harvested. Where pines are 'ornamental', such as in some urban contexts, they can be treated as with other trees in urban landscapes). The foraging value of a site after pines are harvested will effectively be 0, or possibly 1 if there is some retention. It is proposed that this should approximately halve the site condition score; young pine plantations could be redacted slightly less than old plantations on the basis that a young plantation provides a slightly longer term food supply. If a maximum site condition score of 5 is given, then a young plantation (>10 but <30 years old) could be assigned a score of 3, and an old plantation (>30 years old) could be assigned a score of 2. Plantations <10 years old and thus not producing large quantities of cones could also get a score of 2, but recognising they may increase in value. It also needs to be recognised that pine plantations are of value even if they are old and destined to be harvested in the near future. Therefore, while such a pine plantation might receive a characteristic score of only 2, it would receive a high context and density score reflective of the current value of the vegetation.
- Site context. Although a temporary food source, pines can be very important for Carnaby's Black-Cockatoo in some contexts; they could be said to carry populations

in areas where there is little native vegetation. The system for assigning a context score as outlined above (Section B) also applies to pines. Thus, a context score of 3 can be given where pines are a significant proportion of foraging habitat (>5% if breeding occurs; >10% if no breeding), but where pines are a small part of the foraging landscape they will receive a context score of less than this.

- Species density. As outlined above (Section C), pines will receive a species density score of 1 where Carnaby's Black-Cockatoo are regular visitors.

Based on the above, pine plantations that represent a substantial part of the foraging landscape, such as in the region immediately north of Perth, would receive a total score (out of 10) of 6; young plantations in this area would receive a score of 7. In contrast, isolated and small plantations in rural landscapes could receive a score of just 2 if they are only a small proportion of foraging habitat and Carnaby's Black-Cockatoo are not regularly present

Appendix G: Track Logs, Quadrats and Relevés within the Survey Area



Legend

- Quadrat
- Relevé
- Track Logs
- - - Development Envelope
- Assessed Area
- Survey Area
- Roads



WOODMAN ENVIRONMENTAL

This map should only be used in conjunction with WEC report MR19-34-01.

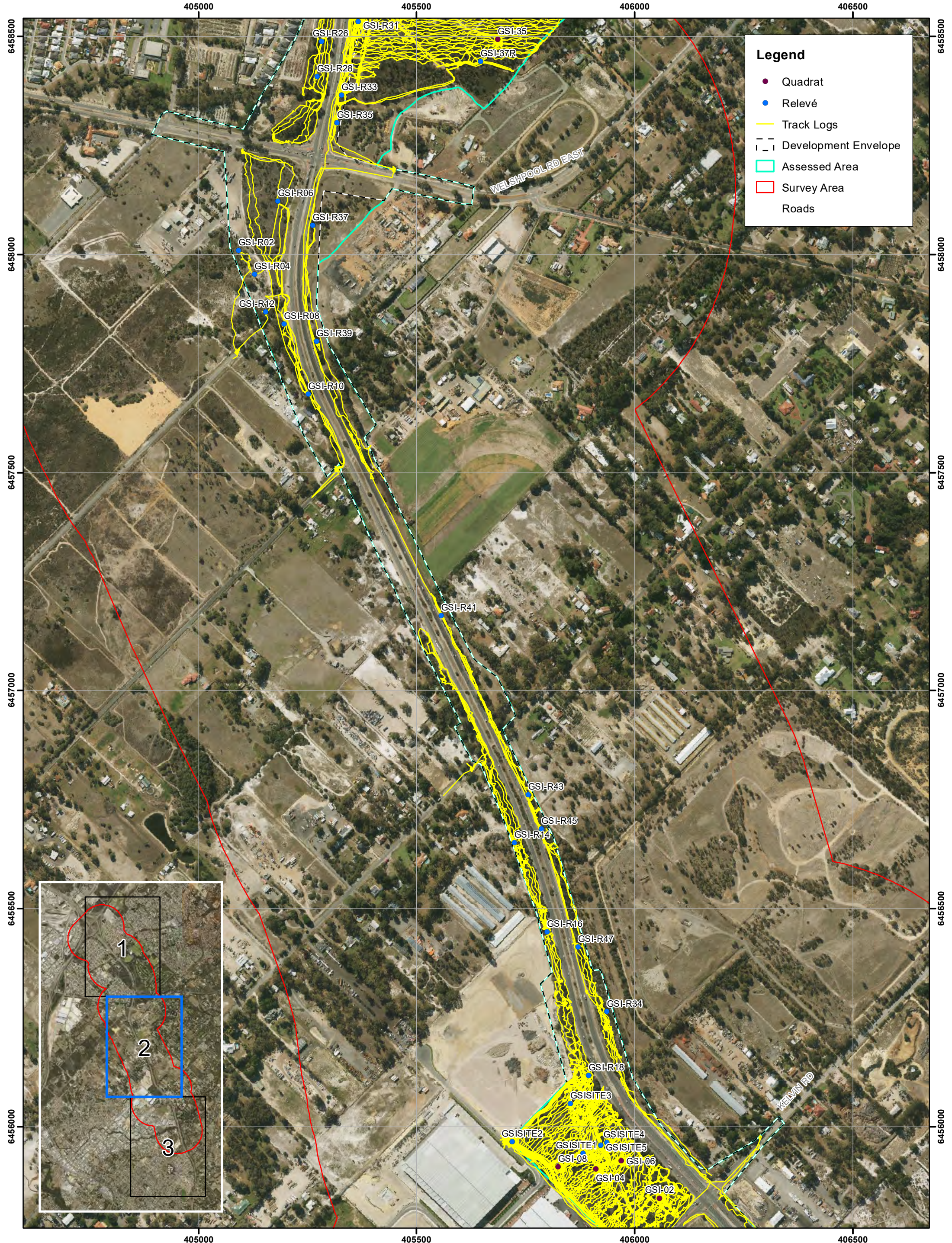
Track Logs, Quadrats and Relevés within the Survey Area

Revision: 0 - 30 July 2020 Scale: 1:7,500 (A3)

Author: Marlee Starcevich
 WEC Ref: MR19-34-01
 Filename: MR19-34-01-App-G
 Projection: GDA 1994 MGA Zone 50

Appendix

G1



Legend

- Quadrat
- Relevé
- Track Logs
- - - Development Envelope
- Assessed Area
- Survey Area
- Roads



This map should only be used in conjunction with WEC report MR19-34-01.

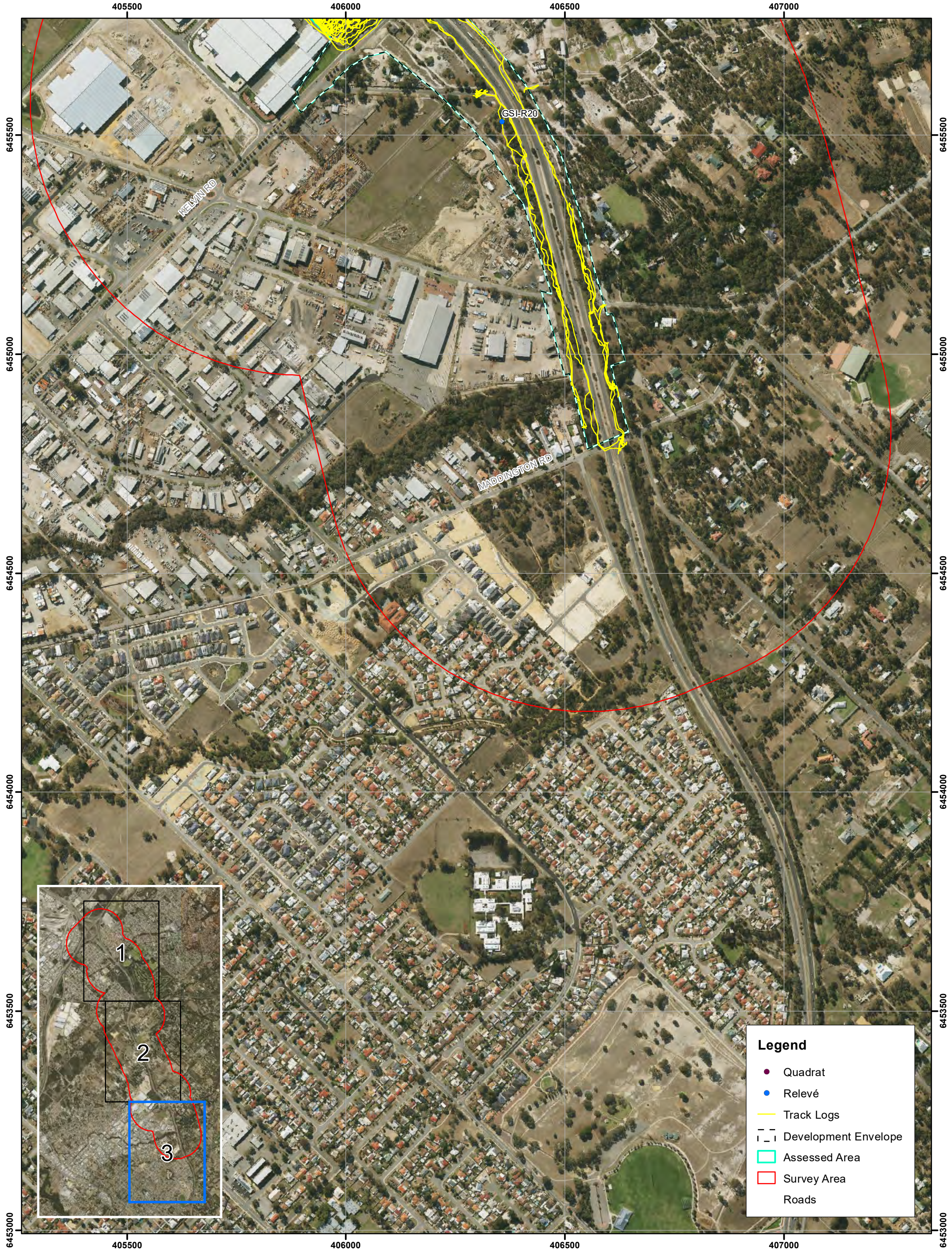
Track Logs, Quadrats and Relevés within the Survey Area

Revision: 0 - 30 July 2020 Scale: 1:7,500 (A3)

Author: Marlee Starcevich
 WEC Ref: MR19-34-01
 Filename: MR19-34-01-App-G
 Projection: GDA 1994 MGA Zone 50

Appendix

G2



Legend

- Quadrat
- Relevé
- Track Logs
- - - Development Envelope
- Assessed Area
- Survey Area
- Roads



This map should only be used in conjunction with WEC report MR19-34-01.



Track Logs, Quadrats and Relevés within the Survey Area

Revision: 0 - 30 July 2020

Scale: 1:7,500 (A3)

Author: Marlee Starceвич

WEC Ref: MR19-34-01

Filename: MR19-34-01-App-G

Projection: GDA 1994 MGA Zone 50

Appendix

G3

Appendix H: Results of NatureMap Search

NatureMap Species Report

Created By Guest user on 22/11/2019

Kingdom Plantae

Current Names Only Yes

Core Datasets Only Yes

Method 'By Line'

Vertices 31° 59' 13" S,115° 59' 06" E 31° 59' 55" S,115° 59' 46" E 32° 00' 07" S,115° 59' 52" E 32° 00' 23" S,115° 59' 51" E 32° 00' 38" S,115° 59' 48" E 32° 00' 43" S,115° 59' 48" E 32° 01' 24" S,116° 00' 10" E 32° 01' 36" S,116° 00' 12" E 32° 01' 47" S,116° 00' 22" E 32° 01' 54" S,116° 00' 31" E 32° 01' 54" S,116° 00' 30" E

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1.	19708 <i>Abutilon grandifolium</i>	Y		
2.	15429 <i>Acacia alata</i> var. <i>alata</i>			
3.	3219 <i>Acacia anomala</i> (Grass Wattle)		T	
4.	3220 <i>Acacia aphylla</i> (Leafless Rock Wattle)		T	
5.	15466 <i>Acacia appplanata</i>			
6.	3233 <i>Acacia barbinervis</i>			
7.	3294 <i>Acacia dentifera</i>			
8.	11926 <i>Acacia drewiana</i> subsp. <i>drewiana</i>			
9.	3373 <i>Acacia horridula</i>		P3	
10.	3374 <i>Acacia huegelii</i>			
11.	3382 <i>Acacia incrassata</i>			
12.	3409 <i>Acacia lasiocarpa</i> (Panjang)			
13.	14932 <i>Acacia lasiocarpa</i> var. <i>bracteolata</i> long peduncle variant (G.J. Keighery 5026)		P1	
14.	11611 <i>Acacia lasiocarpa</i> var. <i>lasiocarpa</i>			
15.	3410 <i>Acacia lateriticola</i>			
16.	17861 <i>Acacia longifolia</i>	Y		
17.	17464 <i>Acacia longifolia</i> subsp. <i>longifolia</i>	Y		
18.	3454 <i>Acacia nervosa</i> (Rib Wattle)			
19.	3464 <i>Acacia obovata</i>			
20.	14131 <i>Acacia oncinophylla</i> subsp. <i>patulifolia</i>		P4	
21.	17860 <i>Acacia podalyriifolia</i>	Y		
22.	3502 <i>Acacia pulchella</i> (Prickly Moses)			
23.	15481 <i>Acacia pulchella</i> var. <i>glaberrima</i>			
24.	15483 <i>Acacia pulchella</i> var. <i>pulchella</i>			
25.	3504 <i>Acacia pycnantha</i> (Golden Wattle)	Y		
26.	3527 <i>Acacia saligna</i> (Orange Wattle, Kudjong)			
27.	30033 <i>Acacia saligna</i> subsp. <i>lindleyi</i>			
28.	30032 <i>Acacia saligna</i> subsp. <i>saligna</i>			
29.	3541 <i>Acacia sessilis</i>			
30.	3557 <i>Acacia stenoptera</i> (Narrow Winged Wattle)			
31.	3574 <i>Acacia teretifolia</i>			
32.	3602 <i>Acacia willdenowiana</i> (Grass Wattle)			
33.	1205 <i>Acanthocarpus canaliculatus</i>			
34.	7811 <i>Acanthospermum hispidum</i> (Starburr)	Y		
35.	6205 <i>Actinotus leucocephalus</i> (Flannel Flower)			
36.	14970 <i>Adenanthos barbiger</i>			
37.	1775 <i>Adenanthos cygnorum</i> (Common Woollybush)			
38.	11837 <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> (Common Woollybush)			
39.	1791 <i>Adenanthos obovatus</i> (Basket Flower)			
40.	25 <i>Adiantum aethiopicum</i> (Common Maidenhair)			
41.	18396 <i>Aeonium haworthii</i>	Y		
42.	1505 <i>Agave americana</i> (Century Plant)	Y		
43.	5316 <i>Agonis flexuosa</i> (Peppermint, Wonil)			
44.	179 <i>Agrostis gigantea</i> (Redtop Bent)	Y		
45.	23474 <i>Agrostocrinum hirsutum</i>			
46.	1261 <i>Agrostocrinum scabrum</i> (Blue Grass Lily)			
47.	23501 <i>Agrostocrinum scabrum</i> subsp. <i>scabrum</i>			
48.	184 <i>Aira caryophyllea</i> (Silvery Hairgrass)	Y		
49.	185 <i>Aira cupaniana</i> (Silvery Hairgrass)	Y		
50.	1056 <i>Alexgeorgea nitens</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
51.	1374 <i>Allium ampeloprasum</i>	Y		
52.	1728 <i>Allocasuarina fraseriana</i> (Sheoak, Kondii)			
53.	1729 <i>Allocasuarina grevilleoides</i>		P3	
54.	1732 <i>Allocasuarina humilis</i> (Dwarf Sheoak)			
55.	1734 <i>Allocasuarina microstachya</i>			
56.	2648 <i>Alternanthera denticulata</i> (Lesser Joyweed)			
57.	48626 <i>Althenia australis</i>			
58.	7820 <i>Ambrosia artemisiifolia</i> (Annual Ragweed, Bitterweed, Hay-feverweed, Hog-weed)	Y		
59.	7821 <i>Ambrosia psilostachya</i> (Perennial Ragweed)	Y		
60.	13380 <i>Amphibromus nervosus</i>			
61.	197 <i>Amphipogon debilis</i>			
62.	199 <i>Amphipogon strictus</i> (Greybeard Grass)			
63.	200 <i>Amphipogon turbinatus</i>			
64.	2380 <i>Amyema miquelii</i> (Stalked Mistletoe)			
65.	2383 <i>Amyema preissii</i> (Wireleaf Mistletoe)			
66.	1058 <i>Anarthria gracilis</i>			
67.	1059 <i>Anarthria humilis</i>			
68.	1060 <i>Anarthria laevis</i>			
69.	6300 <i>Andersonia aristata</i> (Rice Flower)			
70.	6309 <i>Andersonia gracilis</i>		T	
71.	6312 <i>Andersonia involucrata</i>			
72.	6314 <i>Andersonia lehmanniana</i>			
73.	11471 <i>Andersonia lehmanniana</i> subsp. <i>lehmanniana</i>			
74.	41732 <i>Andersonia</i> sp. <i>Blepharifolia</i> (F. & J. Hort 1919)		P2	
75.	7833 <i>Angianthus preissianus</i>			
76.	11470 <i>Anigozanthos bicolor</i> subsp. <i>bicolor</i>			
77.	1409 <i>Anigozanthos humilis</i> (Catspaw)			
78.	11434 <i>Anigozanthos humilis</i> subsp. <i>humilis</i>			
79.	1411 <i>Anigozanthos manglesii</i> (Mangles Kangaroo Paw, Kurulbrang)			
80.	11261 <i>Anigozanthos manglesii</i> subsp. <i>manglesii</i>			
81.	29487 <i>Anigozanthos manglesii</i> var. <i>x angustifolius</i>			
82.	1416 <i>Anigozanthos viridis</i> (Green Kangaroo Paw, Kurulbardang)			
83.	11566 <i>Anigozanthos viridis</i> subsp. <i>viridis</i>			
84.	17455 <i>Anredera cordifolia</i>	Y		
85.	6946 <i>Anthocercis gracilis</i> (Slender Tailflower)		T	
86.	12724 <i>Anthotium junciforme</i>			
87.	202 <i>Anthoxanthum odoratum</i> (Sweet Vernal Grass)	Y		
88.	3686 <i>Aotus cordifolia</i>			
89.	3688 <i>Aotus gracillima</i>			
90.	1116 <i>Aphelia brizula</i>			
91.	1117 <i>Aphelia cyperoides</i>			
92.	1118 <i>Aphelia drummondii</i>			
93.	43548 <i>Aphelia</i> sp. <i>Albany</i> (B.G. Briggs 596)			
94.	141 <i>Aponogeton hexatepalus</i> (Stalked Water Ribbons)		P4	
95.	17355 <i>Araujia sericifera</i>	Y		
96.	32314 <i>Archidium rehmannii</i>			
97.	7838 <i>Arctotheca calendula</i> (Cape Weed, African Marigold)	Y		
98.	1264 <i>Arnocrinum preissii</i>			
99.	28288 <i>Artemisia arborescens</i> (Silver Wormwood)	Y		
100.	1201 <i>Asparagus officinalis</i> (Asparagus)	Y		
101.	1364 <i>Asphodelus fistulosus</i> (Onion Weed)	Y		
102.	<i>Astartea</i> aff. <i>fascicularis</i> sthct			
103.	20350 <i>Astartea affinis</i> (West-coast <i>Astartea</i>)			
104.	20249 <i>Astartea leptophylla</i> (River-bank <i>Astartea</i>)			
105.	20283 <i>Astartea scoparia</i> (Common <i>Astartea</i>)			
106.	<i>Asterella drummondii</i>			
107.	7849 <i>Asteridea gracilis</i>		P3	
108.	6323 <i>Astroloma ciliatum</i> (Candle Cranberry)			
109.	6327 <i>Astroloma foliosum</i> (Candle Cranberry)			
110.	6328 <i>Astroloma glaucescens</i>			
111.	6330 <i>Astroloma macrocalyx</i> (Swan Berry)			
112.	6334 <i>Astroloma pallidum</i> (Kick Bush)			
113.	6337 <i>Astroloma stomarrhena</i> (Red Swamp Cranberry)			
114.	2471 <i>Atriplex prostrata</i> (Hastate Orache)	Y		
115.	38480 <i>Austrostipa bronwenae</i>		T	
116.	17233 <i>Austrostipa campylachne</i>			
117.	17234 <i>Austrostipa compressa</i>			
118.	17237 <i>Austrostipa elegantissima</i>			
119.	17241 <i>Austrostipa hemipogon</i>			
120.	17245 <i>Austrostipa mollis</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
121.	37421 <i>Austrostipa</i> sp. <i>Marchagee</i> (B.R. Maslin 1407)			
122.	17257 <i>Austrostipa variabilis</i>			
123.	231 <i>Avellinia michelii</i>	Y		
124.	233 <i>Avena barbata</i> (<i>Bearded Oat</i>)	Y		
125.	<i>Avena</i> sp. <i>Yule5</i>			Y
126.	20013 <i>Axonopus fissifolius</i>	Y		
127.	18279 <i>Babiana angustifolia</i>	Y		
128.	36441 <i>Babingtonia camphorosmae</i> (<i>Camphor Myrtle</i>)			
129.	45403 <i>Babingtonia pelloeae</i> (<i>Pelloe's Babingtonia</i>)			
130.	45402 <i>Babingtonia urbana</i> (<i>Coastal Plain Babingtonia</i>)		P3	
131.	1382 <i>Baeometra uniflora</i>	Y		
132.	32682 <i>Banksia armata</i> var. <i>armata</i>			
133.	1800 <i>Banksia attenuata</i> (<i>Slender Banksia, Piara</i>)			
134.	32678 <i>Banksia bipinnatifida</i> subsp. <i>bipinnatifida</i>			
135.	32576 <i>Banksia dallanneyi</i> (<i>Couch Honeypot</i>)			
136.	32580 <i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i> var. <i>dallanneyi</i>			
137.	32577 <i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i> var. <i>melicula</i>			
138.	1819 <i>Banksia grandis</i> (<i>Bull Banksia, Pulgarla</i>)			
139.	1822 <i>Banksia ilicifolia</i> (<i>Holly-leaved Banksia</i>)			
140.	1823 <i>Banksia incana</i>			
141.	33399 <i>Banksia incana</i> var. <i>incana</i>			
142.	32214 <i>Banksia kippistiana</i>			
143.	1830 <i>Banksia littoralis</i> (<i>Swamp Banksia, Pungura</i>)			
144.	1834 <i>Banksia menziesii</i> (<i>Firewood Banksia</i>)			
145.	32211 <i>Banksia mimica</i> (<i>Summer Honeypot</i>)		T	
146.	32202 <i>Banksia nivea</i> (<i>Honeypot Dryandra, Pudjarn</i>)			
147.	32138 <i>Banksia pteridifolia</i> subsp. <i>vernalis</i>		P3	
148.	32080 <i>Banksia sessilis</i> var. <i>sessilis</i>			
149.	12111 <i>Banksia sphaerocarpa</i> var. <i>sphaerocarpa</i> (<i>Fox Banksia</i>)			
150.	1852 <i>Banksia telmatiaea</i> (<i>Swamp Fox Banksia</i>)			
151.	32031 <i>Banksia vestita</i> (<i>Summer Dryandra</i>)			
152.	1855 <i>Banksia victoriae</i> (<i>Woolly Orange Banksia</i>)			
153.	32315 <i>Barbula calycina</i>			
154.	32321 <i>Bartramia breutelii</i>			
155.	32323 <i>Bartramia pseudostricta</i>			
156.	740 <i>Baumea arthrophylla</i>			
157.	743 <i>Baumea juncea</i> (<i>Bare Twigrush</i>)			
158.	744 <i>Baumea laxa</i>			
159.	747 <i>Baumea rubiginosa</i>			
160.	5387 <i>Beaufortia macrostemon</i> (<i>Darling Range Beaufortia</i>)			
161.	5390 <i>Beaufortia purpurea</i> (<i>Purple Beaufortia</i>)		P3	
162.	5393 <i>Beaufortia squarrosa</i> (<i>Sand Beaufortia, Sand Bottlebrush, Puno</i>)			
163.	7046 <i>Bellardia trixago</i> (<i>Bellardia</i>)	Y		
164.	48868 <i>Bellardia viscosa</i>	Y		
165.	25788 <i>Billardiera fraseri</i> (<i>Elegant Pronaya</i>)			
166.	25798 <i>Billardiera fusiformis</i> (<i>Australian Bluebell</i>)			
167.	1417 <i>Blanca canescens</i> (<i>Winter Bell</i>)			
168.	749 <i>Bolboschoenus caldwellii</i> (<i>Marsh Club-rush</i>)			
169.	48689 <i>Bolboschoenus fluviatilis</i>		P1	
170.	4413 <i>Boronia crenulata</i> (<i>Aniseed Boronia</i>)			
171.	11503 <i>Boronia crenulata</i> subsp. <i>crenulata</i> var. <i>crenulata</i>			
172.	16636 <i>Boronia crenulata</i> subsp. <i>viminea</i>			
173.	4414 <i>Boronia cymosa</i> (<i>Granite Boronia</i>)			
174.	4417 <i>Boronia dichotoma</i>			
175.	4432 <i>Boronia ovata</i>			
176.	17665 <i>Boronia purdieana</i> subsp. <i>purdieana</i>			
177.	4438 <i>Boronia ramosa</i>			
178.	11381 <i>Boronia ramosa</i> subsp. <i>anethifolia</i>			
179.	11564 <i>Boronia ramosa</i> subsp. <i>ramosa</i>			
180.	4444 <i>Boronia tenuis</i> (<i>Blue Boronia</i>)		P4	
181.	1272 <i>Borya scirpoidea</i>			
182.	1273 <i>Borya sphaerocephala</i> (<i>Pincushions</i>)			
183.	48782 <i>Bossiaea angustifolia</i>			
184.	3710 <i>Bossiaea eriocarpa</i> (<i>Common Brown Pea</i>)			
185.	3714 <i>Bossiaea ornata</i> (<i>Broad Leaved Brown Pea</i>)			
186.	8661 <i>Brachypodium distachyon</i> (<i>False Brome</i>)	Y		
187.	7878 <i>Brachyscome iberidifolia</i>			
188.	3000 <i>Brassica tournefortii</i> (<i>Mediterranean Turnip</i>)	Y		
189.	244 <i>Briza maxima</i> (<i>Blowfly Grass</i>)	Y		
190.	245 <i>Briza minor</i> (<i>Shivery Grass</i>)	Y		

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
191.	248 <i>Bromus catharticus</i> (Prairie Grass)	Y		
192.	249 <i>Bromus diandrus</i> (Great Brome)	Y		
193.	250 <i>Bromus hordeaceus</i> (Soft Brome)	Y		
194.	32330 <i>Bryum argenteum</i>			
195.	1366 <i>Bulbine semibarbata</i> (Leek Lily)			
196.	1383 <i>Burchardia bairdiae</i>			
197.	12770 <i>Burchardia congesta</i>			
198.	1385 <i>Burchardia multiflora</i> (Dwarf Burchardia)			
199.	3178 <i>Byblis gigantea</i> (Rainbow Plant)		P3	
200.	1276 <i>Caesia micrantha</i> (Pale Grass Lily)			
201.	1277 <i>Caesia occidentalis</i>			
202.	15330 <i>Caladenia arenicola</i>			
203.	44900 <i>Caladenia denticulata</i> subsp. <i>rubella</i>			
204.	1586 <i>Caladenia discoidea</i> (Dancing Orchid)			
205.	1590 <i>Caladenia ferruginea</i> (Rusty Spider Orchid)			
206.	1592 <i>Caladenia flava</i> (Cowslip Orchid)			
207.	15348 <i>Caladenia flava</i> subsp. <i>flava</i>			
208.	17980 <i>Caladenia hiemalis</i>			
209.	15354 <i>Caladenia hirta</i> subsp. <i>hirta</i>			
210.	1596 <i>Caladenia huegelii</i> (Grand Spider Orchid)		T	
211.	13859 <i>Caladenia longicauda</i> subsp. <i>clivicola</i>			
212.	15365 <i>Caladenia longicauda</i> subsp. <i>longicauda</i>			
213.	17760 <i>Caladenia nobilis</i>			
214.	15503 <i>Caladenia paludosa</i>			
215.	15377 <i>Caladenia reptans</i> subsp. <i>reptans</i>			
216.	2848 <i>Calandrinia corrigioloides</i> (Strap Purslane)			
217.	2854 <i>Calandrinia granulifera</i> (Pygmy Purslane)			
218.	2856 <i>Calandrinia liniflora</i> (Parakeelya)			
219.	16365 <i>Calandrinia</i> sp. <i>Kenwick</i> (G.J. Keighery 10905)			
220.	20096 <i>Calandrinia</i> sp. <i>Piawaning</i> (A.C. Beauglehole 12257)		P1	
221.	1213 <i>Calectasia cyanea</i> (Blue Tinsel Lily)		T	
222.	1214 <i>Calectasia grandiflora</i> (Blue Tinsel Lily)			
223.	19309 <i>Calectasia narragara</i>			
224.	4717 <i>Callitriche stagnalis</i> (Common Starwort)	Y		
225.	36520 <i>Callitris acuminata</i> (Dwarf Cypress)			
226.	36600 <i>Callitris pyramidalis</i> (Swamp Cypress)			
227.	5396 <i>Calothamnus accedens</i>		P4	
228.	5411 <i>Calothamnus hirsutus</i>			
229.	5415 <i>Calothamnus lateralis</i>			
230.	5426 <i>Calothamnus quadrifidus</i> (One-sided Bottlebrush, Kwodjard)			
231.	35816 <i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i>			
232.	5428 <i>Calothamnus rupestris</i> (Mouse Ears)			
233.	5429 <i>Calothamnus sanguineus</i> (Silky-leaved Blood flower, Pindak)			
234.	5431 <i>Calothamnus torulosus</i>			
235.	16492 <i>Calycopeplus paucifolius</i>			
236.	5437 <i>Calytrix acutifolia</i>			
237.	5439 <i>Calytrix angulata</i> (Yellow Starflower)			
238.	5441 <i>Calytrix aurea</i>			
239.	13653 <i>Calytrix breviseta</i> subsp. <i>breviseta</i>		T	
240.	5458 <i>Calytrix flavescens</i> (Summer Starflower)			
241.	5460 <i>Calytrix fraseri</i> (Pink Summer Calytrix)			
242.	5461 <i>Calytrix glutinosa</i>			
243.	5476 <i>Calytrix sapphirina</i>			
244.	13655 <i>Calytrix simplex</i> subsp. <i>suboppositifolia</i>			
245.	5485 <i>Calytrix variabilis</i>			
246.	19713 <i>Campsis radicans</i>	Y		
247.	32461 <i>Campylopus bicolor</i> var. <i>bicolor</i>			
248.	32338 <i>Campylopus introflexus</i>	Y		
249.	759 <i>Carex tereticaulis</i>		P3	
250.	11351 <i>Cassytha aurea</i> var. <i>hirta</i>			
251.	2951 <i>Cassytha flava</i> (Dodder Laurel)			
252.	2952 <i>Cassytha glabella</i> (Tangled Dodder Laurel)			
253.	11501 <i>Cassytha glabella</i> forma <i>casuarinae</i>			
254.	2956 <i>Cassytha pomiformis</i> (Dodder Laurel)			
255.	2957 <i>Cassytha racemosa</i> (Dodder Laurel)			
256.	11242 <i>Cassytha racemosa</i> forma <i>pilosa</i>			
257.	11799 <i>Cassytha racemosa</i> forma <i>racemosa</i>			
258.	<i>Cassytha</i> sp. <i>scps</i>			Y
259.	760 <i>Caustis dioica</i>			
260.	41564 <i>Cenchrus clandestinus</i> (Kikuyu Grass)	Y		

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
261.	41563 <i>Cenchrus purpureus</i> (Elephant Grass)	Y		
262.	41568 <i>Cenchrus setaceus</i> (Fountain Grass)	Y		
263.	6539 <i>Centaurium erythraea</i> (Common Centaury)	Y		
264.	6542 <i>Centaurium tenuiflorum</i>	Y		
265.	6214 <i>Centella asiatica</i>			
266.	7918 <i>Centipeda cunninghamii</i> (Common Sneezewood, Gukwonderuk, Old Man Weed)			
267.	<i>Centratherum punctatum</i>			
268.	1120 <i>Centrolepis alepyroides</i>			
269.	1121 <i>Centrolepis aristata</i> (Pointed Centrolepis)			
270.	1123 <i>Centrolepis caespitosa</i>			
271.	1125 <i>Centrolepis drummondiana</i>			
272.	1129 <i>Centrolepis glabra</i> (Smooth Centrolepis)			
273.	1131 <i>Centrolepis inconspicua</i>			
274.	1134 <i>Centrolepis polygyna</i> (Wiry Centrolepis)			
275.	43642 <i>Centrolepis</i> sp. Kalannie (B.J. Lepschi et al. BJL 3517)			
276.	17685 <i>Chaetanthus aristatus</i>			
277.	1280 <i>Chamaescilla corymbosa</i> (Blue Squill)			
278.	11299 <i>Chamaescilla corymbosa</i> var. <i>corymbosa</i>			
279.	19338 <i>Chamaescilla gibsonii</i>		P3	
280.	8788 <i>Chamaescilla versicolor</i>			
281.	5498 <i>Chamelaucium uncinatum</i> (Geraldton Wax)			
282.	1513 <i>Chasmanthe floribunda</i> (African Cornflag)	Y		
283.	31 <i>Cheilanthes austrotenuifolia</i>			
284.	34 <i>Cheilanthes distans</i> (Bristly Cloak Fern)			
285.	3169 <i>Cheiranthra preissiana</i>			
286.	17706 <i>Chordifex sinuosus</i>			
287.	763 <i>Chorizandra enodis</i> (Black Bristlerush)			
288.	764 <i>Chorizandra multiarticulata</i>			
289.	3753 <i>Chorizema dicksonii</i> (Yellow-eyed Flame Pea)			
290.	11900 <i>Chrysanthemoides monilifera</i> subsp. <i>monilifera</i>	Y		
291.	6543 <i>Cicendia filiformis</i> (Slender Cicendia)	Y		
292.	48838 <i>Citrullus amarus</i>	Y		
293.	2929 <i>Clematis pubescens</i> (Common Clematis)			
294.	32999 <i>Colocasia esculenta</i> var. <i>esculenta</i>	Y		
295.	4550 <i>Comesperma calymega</i> (Blue-spike Milkwort)			
296.	4551 <i>Comesperma ciliatum</i>			
297.	14663 <i>Comesperma griffinii</i>		P2	
298.	4560 <i>Comesperma rhadinocarpum</i> (Slender-fruited Comesperma)		P3	
299.	<i>Comesperma</i> sp. Brix1R (possibly <i>virigatum</i>)			Y
300.	4564 <i>Comesperma virgatum</i> (Milkwort)			
301.	48634 <i>Commersonia corniculata</i>			
302.	15607 <i>Conospermum acerosum</i> subsp. <i>acerosum</i>			
303.	15513 <i>Conospermum boreale</i> subsp. <i>boreale</i>			
304.	15041 <i>Conospermum canaliculatum</i>			
305.	15516 <i>Conospermum canaliculatum</i> subsp. <i>canaliculatum</i>			
306.	16853 <i>Conospermum capitatum</i> subsp. <i>glabratum</i>			
307.	1875 <i>Conospermum huegelii</i> (Slender Smokebush)			
308.	1882 <i>Conospermum stoechadis</i> (Common Smokebush)			
309.	15611 <i>Conospermum stoechadis</i> subsp. <i>stoechadis</i> (Common Smokebush)			
310.	1885 <i>Conospermum triplinervium</i> (Tree Smokebush)			
311.	13999 <i>Conospermum undulatum</i>		T	
312.	6347 <i>Conostephium minus</i> (Pink-tipped Pearl flower)			
313.	6348 <i>Conostephium pendulum</i> (Pearl Flower)			
314.	6349 <i>Conostephium preissii</i>			
315.	11826 <i>Conostylis aculeata</i> subsp. <i>aculeata</i>			
316.	12109 <i>Conostylis aculeata</i> subsp. <i>preissii</i>			
317.	1420 <i>Conostylis androstemma</i> (Trumpets)			
318.	1423 <i>Conostylis aurea</i> (Golden Conostylis)			
319.	1429 <i>Conostylis caricina</i>			
320.	12035 <i>Conostylis caricina</i> subsp. <i>caricina</i>			
321.	1434 <i>Conostylis festuacea</i>			
322.	11695 <i>Conostylis festuacea</i> subsp. <i>festuacea</i>			
323.	1436 <i>Conostylis juncea</i>			
324.	1437 <i>Conostylis latens</i>			
325.	1453 <i>Conostylis serrulata</i>			
326.	1454 <i>Conostylis setigera</i> (Bristly Cottonhead)			
327.	11597 <i>Conostylis setigera</i> subsp. <i>setigera</i>			
328.	1455 <i>Conostylis setosa</i> (White Cottonhead)			
329.	<i>Conostylis</i> sp.			
330.	5502 <i>Conothamnus trinervis</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
331.	7939 <i>Conyza bonariensis</i> (Flaxleaf Fleabane)	Y		
332.	7941 <i>Conyza parva</i>	Y		
333.	<i>Conyza</i> sp. Brix1R			Y
334.	<i>Conyza</i> sp. Brix4			Y
335.	20074 <i>Conyza sumatrensis</i>	Y		
336.	2891 <i>Corrigiola litoralis</i> (Strapwort)	Y		
337.	48259 <i>Cortaderia selloana</i> subsp. <i>selloana</i>	Y		
338.	17104 <i>Corymbia calophylla</i> (Marri)			
339.	18320 <i>Cotoneaster pannosus</i>	Y		
340.	7943 <i>Cotula australis</i> (Common Cotula)			
341.	7945 <i>Cotula coronopifolia</i> (Waterbuttons)	Y		
342.	7947 <i>Cotula turbinata</i> (Funnel Weed)	Y		
343.	13354 <i>Craspedia variabilis</i>			
344.	17701 <i>Crassula closiana</i>			
345.	3137 <i>Crassula colorata</i> (Dense Stonecrop)			
346.	11709 <i>Crassula colorata</i> var. <i>acuminata</i>			
347.	11563 <i>Crassula colorata</i> var. <i>colorata</i>			
348.	3138 <i>Crassula decumbens</i> (Rufous Stonecrop)			
349.	3139 <i>Crassula exserta</i>			
350.	3142 <i>Crassula natans</i>	Y		
351.	18397 <i>Crassula tetragona</i> subsp. <i>robusta</i>	Y		
352.	7953 <i>Crepis foetida</i> (Foetid Hawksbeard)	Y		
353.	29054 <i>Crepis foetida</i> subsp. <i>foetida</i> (Stinking Hawksbeard)	Y		
354.	35838 <i>Cristonia biloba</i> subsp. <i>biloba</i>			
355.	13527 <i>Croninia kingiana</i>			
356.	17368 <i>Crotalaria agatiflora</i> subsp. <i>agatiflora</i>	Y		
357.	13470 <i>Cryptandra arbutiflora</i> var. <i>arbutiflora</i>			
358.	9076 <i>Cryptandra myriantha</i>			
359.	4809 <i>Cryptandra pungens</i>			
360.	11021 <i>Cuscuta planiflora</i>	Y		
361.	15114 <i>Cyanicula gemmata</i>			
362.	15404 <i>Cyanicula sericea</i>			
363.	51 <i>Cyathea cooperi</i>	Y		
364.	768 <i>Cyathochaeta avenacea</i>			
365.	769 <i>Cyathochaeta clandestina</i>			
366.	17618 <i>Cyathochaeta equitans</i>			
367.	40661 <i>Cyanogeton lineare</i>			
368.	283 <i>Cynodon dactylon</i> (Couch)	Y		
369.	285 <i>Cynosurus echinatus</i> (Rough Dogstail)	Y		
370.	783 <i>Cyperus congestus</i> (Dense Flat-sedge)	Y		
371.	792 <i>Cyperus eragrostis</i> (Umbrella Sedge)	Y		
372.	18318 <i>Cyperus involucratus</i>	Y		
373.	18198 <i>Cyperus papyrus</i>	Y		
374.	815 <i>Cyperus tenellus</i> (Tiny Flatsedge)	Y		
375.	816 <i>Cyperus tenuiflorus</i> (Scaly Sedge)	Y		
376.	17692 <i>Cytogonidium leptocarpoides</i>			
377.	7420 <i>Dampiera alata</i> (Winged-stem Dampiera)			
378.	7428 <i>Dampiera coronata</i> (Wedge-leaved Dampiera)			
379.	7454 <i>Dampiera linearis</i> (Common Dampiera)			
380.	7462 <i>Dampiera pedunculata</i>			
381.	5505 <i>Darwinia apiculata</i> (Scarp Darwinia)		T	
382.	5508 <i>Darwinia citriodora</i> (Lemon-scented Darwinia)			
383.	5531 <i>Darwinia thymoides</i>			
384.	18193 <i>Darwinia thymoides</i> subsp. <i>thymoides</i>			
385.	1218 <i>Dasypogon bromellifolius</i> (Pineapple Bush)			
386.	1220 <i>Dasypogon obliquifolius</i>			
387.	6218 <i>Daucus glochidiatus</i> (Australian Carrot)			
388.	3793 <i>Daviesia angulata</i>			
389.	3799 <i>Daviesia cordata</i> (Bookleaf)			
390.	3805 <i>Daviesia decurrens</i> (Prickly Bitter-pea)			
391.	19747 <i>Daviesia decurrens</i> subsp. <i>decurrens</i>			
392.	3807 <i>Daviesia divaricata</i> (Marno)			
393.	18560 <i>Daviesia divaricata</i> subsp. <i>divaricata</i>			
394.	3815 <i>Daviesia horrida</i> (Prickly Bitter-pea)			
395.	3824 <i>Daviesia nudiflora</i>			
396.	16585 <i>Daviesia nudiflora</i> subsp. <i>nudiflora</i>			
397.	3832 <i>Daviesia physodes</i>			
398.	3834 <i>Daviesia polyphylla</i>			
399.	3839 <i>Daviesia rhombifolia</i>			
400.	3845 <i>Daviesia triflora</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
401.	17336 <i>Dennstaedtia davallioides</i>	Y		Y
402.	17663 <i>Desmocladius asper</i>			
403.	17691 <i>Desmocladius fasciculatus</i>			
404.	46362 <i>Desmocladius lateriflorus</i>			
405.	1259 <i>Dianella revoluta</i> (Blueberry Lily)			
406.	11636 <i>Dianella revoluta</i> var. <i>divaricata</i>			
407.	1287 <i>Dichopogon capillipes</i>			
408.	1289 <i>Dichopogon preissii</i>			
409.	32345 <i>Didymodon australasiae</i>			
410.	17838 <i>Dielsia stenostachya</i>			
411.	311 <i>Digitaria ciliaris</i> (Summer Grass)	Y		
412.	316 <i>Digitaria longiflora</i>			
413.	320 <i>Digitaria sanguinalis</i> (Crab Grass)	Y		
414.	1509 <i>Dioscorea hastifolia</i> (Warrine, Waram)			
415.	48378 <i>Diplachne fusca</i> subsp. <i>fusca</i>			
416.	18589 <i>Diplopeltis huegelii</i> subsp. <i>lehmannii</i>			
417.	3867 <i>Dipogon lignosus</i> (Dolichos Pea)	Y		
418.	19649 <i>Disa bracteata</i>	Y		
419.	32347 <i>Ditrichum difficile</i>			
420.	7961 <i>Ditrichia graveolens</i> (Stinkwort)	Y		
421.	12943 <i>Diuris brumalis</i>			
422.	11049 <i>Diuris corymbosa</i>			
423.	1634 <i>Diuris laxiflora</i> (Bee Orchid)			
424.	12939 <i>Diuris magnifica</i>			
425.	1637 <i>Diuris purdiei</i> (Purdie's Donkey Orchid)		T	
426.	4757 <i>Dodonaea ceratocarpa</i>			
427.	4775 <i>Dodonaea pinifolia</i>			
428.	15406 <i>Drakaea gracilis</i>			
429.	13204 <i>Drosera callistos</i>			
430.	48724 <i>Drosera collina</i>			
431.	48751 <i>Drosera drummondii</i>			
432.	3095 <i>Drosera erythrorhiza</i> (Red Ink Sundew)			
433.	3097 <i>Drosera gigantea</i> (Giant Sundew)			
434.	3098 <i>Drosera glanduligera</i> (Pimpernel Sundew)			
435.	13195 <i>Drosera helodes</i>			
436.	3101 <i>Drosera heterophylla</i> (Swamp Rainbow)			
437.	48768 <i>Drosera hirsuta</i>			
438.	13197 <i>Drosera hyperostigma</i>			
439.	3106 <i>Drosera macrantha</i> (Bridal Rainbow)			
440.	3109 <i>Drosera menziesii</i> (Pink Rainbow)			
441.	3110 <i>Drosera microphylla</i> (Golden Rainbow)			
442.	15710 <i>Drosera miniata</i> (Orange Sundew)			
443.	3113 <i>Drosera neesii</i> (Jewel Rainbow)			
444.	3114 <i>Drosera nitidula</i> (Shining Sundew)			
445.	3115 <i>Drosera occidentalis</i> (Western Sundew)		P4	
446.	3118 <i>Drosera pallida</i> (Pale Rainbow)			
447.	3123 <i>Drosera platystigma</i> (Black-eyed Sundew)			
448.	29178 <i>Drosera porrecta</i>			
449.	3125 <i>Drosera pycnoblata</i> (Pearly Sundew)			
450.	3128 <i>Drosera ramellosa</i> (Branched Sundew)			
451.	8911 <i>Drosera rosulata</i>			
452.	<i>Drosera</i> sp.			
453.	49090 <i>Drosera</i> sp. <i>Branched styles</i> (S.C. Coffey 193)			
454.	3131 <i>Drosera stolonifera</i> (Leafy Sundew)			
455.	13205 <i>Drosera tubaestylis</i>			
456.	3135 <i>Drosera zonaria</i> (Painted Sundew)			
457.	33500 <i>Dysphania ambrosioides</i> (Mexican Tea)	Y		
458.	7374 <i>Ecballium elaterium</i> (Squirting Cucumber)	Y		
459.	32351 <i>Eccremidium pulchellum</i>			
460.	328 <i>Echinochloa colona</i> (Awnless Barnyard Grass)	Y		
461.	11105 <i>Echinochloa crus-galli</i>	Y		
462.	329 <i>Echinochloa crus-pavonis</i> (South American Barnyard Grass)	Y		
463.	16093 <i>Echinochloa esculenta</i>	Y		
464.	337 <i>Echinochloa pyramidalis</i> (Antelope Grass)	Y		
465.	6681 <i>Echium plantagineum</i> (Paterson's Curse)	Y		
466.	8450 <i>Eclipta prostrata</i>	Y		
467.	347 <i>Ehrharta calycina</i> (Perennial Veldt Grass)	Y		
468.	349 <i>Ehrharta longiflora</i> (Annual Veldt Grass)	Y		
469.	5187 <i>Elatine gratioloides</i> (Waterwort)			
470.	822 <i>Eleocharis acuta</i> (Common Spikerush)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
471.	17605 <i>Eleocharis keigheryi</i>		T	
472.	352 <i>Eleusine coracan</i> (Indian Millet)	Y		
473.	353 <i>Eleusine indica</i> (Crowsfoot Grass)	Y		
474.	1643 <i>Elythranthera brunonis</i> (Purple Enamel Orchid)			
475.	1644 <i>Elythranthera emarginata</i> (Pink Enamel Orchid)			
476.	32353 <i>Entosthodon apophysatus</i>			
477.	32354 <i>Entosthodon productus</i>			
478.	1645 <i>Epiblema grandiflorum</i> (Babe-in-a-cradle)			
479.	6132 <i>Epilobium ciliatum</i>	Y		
480.	6133 <i>Epilobium hirtigerum</i> (Hairy Willow Herb)			
481.	14289 <i>Epilobium tetragonum</i> subsp. <i>tetragonum</i>	Y		
482.	374 <i>Eragrostis cilianensis</i> (Stinkgrass)	Y		
483.	376 <i>Eragrostis curvula</i> (African Lovegrass)	Y		
484.	379 <i>Eragrostis elongata</i> (Clustered Lovegrass)			
485.	5540 <i>Eremaea fimbriata</i>			
486.	5541 <i>Eremaea pauciflora</i>			
487.	14103 <i>Eremaea pauciflora</i> var. <i>calyptra</i>			
488.	14104 <i>Eremaea pauciflora</i> var. <i>pauciflora</i>			
489.	17150 <i>Eremophila glabra</i> subsp. <i>chlorella</i>		T	
490.	15412 <i>Eriochilus dilatatus</i> subsp. <i>multiflorus</i>			
491.	15414 <i>Eriochilus helonomos</i>			
492.	4332 <i>Erodium botrys</i> (Long Storksbill)	Y		
493.	6219 <i>Eryngium pinnatifidum</i> (Blue Devils)			
494.	41801 <i>Eryngium pinnatifidum</i> subsp. <i>Palustre</i> (G.J. Keighery 13459)		P3	
495.	15446 <i>Eryngium pinnatifidum</i> subsp. <i>pinnatifidum</i>			
496.	41810 <i>Eryngium</i> sp. <i>Subdecumbens</i> (G.J. Keighery 5390)		P3	
497.	18299 <i>Erythrina x sykesii</i>	Y		
498.	17359 <i>Eucalyptus botryoides</i>	Y		
499.	5580 <i>Eucalyptus camaldulensis</i> (River Gum, Yabalinyba)			
500.	48440 <i>Eucalyptus grandis</i>	Y		
501.	5688 <i>Eucalyptus laeliae</i> (Darling Range Ghost Gum)			
502.	5690 <i>Eucalyptus lane-poolei</i> (Salmon White Gum)			
503.	5708 <i>Eucalyptus marginata</i> (Jarrah, Djara)			
504.	13547 <i>Eucalyptus marginata</i> subsp. <i>marginata</i> (Jarrah)			
505.	13548 <i>Eucalyptus marginata</i> subsp. <i>thalassica</i> (Blue-leaved Jarrah)			
506.	5763 <i>Eucalyptus rudis</i> (Flooded Gum, Kulurda)			
507.	13511 <i>Eucalyptus rudis</i> subsp. <i>rudis</i>			
508.	5790 <i>Eucalyptus todtiana</i> (Coastal Blackbutt)			
509.	5797 <i>Eucalyptus wandoo</i> (Wandoo, Wondu)			
510.	12906 <i>Eucalyptus wandoo</i> subsp. <i>wandoo</i>			
511.	3872 <i>Euchilopsis linearis</i> (Swamp Pea)			
512.	29940 <i>Euphorbia maculata</i>	Y		
513.	4648 <i>Euphorbia terracina</i> (Geraldton Carnation Weed)	Y		
514.	3880 <i>Eutaxia virgata</i>			
515.	894 <i>Fimbristylis velata</i>			
516.	32367 <i>Fissidens megalotis</i>			
517.	32368 <i>Fissidens taylorii</i>			
518.	32469 <i>Fissidens taylorii</i> var. <i>taylorii</i>			
519.	18392 <i>Freesia alba x leichtlinii</i>	Y		
520.	2969 <i>Fumaria capreolata</i> (Whiteflower Fumitory)	Y		
521.	31532 <i>Fumaria muralis</i> subsp. <i>muralis</i>	Y		
522.	<i>Fumaria</i> sp.			
523.	32370 <i>Funaria hygrometrica</i>			
524.	900 <i>Gahnia aristata</i>			
525.	907 <i>Gahnia trifida</i> (Coast Saw-sedge)			
526.	7321 <i>Galium divaricatum</i>	Y		
527.	434 <i>Gastridium phleoides</i> (Nitgrass)	Y		
528.	3887 <i>Gastrolobium acutum</i>			
529.	3895 <i>Gastrolobium calycinum</i> (York Road Poison)			
530.	20475 <i>Gastrolobium capitatum</i>			
531.	20513 <i>Gastrolobium dilatatum</i>			
532.	20483 <i>Gastrolobium linearifolium</i>			
533.	20482 <i>Gastrolobium nervosum</i>			
534.	3912 <i>Gastrolobium oxylobioides</i> (Champion Bay Poison)			
535.	3923 <i>Gastrolobium spathulatum</i> (Poison Bush)			
536.	3924 <i>Gastrolobium spinosum</i> (Prickly Poison)			
537.	16311 <i>Gazania linearis</i>	Y		
538.	32374 <i>Gemmabryum cheelii</i>			
539.	32375 <i>Gemmabryum chryseoneuron</i>			
540.	32376 <i>Gemmabryum dichotomum</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
541.	32379 <i>Gemmabryum inaequale</i>			
542.	32380 <i>Gemmabryum pachythecum</i>			
543.	32381 <i>Gemmabryum preissianum</i>			
544.	32383 <i>Gemmabryum sullivanii</i>			
545.	3936 <i>Genista linifolia</i> (Flaxleaf Broom)	Y		
546.	32384 <i>Gigaspermum repens</i>			
547.	18298 <i>Gladiolus carneus</i>	Y		
548.	1520 <i>Gladiolus caryophyllaceus</i> (Wild Gladiolus)	Y		
549.	6143 <i>Glischrocaryon aureum</i> (Common Popflower)			
550.	7061 <i>Glossostigma drummondii</i> (Mudmat)			
551.	<i>Gnephosis tenuissima</i> - <i>drummondii</i> complex			
552.	<i>Gnephosis tenuissima</i> - <i>drummondii</i> complex			
553.	6587 <i>Gomphocarpus fruticosus</i> (Narrowleaf Cottonbush)	Y		
554.	11051 <i>Gomphocarpus physocarpus</i>	Y		
555.	3945 <i>Gompholobium aristatum</i>			
556.	10909 <i>Gompholobium confertum</i>			
557.	3950 <i>Gompholobium knightianum</i>			
558.	3951 <i>Gompholobium marginatum</i>			
559.	3954 <i>Gompholobium polymorphum</i>			
560.	3955 <i>Gompholobium preissii</i>			
561.	3956 <i>Gompholobium shuttleworthii</i>			
562.	3957 <i>Gompholobium tomentosum</i> (Hairy Yellow Pea)			
563.	6149 <i>Gonocarpus cordiger</i>			
564.	6159 <i>Gonocarpus nodulosus</i>			
565.	6160 <i>Gonocarpus paniculatus</i>			
566.	6161 <i>Gonocarpus pithyoides</i>			
567.	7491 <i>Goodenia arthrotricha</i>		T	
568.	29362 <i>Goodenia coerulea</i>			
569.	12520 <i>Goodenia fasciculata</i>			
570.	7517 <i>Goodenia incana</i> (Hoary Goodenia)			
571.	12551 <i>Goodenia micrantha</i>			
572.	7538 <i>Goodenia pulchella</i>			
573.	19286 <i>Goodenia pulchella</i> subsp. Coastal Plain A (M. Hislop 634)			
574.	19284 <i>Goodenia pulchella</i> subsp. Coastal Plain B (L.W. Sage 2336)			
575.	14282 <i>Gratiola pubescens</i>			
576.	1964 <i>Grevillea bipinnatifida</i> (Fuchsia Grevillea)			
577.	19628 <i>Grevillea bipinnatifida</i> subsp. <i>bipinnatifida</i>			
578.	13429 <i>Grevillea diversifolia</i> subsp. <i>diversifolia</i>			
579.	1997 <i>Grevillea endlicheriana</i> (Spindly Grevillea)			
580.	2032 <i>Grevillea leucopteris</i> (White Plume Grevillea)			
581.	13450 <i>Grevillea manglesii</i> subsp. <i>manglesii</i>			
582.	2066 <i>Grevillea pilulifera</i> (Woolly-flowered Grevillea)			
583.	15839 <i>Grevillea preissii</i> subsp. <i>preissii</i>			
584.	2080 <i>Grevillea quercifolia</i> (Oak-leaf Grevillea)			
585.	2101 <i>Grevillea synapheae</i> (Catkin Grevillea)			
586.	14421 <i>Grevillea synapheae</i> subsp. <i>synapheae</i>			
587.	2107 <i>Grevillea thelemanniana</i> (Spider Net Grevillea)		T	
588.	2122 <i>Grevillea wilsonii</i> (Native Fuchsia)			
589.	1464 <i>Haemodorum brevisepalum</i>			
590.	1465 <i>Haemodorum discolor</i>			
591.	1468 <i>Haemodorum laxum</i>			
592.	1469 <i>Haemodorum loratum</i>		P3	
593.	1472 <i>Haemodorum simplex</i>			
594.	1473 <i>Haemodorum simulans</i>			
595.	1474 <i>Haemodorum sparsiflorum</i>			
596.	1475 <i>Haemodorum spicatum</i> (Mardja)			
597.	2128 <i>Hakea amplexicaulis</i> (Prickly Hakea)			
598.	2136 <i>Hakea candolleana</i>			
599.	2137 <i>Hakea ceratophylla</i> (Horned Leaf Hakea)			
600.	2143 <i>Hakea conchifolia</i> (Shell-leaved Hakea)			
601.	2152 <i>Hakea cyclocarpa</i> (Ramshorn)			
602.	2158 <i>Hakea erinacea</i> (Hedge-hog Hakea)			
603.	2166 <i>Hakea incrassata</i> (Marble Hakea)			
604.	2175 <i>Hakea lissocarpha</i> (Honey Bush)			
605.	2185 <i>Hakea myrtoides</i> (Myrtle Hakea)			
606.	45333 <i>Hakea neospathulata</i>			
607.	2194 <i>Hakea petiolaris</i> (Sea Urchin Hakea)			
608.	16900 <i>Hakea petiolaris</i> subsp. <i>petiolaris</i>			
609.	2197 <i>Hakea prostrata</i> (Harsh Hakea)			
610.	2203 <i>Hakea ruscifolia</i> (Candle Hakea)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
611.	31793 <i>Hakea</i> sp. Eastern coastal plain (G.J. Keighery 8014)			
612.	2206 <i>Hakea stenocarpa</i> (Narrow-fruited Hakea)			
613.	2212 <i>Hakea sulcata</i> (Furrowed Hakea)			
614.	2214 <i>Hakea trifurcata</i> (Two-leaf Hakea)			
615.	2215 <i>Hakea undulata</i> (Wavy-leaved Hakea)			
616.	2216 <i>Hakea varia</i> (Variable-leaved Hakea)			
617.	6686 <i>Halgania corymbosa</i>		P3	
618.	3961 <i>Hardenbergia comptoniana</i> (Native Wisteria)			
619.	8008 <i>Helianthus annuus</i> (Sunflower, Common Sunflower)	Y		
620.	3016 <i>Heliophila pusilla</i>	Y		
621.	6838 <i>Hemiandra linearis</i> (Speckled Snakebush)			
622.	6839 <i>Hemiandra pungens</i> (Snakebush)			
623.	6856 <i>Hemigenia incana</i> (Silky Hemigenia)			
624.	6866 <i>Hemigenia pritzelii</i>			
625.	41020 <i>Hemiphora bartlingii</i> (Woolly Dragon)			
626.	1526 <i>Hesperantha falcata</i>	Y		
627.	5108 <i>Hibbertia acerosa</i> (Needle Leaved Guinea Flower)			
628.	5109 <i>Hibbertia amplexicaulis</i>			
629.	5112 <i>Hibbertia aurea</i>			
630.	5114 <i>Hibbertia commutata</i>			
631.	20051 <i>Hibbertia diamesogenos</i>			
632.	19778 <i>Hibbertia glomerata</i> subsp. <i>darlingensis</i>			
633.	5134 <i>Hibbertia huegelii</i>			
634.	5135 <i>Hibbertia hypericoides</i> (Yellow Buttercups)			
635.	45534 <i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>			
636.	5146 <i>Hibbertia montana</i>		P4	
637.	5148 <i>Hibbertia mylnei</i>			
638.	5152 <i>Hibbertia ovata</i>			
639.	5155 <i>Hibbertia pilosa</i> (Hairy Guinea Flower)			
640.	5162 <i>Hibbertia racemosa</i> (Stalked Guinea Flower)			
641.	5169 <i>Hibbertia serrata</i> (Serrate Leaved Guinea Flower)			
642.	<i>Hibbertia</i> sp.			
643.	5171 <i>Hibbertia spicata</i>			
644.	11481 <i>Hibbertia spicata</i> subsp. <i>spicata</i>			
645.	5172 <i>Hibbertia stellaris</i> (Orange Stars)			
646.	48381 <i>Hibbertia striata</i>			
647.	5173 <i>Hibbertia subvaginata</i>			
648.	5176 <i>Hibbertia vaginata</i>			
649.	444 <i>Holcus lanatus</i> (Yorkshire Fog)	Y		
650.	6222 <i>Homalosciadium homalocarpum</i>			
651.	451 <i>Hordeum vulgare</i> (Barley)	Y		
652.	3964 <i>Hovea chorizemifolia</i> (Holly-leaved Hovea)			
653.	3966 <i>Hovea pungens</i> (Devil's Pins, Puyenak)			
654.	3968 <i>Hovea trisperma</i> (Common Hovea)			
655.	12859 <i>Hovea trisperma</i> var. <i>trisperma</i>			
656.	18296 <i>Humulus lupulus</i>	Y		
657.	12741 <i>Hyalosperma cotula</i>			
658.	12742 <i>Hyalosperma demissum</i>			
659.	16759 <i>Hyalosperma simplex</i> subsp. <i>simplex</i>			
660.	5216 <i>Hybanthus calycinus</i> (Wild Violet)			
661.	12007 <i>Hybanthus floribundus</i> subsp. <i>floribundus</i>			
662.	6223 <i>Hydrocotyle alata</i>			
663.	6226 <i>Hydrocotyle callicarpa</i> (Small Pennywort)			
664.	6229 <i>Hydrocotyle diantha</i>			
665.	6233 <i>Hydrocotyle lemnoides</i> (Aquatic Pennywort)		P4	
666.	452 <i>Hyparrhenia hirta</i> (Tambookie Grass)	Y		
667.	5817 <i>Hypocalymma angustifolium</i> (White Myrtle, Kudjid)			
668.	35074 <i>Hypocalymma angustifolium</i> subsp. <i>Dandaragan plateau</i> (S. Patrick 702A)			
669.	35070 <i>Hypocalymma angustifolium</i> subsp. <i>Swan Coastal Plain</i> (G.J. Keighery 16777)			
670.	5825 <i>Hypocalymma robustum</i> (Swan River Myrtle)			
671.	8086 <i>Hypochoeris glabra</i> (Smooth Catsear)	Y		
672.	9352 <i>Hypochoeris radicata</i> (Flat Weed, Cats-ear)	Y		
673.	1070 <i>Hypolaena exsulca</i>			
674.	17841 <i>Hypolaena pubescens</i>			
675.	910 <i>Isolepis cernua</i> (Nodding Club-rush)			
676.	20199 <i>Isolepis cernua</i> var. <i>cernua</i>			
677.	20200 <i>Isolepis cernua</i> var. <i>setiformis</i>			
678.	912 <i>Isolepis cyperoides</i>			
679.	914 <i>Isolepis hookeriana</i> (Bristle Club Rush)			
680.	14540 <i>Isolepis hystrix</i>	Y		

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
681.	917 <i>Isolepis marginata</i> (Coarse Club-rush)			
682.	919 <i>Isolepis oldfieldiana</i>			
683.	10831 <i>Isolepis prolifera</i> (Budding Club-rush)	Y		
684.	2221 <i>Isopogon asper</i>			
685.	29775 <i>Isopogon drummondii</i>		P3	
686.	2229 <i>Isopogon dubius</i> (Pincushion Coneflower)			
687.	2237 <i>Isopogon sphaerocephalus</i> (Drumstick Isopogon)			
688.	7396 <i>Isotoma hypocrateriformis</i> (Woodbridge Poison)			
689.	7398 <i>Isotoma pusilla</i> (Small Isotome)			
690.	3992 <i>Isotropis cuneifolia</i> (Granny Bonnets)			
691.	16317 <i>Isotropis cuneifolia</i> subsp. <i>glabra</i>		P3	
692.	1533 <i>Ixia paniculata</i>	Y		
693.	1534 <i>Ixia polystachya</i> (Variable Ixia)	Y		
694.	8092 <i>Ixiolaena viscosa</i> (Sticky Ixiolaena)			
695.	3997 <i>Jacksonia alata</i>			
696.	3998 <i>Jacksonia angulata</i>			
697.	4010 <i>Jacksonia floribunda</i> (Holly Pea)			
698.	4012 <i>Jacksonia furcellata</i> (Grey Stinkwood)			
699.	20462 <i>Jacksonia gracillima</i>		P3	
700.	4018 <i>Jacksonia lehmannii</i>			
701.	4025 <i>Jacksonia restioides</i>			
702.	4029 <i>Jacksonia sternbergiana</i> (Stinkwood, Kapur)			
703.	1298 <i>Johnsonia pubescens</i> (Pipe Lily)			
704.	19632 <i>Johnsonia pubescens</i> subsp. <i>pubescens</i>			
705.	20454 <i>Juncus acutus</i> subsp. <i>acutus</i>	Y		
706.	8328 <i>Juncus amabilis</i>			
707.	1177 <i>Juncus articulatus</i> (Jointed Rush)	Y		
708.	1178 <i>Juncus bufonius</i> (Toad Rush)	Y		
709.	1179 <i>Juncus caespiticius</i> (Grassy Rush)			
710.	1180 <i>Juncus capitatus</i> (Capitate Rush)	Y		
711.	11922 <i>Juncus kraussii</i> subsp. <i>australiensis</i>			
712.	1188 <i>Juncus pallidus</i> (Pale Rush)			
713.	1195 <i>Juncus subsecundus</i> (Finger Rush)			
714.	4037 <i>Kennedia coccinea</i> (Coral Vine)			
715.	4044 <i>Kennedia prostrata</i> (Scarlet Runner)			
716.	4045 <i>Kennedia stirlingii</i> (Bushy Kennedia)			
717.	7068 <i>Kickxia spuria</i> (Roundleaf Toadflax)	Y		
718.	1221 <i>Kingia australis</i> (Kingia, Pulonok)			
719.	5832 <i>Kunzea ericifolia</i> (Spearwood, Pondil)			
720.	15498 <i>Kunzea glabrescens</i> (Spearwood)			
721.	5835 <i>Kunzea micrantha</i>			
722.	17461 <i>Kunzea micrantha</i> subsp. <i>micrantha</i>			
723.	17785 <i>Kunzea micrantha</i> subsp. <i>petiolata</i>			
724.	3669 <i>Labichea punctata</i> (Lance-leaved Cassia)			
725.	20019 <i>Lachnagrostis filiformis</i>			
726.	19955 <i>Lachnagrostis plebeia</i>			
727.	29046 <i>Lactuca serriola</i> forma <i>serriola</i>	Y		
728.	18585 <i>Lagenophora huegelii</i>			
729.	2249 <i>Lambertia multiflora</i> (Many-flowered Honeysuckle)			
730.	14083 <i>Lambertia multiflora</i> var. <i>darlingensis</i>			
731.	28342 <i>Landoltia punctata</i> (Thin Duckweed)			
732.	6733 <i>Lantana camara</i> (Common Lantana)	Y		
733.	5025 <i>Lasiopetalum bracteatum</i> (Helena Velvet Bush)		P4	
734.	45081 <i>Lasiopetalum glutinosum</i> subsp. <i>glutinosum</i>		P3	
735.	4047 <i>Lathyrus tingitanus</i> (Tangier Pea)	Y		
736.	4052 <i>Latrobea tenella</i>			
737.	38323 <i>Lavandula stoechas</i> subsp. <i>stoechas</i>	Y		
738.	4959 <i>Lawrenzia squamata</i>			
739.	11815 <i>Laxmannia grandiflora</i> subsp. <i>grandiflora</i>			
740.	1307 <i>Laxmannia ramosa</i> (Branching Lily)			
741.	11911 <i>Laxmannia ramosa</i> subsp. <i>ramosa</i>			
742.	11464 <i>Laxmannia sessiliflora</i> subsp. <i>australis</i>			
743.	1309 <i>Laxmannia squarrosa</i>			
744.	7568 <i>Lechenaultia biloba</i> (Blue Leschenaultia)			
745.	7572 <i>Lechenaultia expansa</i>			
746.	7574 <i>Lechenaultia floribunda</i> (Free-flowering Leschenaultia)			
747.	1051 <i>Lemna disperma</i> (Duckweed)			
748.	44490 <i>Leontodon rhagadioloides</i>	Y		
749.	1075 <i>Lepidobolus preissianus</i>			
750.	18074 <i>Lepidobolus preissianus</i> subsp. <i>preissianus</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
751.	925 <i>Lepidosperma angustatum</i>			
752.	42741 <i>Lepidosperma apricola</i>			
753.	930 <i>Lepidosperma costale</i>			
754.	931 <i>Lepidosperma drummondii</i>			
755.	936 <i>Lepidosperma leptostachyum</i>			
756.	937 <i>Lepidosperma longitudinale</i> (Pithy Sword-sedge)			
757.	14642 <i>Lepidosperma obtusum</i>			
758.	940 <i>Lepidosperma pubisquameum</i>			
759.	941 <i>Lepidosperma resinosum</i>			
760.	942 <i>Lepidosperma rostratum</i>		T	
761.	944 <i>Lepidosperma scabrum</i>			
762.	<i>Lepidosperma</i> sp.			
763.	29141 <i>Lepidosperma</i> sp. Gosnells (A. Markey 1145)			
764.	29150 <i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)			
765.	16284 <i>Lepidosperma</i> sp. P1 small head (M.D. Tindale 166A)			
766.	945 <i>Lepidosperma squamatum</i>			
767.	948 <i>Lepidosperma tetraquetrum</i>			
768.	949 <i>Lepidosperma tuberculatum</i>			
769.	1653 <i>Leporella fimbriata</i> (Hare Orchid)			
770.	1077 <i>Leptocarpus canus</i> (Hoary Twine-rush)			
771.	1078 <i>Leptocarpus coangustatus</i>			
772.	46375 <i>Leptocarpus decipiens</i>			
773.	1080 <i>Leptocarpus scariosus</i>			
774.	2342 <i>Leptomeria cunninghamii</i>			
775.	5847 <i>Leptospermum erubescens</i> (Roadside Teatree)			
776.	5850 <i>Leptospermum laevigatum</i> (Coast Teatree)	Y		
777.	5857 <i>Leptospermum spinescens</i>			
778.	19241 <i>Lepyrodia curvescens</i>		P2	
779.	1085 <i>Lepyrodia glauca</i>			
780.	1088 <i>Lepyrodia macra</i> (Large Scale Rush)			
781.	1090 <i>Lepyrodia muirii</i>			
782.	6367 <i>Leucopogon capitellatus</i>			
783.	6374 <i>Leucopogon conostephioides</i>			
784.	6397 <i>Leucopogon glaucifolius</i>			
785.	6427 <i>Leucopogon parviflorus</i> (Coast Beard-heath)			
786.	6434 <i>Leucopogon polymorphus</i>			
787.	6436 <i>Leucopogon propinquus</i>			
788.	6439 <i>Leucopogon pulchellus</i> (Beard-heath)			
789.	28311 <i>Leucopogon</i> sp. Great Southern (R.S. Cowan A 586)			
790.	6444 <i>Leucopogon sprengeioides</i>			
791.	6445 <i>Leucopogon squarrosus</i>			
792.	40803 <i>Leucopogon squarrosus</i> subsp. <i>squarrosus</i>			
793.	6447 <i>Leucopogon strictus</i>			
794.	6451 <i>Leucopogon tenuis</i>			
795.	7674 <i>Levenhookia preissii</i> (Preiss's Stylewort)			
796.	7676 <i>Levenhookia pusilla</i> (Midget Stylewort)			
797.	7677 <i>Levenhookia stipitata</i> (Common Stylewort)			
798.	59 <i>Lindsaea linearis</i> (Screw Fern)			
799.	4362 <i>Linum marginale</i> (Wild Flax)			
800.	4363 <i>Linum trigynum</i> (French Flax)	Y		
801.	36160 <i>Liparophyllum capitatum</i>			
802.	9289 <i>Lobelia anceps</i> (Angled Lobelia)			
803.	7402 <i>Lobelia gibbosa</i> (Tall Lobelia)			
804.	7406 <i>Lobelia rhombifolia</i> (Tufted Lobelia)			
805.	7407 <i>Lobelia rhytidisperma</i> (Wrinkled-seeded Lobelia)			
806.	3048 <i>Lobularia maritima</i> (Sweet Alyssum)	Y		
807.	475 <i>Lolium multiflorum</i> (Italian Ryegrass)	Y		
808.	<i>Lolium</i> sp.			
809.	11073 <i>Lolium x hybridum</i>	Y		
810.	1223 <i>Lomandra caespitosa</i> (Tufted Mat Rush)			
811.	1228 <i>Lomandra hermaphrodita</i>			
812.	1229 <i>Lomandra integra</i>			
813.	1232 <i>Lomandra micrantha</i> (Small-flower Mat-rush)			
814.	14542 <i>Lomandra micrantha</i> subsp. <i>micrantha</i>			
815.	1234 <i>Lomandra nigricans</i>			
816.	1236 <i>Lomandra odora</i> (Tiered Matrush)			
817.	1239 <i>Lomandra preissii</i>			
818.	1240 <i>Lomandra purpurea</i> (Purple Mat Rush)			
819.	1243 <i>Lomandra sericea</i> (Silky Mat Rush)			
820.	1245 <i>Lomandra spartea</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
821.	1246 <i>Lomandra suaveolens</i>			
822.	7365 <i>Lonicera japonica</i> (Japanese Honeysuckle)	Y		
823.	4059 <i>Lotus angustissimus</i> (Narrowleaf Trefoil)	Y		
824.	8564 <i>Lotus subbiflorus</i>	Y		
825.	4063 <i>Lotus uliginosus</i> (Greater Lotus)	Y		
826.	1092 <i>Loxocarya cinerea</i>			
827.	44680 <i>Ludwigia repens</i>	Y		
828.	4067 <i>Lupinus luteus</i> (Yellow Lupin)	Y		
829.	1097 <i>Lyginia barbata</i>			
830.	18049 <i>Lyginia imberbis</i>			
831.	1656 <i>Lyperanthus serratus</i> (Rattle Beak Orchid)			
832.	36375 <i>Lysimachia arvensis</i> (Pimpernel)	Y		
833.	36373 <i>Lysimachia minima</i>	Y		
834.	6456 <i>Lysinema ciliatum</i> (Curry Flower)			
835.	34736 <i>Lysinema pentapetalum</i>			
836.	5281 <i>Lythrum hyssopifolia</i> (Lesser Loosestrife)	Y		
837.	2839 <i>Macarthuria australis</i>			
838.	17106 <i>Macarthuria keigheryi</i>		T	
839.	18119 <i>Macrozamia fraseri</i>			
840.	85 <i>Macrozamia riedlei</i> (Zamia, Djiridji)			
841.	17637 <i>Marianthus candidus</i> (White Marianthus)			
842.	17636 <i>Marianthus coeruleopunctatus</i> (Blue-spotted Marianthus)			
843.	17633 <i>Marianthus erubescens</i>			
844.	4079 <i>Medicago polymorpha</i> (Burr Medic)	Y		
845.	4080 <i>Medicago sativa</i> (Alfalfa)	Y		
846.	20639 <i>Megathyrsus maximus</i> var. <i>maximus</i>	Y		
847.	33638 <i>Meionectes tenuifolia</i>		P3	
848.	37580 <i>Melaleuca acutifolia</i>			
849.	19721 <i>Melaleuca armillaris</i>	Y		
850.	36296 <i>Melaleuca armillaris</i> subsp. <i>armillaris</i>	Y		
851.	5881 <i>Melaleuca brevifolia</i>			
852.	40780 <i>Melaleuca citrina</i>	Y		
853.	13273 <i>Melaleuca incana</i> subsp. <i>incana</i>			
854.	5926 <i>Melaleuca lateritia</i> (Robin Redbreast Bush)			
855.	5932 <i>Melaleuca leucadendra</i>			
856.	5943 <i>Melaleuca nesophila</i> (Mindiyed)			
857.	20297 <i>Melaleuca osullivanii</i>			
858.	18394 <i>Melaleuca parviceps</i>			
859.	5952 <i>Melaleuca preissiana</i> (Moonah)			
860.	48990 <i>Melaleuca quinquenervia</i>	Y		
861.	5958 <i>Melaleuca radula</i> (Graceful Honeymyrtle)			
862.	5959 <i>Melaleuca raphiophylla</i> (Swamp Paperbark)			
863.	5961 <i>Melaleuca scabra</i> (Rough Honeymyrtle, Wurru Bush)			
864.	5964 <i>Melaleuca seriata</i>			
865.	5983 <i>Melaleuca trichophylla</i>			
866.	37683 <i>Melaleuca viminalis</i>		P2	
867.	5987 <i>Melaleuca viminea</i> (Mohan)			
868.	13280 <i>Melaleuca viminea</i> subsp. <i>viminea</i>			
869.	4516 <i>Melia azedarach</i> (White Cedar)			
870.	14985 <i>Melinis repens</i>	Y		
871.	953 <i>Mesomelaena graciliceps</i>			
872.	955 <i>Mesomelaena pseudostygia</i>			
873.	957 <i>Mesomelaena tetragona</i> (Semaphore Sedge)			
874.	6897 <i>Microcorys longifolia</i>			
875.	485 <i>Microlaena stipoides</i> (Weeping Grass)			
876.	1657 <i>Microtis alba</i> (White Mignonette Orchid)			
877.	34158 <i>Microtis albovidis</i>			
878.	1658 <i>Microtis atrata</i> (Swamp Mignonette Orchid)			
879.	10954 <i>Microtis media</i> (Tall Mignonette Orchid)			
880.	15419 <i>Microtis media</i> subsp. <i>media</i>			
881.	8105 <i>Millotia myosotidifolia</i>			
882.	8106 <i>Millotia tenuifolia</i> (Soft Millotia)			
883.	14344 <i>Millotia tenuifolia</i> var. <i>tenuifolia</i> (Soft Millotia)			
884.	4097 <i>Mirbelia ramulosa</i>			
885.	4100 <i>Mirbelia spinosa</i>			
886.	4963 <i>Modiola caroliniana</i>	Y		
887.	7410 <i>Monopsis debilis</i>	Y		
888.	37440 <i>Monopsis debilis</i> var. <i>depressa</i>	Y		
889.	4662 <i>Monotaxis grandiflora</i> (Diamond of the Desert)			
890.	19585 <i>Monotaxis grandiflora</i> var. <i>grandiflora</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
891.	19179 <i>Moraea flaccida</i> (One-leaf Cape Tulip)	Y		
892.	19178 <i>Moraea lewisiae</i>	Y		
893.	19438 <i>Moraea ochroleuca</i>	Y		
894.	14187 <i>Myriocephalus occidentalis</i>			
895.	6189 <i>Myriophyllum crispatum</i>			
896.	6193 <i>Myriophyllum echinatum</i>		P3	
897.	44496 <i>Narcissus tazetta</i> subsp. <i>italicus</i>	Y		
898.	44495 <i>Narcissus tazetta</i> subsp. <i>tazetta</i>	Y		
899.	492 <i>Neurachne alopecuroidea</i> (Foftail Mulga Grass)			
900.	6978 <i>Nicotiana rotundifolia</i> (Round-leaved Tobacco)			
901.	1381 <i>Nothoscordum gracile</i>	Y		
902.	2401 <i>Nuytsia floribunda</i> (Christmas Tree, Mudja)			
903.	6138 <i>Oenothera drummondii</i> (Beach Evening Primrose)	Y		
904.	20052 <i>Oenothera jamesii</i>	Y		
905.	16347 <i>Oenothera laciniata</i>	Y		
906.	6140 <i>Oenothera mollissima</i>	Y		
907.	14292 <i>Oenothera stricta</i> subsp. <i>stricta</i>	Y		
908.	2365 <i>Oxalys benthamiana</i>			
909.	2367 <i>Oxalys scalariformis</i>			
910.	8127 <i>Olearia axillaris</i> (Coastal Daisybush)			
911.	8143 <i>Olearia paucidentata</i> (Autumn Scrub Daisy)			
912.	18254 <i>Opercularia apiciflora</i>			
913.	7346 <i>Opercularia echinocephala</i> (Bristly Headed Stink Weed)			
914.	18255 <i>Opercularia vaginata</i> (Dog Weed)			
915.	17 <i>Ophioglossum lusitanicum</i> (Adders Tongue)			
916.	29276 <i>Opuntia monacantha</i> (Barbary Fig)	Y		
917.	5227 <i>Opuntia stricta</i> (Common Prickly Pear)	Y		
918.	36177 <i>Ornduffia albiflora</i>			
919.	36200 <i>Ornduffia submersa</i>		P4	
920.	4113 <i>Ornithopus compressus</i> (Yellow Serradella)	Y		
921.	7122 <i>Orobanche minor</i> (Lesser Broomrape)	Y		
922.	11749 <i>Orthrosanthus laxus</i> var. <i>laxus</i> (Morning Iris)			
923.	168 <i>Ottelia ovalifolia</i> (Swamp Lily)			
924.	14532 <i>Ottelia ovalifolia</i> subsp. <i>chrysobasis</i>			
925.	14531 <i>Ottelia ovalifolia</i> subsp. <i>ovalifolia</i>			
926.	4348 <i>Oxalis caprina</i>	Y		
927.	4349 <i>Oxalis corniculata</i> (Yellow Wood Sorrel)	Y		
928.	4352 <i>Oxalis glabra</i>	Y		
929.	4354 <i>Oxalis incarnata</i>	Y		
930.	4355 <i>Oxalis perennans</i>			
931.	4356 <i>Oxalis pes-caprae</i> (Soursob)	Y		
932.	4358 <i>Oxalis purpurea</i> (Largeflower Wood Sorrel)	Y		
933.	502 <i>Panicum capillare</i> (Witchgrass)	Y		
934.	20101 <i>Paragonis grandiflora</i>			
935.	7089 <i>Parentucellia latifolia</i> (Common Bartsia)	Y		
936.	527 <i>Paspalum dilatatum</i>	Y		
937.	528 <i>Paspalum distichum</i> (Water Couch)	Y		
938.	532 <i>Paspalum urvillei</i> (Vasey Grass)	Y		
939.	5225 <i>Passiflora filamentosa</i>	Y		
940.	1542 <i>Patersonia babianoides</i>			
941.	1546 <i>Patersonia juncea</i> (Rush Leaved Patersonia)			
942.	1550 <i>Patersonia occidentalis</i> (Purple Flag, Koma)			
943.	30472 <i>Patersonia occidentalis</i> var. <i>occidentalis</i>			
944.	1551 <i>Patersonia pygmaea</i> (Pygmy Patersonia)			
945.	14433 <i>Patersonia rudis</i> subsp. <i>rudis</i>			
946.	43765 <i>Pauridia glabella</i> var. <i>glabella</i>			
947.	43761 <i>Pauridia occidentalis</i> var. <i>occidentalis</i>			
948.	43762 <i>Pauridia occidentalis</i> var. <i>quadriloba</i>			
949.	10828 <i>Pavonia hastata</i>	Y		
950.	40424 <i>Pentameris airoides</i> subsp. <i>airoides</i>	Y		
951.	40422 <i>Pentameris pallida</i>	Y		
952.	6245 <i>Pentapeltis peltigera</i>			
953.	16477 <i>Pericalymma ellipticum</i> var. <i>ellipticum</i>			
954.	16478 <i>Pericalymma ellipticum</i> var. <i>floridum</i>			
955.	13911 <i>Persicaria decipiens</i>			
956.	16983 <i>Persicaria maculosa</i>	Y		
957.	2255 <i>Persoonia angustiflora</i>			
958.	2262 <i>Persoonia elliptica</i> (Spreading Snottygobble)			
959.	2273 <i>Persoonia saccata</i> (Snottygobble)			
960.	2284 <i>Petrophile biloba</i> (Granite Petrophile)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
961.	20391 <i>Petrophile juncifolia</i>			
962.	2299 <i>Petrophile linearis</i> (Pixie Mops)			
963.	2301 <i>Petrophile macrostachya</i>			
964.	2308 <i>Petrophile seminuda</i>			
965.	2312 <i>Petrophile striata</i>			
966.	19825 <i>Petrorhagia dubia</i>	Y		
967.	547 <i>Phalaris angusta</i>	Y		
968.	551 <i>Phalaris minor</i> (Lesser Canary Grass)	Y		
969.	552 <i>Phalaris paradoxa</i> (Paradoxa Grass)	Y		
970.	20460 <i>Pheladenia deformis</i>			
971.	32409 <i>Philonotis australiensis</i>			
972.	18529 <i>Philothea spicata</i> (Pepper and Salt)			
973.	1172 <i>Philydrella drummondii</i>			
974.	1173 <i>Philydrella pygmaea</i> (Butterfly Flowers)			
975.	14306 <i>Philydrella pygmaea</i> subsp. <i>pygmaea</i>			
976.	1478 <i>Phlebocarya ciliata</i>			
977.	1479 <i>Phlebocarya filifolia</i>			
978.	16825 <i>Phyllangium divergens</i>			
979.	4675 <i>Phyllanthus calycinus</i> (False Boronia)			
980.	4685 <i>Phyllanthus scaber</i>			
981.	17794 <i>Phyllanthus tenellus</i>	Y		
982.	4 <i>Phylloglossum drummondii</i> (Pigmy Clubmoss)			
983.	6983 <i>Physalis peruviana</i> (Cape Gooseberry)	Y		
984.	2408 <i>Pilosyles hamiltonii</i>			
985.	78 <i>Pitularia novae-hollandiae</i> (Austral Pillwort)			
986.	5231 <i>Pimelea angustifolia</i> (Narrow-leaved Pimelea)			
987.	5238 <i>Pimelea ciliata</i> (White Banjine)			
988.	11928 <i>Pimelea ciliata</i> subsp. <i>ciliata</i>			
989.	11404 <i>Pimelea imbricata</i> var. <i>major</i>			
990.	11402 <i>Pimelea imbricata</i> var. <i>piligera</i>			
991.	5259 <i>Pimelea preissii</i>			
992.	5260 <i>Pimelea rara</i> (Summer Pimelea)		P4	
993.	5264 <i>Pimelea spectabilis</i> (Bunjong)			
994.	12041 <i>Pimelea suaveolens</i> subsp. <i>suaveolens</i>			
995.	5268 <i>Pimelea sulphurea</i> (Yellow Banjine)			
996.	5269 <i>Pimelea sylvestris</i>			
997.	8163 <i>Pithocarpa corymbulosa</i> (Corymbose Pithocarpa)		P3	
998.	8165 <i>Pithocarpa pulchella</i> (Beautiful Pithocarpa)			
999.	18352 <i>Pithocarpa pulchella</i> var. <i>melanostigma</i>			
1000.	7303 <i>Plantago lanceolata</i> (Ribwort Plantain)	Y		
1001.	6253 <i>Platysace filiformis</i>			
1002.	6255 <i>Platysace juncea</i>			
1003.	11132 <i>Platysace ramosissima</i>		P3	
1004.	6259 <i>Platysace tenuissima</i>			
1005.	4524 <i>Platythea galioides</i>			
1006.	32478 <i>Pleurodium nervosum</i> var. <i>nervosum</i>			
1007.	571 <i>Poa annua</i> (Winter Grass)	Y		
1008.	573 <i>Poa drummondiana</i> (Knotted Poa)			
1009.	8175 <i>Podolepis gracilis</i> (Slender Podolepis)			
1010.	8177 <i>Podolepis lessonii</i>			
1011.	8182 <i>Podotheca angustifolia</i> (Sticky Longheads)			
1012.	8183 <i>Podotheca chrysantha</i> (Yellow Podotheca)			
1013.	8184 <i>Podotheca gnaphalioides</i> (Golden Long-heads)			
1014.	8188 <i>Pogonolepis stricta</i>			
1015.	8395 <i>Polygala myrtifolia</i> (Myrtleleaf Milkwort)	Y		
1016.	4578 <i>Polygala virgata</i>	Y		
1017.	2416 <i>Polygonum arenastrum</i> (Sand Wireweed)	Y		
1018.	2419 <i>Polygonum aviculare</i> (Wireweed)	Y		
1019.	582 <i>Polypogon monspeliensis</i> (Annual Beardgrass)	Y		
1020.	583 <i>Polypogon tenellus</i>			
1021.	<i>Polypompholyx tenella</i> scps			
1022.	4691 <i>Poranthera microphylla</i> (Small Poranthera)			
1023.	2884 <i>Portulaca oleracea</i> (Purslane, Wakati)			
1024.	109 <i>Potamogeton crispus</i> (Curly Pondweed)			
1025.	1670 <i>Prasophyllum drummondii</i> (Swamp Leek Orchid)			
1026.	1672 <i>Prasophyllum fimbria</i> (Fringed Leek Orchid)			
1027.	1674 <i>Prasophyllum giganteum</i> (Bronze Leek Orchid)			
1028.	16688 <i>Prasophyllum gracile</i>			
1029.	1680 <i>Prasophyllum parvifolium</i> (Autumn Leek Orchid)			
1030.	10853 <i>Prasophyllum plumiforme</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1031.	17211 <i>Prunus cerasifera</i>	Y		
1032.	4155 <i>Psoralea pinnata</i> (African Scurfpea)	Y		
1033.	13255 <i>Pterochaeta paniculata</i>			
1034.	1686 <i>Pterostylis barbata</i> (Bird Orchid)			
1035.	44527 <i>Pterostylis erubescens</i>			
1036.	1693 <i>Pterostylis recurva</i> (Jug Orchid)			
1037.	12217 <i>Pterostylis sanguinea</i>			
1038.	1698 <i>Pterostylis vittata</i> (Banded Greenhood)			
1039.	2716 <i>Ptilotus declinatus</i> (Curved Mulla Mulla)			
1040.	2720 <i>Ptilotus esquamatus</i>			
1041.	2742 <i>Ptilotus manglesii</i> (Pom Poms, Mulamula)			
1042.	2751 <i>Ptilotus polystachyus</i> (Prince of Wales Feather)			
1043.	2753 <i>Ptilotus pyramidatus</i>		T	Y
1044.	4172 <i>Pultenaea ericifolia</i>			
1045.	4181 <i>Pultenaea reticulata</i>			
1046.	16367 <i>Pyrrochis nigricans</i> (Red beaks, Elephants ears)			
1047.	8195 <i>Quinetia urvillei</i>			
1048.	2933 <i>Ranunculus muricatus</i> (Sharp Buttercup)	Y		
1049.	3061 <i>Raphanus raphanistrum</i> (Wild Radish)	Y		
1050.	6012 <i>Regelia ciliata</i>			
1051.	6014 <i>Regelia inops</i>			
1052.	13300 <i>Rhodanthe citrina</i>			
1053.	13234 <i>Rhodanthe manglesii</i>			
1054.	13312 <i>Rhodanthe pyrethrum</i>			
1055.	<i>Riccia multifida</i>			
1056.	4705 <i>Ricinus communis</i> (Castor Oil Plant)	Y		
1057.	6020 <i>Rinzia crassifolia</i> (Darling Range Rinzia)			
1058.	17020 <i>Robinia pseudoacacia</i>	Y		
1059.	14485 <i>Romulea flava</i> var. <i>minor</i>	Y		
1060.	1556 <i>Romulea rosea</i> (Guildford Grass)	Y		
1061.	11544 <i>Romulea rosea</i> var. <i>australis</i> (Guildford Grass)	Y		
1062.	3066 <i>Rorippa nasturtium-aquaticum</i> (Watercress)	Y		
1063.	11151 <i>Rostraria pumila</i>	Y		
1064.	44608 <i>Rosulabryum billardieri</i>			
1065.	20506 <i>Rubus anglocandicans</i>	Y		
1066.	20496 <i>Rubus laudatus</i>	Y		
1067.	2432 <i>Rumex conglomeratus</i> (Clustered Dock)	Y		
1068.	2433 <i>Rumex crispus</i> (Curled Dock)	Y		
1069.	40431 <i>Rytidosperma acerosum</i>			
1070.	40425 <i>Rytidosperma caespitosum</i>			
1071.	40430 <i>Rytidosperma pilosum</i>			
1072.	40427 <i>Rytidosperma setaceum</i>			
1073.	48430 <i>Salicornia quinqueflora</i>			
1074.	79 <i>Salvinia molesta</i> (Salvinia)	Y		
1075.	6483 <i>Samolus junceus</i>			
1076.	2356 <i>Santalum acuminatum</i> (Quandong, Wamga)			
1077.	7368 <i>Scabiosa atropurpurea</i> (Purple Pincushion)	Y		
1078.	7602 <i>Scaevola calliptera</i>			
1079.	7613 <i>Scaevola glandulifera</i> (Viscid Hand-flower)			
1080.	7619 <i>Scaevola lanceolata</i> (Long-leaved Scaevola)			
1081.	7635 <i>Scaevola pilosa</i> (Hairy Fan-flower)			
1082.	7636 <i>Scaevola platyphylla</i> (Broad-leaved Fanflower)			
1083.	13182 <i>Scaevola repens</i> var. <i>repens</i>			
1084.	48834 <i>Schinus terebinthifolia</i>	Y		
1085.	32432 <i>Schizymenium bryoides</i>			
1086.	6263 <i>Schoenolaena juncea</i>			
1087.	971 <i>Schoenus andrewsii</i>			
1088.	972 <i>Schoenus armeria</i>			
1089.	973 <i>Schoenus asperocarpus</i> (Poison Sedge)			
1090.	974 <i>Schoenus benthamii</i>		P3	
1091.	975 <i>Schoenus bifidus</i>			
1092.	978 <i>Schoenus brevisetis</i>			
1093.	979 <i>Schoenus caespititius</i>			
1094.	980 <i>Schoenus capillifolius</i>		P3	
1095.	984 <i>Schoenus curvifolius</i>			
1096.	985 <i>Schoenus discifer</i>			
1097.	986 <i>Schoenus efoliatus</i>			
1098.	987 <i>Schoenus elegans</i>			
1099.	991 <i>Schoenus grammatophyllus</i>			
1100.	994 <i>Schoenus humilis</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1101.	996 <i>Schoenus laevigatus</i>			
1102.	998 <i>Schoenus latitans</i>			
1103.	999 <i>Schoenus loliaceus</i>		P2	
1104.	1002 <i>Schoenus nanus</i> (Tiny Bog Rush)			
1105.	1003 <i>Schoenus natans</i> (Floating Bog-rush)		P4	
1106.	1006 <i>Schoenus odontocarpus</i>			
1107.	1007 <i>Schoenus pedicellatus</i>			
1108.	1008 <i>Schoenus pennisetis</i>		P3	
1109.	1009 <i>Schoenus pleiostemoneus</i>			
1110.	17614 <i>Schoenus plumosus</i>			
1111.	1011 <i>Schoenus rigens</i>			
1112.	1013 <i>Schoenus sculptus</i> (Gimlet Bog-rush)			
1113.	16280 <i>Schoenus</i> sp. Beaufort (G.J. Keighery 6291)		P1	
1114.	17731 <i>Schoenus</i> sp. Waroona (G.J. Keighery 12235)		P3	
1115.	18164 <i>Schoenus</i> sp. smooth culms (K.R. Newbey 7823)			
1116.	1016 <i>Schoenus subbarbatus</i> (Bearded Bog-rush)			
1117.	1017 <i>Schoenus subbulbosus</i>			
1118.	1018 <i>Schoenus subfascicularis</i>			
1119.	1019 <i>Schoenus subflavus</i> (Yellow Bog-rush)			
1120.	1020 <i>Schoenus sublateralis</i>			
1121.	1026 <i>Schoenus unispiculatus</i>			
1122.	17409 <i>Schoenus varicellae</i>			
1123.	6033 <i>Scholtzia involucrata</i> (Spiked Scholtzia)			
1124.	6 <i>Selaginella gracillima</i> (Tiny Clubmoss)			
1125.	32433 <i>Sematophyllum homomallum</i>			
1126.	8203 <i>Senecio diaschides</i>			
1127.	8212 <i>Senecio leucoglossus</i>		P4	
1128.	20663 <i>Senecio multicaulis</i> subsp. <i>multicaulis</i>			
1129.	8220 <i>Senecio vulgaris</i> (Common Groundsel)	Y		
1130.	609 <i>Setaria palmifolia</i> (Palm Grass)	Y		
1131.	19453 <i>Setaria parviflora</i>	Y		
1132.	611 <i>Setaria sphacelata</i> (South African Pigeon Grass)	Y		
1133.	4980 <i>Sida hookeriana</i>			
1134.	2909 <i>Silene gallica</i> (French Catchfly)	Y		
1135.	8224 <i>Siloxerus filifolius</i>			
1136.	8225 <i>Siloxerus humifusus</i> (Procumbent Siloxerus)			
1137.	14583 <i>Siloxerus multiflorus</i>			
1138.	7020 <i>Solanum linnaeanum</i> (Apple of Sodom)	Y		
1139.	7022 <i>Solanum nigrum</i> (Black Berry Nightshade)	Y		
1140.	8231 <i>Sonchus oleraceus</i> (Common Sowthistle)	Y		
1141.	616 <i>Sorghum bicolor</i> (Grain Sorghum)	Y		
1142.	617 <i>Sorghum halepense</i> (Johnson Grass)	Y		
1143.	1312 <i>Sowerbaea laxiflora</i> (Purple Tassels)			
1144.	1558 <i>Sparaxis bulbifera</i>	Y		
1145.	4205 <i>Sphaerolobium linophyllum</i>			
1146.	4206 <i>Sphaerolobium macranthum</i>			
1147.	4207 <i>Sphaerolobium medium</i>			
1148.	1700 <i>Spiculaea ciliata</i> (Elbow Orchid)			
1149.	635 <i>Sporobolus virginicus</i> (Marine Couch)			
1150.	6930 <i>Stachys arvensis</i> (Staggerweed)	Y		
1151.	4716 <i>Stachystemon vermicularis</i>			
1152.	4733 <i>Stackhousia monogyna</i>			
1153.	9070 <i>Stackhousia pubescens</i> (Downy Stackhousia)			
1154.	16197 <i>Stenanthemum emarginatum</i>			
1155.	13475 <i>Stenanthemum humile</i>			
1156.	19403 <i>Stenopetalum gracile</i>			
1157.	2316 <i>Stirlingia latifolia</i> (Blueboy)			
1158.	2317 <i>Stirlingia simplex</i>			
1159.	18564 <i>Stylidium aceratum</i>		P3	
1160.	7681 <i>Stylidium affine</i> (Queen Triggerplant)			
1161.	7684 <i>Stylidium amoenum</i> (Lovely Triggerplant)			
1162.	17666 <i>Stylidium amoenum</i> var. <i>amoenum</i>			
1163.	30278 <i>Stylidium androsaceum</i>			
1164.	25831 <i>Stylidium araeophyllum</i> (Stilt Walker)			
1165.	30276 <i>Stylidium bicolor</i>			
1166.	48457 <i>Stylidium bindoon</i>			
1167.	7692 <i>Stylidium breviscapum</i> (Boomerang Triggerplant)			
1168.	7693 <i>Stylidium brunonianum</i> (Pink Fountain Triggerplant)			
1169.	7694 <i>Stylidium bulbiferum</i> (Circus Triggerplant)			
1170.	7696 <i>Stylidium calcaratum</i> (Book Triggerplant)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1171.	7698 <i>Stylidium caricifolium</i> (Milkmaids)			
1172.	7699 <i>Stylidium carnosum</i> (Fleshy-leaved Triggerplant)			
1173.	7702 <i>Stylidium ciliatum</i> (Golden Triggerplant)			
1174.	7712 <i>Stylidium despectum</i> (Dwarf Triggerplant)			
1175.	7713 <i>Stylidium dichotomum</i> (Pins-and-needles)			
1176.	7716 <i>Stylidium diuroides</i> (Donkey Triggerplant)			
1177.	11808 <i>Stylidium diuroides</i> subsp. <i>diuroides</i>			
1178.	7717 <i>Stylidium divaricatum</i> (Daddy-long-legs)			
1179.	7721 <i>Stylidium emarginatum</i> (Biddy-four-legs)			
1180.	19251 <i>Stylidium eriopodum</i>			
1181.	7734 <i>Stylidium guttatum</i> (Dotted Triggerplant)			
1182.	7736 <i>Stylidium hispidum</i> (White Butterfly Triggerplant)			
1183.	7742 <i>Stylidium inundatum</i> (Hundreds and Thousands)			
1184.	7745 <i>Stylidium junceum</i> (Reed Triggerplant)			
1185.	7749 <i>Stylidium leptophyllum</i> (Needle-leaved Triggerplant)			
1186.	7756 <i>Stylidium longitubum</i> (Jumping Jacks)		P4	
1187.	7768 <i>Stylidium obtusatum</i> (Pinafore Triggerplant)			
1188.	7771 <i>Stylidium periscelanthum</i> (Pantaloon Triggerplant)		P3	
1189.	7772 <i>Stylidium perpusillum</i> (Tiny Triggerplant)			
1190.	7773 <i>Stylidium petiolare</i> (Horn Triggerplant)			
1191.	7774 <i>Stylidium piliferum</i> (Common Butterfly Triggerplant)			
1192.	7782 <i>Stylidium pulchellum</i> (Thumbelina Triggerplant)			
1193.	7783 <i>Stylidium pycnostachyum</i> (Downy Triggerplant)			
1194.	33106 <i>Stylidium recurvum</i>			
1195.	7785 <i>Stylidium repens</i> (Matted Triggerplant)			
1196.	<i>Stylidium roseo-alatum</i>			
1197.	7790 <i>Stylidium roseoalatum</i> (Pink-wing Triggerplant)			
1198.	25806 <i>Stylidium scariosum</i>			
1199.	7798 <i>Stylidium schoenoides</i> (Cow Kicks)			
1200.	<i>Stylidium</i> sp.			
1201.	7803 <i>Stylidium striatum</i> (Fan-leaved Triggerplant)		P4	
1202.	45594 <i>Stylidium tenue</i> subsp. <i>majusculum</i> (Showy Fountain Triggerplant)			
1203.	23511 <i>Stylidium thesioides</i> (Delicate Triggerplant)			
1204.	7806 <i>Stylidium utricularioides</i> (Pink Fan Triggerplant)			
1205.	40947 <i>Stylidium xanthellum</i>			
1206.	1260 <i>Styphandra glauca</i> (Blind Grass)			
1207.	48297 <i>Styphelia filifolia</i>		P3	
1208.	6476 <i>Styphelia tenuiflora</i> (Common Pinheath)			
1209.	25902 <i>Symphytichum squamatum</i> (Bushy Starwort)	Y		
1210.	2321 <i>Synaphea acutiloba</i> (Granite Synaphea)			
1211.	2323 <i>Synaphea gracillima</i>			
1212.	2324 <i>Synaphea petiolaris</i> (Synaphea)			
1213.	16864 <i>Synaphea petiolaris</i> subsp. <i>petiolaris</i>			
1214.	2325 <i>Synaphea pinnata</i> (Helena Synaphea)			
1215.	18590 <i>Synaphea</i> sp. Fairbridge Farm (D. Papenfus 696)		T	
1216.	2329 <i>Synaphea spinulosa</i>			
1217.	15532 <i>Synaphea spinulosa</i> subsp. <i>spinulosa</i>			
1218.	32437 <i>Syntrichia antarctica</i>			
1219.	32438 <i>Syntrichia pagorum</i>			
1220.	20135 <i>Taxandria linearifolia</i>			
1221.	4251 <i>Templetonia drummondii</i>			
1222.	32441 <i>Tetrapterum cylindricum</i>			
1223.	1033 <i>Tetragia australiensis</i>		T	
1224.	1034 <i>Tetragia capillaris</i> (Hair Sedge)			
1225.	1036 <i>Tetragia octandra</i>			
1226.	667 <i>Tetragia laevis</i> (Forest Ricegrass)			
1227.	4535 <i>Tetragia hirsuta</i> (Black Eyed Susan)			
1228.	48342 <i>Tetragia hirsuta</i> subsp. <i>hirsuta</i>			
1229.	4537 <i>Tetragia nuda</i>			
1230.	4544 <i>Tetragia setigera</i>			
1231.	1701 <i>Thelymitra antennifera</i> (Vanilla Orchid)			
1232.	10856 <i>Thelymitra benthamiana</i> (Leopard Orchid)			
1233.	1705 <i>Thelymitra crinita</i> (Blue Lady Orchid)			
1234.	1707 <i>Thelymitra flexuosa</i> (Twisted Sun Orchid)			
1235.	11053 <i>Thelymitra macrophylla</i>			
1236.	20729 <i>Thelymitra magnifica</i> (Crystal Brook Star Orchid)		P1	
1237.	1715 <i>Thelymitra spiralis</i> (Curlylocks)			
1238.	10862 <i>Thelymitra stellata</i> (Star Orchid)		T	
1239.	1718 <i>Thelymitra villosa</i> (Custard Orchid)			
1240.	20731 <i>Thelymitra vulgaris</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1241.	673 <i>Themeda triandra</i>			
1242.	5080 <i>Thomasia foliosa</i>			
1243.	5084 <i>Thomasia grandiflora</i> (Large Flowered Thomasia)			
1244.	5087 <i>Thomasia macrocarpa</i> (Large Fruited Thomasia)			
1245.	1317 <i>Thysanotus anceps</i>		P3	
1246.	1318 <i>Thysanotus arbuscula</i>			
1247.	1319 <i>Thysanotus arenarius</i>			
1248.	1320 <i>Thysanotus asper</i> (Hairy Fringe Lily)			
1249.	1328 <i>Thysanotus dichotomus</i> (Branching Fringe Lily)			
1250.	1330 <i>Thysanotus fastigiatus</i>			
1251.	1338 <i>Thysanotus manglesianus</i> (Fringed Lily)			
1252.	<i>Thysanotus manglesianus/patersonii</i> complex			
1253.	1339 <i>Thysanotus multiflorus</i> (Many-flowered Fringe Lily)			
1254.	1343 <i>Thysanotus patersonii</i>			
1255.	1350 <i>Thysanotus scaber</i>			
1256.	46055 <i>Thysanotus</i> sp. Coastal plain (N.H. Brittan 66/63)			
1257.	1351 <i>Thysanotus sparteus</i>			
1258.	1354 <i>Thysanotus tenellus</i>			
1259.	1357 <i>Thysanotus thyrsoides</i>			
1260.	1358 <i>Thysanotus triandrus</i>			
1261.	8248 <i>Tolpis barbata</i> (Yellow Hawkweed)	Y		
1262.	<i>Tortula recurvata</i>			
1263.	6266 <i>Trachymene coerulea</i> (Blue Lace Flower)			
1264.	19045 <i>Trachymene grandis</i>			
1265.	6280 <i>Trachymene pilosa</i> (Native Parsnip)			
1266.	17684 <i>Tremulina tremula</i>			
1267.	11112 <i>Tribolium uniolae</i>	Y		
1268.	1481 <i>Tribonanthes australis</i> (Southern Tiurmdin)			
1269.	1482 <i>Tribonanthes brachypetala</i> (Nodding Tiurmdin)			
1270.	1483 <i>Tribonanthes longipetala</i> (Branching Tiurmdin)			
1271.	8798 <i>Tribonanthes uniflora</i> (Woolly Tiurmdin)			
1272.	8799 <i>Tribonanthes variabilis</i> (Hairy-stigma Tiurmdin)			
1273.	1485 <i>Tribonanthes violacea</i> (Violet Tiurmdin)			
1274.	4383 <i>Tribulus terrestris</i> (Caltrop)	Y		
1275.	8251 <i>Trichocline spathulata</i> (Native Gerbera)			
1276.	1361 <i>Tricoryne elatior</i> (Yellow Autumn Lily)			
1277.	1362 <i>Tricoryne humilis</i>			
1278.	1363 <i>Tricoryne tenella</i>			
1279.	43207 <i>Tricostularia exsul</i>			
1280.	4289 <i>Trifolium angustifolium</i> (Narrowleaf Clover)	Y		
1281.	17145 <i>Trifolium angustifolium</i> var. <i>angustifolium</i>	Y		
1282.	4291 <i>Trifolium arvense</i> (Hare's Foot Clover)	Y		
1283.	17542 <i>Trifolium arvense</i> var. <i>arvense</i>	Y		
1284.	4292 <i>Trifolium campestre</i> (Hop Clover)	Y		
1285.	4295 <i>Trifolium dubium</i> (Suckling Clover)	Y		
1286.	4297 <i>Trifolium glomeratum</i> (Cluster Clover)	Y		
1287.	4298 <i>Trifolium hirtum</i> (Rose Clover)	Y		
1288.	17788 <i>Trifolium pratense</i> var. <i>sativum</i>	Y		
1289.	15509 <i>Trifolium tomentosum</i> var. <i>tomentosum</i>	Y		
1290.	33676 <i>Triglochin calcitrapa</i>			
1291.	33677 <i>Triglochin centrocarpa</i>			
1292.	146 <i>Triglochin minutissima</i>			
1293.	147 <i>Triglochin mucronata</i>			
1294.	148 <i>Triglochin muelleri</i>			
1295.	18587 <i>Triglochin nana</i>			
1296.	<i>Triglochin</i> sp. <i>scps</i>			
1297.	<i>Triglochin</i> sp. <i>Brixton 04</i> (possibly <i>T. mullerii</i>)			Y
1298.	150 <i>Triglochin stowardii</i>			
1299.	151 <i>Triglochin striata</i>			
1300.	4737 <i>Tripterococcus brunonis</i> (Winged Stackhousia)			
1301.	1139 <i>Trithuria bibracteata</i>			
1302.	1141 <i>Trithuria submersa</i>			
1303.	38401 <i>Tritonia gladiolaris</i> (Lined Tritonia)	Y		
1304.	13479 <i>Trymalium ledifolium</i> var. <i>rosmarinifolium</i>			
1305.	33418 <i>Trymalium odoratissimum</i> subsp. <i>odoratissimum</i>			
1306.	98 <i>Typha domingensis</i> (Bulrush, Djandjid)			
1307.	99 <i>Typha orientalis</i> (Bulrush, Cumbungi)			
1308.	8254 <i>Urospermum picroides</i> (False Hawkbit)	Y		
1309.	8255 <i>Ursinia anthemoides</i> (Ursinia)	Y		
1310.	38388 <i>Ursinia anthemoides</i> subsp. <i>anthemoides</i>	Y		

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1311.	7138 <i>Utricularia inaequalis</i>			
1312.	7148 <i>Utricularia multifida</i>			
1313.	7153 <i>Utricularia tenella</i>			
1314.	17868 <i>Vallisneria nana</i>			
1315.	7665 <i>Velleia trinervis</i>			
1316.	8257 <i>Vellereophyton dealbatum</i> (White Cudweed)	Y		
1317.	15725 <i>Verbesina encelioides</i>	Y		
1318.	6070 <i>Verticordia acerosa</i>			
1319.	15431 <i>Verticordia acerosa</i> var. <i>acerosa</i>			
1320.	12388 <i>Verticordia acerosa</i> var. <i>preissii</i>			
1321.	6076 <i>Verticordia densiflora</i> (Compacted Featherflower)			
1322.	12411 <i>Verticordia densiflora</i> var. <i>cespitosa</i>			
1323.	15432 <i>Verticordia densiflora</i> var. <i>densiflora</i>			
1324.	6088 <i>Verticordia huegelii</i> (Variegated Featherflower)			
1325.	15433 <i>Verticordia huegelii</i> var. <i>huegelii</i>			
1326.	15434 <i>Verticordia insignis</i> subsp. <i>insignis</i>			
1327.	14714 <i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>		P4	
1328.	6107 <i>Verticordia pennigera</i>			
1329.	6110 <i>Verticordia plumosa</i> (Plumed Featherflower)			
1330.	12449 <i>Verticordia plumosa</i> var. <i>brachyphylla</i>			
1331.	15618 <i>Verticordia plumosa</i> var. <i>plumosa</i>			
1332.	4322 <i>Vicia sativa</i> (Common Vetch)	Y		
1333.	12070 <i>Vicia sativa</i> subsp. <i>sativa</i>	Y		
1334.	29491 <i>Vicia tetrasperma</i>	Y		Y
1335.	4325 <i>Viminaria juncea</i> (Swishbush, Koweda)			
1336.	6575 <i>Vinca major</i> (Blue Periwinkle)	Y		
1337.	17042 <i>Vitis vinifera</i>	Y		
1338.	722 <i>Vulpia bromoides</i> (Squirrel Tail Fescue)	Y		
1339.	11018 <i>Vulpia muralis</i>	Y		
1340.	724 <i>Vulpia myuros</i> (Rat's Tail Fescue)	Y		
1341.	33101 <i>Vulpia myuros</i> forma <i>myuros</i>	Y		
1342.	7384 <i>Wahlenbergia capensis</i> (Cape Bluebell)	Y		
1343.	7389 <i>Wahlenbergia preissii</i>			
1344.	13103 <i>Watsonia borbonica</i>	Y		
1345.	18375 <i>Watsonia knysnana</i>	Y		
1346.	1566 <i>Watsonia marginata</i>	Y		
1347.	1567 <i>Watsonia meriana</i> (Bulbil Watsonia)	Y		
1348.	18108 <i>Watsonia meriana</i> var. <i>bulbillifera</i>	Y		
1349.	18118 <i>Watsonia meriana</i> var. <i>meriana</i>	Y		
1350.	1569 <i>Watsonia versfeldii</i>	Y		
1351.	32456 <i>Weissia rutilans</i>			
1352.	1394 <i>Wurmbea dioica</i> (Early Nancy)			
1353.	<i>Wurmbea dioica</i> subsp. <i>aff. alba</i> (gjk 12803)			
1354.	12072 <i>Wurmbea dioica</i> subsp. <i>alba</i>			
1355.	1401 <i>Wurmbea pygmaea</i>			
1356.	1249 <i>Xanthorrhoea acanthostachya</i>			
1357.	1251 <i>Xanthorrhoea brunonis</i>			
1358.	14544 <i>Xanthorrhoea brunonis</i> subsp. <i>brunonis</i>			
1359.	1252 <i>Xanthorrhoea drummondii</i>			
1360.	1253 <i>Xanthorrhoea gracilis</i> (Graceful Grass Tree, Mimidi)			
1361.	1256 <i>Xanthorrhoea preissii</i> (Grass tree, Palga)			
1362.	20658 <i>Xanthorrhoea</i> sp. <i>Lesueur</i> (G.J. Keighery 16404)			
1363.	6283 <i>Xanthosia atkinsoniana</i>			
1364.	6284 <i>Xanthosia candida</i>			
1365.	6285 <i>Xanthosia ciliata</i>			
1366.	6289 <i>Xanthosia huegelii</i>			
1367.	44861 <i>Xerochrysum macranthum</i>			
1368.	2331 <i>Xylomelum occidentale</i> (Woody Pear, Djandin)			
1369.	1049 <i>Zantedeschia aethiopica</i> (Arum Lily)	Y		

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 I: Results of Search of the Department of Agriculture, Water and the Environment Species Profile and Threats (SPRAT) Database (DAWE 2019)



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 22/11/19 16:34:01

[Summary](#)

[Details](#)

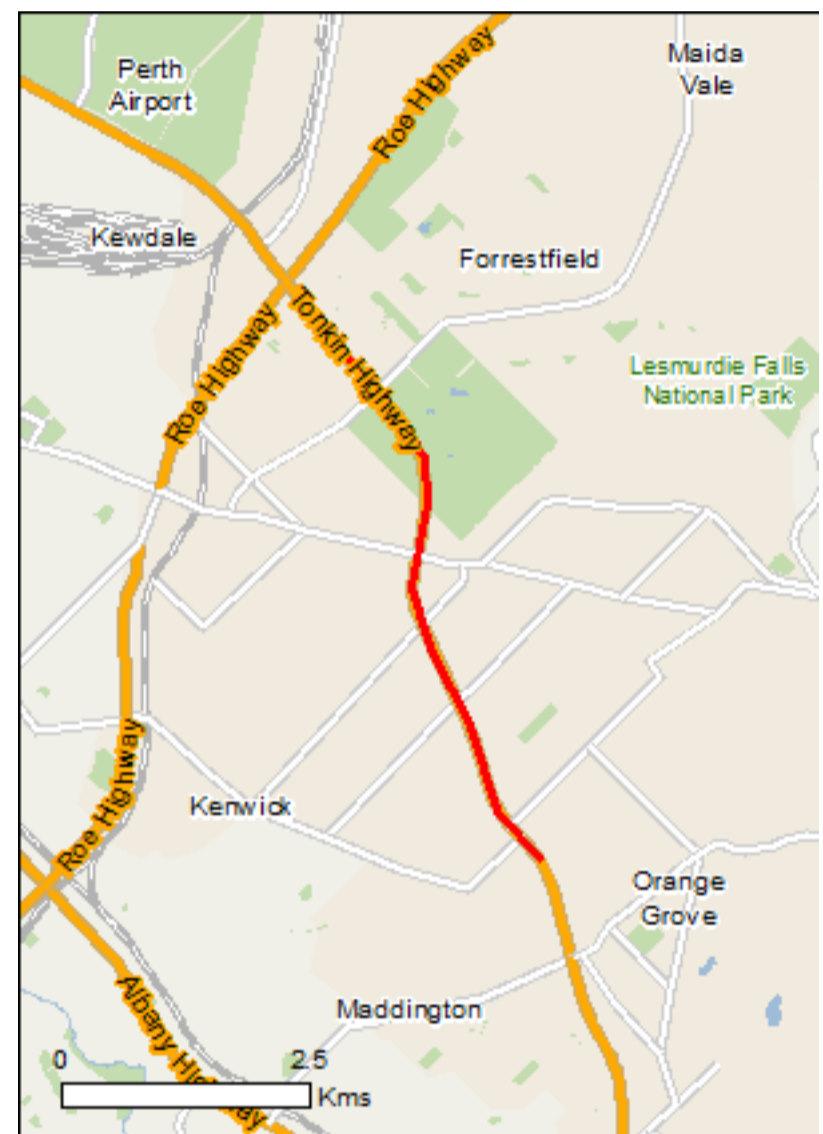
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

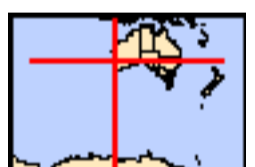
[Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

[Coordinates](#)

Buffer: 5.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	44
Listed Migratory Species:	9

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	15
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	8
Regional Forest Agreements:	1
Invasive Species:	46
Nationally Important Wetlands:	2
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)	[Resource Information]
Name	Proximity
Forrestdale and thomsons lakes	Within 10km of Ramsar

Listed Threatened Ecological Communities

 [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area
Clay Pans of the Swan Coastal Plain	Critically Endangered	Community likely to occur within area
Corymbia calophylla - Kingia australis woodlands on heavy soils of the Swan Coastal Plain	Endangered	Community known to occur within area
Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community	Critically Endangered	Community may occur within area

Listed Threatened Species

 [Resource Information]

Name	Status	Type of Presence
Birds		
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area
Calyptorhynchus baudinii Baudin's Cockatoo, Long-billed Black-Cockatoo [769]	Endangered	Roosting known to occur within area
Calyptorhynchus latirostris Carnaby's Cockatoo, Short-billed Black-Cockatoo [59523]	Endangered	Species or species habitat known to occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat known to occur

Name	Status	Type of Presence within area
Insects		
Leiproctus douglasiellus a short-tongued bee [66756]	Critically Endangered	Species or species habitat known to occur within area
Mammals		
Bettongia penicillata ogilbyi Woylie [66844]	Endangered	Species or species habitat may occur within area
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area
Pseudocheirus occidentalis Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Species or species habitat may occur within area
Setonix brachyurus Quokka [229]	Vulnerable	Species or species habitat likely to occur within area
Other		
Westralunio carteri Carter's Freshwater Mussel, Freshwater Mussel [86266]	Vulnerable	Species or species habitat known to occur within area
Plants		
Acacia anomala Grass Wattle, Chittering Grass Wattle [8153]	Vulnerable	Species or species habitat known to occur within area
Andersonia gracilis Slender Andersonia [14470]	Endangered	Species or species habitat known to occur within area
Anthocercis gracilis Slender Tailflower [11103]	Vulnerable	Species or species habitat known to occur within area
Austrostipa bronwenae [87808]	Endangered	Species or species habitat known to occur within area
Banksia mimica Summer Honey-pot [82765]	Endangered	Species or species habitat likely to occur within area
Caladenia huegelii King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat likely to occur within area
Calytrix breviseta subsp. breviseta Swamp Starflower [23879]	Endangered	Species or species habitat known to occur within area
Chamelaucium sp. Gingin (N.G.Marchant 6) Gingin Wax [88881]	Endangered	Species or species habitat may occur within area
Conospermum undulatum Wavy-leaved Smokebush [24435]	Vulnerable	Species or species habitat likely to occur within area
Darwinia apiculata Scarp Darwinia [8763]	Endangered	Species or species habitat known to occur within area
Diplolaena andrewsii [6601]	Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Diuris drummondii Tall Donkey Orchid [4365]	Vulnerable	Species or species habitat likely to occur within area
Diuris micrantha Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat likely to occur within area
Diuris purdiei Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat known to occur within area
Drakaea elastica Glossy-leafed Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat likely to occur within area
Drakaea micrantha Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat may occur within area
Eleocharis keigheryi Keighery's Eleocharis [64893]	Vulnerable	Species or species habitat known to occur within area
Eremophila glabra subsp. chlorella [84927]	Endangered	Species or species habitat known to occur within area
Eucalyptus x balanites Cadda Road Mallee, Cadda Mallee [87816]	Endangered	Species or species habitat may occur within area
Goodenia arthrotricha [12448]	Endangered	Species or species habitat known to occur within area
Grevillea curviloba subsp. incurva Narrow curved-leaf Grevillea [64909]	Endangered	Species or species habitat likely to occur within area
Grevillea thelemanniana Spider Net Grevillea [32835]	Critically Endangered	Species or species habitat known to occur within area
Lasiopetalum pterocarpum Wing-fruited Lasiopetalum [64922]	Endangered	Species or species habitat may occur within area
Lepidosperma rostratum Beaked Lepidosperma [14152]	Endangered	Species or species habitat likely to occur within area
Macarthuria keigheryi Keighery's Macarthuria [64930]	Endangered	Species or species habitat likely to occur within area
Ptilotus pyramidatus Pyramid Mulla-mulla [18216]	Critically Endangered	Species or species habitat known to occur within area
Synaphea sp. Fairbridge Farm (D. Papenfus 696) Selena's Synaphea [82881]	Critically Endangered	Species or species habitat known to occur within area
Thelymitra dedmaniarum Cinnamon Sun Orchid [65105]	Endangered	Species or species habitat likely to occur within area
Thelymitra stellata Star Sun-orchid [7060]	Endangered	Species or species habitat known to occur within area

Listed Migratory Species [\[Resource Information \]](#)

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [\[Resource Information \]](#)

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land -

Listed Marine Species [\[Resource Information \]](#)

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area

Name	Threatened	Type of Presence
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Thinornis rubricollis Hooded Plover [59510]		Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

State and Territory Reserves	[Resource Information]
Name	State
Canning River	WA
Dundas Road	WA
Kenwick Wetlands	WA
Korung	WA
Lesmurdie Falls	WA
Unnamed WA23076	WA
Unnamed WA29815	WA
Unnamed WA37997	WA

Regional Forest Agreements

[[Resource Information](#)]

Note that all areas with completed RFAs have been included.

Name	State
South West WA RFA	Western Australia

Invasive Species

[[Resource Information](#)]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Streptopelia senegalensis Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Capra hircus Goat [2]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Funambulus pennantii Northern Palm Squirrel, Five-striped Palm Squirrel [129]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus aethiopicus Asparagus Fern, Ground Asparagus, Basket Fern, Sprengi's Fern, Bushy Asparagus, Emerald Asparagus [62425]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Asparagus declinatus Bridal Veil, Bridal Veil Creeper, Pale Berry Asparagus Fern, Asparagus Fern, South African Creeper [66908]		Species or species habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Brachiaria mutica Para Grass [5879]		Species or species habitat may occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Genista linifolia Flax-leaved Broom, Mediterranean Broom, Flax Broom [2800]		Species or species habitat likely to occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Olea europaea Olive, Common Olive [9160]		Species or species habitat may occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Sagittaria platyphylla Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Tamarix aphylla Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk, Athel Tamarix, Desert Tamarisk, Flowering Cypress, Salt Cedar [16018]		Species or species habitat likely to occur within area
Reptiles		
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area

Nationally Important Wetlands		[Resource Information]
Name		State
Brixton Street Swamps		WA
Perth Airport Woodland Swamps		WA

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-31.988389 115.986313,-31.998144 115.995926,-32.000764 115.997814,-32.004258 115.997985,-32.010663 115.996612,-32.015321 115.998329,-32.021288 116.001934,-32.02449 116.002964,-32.027692 116.004337,-32.031621 116.008285

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

Appendix J: Introduced Flora Taxa Known from Within the Vicinity of the Survey Area

Taxon	Common Name	Source*	Comments
<i>Abutilon grandifolium</i>		NatureMap	
<i>Acacia iteaphylla</i>	Flinders Range Wattle	Natural Area	
<i>Acacia longifolia</i>		NatureMap	
<i>Acacia podalyriifolia</i>		NatureMap	
<i>Acacia pycnantha</i>	Golden Wattle	NatureMap	
<i>Acanthospermum hispidum</i>	Starburr	NatureMap	
<i>Aeonium haworthii</i>		NatureMap	
<i>Agave americana</i>	Century Plant	NatureMap	
<i>Agrostis gigantea</i>	Redtop Bent	NatureMap	
<i>Aira caryophyllea</i>	Silvery Hairgrass	NatureMap	
<i>Aira cupaniana</i>	Silvery Hairgrass	NatureMap	
<i>Allium ampeloprasum</i>		NatureMap	
<i>Ambrosia artemisiifolia</i>	Annual Ragweed	NatureMap	
<i>Ambrosia psilostachya</i>	Perennial Ragweed	NatureMap	
<i>Anredera cordifolia</i>	Madeira Vine	DoEE; NatureMap	
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	NatureMap	
<i>Araujia sericifera</i>		NatureMap	
<i>Arctotheca calendula</i>	Cape Weed	NatureMap	
<i>Artemisia arborescens</i>	Silver Wormwood	NatureMap	
<i>Asparagus aethiopicus</i>	Asparagus Fern	DoEE	WoNS
<i>Asparagus asparagoides</i>	Bridal Creeper	DoEE	Declared Pest; WoNS
<i>Asparagus declinatus</i>	Bridal Veil	DoEE	WoNS
<i>Asparagus officinalis</i>	Asparagus	NatureMap	
<i>Asparagus plumosus</i>	Climbing Asparagus-fern	DoEE	WoNS
<i>Asphodelus fistulosus</i>	Onion Weed	NatureMap	
<i>Atriplex prostrata</i>	Hastate Orache	NatureMap	
<i>Avellinia michelii</i>		NatureMap	
<i>Avena barbata</i>	Bearded Oat	NatureMap	
<i>Axonopus fissifolius</i>		NatureMap	
<i>Babiana angustifolia</i>	Baboon flower	NatureMap	
<i>Baeometra uniflora</i>		NatureMap	
<i>Bellardia trixago</i>	Bellardia	NatureMap	
<i>Bellardia viscosa</i>		NatureMap	
<i>Brachypodium distachyon</i>	False Brome	NatureMap	
<i>Brassica tournefortii</i>	Mediterranean Turnip	NatureMap	
<i>Briza maxima</i>	Blowfly Grass	NatureMap	
<i>Briza minor</i>	Shivery Grass	NatureMap	
<i>Bromus catharticus</i>	Prairie Grass	NatureMap	
<i>Bromus diandrus</i>	Great Brome	NatureMap	
<i>Bromus hordeaceus</i>	Soft Brome	NatureMap	
<i>Callitriche stagnalis</i>	Common Starwort	NatureMap	
<i>Campsis radicans</i>		NatureMap	
<i>Campylopus introflexus</i>		NatureMap	
<i>Cenchrus ciliaris</i>	Buffel Grass	DoEE	
<i>Cenchrus clandestinus</i>	Kikuyu Grass	NatureMap	
<i>Cenchrus purpureus</i>	Elephant Grass	NatureMap	
<i>Cenchrus setaceus</i>	Fountain Grass	NatureMap	

Taxon	Common Name	Source*	Comments
<i>Centaurium erythraea</i>	Common Centaury	NatureMap	
<i>Centaurium tenuiflorum</i>		NatureMap	
<i>Chasmanthe floribunda</i>	African Cornflag	NatureMap	
<i>Chrysanthemoides monilifera</i> subsp. <i>monilifera</i>	Boneseed	DoEE; NatureMap	Declared Pest; WoNS
<i>Cicendia filiformis</i>	Slender Cicendia	NatureMap	
<i>Citrullus amarus</i>	-	NatureMap	
<i>Colocasia esculenta</i> var. <i>esculenta</i>		NatureMap	
<i>Conyza parva</i>		NatureMap	
<i>Conyza sumatrensis</i>		NatureMap	
<i>Corrigiola litoralis</i>	Strapwort	NatureMap	
<i>Cortaderia selloana</i> subsp. <i>selloana</i>	Pampas Grass	NatureMap	
<i>Cotoneaster pannosus</i>		NatureMap	
<i>Cotula coronopifolia</i>	Waterbuttons	NatureMap	
<i>Cotula turbinata</i>	Funnel Weed	NatureMap	
<i>Crassula natans</i>		NatureMap	
<i>Crassula tetragona</i> subsp. <i>robusta</i>		NatureMap	
<i>Crepis foetida</i>	Foetid Hawksbeard	NatureMap	
<i>Crotalaria agatiflora</i> subsp. <i>agatiflora</i>		NatureMap	
<i>Cuscuta planiflora</i>		NatureMap	
<i>Cyathea cooperi</i>		NatureMap	
<i>Cynodon dactylon</i>	Couch	NatureMap	
<i>Cynosurus echinatus</i>	Rough Dogstail	NatureMap	
<i>Cyperus congestus</i>	Dense Flat-sedge	NatureMap	
<i>Cyperus eragrostis</i>	Umbrella Sedge	NatureMap	
<i>Cyperus involucreatus</i>		NatureMap	
<i>Cyperus papyrus</i>		NatureMap	
<i>Cyperus tenellus</i>	Tiny Flatsedge	NatureMap	
<i>Cyperus tenuiflorus</i>	Scaly Sedge	NatureMap	
<i>Dennstaedtia davallioides</i>		NatureMap	
<i>Digitaria ciliaris</i>	Summer Grass	NatureMap	
<i>Digitaria sanguinalis</i>	Crab Grass	NatureMap	
<i>Dipogon lignosus</i>	Dolichos Pea	NatureMap	
<i>Disa bracteata</i>		NatureMap	
<i>Dittrichia graveolens</i>	Stinkwort	NatureMap	
<i>Dysphania ambrosioides</i>	Mexican Tea	NatureMap	
<i>Ecballium elaterium</i>	Squirting Cucumber	NatureMap	
<i>Echinochloa colona</i>	Awnless Barnyard Grass	NatureMap	
<i>Echinochloa crus-galli</i>	Barnyard Grass	NatureMap	
<i>Echinochloa crus-pavonis</i>	South American Barnyard Grass	NatureMap	
<i>Echinochloa esculenta</i>		NatureMap	
<i>Echinochloa pyramidalis</i>	Antelope Grass	NatureMap	
<i>Echium plantagineum</i>	Paterson's Curse	NatureMap	Declared Pest
<i>Eclipta prostrata</i>	False Daisy	NatureMap	
<i>Ehrharta calycina</i>	Perennial Veldt Grass	NatureMap	
<i>Ehrharta longiflora</i>	Annual Veldt Grass	NatureMap	
<i>Eichhornia crassipes</i>	Water Hyacinth	DoEE	WoNS
<i>Eleusine coracana</i>	Indian Millet	NatureMap	

Taxon	Common Name	Source*	Comments
<i>Eleusine indica</i>	Crowsfoot Grass	NatureMap	
<i>Epilobium ciliatum</i>		NatureMap	
<i>Epilobium tetragonum</i> subsp. <i>tetragonum</i>		NatureMap	
<i>Eragrostis cilianensis</i>	Stinkgrass	NatureMap	
<i>Eragrostis curvula</i>	African Lovegrass	NatureMap	
<i>Erodium botrys</i>	Long Storksbill	NatureMap	
<i>Erythrina x sykesii</i>	Common Coral Tree	NatureMap	
<i>Eucalyptus botryoides</i>	Bangalay	NatureMap	
<i>Eucalyptus botryoides</i>		NatureMap	
<i>Eucalyptus grandis</i>	Flooded Gum	NatureMap	
<i>Eucalyptus grandis</i>		NatureMap	
<i>Euphorbia maculata</i>		NatureMap	
<i>Euphorbia terracina</i>	Geraldton Carnation Weed	NatureMap	
<i>Freesia alba x leichtlinii</i>	Freesia	NatureMap	
<i>Fumaria capreolata</i>	Whiteflower Fumitory	NatureMap	
<i>Fumaria muralis</i> subsp. <i>muralis</i>		NatureMap	
<i>Galium divaricatum</i>		NatureMap	
<i>Gastridium phleoides</i>	Nitgrass	NatureMap	
<i>Gazania linearis</i>		NatureMap	
<i>Genista linifolia</i>	Flax-leaved Broom	NatureMap	WoNS
<i>Genista monspessulana</i>	Cape Broom	DoEE	WoNS
<i>Genista</i> sp. x <i>Genista monspessulana</i>	Broom	DoEE	
<i>Gladiolus carneus</i>	Painted Lady	NatureMap	
<i>Gladiolus caryophyllaceus</i>	Wild Gladiolus	NatureMap	
<i>Gomphocarpus fruticosus</i>	Narrowleaf Cottonbush	NatureMap	Declared Pest
<i>Gomphocarpus physocarpus</i>		NatureMap	
<i>Helianthus annuus</i>	Sunflower	NatureMap	
<i>Heliophila pusilla</i>	-	NatureMap	
<i>Hesperantha falcata</i>		NatureMap	
<i>Holcus lanatus</i>	Yorkshire Fog	NatureMap	
<i>Hordeum vulgare</i>	Barley	NatureMap	
<i>Humulus lupulus</i>		NatureMap	
<i>Hyparrhenia hirta</i>	Tambookie Grass	NatureMap	
<i>Hypochaeris glabra</i>	Smooth Catsear	NatureMap	
<i>Hypochaeris radicata</i>	Flat Weed	NatureMap	
<i>Isolepis hystrix</i>		NatureMap	
<i>Isolepis prolifera</i>	Budding Club-rush	NatureMap	
<i>Ixia paniculata</i>		NatureMap	
<i>Ixia polystachya</i>	Variable Ixia	NatureMap	
<i>Juncus acutus</i> subsp. <i>acutus</i>		NatureMap	
<i>Juncus articulatus</i>	Jointed Rush	NatureMap	
<i>Juncus bufonius</i>	Toad Rush	NatureMap	
<i>Juncus capitatus</i>	Capitate Rush	NatureMap	
<i>Kickxia spuria</i>	Roundleaf Toadflax	NatureMap	
<i>Lactuca serriola</i> forma <i>serriola</i>		NatureMap	
<i>Lantana camara</i>	Lantana	DoEE; NatureMap	WoNS
<i>Lathyrus tingitanus</i>	Tangier Pea	NatureMap	
<i>Lavandula stoechas</i> subsp. <i>stoechas</i>		NatureMap	

Taxon	Common Name	Source*	Comments
<i>Leontodon rhagadioloides</i>	Cretan Weed	NatureMap	
<i>Linum trigynum</i>	French Flax	NatureMap	
<i>Lobularia maritima</i>	Sweet Alyssum	NatureMap	
<i>Lolium multiflorum</i>	Italian Ryegrass	NatureMap	
<i>Lolium x hybridum</i>		NatureMap	
<i>Lonicera japonica</i>	Japanese Honeysuckle	NatureMap	
<i>Lotus angustissimus</i>	Narrowleaf Trefoil	NatureMap	
<i>Lotus subbiflorus</i>	Hairy Bird's-Foot Trefoil	NatureMap	
<i>Lotus subbiflorus</i>		NatureMap	
<i>Lotus uliginosus</i>	Greater Lotus	NatureMap	
<i>Ludwigia repens</i>		NatureMap	
<i>Lupinus luteus</i>	Yellow Lupin	NatureMap	
<i>Lycium ferocissimum</i>	African Boxthorn	DoEE	WoNS
<i>Lysimachia arvensis</i>	Pimpernel	NatureMap	
<i>Lysimachia minima</i>		NatureMap	
<i>Lythrum hyssopifolia</i>	Lesser Loosestrife	NatureMap	
<i>Medicago polymorpha</i>	Burr Medic	NatureMap	
<i>Medicago sativa</i>	Alfalfa	NatureMap	
<i>Megathyrsus maximus</i> var. <i>maximus</i>		NatureMap	
<i>Melaleuca armillaris</i>	Bracelet Honey Myrtle	NatureMap	
<i>Melaleuca citrina</i>		NatureMap	
<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark	NatureMap	
<i>Melinis repens</i>	Red Natal grass	NatureMap	
<i>Modiola caroliniana</i>		NatureMap	
<i>Monopsis debilis</i>		NatureMap	
<i>Moraea flaccida</i>	One-leaf Cape Tulip	NatureMap	Declared Pest
<i>Moraea lewisiae</i>		NatureMap	
<i>Moraea ochroleuca</i>		NatureMap	
<i>Narcissus tazetta</i> subsp. <i>italicus</i>	Paperwhite	NatureMap	
<i>Narcissus tazetta</i> subsp. <i>tazetta</i>		NatureMap	
<i>Nothoscordum gracile</i>	False Onion Weed	NatureMap	
<i>Oenothera drummondii</i>	Beach Evening Primrose	NatureMap	
<i>Oenothera jamesii</i>	River Primrose	NatureMap	
<i>Oenothera laciniata</i>		NatureMap	
<i>Oenothera mollissima</i>		NatureMap	
<i>Oenothera stricta</i> subsp. <i>stricta</i>		NatureMap	
<i>Olea europaea</i>	Olive	DoEE	
<i>Opuntia monacantha</i>	Barbary Fig	NatureMap	Declared Pest; WoNS
<i>Opuntia</i> spp.	Prickly Pears	DoEE	WoNS
<i>Opuntia stricta</i>	Common Prickly Pear	NatureMap	WoNS
<i>Ornithopus compressus</i>	Yellow Serradella	NatureMap	
<i>Orobanche minor</i>	Lesser Broomrape	NatureMap	
<i>Oxalis caprina</i>	Goat's foot	NatureMap	
<i>Oxalis corniculata</i>	Yellow Wood Sorrel	NatureMap	
<i>Oxalis glabra</i>	Finger-leaf Oxalis	NatureMap	
<i>Oxalis incarnata</i>		NatureMap	
<i>Oxalis pes-caprae</i>	Soursob	NatureMap	

Taxon	Common Name	Source*	Comments
<i>Oxalis purpurea</i>	Largeflower Wood Sorrel	NatureMap	
<i>Panicum capillare</i>	Witchgrass	NatureMap	
<i>Parentucellia latifolia</i>	Common Bartsia	NatureMap	
<i>Paspalum dilatatum</i>		NatureMap	
<i>Paspalum distichum</i>	Water Couch	NatureMap	
<i>Paspalum urvillei</i>	Vasey Grass	NatureMap	
<i>Passiflora filamentosa</i>		NatureMap	
<i>Pavonia hastata</i>		NatureMap	
<i>Pentameris airoides</i> subsp. <i>airoides</i>		NatureMap	
<i>Pentameris pallida</i>		NatureMap	
<i>Persicaria maculosa</i>		NatureMap	
<i>Petrorhagia dubia</i>	Hairy Pink	NatureMap	
<i>Phalaris angusta</i>		NatureMap	
<i>Phalaris minor</i>	Lesser Canary Grass	NatureMap	
<i>Phalaris paradoxa</i>	Paradoxa Grass	NatureMap	
<i>Phyllanthus tenellus</i>		NatureMap	
<i>Physalis peruviana</i>	Cape Gooseberry	NatureMap	
<i>Pinus radiata</i>	Radiata Pine	DoEE	
<i>Plantago lanceolata</i>	Ribwort Plantain	NatureMap	
<i>Poa annua</i>	Winter Grass	NatureMap	
<i>Polygala myrtifolia</i>	Myrtleleaf Milkwort	NatureMap	
<i>Polygala virgata</i>		NatureMap	
<i>Polygonum arenastrum</i>	Sand Wireweed	NatureMap	
<i>Polygonum aviculare</i>	Wireweed	NatureMap	
<i>Polypogon monspeliensis</i>	Annual Beardgrass	NatureMap	
<i>Prunus cerasifera</i>		NatureMap	
<i>Psoralea pinnata</i>	African Scurfpea	NatureMap	
<i>Ranunculus muricatus</i>	Sharp Buttercup	NatureMap	
<i>Raphanus raphanistrum</i>	Wild Radish	NatureMap	
<i>Ricinus communis</i>	Castor Oil Plant	NatureMap	
<i>Robinia pseudoacacia</i>		NatureMap	
<i>Romulea flava</i> var. <i>minor</i>		NatureMap	
<i>Romulea rosea</i>	Guildford Grass	NatureMap	
<i>Rorippa nasturtium-aquaticum</i>	Watercress	NatureMap	
<i>Rostraria pumila</i>		NatureMap	
<i>Rubus anglocandicans</i>		NatureMap	Declared Pest
<i>Rubus fruticosus</i> aggregate	Blackberry	DoEE	Declared Pest; WoNS
<i>Rubus laudatus</i>		NatureMap	Declared Pest
<i>Rumex conglomeratus</i>	Clustered Dock	NatureMap	
<i>Rumex crispus</i>	Curled Dock	NatureMap	
<i>Sagittaria platyphylla</i>	Arrowhead	DoEE	Declared Pest; WoNS
<i>Salix</i> spp. (except <i>S. babylonica</i> , <i>S. x calodendron</i> and <i>S. x reichardtii</i>)	Willows	DoEE	Declared Pest (majority of <i>Salix</i> spp.); WoNS
<i>Salvinia molesta</i>	Salvinia	DoEE; NatureMap	WoNS
<i>Scabiosa atropurpurea</i>	Purple Pincushion	NatureMap	
<i>Schinus terebinthifolius</i>	Broad-leaved pepper tree	NatureMap	
<i>Senecio vulgaris</i>	Common Groundsel	NatureMap	
<i>Setaria palmifolia</i>	Palm Grass	NatureMap	
<i>Setaria parviflora</i>		NatureMap	

Taxon	Common Name	Source*	Comments
<i>Setaria sphacelata</i>	South African Pigeon Grass	NatureMap	
<i>Silene gallica</i>	French Catchfly	NatureMap	
<i>Solanum linnaeanum</i>	Apple of Sodom	NatureMap	Declared Pest
<i>Solanum nigrum</i>	Blackberry Nightshade	NatureMap	
<i>Sonchus oleraceus</i>	Common Sowthistle	NatureMap	
<i>Sorghum bicolor</i>	Grain Sorghum	NatureMap	
<i>Sorghum halepense</i>	Johnson Grass	NatureMap	
<i>Sparaxis bulbifera</i>	Harlequin Flower	NatureMap	
<i>Stachys arvensis</i>	Staggerweed	NatureMap	
<i>Symphotrichum squamatum</i>	Bushy Starwort	NatureMap	
<i>Tamarix aphylla</i>	Athel Pine	DoEE	Declared Pest; WoNS
<i>Tolpis barbata</i>	Yellow Hawkweed	NatureMap	
<i>Tribolium uniolae</i>	-	NatureMap	
<i>Tribulus terrestris</i>	Caltrop	NatureMap	
<i>Trifolium angustifolium</i> subsp. <i>angustifolium</i>	Narrowleaf Clover	NatureMap	
<i>Trifolium arvense</i>	Hare's Foot Clover	NatureMap	
<i>Trifolium campestre</i>	Hop Clover	NatureMap	
<i>Trifolium dubium</i>	Suckling Clover	NatureMap	
<i>Trifolium glomeratum</i>	Cluster Clover	NatureMap	
<i>Trifolium hirtum</i>	Rose Clover	NatureMap	
<i>Trifolium pratense</i> var. <i>sativum</i>		NatureMap	
<i>Trifolium tomentosum</i> var. <i>tomentosum</i>		NatureMap	
<i>Tritonia gladiolaris</i>	Lined Tritonia	NatureMap	
<i>Urochloa mutica</i> (previously <i>Brachiaria mutica</i>)	Para Grass	DoEE	
<i>Urospermum picroides</i>	False Hawkbit	NatureMap	
<i>Ursinia anthemoides</i>	Ursinia	NatureMap	
<i>Vellereophyton dealbatum</i>	White Cudweed	NatureMap	
<i>Verbesina encelioides</i>		NatureMap	
<i>Vicia sativa</i>	Common Vetch	NatureMap	
<i>Vicia sativa</i> subsp. <i>sativa</i>		NatureMap	
<i>Vicia tetrasperma</i>		NatureMap	Declared Pest
<i>Vinca major</i>	Blue Periwinkle	NatureMap	
<i>Vitis vinifera</i>		NatureMap	
<i>Vulpia bromoides</i>	Squirrel Tail Fescue	NatureMap	
<i>Vulpia muralis</i>		NatureMap	
<i>Vulpia myuros</i>	Rat's Tail Fescue	NatureMap	
<i>Wahlenbergia capensis</i>	Cape Bluebell	NatureMap	
<i>Watsonia borbonica</i>		NatureMap	
<i>Watsonia knysnana</i>		NatureMap	
<i>Watsonia marginata</i>		NatureMap	
<i>Watsonia meriana</i>	Bulbil Watsonia	NatureMap	
<i>Watsonia versfeldii</i>		NatureMap	
<i>Zantedeschia aethiopica</i>	Arum Lily	NatureMap	Declared Pest

* Sources are:

DoEE - DoEE (2019); and

NatureMap - DBCA (2007-).

Appendix K: Vascular Plant Taxa Recorded in the Survey Area

Anacardiaceae	<i>*Schinus terebinthifolia</i>
Anarthriaceae	<i>Anarthria gracilis</i> <i>Lyginia barbata</i> <i>Lyginia imberbis</i>
Apiaceae	<i>Xanthosia candida</i> <i>Xanthosia huegelii</i>
Apocynaceae	<i>*Gomphocarpus fruticosus</i>
Araliaceae	<i>Hydrocotyle callicarpa</i> <i>Trachymene pilosa</i>
Asparagaceae	<i>*Asparagus asparagoides</i> <i>Laxmannia ramosa</i> subsp. <i>ramosa</i> <i>Lomandra caespitosa</i> <i>Lomandra hermaphrodita</i> <i>Lomandra micrantha</i> subsp. <i>micrantha</i> <i>Lomandra nigricans</i> <i>Lomandra preissii</i> <i>Lomandra sericea</i> <i>Lomandra suaveolens</i> <i>Thysanotus manglesianus</i> <i>Thysanotus patersonii</i> <i>Thysanotus sparteus</i> <i>Thysanotus thyrsoides</i> <i>Thysanotus triandrus</i>
Asteraceae	<i>*Arctotheca calendula</i> <i>*Hypochaeris glabra</i> <i>*Leontodon rhagadioloides</i> <i>Millotia tenuifolia</i> var. <i>tenuifolia</i> <i>Podotheca angustifolia</i> <i>Pterochaeta paniculata</i> <i>Siloxerus humifusus</i> <i>*Sonchus asper</i> <i>*Sonchus oleraceus</i> <i>*Ursinia anthemoides</i>
Boraginaceae	<i>*Echium plantagineum</i>
Brassicaceae	<i>*Raphanus raphanistrum</i>
Byblidaceae	<i>Byblis gigantea</i> (P3)

Cactaceae	* <i>Opuntia stricta</i>
Campanulaceae	<i>Wahlenbergia multicaulis</i>
Casuarinaceae	<i>Allocasuarina fraseriana</i> <i>Allocasuarina humilis</i> * <i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i> <i>Casuarina obesa</i>
Celastraceae	<i>Tripterococcus brunonis</i>
Centrolepidaceae	<i>Centrolepis aristata</i>
Colchicaceae	<i>Burchardia congesta</i>
Convolvulaceae	* <i>Ipomoea cairica</i>
Crassulaceae	<i>Crassula colorata</i> var. <i>colorata</i>
Cucurbitaceae	* <i>Cucumis myriocarpus</i>
Cupressaceae	<i>Callitris pyramidalis</i>
Cyperaceae	? <i>Baumea juncea</i> <i>Cyathochaeta avenacea</i> <i>Cyathochaeta equitans</i> <i>Isolepis marginata</i> <i>Lepidosperma asperatum</i> <i>Lepidosperma carphoides</i> <i>Lepidosperma leptostachyum</i> <i>Lepidosperma longitudinale</i> <i>Lepidosperma</i> sp. <i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841) <i>Mesomelaena graciliceps</i> <i>Mesomelaena pseudostygia</i> <i>Mesomelaena tetragona</i> <i>Schoenoplectus tabernaemontani</i> <i>Schoenus asperocarpus</i> <i>Schoenus brevisetis</i> <i>Schoenus caespititius</i> <i>Schoenus clandestinus</i> <i>Schoenus curvifolius</i> <i>Schoenus efoliatus</i> <i>Schoenus laevigatus</i> <i>Schoenus nanus</i> <i>Schoenus rigens</i> <i>Schoenus</i> ?sp. smooth culms (K.R. Newbey 7823) <i>Schoenus subfascicularis</i>

Cyperaceae cont.	<i>Schoenus sublateralis</i>
	<i>Schoenus unispiculatus</i>
	<i>Tetraria australiensis</i> (T)
	<i>Tetraria octandra</i>
	<i>Tricostularia exsul</i>
	<i>Tricostularia neesii</i>
Dasyopogonaceae	<i>Calectasia narragara</i>
	<i>Dasyopogon bromeliifolius</i>
	<i>Dasyopogon obliquifolius</i>
	<i>Kingia australis</i>
Dilleniaceae	<i>Hibbertia aurea</i>
	<i>Hibbertia huegelii</i>
	<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>
	<i>Hibbertia striata</i>
Droseraceae	<i>Drosera erythrorhiza</i>
	<i>Drosera glanduligera</i>
	<i>Drosera macrantha</i>
	<i>Drosera menziesii</i>
	<i>Drosera neesii</i>
	<i>Drosera porrecta</i>
Ericaceae	<i>Andersonia gracilis</i> (T)
	<i>Astroloma pallidum</i>
	<i>Conostephium pendulum</i>
	<i>Leucopogon conostephioides</i>
	<i>Lysinema pentapetalum</i>
	<i>Styphelia filifolia</i> (P3)
Euphorbiaceae	* <i>Euphorbia terracina</i>
	* <i>Ricinus communis</i>
Fabaceae	<i>Acacia alata</i> var. <i>alata</i>
	<i>Acacia applanata</i>
	<i>Acacia huegelii</i>
	* <i>Acacia iteaphylla</i>
	<i>Acacia lasiocarpa</i>
	* <i>Acacia longifolia</i>
	* <i>Acacia podalyriifolia</i>
	<i>Acacia pulchella</i> var. <i>pulchella</i>
	<i>Acacia saligna</i>
	<i>Acacia sessilis</i>
	<i>Bossiaea eriocarpa</i>
	* <i>Chamaecytisus palmensis</i>
<i>Chorizema dicksonii</i>	

Fabaceae cont.

Cristonia biloba subsp. *biloba*
Daviesia angulata
Daviesia decurrens subsp. *decurrens*
Daviesia divaricata subsp. *divaricata*
Daviesia nudiflora subsp. *nudiflora*
Daviesia physodes
Daviesia triflora
**Erythrina* × *sykesii*
Euchilopsis linearis
Eutaxia virgata
Gastrolobium capitatum
Gastrolobium linearifolium
Gompholobium confertum
Gompholobium marginatum
Gompholobium tomentosum
Hovea trisperma var. *trisperma*
Jacksonia floribunda
Jacksonia furcellata
Jacksonia gracillima (P3)
Jacksonia lehmannii
Jacksonia sternbergiana
Kennedia prostrata
Labichea punctata
**Lotus subbiflorus*
**Lupinus angustifolius*
**Melilotus indicus*
Sphaerolobium macranthum
**Trifolium angustifolium*
**Trifolium campestre* var. *campestre*
**Vicia hirsuta*
**Vicia sativa*
Viminaria juncea

Geraniaceae

**Erodium botrys*
**Pelargonium capitatum*

Goodeniaceae

Dampiera linearis
Goodenia coerulea
Lechenaultia biloba
Lechenaultia expansa
Scaevola repens var. *repens*

Haemodoraceae

Anigozanthos humilis subsp. *humilis*
Anigozanthos manglesii subsp. *manglesii*
Anigozanthos viridis subsp. *viridis*
Conostylis aurea

Haemodoraceae cont.	<i>Conostylis juncea</i> <i>Conostylis latens</i> <i>Conostylis setigera</i> subsp. <i>setigera</i> <i>Haemodorum laxum</i> <i>Phlebocarya ciliata</i> <i>Phlebocarya filifolia</i>
Hemerocallidaceae	<i>Caesia micrantha</i> <i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2) <i>Tricoryne elatior</i>
Iridaceae	* <i>Gladiolus caryophyllaceus</i> * <i>Hesperantha falcata</i> * <i>Moraea flaccida</i> <i>Patersonia occidentalis</i> var. <i>occidentalis</i> * <i>Romulea rosea</i> * <i>Watsonia meriana</i> * <i>Watsonia</i> sp. *? <i>Watsonia</i> sp.
Juncaceae	<i>Juncus pallidus</i>
Juncaginaceae	<i>Triglochin nana</i>
Lamiaceae	<i>Hemiandra linearis</i> * <i>Stachys arvensis</i>
Lauraceae	<i>Cassytha flava</i> <i>Cassytha glabella</i> forma <i>dispar</i> <i>Cassytha racemosa</i> forma <i>pilosa</i>
Loganiaceae	<i>Phyllangium paradoxum</i>
Loranthaceae	<i>Nuytsia floribunda</i>
Macarthuriaceae	<i>Macarthuria australis</i>
Malvaceae	<i>Lasiopetalum bracteatum</i> (P4) * <i>Malva parviflora</i> <i>Thomasia macrocarpa</i>
Meliaceae	^ <i>Melia azedarach</i>
Myrtaceae	^ <i>Agonis flexuosa</i> <i>Astartea affinis</i> <i>Astartea scoparia</i> <i>Babingtonia camphorosmae</i> <i>Beaufortia squarrosa</i> ^ <i>Callistemon</i> sp.

Myrtaceae cont.

Calothamnus lateralis var. *lateralis*
Calothamnus quadrifidus subsp. *quadrifidus*
 ^*Calothamnus rupestris*
Calothamnus sanguineus
Calytrix aurea
Calytrix flavescens
Calytrix fraseri
 ^*Chamelaucium uncinatum*
Corymbia calophylla
 ^*Darwinia citriodora*
Eremaea pauciflora var. *pauciflora*
 ^*Eucalyptus camaldulensis*
 ^*Eucalyptus cornuta*
 ^*Eucalyptus decipiens*
Eucalyptus marginata subsp. *marginata*
Eucalyptus patens
 **Eucalyptus ?resinifera*
Eucalyptus rudis
Eucalyptus todtiana
 ^*Eucalyptus torquata*
 ^*Eucalyptus wandoo*
 **Eucalyptus* sp.
Hypocalymma angustifolium subsp. Swan Coastal Plain (G.J. Keighery 16777)
 ^*Kunzea glabrescens*
Kunzea micrantha subsp. *micrantha*
 **Leptospermum laevigatum*
Melaleuca acutifolia
 ^*Melaleuca huegelii* subsp. *huegelii*
 ^*Melaleuca incana* subsp. *incana*
Melaleuca lateritia
 ^*Melaleuca leucadendra*
 ^*Melaleuca nesophila*
Melaleuca preissiana
Melaleuca raphiophylla
Melaleuca seriata
Melaleuca teretifolia
Melaleuca trichophylla
 ^*Melaleuca viminalis* (P2)
Melaleuca viminea subsp. *viminea*
Pericalymma ellipticum var. *floridum*
Regelia ciliata
Scholtzia involucrata
Verticordia densiflora
Verticordia lindleyi subsp. *lindleyi* (P4)

Olacaceae	<i>Olax scalariformis</i>
Oleaceae	* <i>Olea europaea</i>
Orchidaceae	<i>Caladenia flava</i> <i>Caladenia macrostylis</i> <i>Caladenia paludosa</i> * <i>Disa bracteata</i> <i>Diuris brumalis</i> <i>Diuris corymbosa</i> <i>Diuris magnifica</i> <i>Leporella fimbriata</i> ? <i>Microtis</i> sp. <i>Pterostylis recurva</i> <i>Pterostylis vittata</i> <i>Pyrorchis nigricans</i> <i>Thelymitra ?benthamiana</i> <i>Thelymitra crinita</i> <i>Thelymitra graminea</i> <i>Thelymitra</i> sp.
Oxalidaceae	* <i>Oxalis glabra</i> * <i>Oxalis pes-caprae</i> * <i>Oxalis</i> sp.
Papaveraceae	* <i>Fumaria capreolata</i>
Phyllanthaceae	<i>Poranthera microphylla</i>
Pinaceae	* <i>Pinus pinaster</i> * <i>Pinus radiata</i>
Pittosporaceae	<i>Billardiera fraseri</i> <i>Cheiranthra preissiana</i>
Plantaginaceae	* <i>Plantago bellardii</i>
Poaceae	* <i>Aira cupaniana</i> <i>Amphipogon ?strictus</i> <i>Amphipogon turbinatus</i> * <i>Arundo donax</i> <i>Austrostipa compressa</i> <i>Austrostipa elegantissima</i> <i>Austrostipa hemipogon</i> <i>Austrostipa</i> sp. * <i>Avena barbata</i> * <i>Brachypodium distachyon</i> * <i>Briza maxima</i>

Poaceae cont.

**Bromus diandrus*
 **Cenchrus clandestinus*
 **Cortaderia selloana*
 **Ehrharta calycina*
 **Ehrharta longiflora*
 **Eragrostis curvula*
 **Lagurus ovatus*
 **Lolium rigidum*
Neurachne alopecuroidea
 **Paspalum dilatatum*
 **Pentameris airoides* subsp. *airoides*
 **Vulpia bromoides*
 **Vulpia myuros* forma *myuros*

Primulaceae

**Lysimachia arvensis*

Proteaceae

Adenanthos cygnorum subsp. *cygnorum*
Banksia attenuata
Banksia dallanneyi subsp. *dallanneyi*
Banksia grandis
Banksia ilicifolia
Banksia menziesii
Banksia mimica (T)
Banksia telmatiaea
 ^*Banksia victoriae*
Conospermum undulatum (T)
Grevillea bipinnatifida subsp. *bipinnatifida*
 ^*Grevillea leucopteris*
 ^*Grevillea obtusifolia*
 ^*Grevillea thelemanniana* (T)
Hakea candolleana
Hakea ceratophylla
Hakea incrassata
Hakea prostrata
Hakea ruscifolia
Hakea sulcata
Hakea trifurcata
Hakea undulata
Hakea varia
Isopogon autumnalis (P3)
Lambertia multiflora var. *darlingensis*
Persoonia angustiflora
Petrophile linearis
Petrophile macrostachya
Petrophile rigida
Petrophile seminuda

Proteaceae cont.	<i>Petrophile striata</i> <i>Stirlingia latifolia</i> <i>Synaphea gracillima</i> <i>Synaphea spinulosa</i> subsp. <i>spinulosa</i> <i>Xylomelum occidentale</i>
Restionaceae	<i>Alexgeorgea nitens</i> <i>Chaetanthus aristatus</i> <i>Chordifex sinuosus</i> <i>Cytogonidium leptocarpoides</i> <i>Desmocladius fasciculatus</i> <i>Hypolaena exsulca</i> <i>Lepidobolus preissianus</i> <i>Leptocarpus coangustatus</i> <i>Leptocarpus decipiens</i> <i>Tremulina tremula</i>
Rhamnaceae	<i>Cryptandra pungens</i> <i>Trymalium odoratissimum</i> subsp. <i>odoratissimum</i>
Rubiaceae	<i>Opercularia vaginata</i>
Rutaceae	<i>Boronia ramosa</i> subsp. <i>anethifolia</i> <i>Philotheca spicata</i>
Santalaceae	<i>Leptomeria empetriformis</i>
Solanaceae	* <i>Solanum nigrum</i>
Stylidiaceae	<i>Levenhookia pusilla</i> <i>Stylidium androsaceum</i> <i>Stylidium bicolor</i> <i>Stylidium ciliatum</i> <i>Stylidium diuroides</i> subsp. <i>diuroides</i> <i>Stylidium piliferum</i> <i>Stylidium recurvum</i> <i>Stylidium repens</i> <i>Stylidium schoenoides</i> <i>Stylidium tenue</i> subsp. <i>majusculum</i>
Thymelaeaceae	<i>Pimelea angustifolia</i> <i>Pimelea sulphurea</i>
Typhaceae	<i>Typha domingensis</i>
Urticaceae	* <i>Urtica urens</i>
Violaceae	<i>Hybanthus calycinus</i>

Xanthorrhoeaceae

Chamaescilla corymbosa var. *corymbosa*

Xanthorrhoea brunonis

Xanthorrhoea preissii

Zamiaceae

Macrozamia fraseri

Note:

- * denotes introduced taxon; and
- ^ denotes taxon native to Western Australia but not indigenous to Survey Area; has been introduced via planting.

Appendix L: Raw Data Recorded in Quadrats and Relevés

Site Name: GSI-01
 Site Type: QUADRAT
 Dimensions: 10m x 10m
 Survey Date: 18/09/2019
 GPS Location: GDA94 Zone 50 405150.761024E 6459789.65942708N
 Community: 1
 Landform Type: Plain
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Sand
 Soil Colour: Grey
 Rock Outcrop: No bedrock exposed
 CF Abundance: 0%
 Vegetation Condition: Southern Vegetation Condition - 3 - Very Good
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Allocasuarina fraseriana*, *Banksia attenuata*, *Eucalyptus marginata*
 subsp. *marginata*
 Mid Stratum 1: *Xanthorrhoea preissii*
 Lower Stratum 1: *Dasypogon bromeliifolius*, *Mesomelaena pseudostygia*

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia applanata</i>	0.4	0.1
<i>Alexgeorgea nitens</i>	0.1	0.1
<i>Allocasuarina fraseriana</i>	5.5	8
<i>Allocasuarina humilis</i>	1	1
<i>Astroloma pallidum</i>	0.2	0.1
<i>Banksia attenuata</i>	5	5
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.2	0.1
<i>Billardiera fraseri</i>		0.1
<i>Bossiaea eriocarpa</i>	0.2	0.1
* <i>Briza maxima</i>	0.3	0.2
<i>Burchardia congesta</i>	0.4	0.1
<i>Caladenia ?flava</i>	0.1	0.1
<i>Conostylis juncea</i>		
<i>Cristonia biloba</i> subsp. <i>biloba</i>	0.2	0.1
<i>Dampiera linearis</i>	0.3	0.1

<i>Dasypogon bromeliifolius</i>	0.4	2
<i>Daviesia angulata</i>	0.7	0.3
<i>Desmocladius fasciculatus</i>	0.1	0.1
<i>Drosera erythrorhiza</i>	0.1	0.1
<i>Eucalyptus marginata</i> subsp. <i>marginata</i>	5.5	5
* <i>Gladiolus caryophyllaceus</i>	0.5	0.1
<i>Gompholobium confertum</i>	0.6	0.2
<i>Haemodorum ?laxum</i>	0.5	0.1
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.2	1
* <i>Hypochaeris glabra</i>	0.1	0.1
<i>Hypolaena exsulca</i>	0.4	0.1
<i>Jacksonia lehmannii</i>	0.4	0.1
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2)		
<i>Labichea punctata</i>	0.2	0.5
<i>Lambertia multiflora</i> var. <i>darlingensis</i>		
<i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)	0.3	0.1
<i>Lomandra caespitosa</i>	0.4	0.1
<i>Lomandra hermaphrodita</i>	0.4	0.1
<i>Lomandra preissii</i>	0.7	0.1
<i>Lomandra sericea</i>	0.3	0.1
<i>Melaleuca trichophylla</i>	0.2	0.1
<i>Mesomelaena graciliceps</i>	0.2	0.1
<i>Mesomelaena pseudostygia</i>	0.6	2
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.4	0.1
<i>Philothea spicata</i>	0.5	0.2
<i>Scaevola repens</i> var. <i>repens</i>	0.1	0.1
<i>Schoenus caespititius</i>	0.5	0.2
* <i>Sonchus oleraceus</i>	0.1	0.1
<i>Stirlingia latifolia</i>	0.4	0.1
<i>Stylidium ciliatum</i>	0.1	0.1
<i>Synaphea spinulosa</i> subsp. <i>spinulosa</i>	0.3	0.1
<i>Tetraria octandra</i>	0.6	0.2
<i>Thysanotus manglesianus</i>		0.1
<i>Trachymene pilosa</i>	0.1	0.1
<i>Tricoryne elatior</i>	0.3	0.1
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Wahlenbergia multicaulis</i>	0.1	0.1
*? <i>Watsonia</i> sp.	0.5	0.1
<i>Xanthorrhoea brunonis</i>	0.8	0.5
<i>Xanthorrhoea preissii</i>	1	1.5
<i>Xylomelum occidentale</i>	1	0.2

PHOTO



Site Name:	GSI-02
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	17/09/2019
GPS Location:	GDA94 Zone 50 406056.99E 6455836.36N
Community:	1
Landform Type:	Lower Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SW
Soil Type:	Sand
Soil Colour:	Grey-white (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 2 - Excellent
Disturbance:	Exotic Weeds
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	<i>Allocasuarina fraseriana</i> , <i>Banksia menziesii</i>
Mid Stratum 1:	<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>
Mid Stratum 2:	<i>Allocasuarina humilis</i>
Lower Stratum 1:	<i>Melaleuca trichophylla</i>
Lower Stratum 2:	<i>Mesomelaena pseudostygia</i>

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia applanata</i>	0.2	0.1
<i>Acacia sessilis</i>	0.2	0.1
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	2.5	5
<i>Alexgeorgea nitens</i>	0.1	0.1
<i>Allocasuarina fraseriana</i>	4	3
<i>Allocasuarina humilis</i>	1.5	6
<i>Amphipogon turbinatus</i>	0.2	0.1
<i>Anigozanthos humilis</i> subsp. <i>humilis</i>		
<i>Banksia attenuata</i>	5	1
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>		
<i>Banksia menziesii</i>	4	4
<i>Bossiaea eriocarpa</i>		

* <i>Briza maxima</i>	0.1	0.1
<i>Burchardia congesta</i>	0.5	0.1
<i>Caladenia flava</i>	0.1	0.1
<i>Calectasia narragara</i>	0.3	0.1
<i>Calytrix flavescens</i>	0.1	0.1
<i>Conospermum undulatum</i> (T)	1.5	0.8
<i>Conostephium pendulum</i>	0.4	0.1
<i>Conostylis juncea</i>		
<i>Conostylis latens</i>		
<i>Cristonia biloba</i> subsp. <i>biloba</i>	0.4	0.1
<i>Dampiera linearis</i>	0.3	0.1
<i>Dasypogon obliquifolius</i>	0.3	0.1
<i>Daviesia decurrens</i> subsp. <i>decurrens</i>	0.5	0.2
<i>Daviesia divaricata</i> subsp. <i>divaricata</i>	0.4	0.1
<i>Daviesia nudiflora</i> subsp. <i>nudiflora</i>	0.5	0.4
<i>Daviesia triflora</i>	0.5	0.1
<i>Drosera erythrorhiza</i>	0.1	0.1
<i>Drosera macrantha</i>		0.1
<i>Drosera ?menziesii</i>	0.1	0.1
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.3	0.4
<i>Eucalyptus todtiana</i>		
<i>Gastrolobium linearifolium</i>		
* <i>Gladiolus caryophyllaceus</i>	0.4	0.1
<i>Gompholobium tomentosum</i>	0.3	0.1
<i>Haemodorum ?laxum</i>	0.5	0.1
<i>Haemodorum laxum</i>	0.5	0.2
<i>Hakea ruscifolia</i>	1.6	0.2
<i>Hemiandra linearis</i>		
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.4	0.4
<i>Hibbertia striata</i>	0.4	0.3
* <i>Hypochoeris glabra</i>	0.1	0.1
<i>Jacksonia floribunda</i>	0.8	0.1
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2)		
<i>Lepidobolus preissianus</i>	0.3	0.1
<i>Lepidosperma leptostachyum</i>		
* <i>Leptospermum laevigatum</i>		
<i>Lomandra caespitosa</i>	0.3	0.1
<i>Lomandra hermaphrodita</i>	0.1	0.1
<i>Lomandra nigricans</i>	0.3	0.1
<i>Lomandra preissii</i>	0.5	0.1
<i>Lomandra sericea</i>	0.2	0.1
<i>Lomandra suaveolens</i>	0.1	0.1
<i>Lyginia imberbis</i>	1	0.1
<i>Lysinema pentapetalum</i>		

<i>Melaleuca trichophylla</i>	0.4	6
<i>Mesomelaena pseudostygia</i>	0.4	5
<i>Mesomelaena tetragona</i>	0.8	0.1
<i>Millotia tenuifolia</i> var. <i>tenuifolia</i>	0.1	0.1
<i>Neurachne alopecuroidea</i>		
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.3	0.1
<i>Persoonia angustiflora</i>	0.1	0.1
<i>Petrophile linearis</i>	0.4	0.1
<i>Petrophile macrostachya</i>		
<i>Philothea spicata</i>	0.5	0.1
<i>Pimelea sulphurea</i>	0.3	0.1
<i>Pterostylis vittata</i>	0.1	0.1
<i>Schoenus caespitius</i>	0.3	0.1
<i>Scholtzia involucrata</i>		
<i>Stirlingia latifolia</i>		
<i>Stylidium piliferum</i>		
<i>Thysanotus patersonii</i>		0.1
<i>Thysanotus thyrsoideus</i>	0.1	0.1
<i>Trachymene pilosa</i>	0.1	0.1
<i>Tricostularia exsul</i>		
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Xanthorrhoea brunonis</i>		
<i>Xanthorrhoea preissii</i>		

PHOTO



Site Name: GSI-03
 Site Type: QUADRAT
 Dimensions: 10m x 10m
 Survey Date: 18/09/2019
 GPS Location: GDA94 Zone 50 405248.58009746E 6459449.67457766N
 Community: 4
 Landform Type: Lower Slope
 Slope Class: Very Gently Inclined (1 degree)
 Aspect: S
 Soil Type: Sand
 Soil Colour: Grey
 Rock Outcrop: No bedrock exposed
 CF Abundance: 0%
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Corymbia calophylla*
 Mid Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum*
 Lower Stratum 1: *Dasypogon bromeliifolius*, *Phlebocarya ciliata*

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia appplanata</i>	0.2	0.1
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	2.3	5
* <i>Aira cupaniana</i>	0.1	0.1
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.2	0.2
<i>Billardiera fraseri</i>		0.1
<i>Burchardia congesta</i>	0.4	0.1
<i>Caladenia ?flava</i>	0.1	0.1
<i>Calytrix aurea</i>	0.3	0.1
<i>Cassytha glabella</i>		0.1
<i>Conospermum undulatum</i> (T)	1.5	0.1
<i>Conostylis juncea</i>	0.2	0.2
<i>Corymbia calophylla</i>	9	8
<i>Cyathochaeta avenacea</i>	0.4	0.1
<i>Cytogonidium leptocarpoides</i>	0.3	0.2
<i>Dampiera linearis</i>	0.2	0.1
<i>Dasypogon bromeliifolius</i>	0.4	12

<i>Desmocladius fasciculatus</i>	0.1	1.1
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.7	1
<i>Gastrolobium capitatum</i>	0.1	0.1
* <i>Gladiolus caryophyllaceus</i>	0.4	0.1
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.2	0.2
* <i>Hypochaeris glabra</i>	0.1	0.1
<i>Hypolaena exsulca</i>	0.2	1
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2)	0.1	0.1
<i>Kingia australis</i>	1.5	0.2
<i>Lomandra hermaphrodita</i>	0.1	0.1
<i>Lyginia imberbis</i>	0.3	0.5
<i>Mesomelaena tetragona</i>	0.6	1
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.3	0.6
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	0.6	0.3
<i>Philothea spicata</i>	1	0.2
<i>Phlebocarya ciliata</i>	0.3	2
<i>Schoenus caespititius</i>	0.4	0.2
<i>Stirlingia latifolia</i>	0.3	0.4
<i>Stylidium tenue</i> subsp. <i>majusculum</i>	0.1	0.1
<i>Styphelia filifolia</i> (P3)	0.2	0.3
<i>Trachymene pilosa</i>	0.1	0.1
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Verticordia densiflora</i>	0.4	0.1
<i>Wahlenbergia multicaulis</i>	0.1	0.1
<i>Xanthorrhoea brunonis</i>	1.5	0.1
<i>Xanthorrhoea preissii</i>	1.8	0.6

PHOTO



Site Name: GSI-04
 Site Type: QUADRAT
 Dimensions: 10m x 10m
 Survey Date: 17/09/2019
 GPS Location: GDA94 Zone 50 405911.41168622E 6455903.19897077N
 Community: 2
 Landform Type: Lower Slope
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Sand
 Soil Colour: Grey-white (other)
 Rock Outcrop: No bedrock exposed
 CF Abundance: 0%
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Eucalyptus todtiana*
 Mid Stratum 1: *Hakea trifurcata*, *Hakea undulata*
 Lower Stratum 1: *Eremaea pauciflora* var. *pauciflora*, *Hibbertia hypericoides* subsp. *hypericoides*
 Lower Stratum 2: *Haemodorum ?laxum*, *Mesomelaena tetragona*

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia applanata</i>	0.3	0.1
<i>Acacia pulchella</i> var. <i>pulchella</i>	1.2	0.8
<i>Allocasuarina humilis</i>	0.8	0.2
<i>Babingtonia camphorosmae</i>	0.1	0.1
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.3	0.8
* <i>Briza maxima</i>	0.2	0.1
<i>Burchardia congesta</i>	0.4	0.1
<i>Caesia micrantha</i>	0.7	0.1
<i>Caladenia flava</i>	0.1	0.1
<i>Caladenia macrostylis</i>	0.1	0.1
<i>Calectasia narragara</i>		
<i>Cassytha racemosa</i>		0.1
<i>Chamaescilla corymbosa</i> var. <i>corymbosa</i>	0.2	0.1
<i>Conostylis aurea</i>	0.1	0.1
<i>Conostylis latens</i>	0.1	0.2

<i>Cyathochaeta equitans</i>	1.5	0.3
<i>Dampiera linearis</i>	0.2	0.1
<i>Daviesia angulata</i>	1.2	0.5
<i>Daviesia decurrens</i> subsp. <i>decurrens</i>	0.3	0.1
<i>Desmocladius fasciculatus</i>	0.1	0.2
<i>Drosera menziesii</i>		
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.4	1
<i>Eucalyptus todtiana</i>	3.5	1
* <i>Gladiolus caryophyllaceus</i>	0.2	0.1
<i>Gompholobium confertum</i>	0.3	0.1
<i>Gompholobium marginatum</i>	0.2	0.1
<i>Gompholobium tomentosum</i>	0.5	0.2
<i>Goodenia coerulea</i>	0.5	0.1
<i>Haemodorum laxum</i>	0.7	0.1
<i>Haemodorum ?laxum</i>	0.8	1.1
<i>Hakea trifurcata</i>	2.5	3.5
<i>Hakea undulata</i>	2.5	60
* <i>Hesperantha falcata</i>		
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.8	3
<i>Lambertia multiflora</i> var. <i>darlingensis</i>	1.3	0.8
<i>Lepidosperma carphoides</i>	0.5	0.1
<i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)	0.6	0.1
* <i>Leptospermum laevigatum</i>	2.5	0.8
<i>Lomandra caespitosa</i>	0.2	0.1
<i>Lomandra preissii</i>	0.4	0.1
<i>Lyginia imberbis</i>	0.6	0.1
<i>Mesomelaena tetragona</i>	0.6	1.2
<i>Nuytsia floribunda</i>		
* <i>Oxalis glabra</i>	0.1	0.1
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.2	0.1
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	1.6	0.1
<i>Philothea spicata</i>	1.2	0.1
<i>Pterostylis vittata</i>	0.3	0.1
<i>Schoenus brevisetis</i>	0.1	0.1
<i>Stirlingia latifolia</i>	0.6	0.2
<i>Stylidium tenue</i> subsp. <i>majusculum</i>	0.1	0.1
<i>Tetraria australiensis</i> (T)	0.5	0.1
<i>Tetraria octandra</i>	0.1	0.1
<i>Thelymitra ?benthamiana</i>	0.1	0.1
<i>Thysanotus patersonii</i>		0.1
<i>Thysanotus sparteus</i>	0.5	0.1
<i>Tricoryne elatior</i>		
<i>Tripterooccus brunonis</i>	0.6	0.1

* <i>Ursinia anthemoides</i>	0.2	0.1
<i>Verticordia densiflora</i>	1.3	0.2
* <i>Watsonia meriana</i>	0.8	0.2
<i>Xanthorrhoea brunonis</i>	0.6	0.6
<i>Xanthorrhoea preissii</i>		

PHOTO

Site Name:	GSI-05
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	19/09/2019
GPS Location:	GDA94 Zone 50 404910.15889818E 6460821.96261047N
Community:	1
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	E
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 3 - Very Good
Disturbance:	Limited Clearing - Track adjacent, Dieback - Possible?
Fire:	>10 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	<i>Allocasuarina fraseriana</i> , <i>Banksia grandis</i> , <i>Eucalyptus marginata</i> subsp. <i>marginata</i>
Mid Stratum 1:	<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> , <i>Xanthorrhoea preissii</i>
Lower Stratum 1:	<i>Patersonia occidentalis</i> var. <i>occidentalis</i>

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia appplanata</i>	0.3	0.1
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	2.5	3
<i>Alexgeorgea nitens</i>	0.2	0.1
<i>Allocasuarina fraseriana</i>	9	4
<i>Anigozanthos manglesii</i> subsp. <i>manglesii</i>	0.6	0.2
<i>Banksia grandis</i>	10	4
<i>Bossiaea eriocarpa</i>	0.1	0.3
* <i>Briza maxima</i>	0.1	0.1
<i>Burchardia congesta</i>	0.5	0.1
<i>Caladenia ?flava</i>	0.1	0.1
<i>Chordifex sinuosus</i>	0.4	0.3
<i>Conostephium pendulum</i>	0.1	0.1
<i>Conostylis juncea</i>	0.1	0.1

<i>Conostylis setigera</i> subsp. <i>setigera</i>	0.1	0.1
<i>Dampiera linearis</i>	0.1	0.1
<i>Dasypogon bromeliifolius</i>	0.3	0.2
<i>Daviesia decurrens</i> subsp. <i>decurrens</i>	0.3	0.1
<i>Desmocladius fasciculatus</i>	0.1	0.2
<i>Drosera porrecta</i>	0.1	0.1
<i>Eucalyptus marginata</i> subsp. <i>marginata</i>	6	2
* <i>Gladiolus caryophyllaceus</i>	0.6	0.1
<i>Gompholobium tomentosum</i>	0.4	0.2
<i>Haemodorum ?laxum</i>	0.4	0.1
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.4	1
<i>Hovea trisperma</i> var. <i>trisperma</i>	0.2	0.1
<i>Hybanthus calycinus</i>		
* <i>Hypochaeris glabra</i>	0.1	0.1
<i>Hypolaena exsulca</i>	0.1	0.1
<i>Jacksonia floribunda</i>	0.7	0.1
<i>Jacksonia lehmannii</i>	0.2	0.1
<i>Lechenaultia biloba</i>		
<i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)	0.5	0.8
<i>Lomandra caespitosa</i>	0.2	0.1
<i>Lomandra nigricans</i>	0.2	0.1
<i>Lomandra preissii</i>	0.4	0.1
<i>Lomandra sericea</i>	0.2	0.1
<i>Lyginia imberbis</i>	0.4	0.1
<i>Mesomelaena pseudostygia</i>	0.5	0.2
<i>Mesomelaena tetragona</i>	0.6	0.3
<i>Nuytsia floribunda</i>	0.3	0.1
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.4	4
<i>Petrophile linearis</i>	0.1	0.1
<i>Pterochaeta paniculata</i>	0.1	0.2
<i>Pterostylis recurva</i>		
<i>Pyrorchis nigricans</i>		
<i>Schoenus curvifolius</i>	0.2	0.1
<i>Stylidium androsaceum</i>	0.1	0.1
<i>Stylidium repens</i>		0.1
<i>Synaphea spinulosa</i> subsp. <i>spinulosa</i>	0.2	0.1
<i>Tetraria octandra</i>	0.8	0.2
<i>Thysanotus manglesianus</i>		0.1
<i>Trachymene pilosa</i>	0.1	0.1
<i>Tricoryne elatior</i>	0.2	0.1
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Wahlenbergia multicaulis</i>	0.1	0.1
<i>Xanthorrhoea brunonis</i>	1	1.3

<i>Xanthorrhoea preissii</i>	1.5	2
<i>Xanthosia huegelii</i>	0.2	0.1

PHOTO



Site Name: GSI-06
 Site Type: QUADRAT
 Dimensions: 10m x 10m
 Survey Date: 18/09/2019
 GPS Location: GDA94 Zone 50 405969.60396188E 6455921.80571559N
 Community: 1
 Landform Type: Plain
 Slope Class: Very Gently Inclined (1 degree)
 Aspect: S
 Soil Type: Sand
 Soil Colour: Grey-white (other)
 Rock Outcrop: No bedrock exposed
 CF Abundance: 0%
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Disturbance: Exotic Weeds
 Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

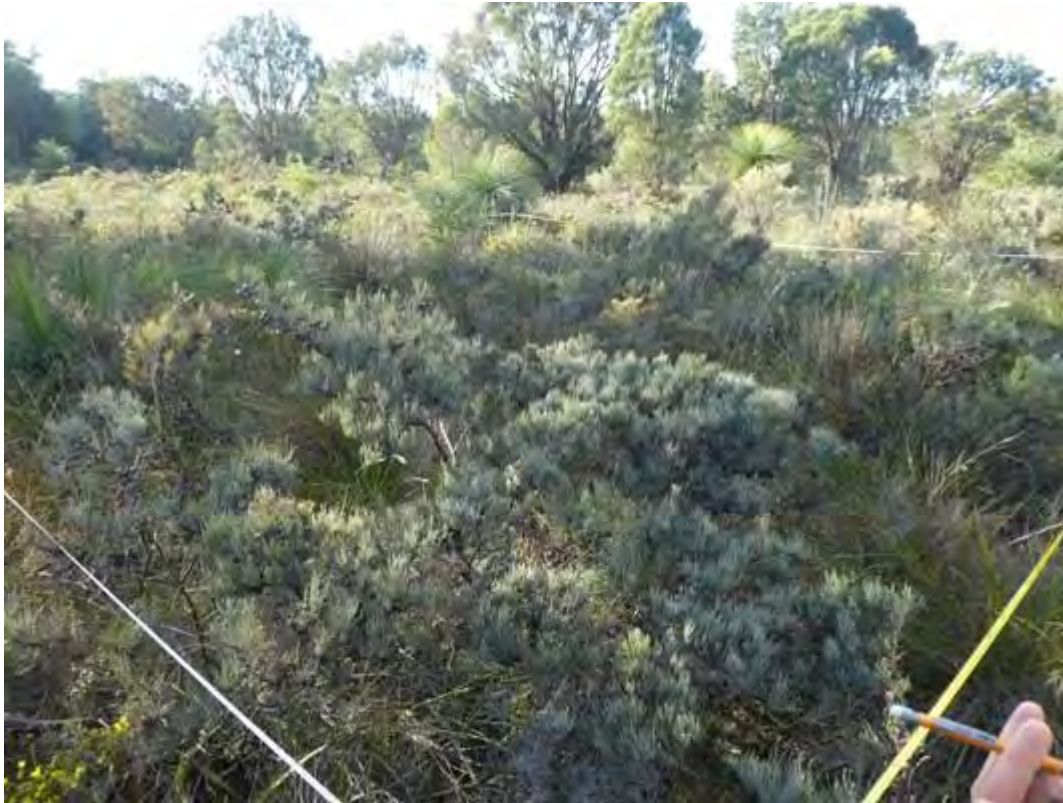
Mid Stratum 1: *Allocasuarina humilis*
 Lower Stratum 1: *Mesomelaena tetragona, Tricostularia exsul*

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia appplanata</i>	0.3	0.1
<i>Alexgeorgea nitens</i>	0.1	0.2
<i>Allocasuarina fraseriana</i>	4	0.4
<i>Allocasuarina humilis</i>	1.6	12
<i>Amphipogon ?strictus</i>	0.1	0.1
<i>Anigozanthos humilis</i> subsp. <i>humilis</i>	0.3	0.1
<i>Babingtonia camphorosmae</i>		
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.4	1.2
<i>Bossiaea eriocarpa</i>	0.3	0.1
* <i>Briza maxima</i>	0.1	0.1
<i>Burchardia congesta</i>	0.2	0.1
<i>Caladenia flava</i>	0.1	0.1
<i>Chamaescilla corymbosa</i> var. <i>corymbosa</i>	0.1	0.1
<i>Chordifex sinuosus</i>	0.2	0.1
<i>Conostylis aurea</i>	0.1	0.1
<i>Conostylis juncea</i>	0.1	0.1

<i>Conostylis latens</i>	0.1	0.2
<i>Cyathochaeta equitans</i>	0.6	0.1
<i>Dampiera linearis</i>	0.1	0.1
<i>Dasypogon obliquifolius</i>	0.2	0.5
<i>Daviesia decurrens</i> subsp. <i>decurrens</i>	0.1	1
<i>Daviesia triflora</i>	0.4	0.1
<i>Desmocladius fasciculatus</i>	0.1	0.1
<i>Diuris magnifica</i>		
<i>Drosera macrantha</i>		0.1
<i>Drosera porrecta</i>	0.1	0.2
* <i>Ehrharta calycina</i>		
<i>Eucalyptus patens</i>		
* <i>Gladiolus caryophyllaceus</i>	0.6	0.1
<i>Gompholobium tomentosum</i>	0.3	0.2
<i>Haemodorum laxum</i>	0.2	0.4
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.3	1
* <i>Hypochaeris glabra</i>	0.1	0.1
<i>Hypolaena exsulca</i>	0.2	0.1
<i>Jacksonia floribunda</i>	0.3	0.1
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2)		
* <i>Leptospermum laevigatum</i>	1.5	0.8
<i>Lomandra caespitosa</i>	0.3	0.4
<i>Lomandra hermaphrodita</i>	0.1	0.1
<i>Lomandra sericea</i>	0.4	0.1
* <i>Lysimachia arvensis</i>	0.1	0.1
<i>Mesomelaena pseudostygia</i>	0.4	0.1
<i>Mesomelaena tetragona</i>	0.7	2
<i>Neurachne alopecuroidea</i>	0.1	0.3
<i>Opercularia vaginata</i>	0.1	0.1
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.4	0.2
<i>Philothea spicata</i>	0.5	0.1
<i>Phlebocarya filifolia</i>	0.1	0.1
<i>Podotrochea angustifolia</i>	0.1	0.1
<i>Pterochaeta paniculata</i>	0.1	0.1
<i>Pterostylis vittata</i>	0.1	0.1
<i>Pyrorchis nigricans</i>		
<i>Scaevola repens</i> var. <i>repens</i>	0.1	0.2
<i>Stirlingia latifolia</i>		
<i>Stylidium piliferum</i>	0.1	0.1
<i>Synaphea spinulosa</i> subsp. <i>spinulosa</i>	0.4	0.1
<i>Tetraria octandra</i>	0.4	0.5
<i>Thysanotus patersonii</i>		0.1
<i>Trachymene pilosa</i>	0.1	0.1
<i>Tricoryne elatior</i>	0.4	0.1

<i>Tricostularia exsul</i>	0.6	2
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Xanthorrhoea brunonis</i>	1	0.5
<i>Xanthorrhoea preissii</i>	1	0.8

PHOTO

Site Name:	GSI-07
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	19/09/2019
GPS Location:	GDA94 Zone 50 405628.57587295E 6459682.00651355N
Community:	1
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	S
Soil Type:	Sand
Soil Colour:	Dark grey (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 2 - Excellent
Disturbance:	Exotic Weeds, (other) - Close to golf course and tracks
Fire:	>10 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	<i>Allocasuarina fraseriana</i> , <i>Eucalyptus marginata</i> subsp. <i>marginata</i> , <i>Xylomelum occidentale</i>
Mid Stratum 1:	<i>Xanthorrhoea brunonis</i> , <i>Xanthorrhoea preissii</i>
Lower Stratum 1:	<i>Dasypogon bromeliifolius</i>

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia applanata</i>	0.2	0.1
<i>Alexgeorgea nitens</i>	0.1	0.6
<i>Allocasuarina fraseriana</i>	8	6
* <i>Arctotheca calendula</i>	0.1	0.1
<i>Austrostipa</i> sp.	0.3	0.1
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.1	0.2
<i>Bossiaea eriocarpa</i>	0.2	0.7
* <i>Briza maxima</i>	0.2	0.2
<i>Burchardia congesta</i>	0.5	0.1
<i>Caladenia ?flava</i>	0.1	0.1
<i>Calytrix flavescens</i>		
<i>Conostephium pendulum</i>	0.1	0.1
<i>Conostylis aurea</i>	0.2	0.1

<i>Conostylis juncea</i>	0.1	0.1
<i>Cyathochaeta equitans</i>	0.6	1.8
<i>Dampiera linearis</i>	0.1	0.2
<i>Dasypogon bromeliifolius</i>	0.4	3.5
<i>Daviesia angulata</i>	1.4	0.7
<i>Desmocladius fasciculatus</i>	0.1	0.3
<i>Drosera porrecta</i>	0.2	0.1
<i>Eucalyptus marginata</i> subsp. <i>marginata</i>	7	4
* <i>Gladiolus caryophyllaceus</i>	0.2	0.1
<i>Gompholobium confertum</i>	0.3	0.1
<i>Gompholobium tomentosum</i>	0.2	0.1
<i>Grevillea obtusifolia</i>		
<i>Hibbertia huegelii</i>	0.1	0.1
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.3	1.1
<i>Hovea trisperma</i> var. <i>trisperma</i>	0.3	0.1
* <i>Hypochaeris glabra</i>	0.1	0.1
<i>Hypolaena exsulca</i>	0.3	0.3
<i>Jacksonia lehmannii</i>	0.4	0.2
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2)	0.2	0.1
<i>Laxmannia ramosa</i> subsp. <i>ramosa</i>	0.1	0.1
<i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)	0.4	0.2
<i>Leporella fimbriata</i>	0.1	0.1
<i>Lomandra caespitosa</i>	0.4	0.3
<i>Lomandra hermaphrodita</i>	0.2	0.1
<i>Lomandra nigricans</i>	0.3	0.1
<i>Lomandra preissii</i>	0.2	0.1
<i>Lomandra sericea</i>	0.2	0.1
<i>Mesomelaena tetragona</i>	0.3	0.1
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.3	0.5
<i>Petrophile linearis</i>	0.3	0.2
<i>Philothea spicata</i>	1.3	0.2
<i>Phlebocarya filifolia</i>	0.2	0.2
<i>Pterochaeta paniculata</i>	0.1	0.1
<i>Pterostylis recurva</i>	0.2	0.1
<i>Pyrorchis nigricans</i>	0.1	0.1
<i>Scaevola repens</i> var. <i>repens</i>	0.1	0.1
<i>Stirlingia latifolia</i>	0.3	0.1
<i>Stylidium ciliatum</i>	0.1	0.1
<i>Stylidium schoenoides</i>	0.1	0.1
<i>Trachymene pilosa</i>	0.1	0.1
<i>Tricoryne elatior</i>	0.2	0.1
<i>Wahlenbergia multicaulis</i>	0.1	0.1
<i>Xanthorrhoea brunonis</i>	0.8	2

<i>Xanthorrhoea preissii</i>	2	4
<i>Xylomelum occidentale</i>	6	4

PHOTO



Site Name:	GSI-08
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	18/09/2019
GPS Location:	GDA94 Zone 50 405825.23770248E 6455908.05758288N
Community:	3
Landform Type:	Lower Slope
Slope Class:	Very Gently Inclined (1 degree)
Soil Type:	Sandy Clay Loam
Soil Colour:	Dark grey (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 2 - Excellent
Disturbance:	(other) - Surrounded by degraded area to WSW
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	<i>Corymbia calophylla</i>
Lower Stratum 1:	<i>Mesomelaena tetragona</i>

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia applanata</i>		
<i>Acacia pulchella</i> var. <i>pulchella</i>		
<i>Allocasuarina fraseriana</i>	0.6	0.1
<i>Allocasuarina humilis</i>	0.4	0.1
<i>Austrostipa hemipogon</i>	0.8	0.1
<i>Babingtonia camphorosmae</i>		
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.3	0.4
<i>Conostylis juncea</i>		
<i>Corymbia calophylla</i>	10	80
<i>Cyathochaeta avenacea</i>	0.6	0.2
<i>Cyathochaeta equitans</i>	0.6	0.1
<i>Daviesia decurrens</i> subsp. <i>decurrens</i>	0.4	0.2
<i>Desmocladius fasciculatus</i>	0.1	0.1
* <i>Disa bracteata</i>	0.1	0.1
<i>Drosera erythrorhiza</i>	0.1	0.1
* <i>Ehrharta calycina</i>	0.5	0.1
<i>Gastrolobium capitatum</i>	0.3	0.1

* <i>Gladiolus caryophyllaceus</i>	0.4	0.1
<i>Gompholobium marginatum</i>	0.3	0.3
<i>Gompholobium tomentosum</i>	0.3	0.1
<i>Grevillea bipinnatifida</i> subsp. <i>bipinnatifida</i>	0.5	0.2
<i>Haemodorum ?laxum</i>	0.6	0.2
<i>Hakea undulata</i>	1.2	0.2
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.4	0.2
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.4	0.1
<i>Kingia australis</i>		
* <i>Leptospermum laevigatum</i>	3	0.5
<i>Lomandra preissii</i>	0.6	0.4
<i>Mesomelaena tetragona</i>	0.5	1.5
* <i>Oxalis glabra</i>	0.1	0.1
<i>Petrophile striata</i>		
<i>Philothea spicata</i>		
<i>Tetraria octandra</i>	0.6	0.1
<i>Thelymitra</i> sp.		
<i>Tremulina tremula</i>		
<i>Tricoryne elatior</i>	0.6	0.1
<i>Verticordia densiflora</i>		
* <i>Watsonia meriana</i>	0.6	0.1
<i>Xanthorrhoea brunonis</i>	0.8	0.2
<i>Xanthorrhoea preissii</i>		

PHOTO



Site Name:	GSI-09
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	20/09/2019
GPS Location:	GDA94 Zone 50 405037.32783456E 6459603.24839453N
Community:	1
Landform Type:	Plain
Slope Class:	Gently Inclined (3 degrees)
Aspect:	N
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 3 - Very Good
Disturbance:	Exotic Weeds, (other) - Adjacent to track
Fire:	>10 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	<i>Banksia menziesii</i>
Lower Stratum 1:	<i>Eremaea pauciflora</i> var. <i>pauciflora</i> , <i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i> , <i>Melaleuca trichophylla</i>
Lower Stratum 2:	<i>Lyginia barbata</i> , <i>Mesomelaena pseudostygia</i>

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia huegelii</i>	0.5	0.8
<i>Acacia sessilis</i>	0.3	0.2
<i>Alexgeorgea nitens</i>	0.1	0.2
<i>Allocasuarina humilis</i>	0.8	1
<i>Banksia menziesii</i>	5	6
<i>Bossiaea eriocarpa</i>	0.4	0.2
* <i>Briza maxima</i>	0.3	0.3
<i>Burchardia congesta</i>	0.5	0.1
<i>Calectasia narragara</i>	0.2	0.1
<i>Cassytha flava</i>		0.1
<i>Conostephium pendulum</i>	0.4	0.1
<i>Conostylis setigera</i> subsp. <i>setigera</i>	0.1	0.1
<i>Crassula colorata</i> var. <i>colorata</i>	0.1	0.1

<i>Dampiera linearis</i>	0.2	0.1
<i>Dasypogon obliquifolius</i>	0.4	0.2
<i>Drosera macrantha</i>		0.1
* <i>Ehrharta calycina</i>	0.8	1
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.5	12
* <i>Gladiolus caryophyllaceus</i>	0.7	0.1
<i>Gompholobium tomentosum</i>	0.3	0.1
<i>Haemodorum ?laxum</i>	0.3	0.1
<i>Hemiandra linearis</i>	0.2	0.3
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.3	3.1
<i>Hibbertia striata</i>	0.2	0.2
<i>Hovea trisperma</i> var. <i>trisperma</i>	0.4	0.1
* <i>Hypochaeris glabra</i>	0.1	0.3
<i>Isolepis marginata</i>	0.1	0.1
<i>Isopogon autumnalis</i>	0.4	0.1
<i>Jacksonia floribunda</i>	2	0.5
<i>Jacksonia lehmannii</i>	0.3	0.1
<i>Laxmannia ramosa</i> subsp. <i>ramosa</i>	0.7	0.4
<i>Lomandra caespitosa</i>	0.2	0.3
<i>Lomandra hermaphrodita</i>	0.1	0.1
<i>Lomandra nigricans</i>	0.3	0.1
<i>Lomandra sericea</i>	0.4	0.2
<i>Lyginia barbata</i>	0.6	2
<i>Lyginia imberbis</i>	0.5	2.8
<i>Melaleuca trichophylla</i>	0.2	2.3
<i>Mesomelaena graciliceps</i>	0.2	0.1
<i>Mesomelaena pseudostygia</i>	0.6	2
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.6	1.8
<i>Petrophile linearis</i>	0.2	0.1
<i>Petrophile rigida</i>	0.4	0.2
<i>Philothea spicata</i>	1	0.2
<i>Phyllangium paradoxum</i>	0.1	0.1
<i>Podotrochea angustifolia</i>	0.1	0.1
* <i>Sonchus oleraceus</i>	0.1	0.1
<i>Stirlingia latifolia</i>	0.4	0.2
<i>Thysanotus manglesianus</i>		0.1
<i>Trachymene pilosa</i>	0.1	0.1
* <i>Ursinia anthemoides</i>	0.1	0.3
<i>Xanthorrhoea brunonis</i>	1.5	0.1
<i>Xanthorrhoea preissii</i>	1	0.8

PHOTO



Site Name:	GSI-10
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	20/09/2019
GPS Location:	GDA94 Zone 50 405275.46852453E 6458771.24216418N
Community:	5
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SW
Soil Type:	Sandy Clay Loam
Soil Colour:	Brown
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 2 - Excellent
Disturbance:	Exotic Weeds
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	<i>Callitris pyramidalis</i>
Mid Stratum 2:	<i>Beaufortia squarrosa</i> , <i>Petrophile seminuda</i>
Lower Stratum 1:	<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Andersonia gracilis</i> (T)	0.3	0.1
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.3	0.4
<i>Beaufortia squarrosa</i>	1.8	6
* <i>Briza maxima</i>	0.1	0.1
<i>Caladenia flava</i>	0.1	0.1
<i>Callitris pyramidalis</i>	4.5	20
<i>Cassytha glabella</i>		0.1
<i>Cassytha glabella</i> forma <i>dispar</i>		0.1
<i>Centrolepis aristata</i>	0.1	0.1
<i>Chaetanthus aristatus</i>	0.2	0.6
<i>Cyathochaeta avenacea</i>		
<i>Cytogonidium leptocarpoides</i>	0.2	0.1
<i>Dasypogon obliquifolius</i>	0.6	0.2

<i>Drosera glanduligera</i>	0.1	0.1
<i>Drosera menziesii</i>	0.1	0.1
* <i>Ehrharta calycina</i>	0.4	0.1
<i>Hakea sulcata</i>	1	0.1
<i>Hakea varia</i>	0.9	0.8
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.5	1.5
<i>Jacksonia gracillima</i> (P3)		
<i>Kingia australis</i>	1.5	0.4
<i>Kunzea micrantha</i> subsp. <i>micrantha</i>	0.5	0.8
<i>Laxmannia ramosa</i> subsp. <i>ramosa</i>	0.1	0.1
<i>Leptocarpus decipiens</i>	0.5	0.1
<i>Melaleuca seriata</i>		
<i>Mesomelaena tetragona</i>	0.5	1
? <i>Microtis</i> sp.	0.1	0.2
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	0.7	0.5
<i>Petrophile seminuda</i>	1.5	3
<i>Schoenus clandestinus</i>		
<i>Schoenus laevigatus</i>	0.4	0.1
<i>Schoenus rigens</i>	0.1	0.2
<i>Stirlingia latifolia</i>	0.6	0.3
<i>Thysanotus patersonii</i>		
<i>Thysanotus sparteus</i>	0.4	0.1
<i>Thysanotus thyrsoideus</i>	0.4	0.1
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Verticordia densiflora</i>	0.6	1
* <i>Watsonia meriana</i>	0.2	0.1
<i>Xanthorrhoea brunonis</i>	0.7	0.2

PHOTO



Site Name:	GSI-11
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	20/09/2019
GPS Location:	GDA94 Zone 50 405033.26709679E 6459653.87342954N
Community:	1
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 2 - Excellent
Disturbance:	Exotic Weeds
Fire:	>10 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	<i>Allocasuarina fraseriana</i> , <i>Banksia menziesii</i> , <i>Eucalyptus marginata</i> subsp. <i>marginata</i>
Mid Stratum 1:	<i>Xanthorrhoea preissii</i>
Lower Stratum 1:	<i>Eremaea pauciflora</i> var. <i>pauciflora</i>

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia applanata</i>	0.6	0.1
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	3	1
<i>Alexgeorgea nitens</i>	0.2	1.4
<i>Allocasuarina fraseriana</i>	8	15
<i>Allocasuarina humilis</i>	1.5	0.6
<i>Banksia menziesii</i>	6	8
<i>Billardiera fraseri</i>		0.1
<i>Bossiaea eriocarpa</i>	0.3	0.2
* <i>Briza maxima</i>	0.1	0.1
<i>Burchardia congesta</i>	0.6	0.1
<i>Caladenia flava</i>	0.1	0.1
<i>Chordifex sinuosus</i>	0.3	0.2
<i>Conostylis aurea</i>	0.1	0.1
<i>Dampiera linearis</i>	0.2	0.2
<i>Dasypogon bromeliifolius</i>	0.3	0.2

<i>Desmodium fasciculatum</i>	0.1	0.1
<i>Drosera pinnatifida</i>	0.1	0.1
* <i>Ehrharta calycina</i>	1	0.1
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.5	10
<i>Eucalyptus marginata</i> subsp. <i>marginata</i>	8	4
* <i>Gladiolus caryophyllaceus</i>	0.6	0.1
<i>Gompholobium tomentosum</i>	0.5	0.1
<i>Haemodorum laxum</i>	0.3	0.1
<i>Hemiandra linearis</i>	0.1	0.2
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.4	0.6
* <i>Hypochaeris glabra</i>	0.1	0.1
<i>Hypolaena exsulca</i>	0.8	0.2
<i>Jacksonia lehmannii</i>	0.2	0.1
<i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)	0.2	0.1
<i>Lomandra caespitosa</i>	0.2	0.2
<i>Lomandra hermaphrodita</i>	0.2	0.1
<i>Lomandra preissii</i>	0.3	0.1
<i>Lomandra sericea</i>	0.2	0.1
<i>Melaleuca trichophylla</i>	0.3	0.2
<i>Mesomelaena pseudostygia</i>	0.6	0.8
<i>Mesomelaena tetragona</i>	0.5	0.1
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.4	0.4
<i>Phlebocarya filifolia</i>	0.4	0.1
<i>Scaevola repens</i> var. <i>repens</i>	0.1	0.2
<i>Schoenus caespititius</i>	0.4	0.1
<i>Stirlingia latifolia</i>	0.5	0.3
<i>Synaphea spinulosa</i> subsp. <i>spinulosa</i>	0.2	0.2
<i>Tetraria octandra</i>	0.5	0.7
<i>Thysanotus manglesianus</i>		0.1
<i>Trachymene pilosa</i>	0.1	0.1
<i>Xanthorrhoea brunonis</i>	0.8	0.2
<i>Xanthorrhoea preissii</i>	2	2
<i>Xanthosia huegelii</i>	0.1	0.1

PHOTO



Site Name:	GSI-12
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	20/09/2019
GPS Location:	GDA94 Zone 50 405234.42368452E 6458969.63247757N
Community:	1
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SW
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 2 - Excellent
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	<i>Allocasuarina fraseriana</i> , <i>Eucalyptus marginata</i> subsp. <i>marginata</i>
Mid Stratum 1:	<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia applanata</i>	0.2	0.1
<i>Alexgeorgea nitens</i>	0.1	0.2
<i>Allocasuarina fraseriana</i>	10	3
<i>Amphipogon turbinatus</i>	0.1	0.2
<i>Anigozanthos manglesii</i> subsp. <i>manglesii</i>	0.5	0.2
<i>Banksia attenuata</i>		
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>		
<i>Banksia menziesii</i>		
<i>Boronia ramosa</i> subsp. <i>anethifolia</i>	0.3	0.1
<i>Bossiaea eriocarpa</i>	0.2	0.1
<i>Burchardia congesta</i>	0.4	0.1
<i>Caladenia macrostylis</i>		
<i>Calectasia narragara</i>		
<i>Conospermum undulatum</i> (T)	1.6	0.3
<i>Conostylis aurea</i>	0.1	0.1
<i>Conostylis juncea</i>	0.1	0.1
<i>Conostylis latens</i>	0.1	0.1

<i>Conostylis setigera</i> subsp. <i>setigera</i>	0.1	0.1
<i>Cyathochaeta equitans</i>	0.4	0.2
<i>Dampiera linearis</i>	0.1	0.2
<i>Dasypogon obliquifolius</i>	0.3	0.2
<i>Desmocladius fasciculatus</i>	0.1	0.5
<i>Drosera macrantha</i>		0.1
<i>Drosera porrecta</i>	0.3	0.2
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	1.2	0.8
<i>Eucalyptus marginata</i> subsp. <i>marginata</i>	10	4
<i>Eucalyptus patens</i>		
* <i>Gladiolus caryophyllaceus</i>	0.5	0.1
<i>Gompholobium confertum</i>		
<i>Gompholobium tomentosum</i>		
<i>Goodenia coerulea</i>	0.2	0.1
<i>Haemodorum laxum</i>	0.4	0.1
<i>Haemodorum ?laxum</i>	0.6	0.1
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	1.2	2
<i>Hovea trisperma</i> var. <i>trisperma</i>	0.2	0.1
<i>Jacksonia floribunda</i>		
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2)	0.1	0.1
<i>Kingia australis</i>	5	0.2
<i>Lambertia multiflora</i> var. <i>darlingensis</i>		
<i>Laxmannia ramosa</i> subsp. <i>ramosa</i>	0.1	0.1
<i>Lepidosperma</i> sp.	0.1	0.1
<i>Lomandra hermaphrodita</i>	0.2	0.1
<i>Lomandra preissii</i>	0.4	0.3
<i>Lomandra sericea</i>		
<i>Lyginia barbata</i>	0.3	1
<i>Mesomelaena pseudostygia</i>	0.5	1
<i>Mesomelaena tetragona</i>		
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.4	0.8
<i>Philothea spicata</i>		
<i>Podotrochea angustifolia</i>	0.1	0.1
<i>Scaevola repens</i> var. <i>repens</i>		
<i>Stylidium androsaceum</i>	0.1	0.1
<i>Stylidium tenue</i> subsp. <i>majusculum</i>	0.1	0.1
<i>Synaphea spinulosa</i> subsp. <i>spinulosa</i>		
<i>Tetraria octandra</i>	0.4	1
<i>Trachymene pilosa</i>	0.1	0.1
<i>Tricoryne elatior</i>	0.3	0.2
<i>Tripterococcus brunonis</i>	0.5	0.1
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Xanthorrhoea preissii</i>	1.5	1
<i>Xanthosia huegelii</i>		

PHOTO



Site Name:	GSI-13
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	20/09/2019
GPS Location:	GDA94 Zone 50 405372.06599772E 6459142.74111343N
Community:	4
Landform Type:	Lower Slope
Slope Class:	Very Gently Inclined (1 degree)
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 2 - Excellent
Disturbance:	Exotic Weeds
Fire:	>10 years

DOMINANT TAXA IN VEGETATION STRATA

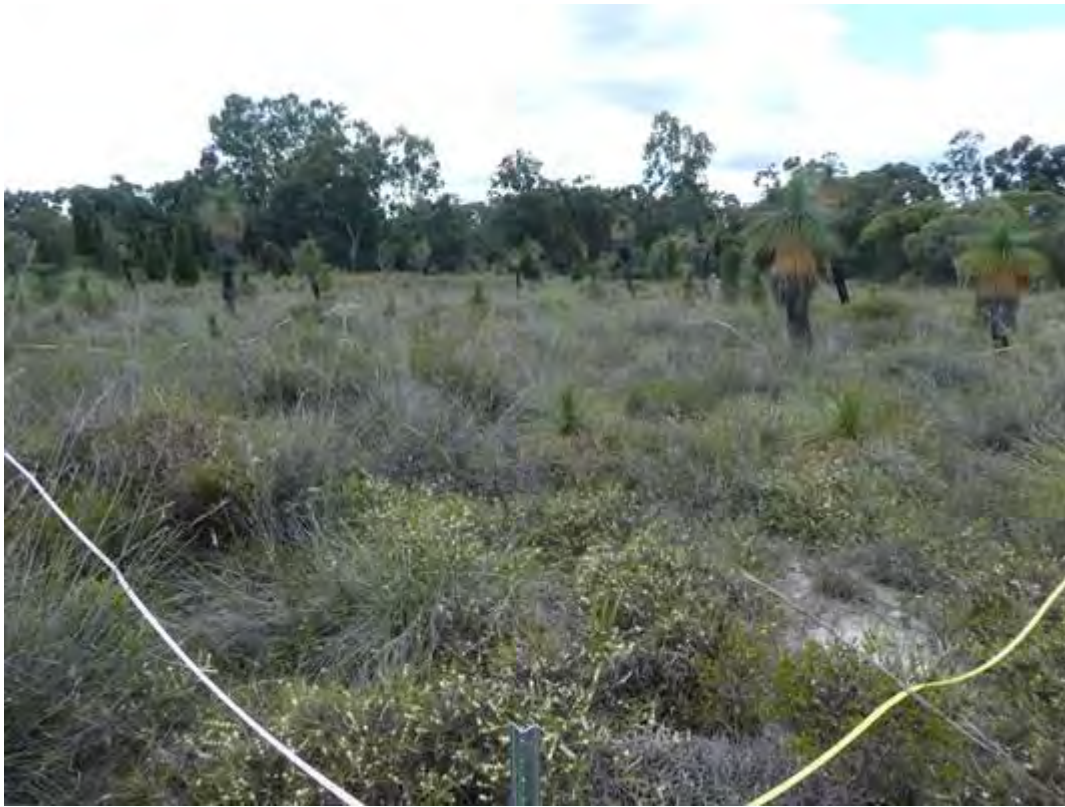
Lower Stratum 1: *Eremaea pauciflora* var. *pauciflora*, *Hypocalymma angustifolium* subsp. Swan Coastal Plain (G.J. Keighery 16777)

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.1	0.3
<i>Burchardia congesta</i>	0.5	0.1
<i>Byblis gigantea</i> (P3)	0.2	0.1
<i>Caladenia flava</i>	0.1	0.1
<i>Cassytha glabella</i>		0.4
<i>Conostylis juncea</i>	0.1	0.1
<i>Cyathochaeta avenacea</i>	0.3	0.4
<i>Cyathochaeta equitans</i>	0.8	8.2
<i>Dampiera linearis</i>	0.1	0.1
<i>Dasypogon bromeliifolius</i>	0.5	0.1
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.5	3
<i>Gastrolobium capitatum</i>	0.2	1
* <i>Gladiolus caryophyllaceus</i>	0.6	0.1
<i>Gompholobium confertum</i>	0.6	0.1
<i>Haemodorum ?laxum</i>	0.4	0.1
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.3	15

<i>*Hypochaeris glabra</i>	0.1	0.1
<i>Hypolaena exsulca</i>	0.4	0.6
<i>Jacksonia floribunda</i>	0.6	0.8
<i>Kingia australis</i>	2.5	1
<i>Lechenaultia expansa</i>	0.1	0.1
<i>Lomandra hermaphrodita</i>	0.2	0.1
<i>Lyginia imberbis</i>	0.4	0.2
<i>Melaleuca seriata</i>	0.5	0.2
<i>Mesomelaena tetragona</i>	0.6	1.8
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.6	0.2
<i>Philothea spicata</i>	1	0.1
<i>Podotheca angustifolia</i>	0.1	0.1
<i>Schoenus caespitius</i>	0.5	0.3
<i>Schoenus rigens</i>	0.1	0.2
<i>Stirlingia latifolia</i>	0.3	0.5
<i>Thysanotus sparteus</i>	0.7	0.1
<i>Trachymene pilosa</i>	0.1	0.1
<i>Tricostularia neesii</i>	0.6	1
<i>*Ursinia anthemoides</i>	0.1	0.1
<i>Verticordia densiflora</i>	0.5	1.5
<i>Wahlenbergia multicaulis</i>	0.1	0.1
<i>*Watsonia</i> sp.	0.6	0.1
<i>Xanthorrhoea brunonis</i>	0.5	0.2

PHOTO



Site Name:	GSI-14
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	01/10/2019
GPS Location:	GDA94 Zone 50 405180.80310469E 6459057.15719227N
Community:	5
Landform Type:	Flat
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NW
Soil Type:	Sand
Soil Colour:	Light brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 2 - Excellent
Disturbance:	Exotic Weeds
Fire:	>10 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	<i>Banksia telmatiaea</i> , <i>Hakea varia</i> , <i>Kingia australis</i>
Lower Stratum 1:	<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777), <i>Melaleuca seriata</i>

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.1	0.1
<i>Banksia telmatiaea</i>	1.2	70
<i>Beaufortia squarrosa</i>		
<i>Cassytha racemosa</i>		0.1
<i>Cyathochaeta avenacea</i>	0.4	0.1
<i>Dasypogon obliquifolius</i>	0.2	0.2
<i>Eutaxia virgata</i>	0.4	0.1
<i>Gastrolobium capitatum</i>	0.1	0.1
* <i>Gladiolus caryophyllaceus</i>		
<i>Hakea varia</i>	1.2	2
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.5	6
<i>Hypolaena exsulca</i>	0.3	0.1
<i>Jacksonia gracillima</i> (P3)	0.5	0.1
<i>Kingia australis</i>	1.4	8

<i>Leptocarpus decipiens</i>	0.6	0.1
<i>Lyginia imberbis</i>	0.3	0.1
<i>Melaleuca seriata</i>	1	3
? <i>Microtis</i> sp.	0.1	0.1
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	0.4	0.1
<i>Schoenus laevigatus</i>	0.4	0.1
<i>Stirlingia latifolia</i>		
<i>Tricostularia exsul</i>		
<i>Tricostularia neesii</i>	0.2	0.1
<i>Verticordia densiflora</i>	1	1
* <i>Vulpia myuros</i> forma <i>myuros</i>	0.2	0.1
* <i>Watsonia meriana</i>	0.6	0.5

PHOTO

Site Name: GSI-15
 Site Type: QUADRAT
 Dimensions: 10m x 10m
 Survey Date: 20/09/2019
 GPS Location: GDA94 Zone 50 405332.04333349E 6459088.27074401N
 Community: 5
 Landform Type: Lower Slope
 Slope Class: Very Gently Inclined (1 degree)
 Aspect: S
 Soil Type: Sand
 Soil Colour: Grey
 Rock Outcrop: No bedrock exposed
 CF Abundance: <2%
 CF Sizes: 2-6mm, 6-20mm, 20-60mm
 CF Types: Laterite
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Disturbance: (other) - Between two tracks
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum*, *Callitris pyramidalis*
 Lower Stratum 1: *Hypocalymma angustifolium* subsp. Swan Coastal Plain (G.J. Keighery 16777)

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	2.5	5
<i>Caladenia paludosa</i>		
<i>Callitris pyramidalis</i>	2.5	5
<i>Cassytha flava</i>		0.3
<i>Cassytha racemosa</i> forma <i>pilosa</i>		0.1
<i>Cyathochaeta avenacea</i>	0.5	0.1
<i>Cyathochaeta equitans</i>	0.6	1
<i>Dasypogon bromeliifolius</i>	0.2	0.4
<i>Daviesia physodes</i>	1.7	1.5
<i>Drosera neesii</i>	0.1	0.1
<i>Eutaxia virgata</i>	0.3	0.1
<i>Gastrolobium capitatum</i>	0.4	0.1

<i>Hakea trifurcata</i>	2	0.3
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.3	10
* <i>Hypochaeris glabra</i>	0.1	0.1
<i>Hypolaena exsulca</i>	0.2	0.2
<i>Kingia australis</i>	0.5	0.7
<i>Mesomelaena tetragona</i>	0.3	0.6
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	0.6	0.1
<i>Schoenus rigens</i>	0.1	0.2
<i>Stirlingia latifolia</i>	0.3	0.3
<i>Thysanotus manglesianus</i>		0.1
<i>Thysanotus sparteus</i>	0.4	0.1
<i>Tricostularia neesii</i>	0.3	0.5
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Verticordia densiflora</i>	0.6	0.5
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i> (P4)	0.5	0.1

PHOTO

Site Name: GSI-16
 Site Type: QUADRAT
 Dimensions: 10m x 10m
 Survey Date: 01/10/2019
 GPS Location: GDA94 Zone 50 405168.69111652E 6459161.03096367N
 Community: 4
 Landform Type: Flat
 Slope Class: Very Gently Inclined (1 degree)
 Aspect: NW
 Soil Type: Sand
 Soil Colour: Grey
 Rock Outcrop: No bedrock exposed
 CF Abundance: 0%
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Eucalyptus patens*
 Mid Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum*, *Xanthorrhoea preissii*
 Lower Stratum 1: *Eremaea pauciflora* var. *pauciflora*
 Lower Stratum 2: *Cyathochaeta avenacea*

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia applanata</i>	0.2	0.1
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	3.5	4
<i>Allocasuarina humilis</i>	1.2	1
* <i>Asparagus asparagoides</i>		
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.3	0.2
<i>Banksia mimica</i> (T)	0.3	0.1
<i>Boronia ramosa</i> subsp. <i>anethifolia</i>	0.1	0.1
<i>Bossiaea eriocarpa</i>	0.2	1
<i>Burchardia congesta</i>	0.6	0.1
<i>Cassytha racemosa</i>		0.1
<i>Chordifex sinuosus</i>	0.3	0.3
<i>Conospermum undulatum</i> (T)	1	0.2
<i>Conostylis juncea</i>	0.2	0.3
<i>Cyathochaeta avenacea</i>	0.5	8

<i>Dampiera linearis</i>	0.1	0.1
<i>Dasypogon obliquifolius</i>	0.3	1
<i>Desmocladius fasciculatus</i>	0.1	0.1
<i>Drosera erythrorhiza</i>	0.1	0.1
* <i>Ehrharta calycina</i>		
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.8	12
<i>Eucalyptus patens</i>	6	5
<i>Eucalyptus todtiana</i>		
<i>Gastrolobium capitatum</i>	0.2	0.1
<i>Gompholobium confertum</i>	0.4	0.1
<i>Haemodorum ?laxum</i>	0.3	0.1
<i>Hovea trisperma</i> var. <i>trisperma</i>	0.3	0.1
<i>Hypolaena exsulca</i>	0.2	0.1
<i>Jacksonia floribunda</i>	0.5	0.4
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2)	0.1	0.1
<i>Lambertia multiflora</i> var. <i>darlingensis</i>		
<i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)	0.3	0.2
<i>Lomandra hermaphrodita</i>	0.1	0.1
<i>Lyginia barbata</i>	0.1	0.1
<i>Melaleuca seriata</i>	0.8	0.1
<i>Mesomelaena tetragona</i>	0.3	0.1
<i>Nuytsia floribunda</i>		
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.3	0.1
<i>Philothea spicata</i>	1	0.1
<i>Scaevola repens</i> var. <i>repens</i>	0.1	0.1
<i>Stirlingia latifolia</i>	0.3	0.1
<i>Stylidium tenue</i> subsp. <i>majusculum</i>		
<i>Thysanotus patersonii</i>		0.1
<i>Tricoryne elatior</i>	0.1	0.1
<i>Verticordia densiflora</i>	0.8	0.2
<i>Xanthorrhoea brunonis</i>	1.2	0.1
<i>Xanthorrhoea preissii</i>	1	7

PHOTO



Site Name:	GSI-17
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	20/09/2019
GPS Location:	GDA94 Zone 50 405326.15813176E 6459193.20010457N
Community:	5
Landform Type:	Lower Slope
Slope Class:	Very Gently Inclined (1 degree)
Soil Type:	Clayey Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 2 - Excellent
Disturbance:	(other) - Adjacent to track
Fire:	>10 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>
Mid Stratum 2:	<i>Beaufortia squarrosa</i> , <i>Callitris pyramidalis</i>
Lower Stratum 1:	<i>Eremaea pauciflora</i> var. <i>pauciflora</i> , <i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)
Lower Stratum 2:	<i>Mesomelaena tetragona</i>

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	2.5	2
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.5	0.8
<i>Beaufortia squarrosa</i>	1.5	5
<i>Callitris pyramidalis</i>	1.4	4
<i>Cassytha flava</i>		0.1
<i>Cassytha glabella</i>		0.1
<i>Conostylis setigera</i> subsp. <i>setigera</i>	0.1	0.1
<i>Cyathochaeta avenacea</i>	0.5	0.2
<i>Cytogonidium leptocarpoides</i>	0.3	0.1
<i>Dasygogon bromeliifolius</i>	0.2	0.6
<i>Daviesia physodes</i>	1.5	0.3
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.4	5
<i>Eutaxia virgata</i>	0.5	0.1

<i>Gastrolobium capitatum</i>	0.5	0.1
<i>Hakea ceratophylla</i>	0.5	0.4
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.3	3
<i>Hypolaena exsulca</i>	0.4	0.2
<i>Kingia australis</i>	1.5	1.2
<i>Lyginia imberbis</i>	0.6	0.4
<i>Mesomelaena tetragona</i>	0.6	3
<i>Phlebocarya ciliata</i>	0.4	0.2
<i>Stirlingia latifolia</i>	0.4	0.2
<i>Tricostularia neesii</i>	0.5	1.3
* <i>Ursinia anthemoides</i>	0.1	0.1

PHOTO

Site Name: GSI-18
 Site Type: QUADRAT
 Dimensions: 10m x 10m
 Survey Date: 01/10/2019
 GPS Location: GDA94 Zone 50 405072.4071557E 6459234.19057273N
 Community: 6
 Landform Type: Drainage Line
 Slope Class: Very Gently Inclined (1 degree)
 Aspect: NW
 Soil Type: Clay Loam
 Soil Colour: Grey
 Rock Outcrop: No bedrock exposed
 CF Abundance: 0%
 Vegetation Condition: Southern Vegetation Condition - 3 - Very Good
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Melaleuca preissiana*
 Mid Stratum 1: *Melaleuca viminea* subsp. *viminea*
 Mid Stratum 2: *Kingia australis*, *Xanthorrhoea brunonis*, *Xanthorrhoea preissii*

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
* <i>Acacia longifolia</i>	0.2	0.1
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>		
<i>Anigozanthos manglesii</i> subsp. <i>manglesii</i>		
<i>Austrostipa elegantissima</i>	0.4	0.1
<i>Banksia victoriae</i>		
<i>Burchardia congesta</i>	0.3	0.1
<i>Cyathochaeta avenacea</i>	0.3	0.2
<i>Cytogonidium leptocarpoides</i>	0.3	0.1
<i>Drosera glanduligera</i>		
<i>Gastrolobium capitatum</i>	0.3	0.1
* <i>Gladiolus caryophyllaceus</i>	0.5	0.1
<i>Gompholobium tomentosum</i>	0.2	0.1
<i>Haemodorum laxum</i>		
<i>Hakea ceratophylla</i>	0.4	0.2
<i>Hakea varia</i>		
<i>Hypocalymma angustifolium</i> subsp. Swan	0.3	0.1

Coastal Plain (G.J. Keighery 16777)		
* <i>Hypochaeris glabra</i>	0.1	0.1
<i>Hypolaena exsulca</i>	0.2	0.2
<i>Kingia australis</i>	1.2	3
<i>Leptocarpus coangustatus</i>	0.6	1
* <i>Leptospermum laevigatum</i>	0.5	0.1
<i>Melaleuca preissiana</i>	6	50
<i>Melaleuca viminea</i> subsp. <i>viminea</i>	4	8
<i>Mesomelaena tetragona</i>	0.3	0.1
? <i>Microtis</i> sp.	0.1	0.1
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.3	0.1
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	0.6	0.1
<i>Pterostylis vittata</i>	0.1	0.1
<i>Regelia ciliata</i>	1	1
<i>Schoenus asperocarpus</i>	0.2	0.1
<i>Schoenus laevigatus</i>	0.2	0.2
<i>Thysanotus patersonii</i>		0.1
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Verticordia densiflora</i>	0.4	0.1
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i> (P4)		
<i>Xanthorrhoea brunonis</i>	1.5	3
<i>Xanthorrhoea preissii</i>	1.3	2

PHOTO

Site Name:	GSI-19
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	01/10/2019
GPS Location:	GDA94 Zone 50 405309.95417502E 6459147.59748431N
Community:	4
Landform Type:	Flat
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NW
Soil Type:	Sandy Loam
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	<2%
CF Sizes:	2-6mm, 6-20mm, 20-60mm
CF Types:	Laterite
Vegetation Condition:	Southern Vegetation Condition - 2 - Excellent
Disturbance:	Exotic Weeds, (other) - Adjacent to track and pipeline
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> , <i>Hakea undulata</i>
Lower Stratum 1:	<i>Mesomelaena tetragona</i>

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia pulchella</i>	0.9	0.2
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	3.5	18
<i>Alexgeorgea nitens</i>	0.1	0.1
<i>Astartea affinis</i>		
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.4	0.6
<i>Burchardia congesta</i>	0.4	0.1
<i>Callitris pyramidalis</i>	2.2	1
<i>Calothamnus sanguineus</i>		
<i>Cassytha racemosa</i> forma <i>pilosa</i>		0.1
<i>Conospermum undulatum</i> (T)	0.6	0.1
<i>Conostylis juncea</i>	0.1	0.1
<i>Cyathochaeta equitans</i>	1	0.7
<i>Dampiera linearis</i>	0.4	0.1

<i>Dasypogon bromeliifolius</i>	0.3	0.3
<i>Daviesia decurrens</i> subsp. <i>decurrens</i>	1.3	0.1
<i>Daviesia physodes</i>	2	0.9
<i>Desmocladius fasciculatus</i>	0.1	0.1
<i>Drosera macrantha</i>	0.1	0.1
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.6	1
<i>Eutaxia virgata</i>		
<i>Gastrolobium capitatum</i>	0.5	0.1
* <i>Gladiolus caryophyllaceus</i>	0.5	0.1
<i>Gompholobium confertum</i>	0.5	0.1
<i>Gompholobium tomentosum</i>	0.1	0.1
<i>Haemodorum laxum</i>	0.6	0.1
<i>Hakea ceratophylla</i>	0.6	0.4
<i>Hakea trifurcata</i>	2.5	0.9
<i>Hakea undulata</i>	3	20
<i>Hovea trisperma</i> var. <i>trisperma</i>	0.1	0.1
<i>Hypocalymma angustifolium</i> subsp. <i>Swan Coastal Plain</i> (G.J. Keighery 16777)	0.5	1.5
* <i>Hypochaeris glabra</i>	0.1	0.1
<i>Hypolaena exsulca</i>	0.4	0.5
<i>Jacksonia floribunda</i>	0.5	0.1
<i>Kingia australis</i>	0.8	0.5
<i>Lomandra caespitosa</i>	0.3	0.1
<i>Melaleuca seriata</i>	0.6	0.9
<i>Mesomelaena tetragona</i>	0.6	8.1
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.5	0.1
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	0.9	0.5
<i>Philothea spicata</i>	0.8	0.2
<i>Schoenus rigens</i>	0.1	0.1
<i>Stirlingia latifolia</i>	0.5	0.1
<i>Styphelia filifolia</i> (P3)	0.3	0.1
<i>Thelymitra ?benthamiana</i>	0.1	0.1
<i>Thysanotus sparteus</i>	0.6	0.1
<i>Thysanotus thyrsoideus</i>	0.6	0.1
<i>Trachymene pilosa</i>	0.1	0.1
<i>Tricostularia neesii</i>	0.4	0.3
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Verticordia densiflora</i>	1.1	1
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i> (P4)	0.4	0.1
<i>Xanthorrhoea brunonis</i>	0.8	0.1

PHOTO



Site Name: GSI-20
 Site Type: QUADRAT
 Dimensions: 10m x 10m
 Survey Date: 02/10/2019
 GPS Location: GDA94 Zone 50 405029.25011615E 6459313.71905814N
 Community: 4
 Landform Type: Flat
 Slope Class: Very Gently Inclined (1 degree)
 Aspect: NW
 Soil Type: Sand
 Soil Colour: Grey
 Rock Outcrop: No bedrock exposed
 CF Abundance: 0%
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Eucalyptus patens*
 Mid Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum*, *Beaufortia squarrosa*
 Lower Stratum 1: *Melaleuca seriata*
 Lower Stratum 2: *Lyginia barbata*

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	4	5
<i>Alexgeorgea nitens</i>	0.2	0.1
<i>Beaufortia squarrosa</i>	3	40
<i>Burchardia congesta</i>	0.3	0.1
<i>Conospermum undulatum</i> (T)	1	0.1
<i>Conostylis juncea</i>	0.1	0.1
<i>Conostylis latens</i>	0.1	0.1
<i>Cyathochaeta avenacea</i>	0.4	0.3
<i>Cytogonidium leptocarpoides</i>	0.2	0.2
<i>Dampiera linearis</i>	0.2	0.1
<i>Dasypogon obliquifolius</i>	0.3	3
<i>Desmocladius fasciculatus</i>	0.1	0.1
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.2	0.3
<i>Eucalyptus patens</i>	6	3

<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.4	0.1
<i>Jacksonia floribunda</i>	0.4	0.1
<i>Lyginia barbata</i>	0.4	2
<i>Melaleuca seriata</i>	1	6
? <i>Microtis</i> sp.	0.1	0.1
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.3	0.1
<i>Philothea spicata</i>	1	0.1
<i>Phlebocarya ciliata</i>	0.4	0.1
<i>Phlebocarya filifolia</i>	0.2	0.1
<i>Schoenus caespitius</i>	0.3	0.2
<i>Stirlingia latifolia</i>	0.3	0.1
<i>Tricostularia neesii</i>	0.2	0.1
<i>Verticordia densiflora</i>	0.3	0.1

PHOTO

Site Name:	GSI-21
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	01/10/2019
GPS Location:	GDA94 Zone 50 405268.48289402E 6459330.79615362N
Community:	1
Landform Type:	Mid Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	S
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 2 - Excellent
Disturbance:	Exotic Weeds
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	<i>Allocasuarina fraseriana</i> , <i>Banksia menziesii</i> , <i>Corymbia calophylla</i>
Mid Stratum 1:	<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>
Lower Stratum 1:	<i>Mesomelaena pseudostygia</i>

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	3.8	18
<i>Alexgeorgea nitens</i>	0.1	0.1
<i>Allocasuarina fraseriana</i>	3.5	2
<i>Amphipogon turbinatus</i>	0.3	0.2
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.4	0.3
<i>Banksia menziesii</i>	4	5
<i>Boronia ramosa</i> subsp. <i>anethifolia</i>	0.2	0.1
<i>Bossiaea eriocarpa</i>	0.1	0.1
<i>Burchardia congesta</i>	0.4	0.1
<i>Caladenia flava</i>	0.1	0.1
<i>Conospermum undulatum</i> (T)	1.8	0.3
<i>Conostylis latens</i>	0.3	0.1
<i>Conostylis setigera</i> subsp. <i>setigera</i>	0.2	0.1
<i>Corymbia calophylla</i>	6	3

<i>Cyathochaeta avenacea</i>	0.4	0.1
<i>Cyathochaeta equitans</i>	0.8	0.6
<i>Dampiera linearis</i>	0.1	0.1
<i>Dasypogon bromeliifolius</i>	0.5	0.7
<i>Desmocladius fasciculatus</i>	0.1	0.1
<i>Drosera porrecta</i>	0.1	0.2
<i>Eucalyptus todtiana</i>		
* <i>Gladiolus caryophyllaceus</i>	0.3	0.1
<i>Gompholobium tomentosum</i>	0.3	0.1
<i>Haemodorum ?laxum</i>	0.5	0.1
<i>Haemodorum laxum</i>	0.5	0.1
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.4	1
<i>Hovea trisperma</i> var. <i>trisperma</i>	0.5	0.1
<i>Jacksonia floribunda</i>	2	0.3
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2)	0.1	0.1
<i>Lomandra hermaphrodita</i>	0.3	0.1
<i>Lomandra nigricans</i>	0.4	0.1
<i>Lomandra preissii</i>	0.6	0.1
<i>Lyginia imberbis</i>	0.8	0.2
<i>Mesomelaena pseudostygia</i>	0.6	1.5
<i>Nuytsia floribunda</i>		
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.5	0.1
<i>Petrophile linearis</i>		
<i>Scaevola repens</i> var. <i>repens</i>	0.1	0.1
<i>Schoenus caespititius</i>	0.6	0.1
<i>Schoenus sublateralis</i>	0.1	0.1
<i>Stirlingia latifolia</i>	0.4	0.1
<i>Stylidium bicolor</i>	0.1	0.1
<i>Stylidium diuroides</i> subsp. <i>diuroides</i>		
<i>Stylidium repens</i>	0.1	0.1
<i>Stylidium tenue</i> subsp. <i>majusculum</i>	0.1	0.1
<i>Styphelia filifolia</i> (P3)	0.4	0.2
<i>Synaphea spinulosa</i> subsp. <i>spinulosa</i>	0.4	0.5
<i>Tetraria octandra</i>	0.2	0.2
<i>Thysanotus sparteus</i>	0.6	0.1
<i>Tricoryne elatior</i>	0.4	0.1
<i>Xanthorrhoea brunonis</i>	1	0.3
<i>Xanthorrhoea preissii</i>	1	0.5
<i>Xanthosia huegelii</i>	0.1	0.1
<i>Xylomelum occidentale</i>		

PHOTO



Site Name: GSI-22
 Site Type: QUADRAT
 Dimensions: 10m x 10m
 Survey Date: 02/10/2019
 GPS Location: GDA94 Zone 50 404973.6191941E 6459413.86205436N
 Community: 1
 Landform Type: Lower Slope
 Slope Class: Gently Inclined (3 degrees)
 Aspect: NW
 Soil Type: Sand
 Soil Colour: Grey
 Rock Outcrop: No bedrock exposed
 CF Abundance: 0%
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia menziesii*
 Lower Stratum 1: *Eremaea pauciflora* var. *pauciflora*, *Hibbertia hypericoides* subsp. *hypericoides*
 Lower Stratum 2: *Alexgeorgea nitens*

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia huegelii</i>		
<i>Acacia pulchella</i> var. <i>pulchella</i>	0.2	0.1
<i>Acacia sessilis</i>		
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	2	1
<i>Alexgeorgea nitens</i>	0.1	3
<i>Allocasuarina humilis</i>		
<i>Amphipogon turbinatus</i>	0.2	0.1
<i>Anigozanthos humilis</i> subsp. <i>humilis</i>	0.2	0.1
<i>Banksia menziesii</i>	6	25
<i>Boronia ramosa</i> subsp. <i>anethifolia</i>	0.2	0.1
<i>Bossiaea eriocarpa</i>	0.3	0.1
<i>Burchardia congesta</i>	0.1	0.1
<i>Calectasia narragara</i>	0.3	0.1

<i>Calytrix fraseri</i>	1.5	3
<i>Conospermum undulatum</i> (T)		
<i>Conostephium pendulum</i>	0.2	0.1
<i>Conostylis aurea</i>	0.1	0.1
<i>Conostylis juncea</i>	0.2	0.1
<i>Dampiera linearis</i>		
<i>Dasypogon obliquifolius</i>	0.2	0.5
<i>Desmocladius fasciculatus</i>	0.1	0.1
<i>Drosera macrantha</i>		0.1
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.5	10
* <i>Gladiolus caryophyllaceus</i>	0.3	0.1
<i>Gompholobium tomentosum</i>		
<i>Haemodorum ?laxum</i>	0.2	0.1
<i>Hemiandra linearis</i>	0.2	0.2
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.4	5
<i>Hovea trisperma</i> var. <i>trisperma</i>	0.3	0.1
<i>Jacksonia floribunda</i>	2	1
<i>Jacksonia lehmannii</i>	0.3	0.1
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2)	0.1	0.1
<i>Laxmannia ramosa</i> subsp. <i>ramosa</i>	0.1	0.1
* <i>Leptospermum laevigatum</i>		
<i>Leucopogon conostephioides</i>	0.4	0.2
<i>Lomandra caespitosa</i>	0.2	0.1
<i>Lomandra hermaphrodita</i>	0.1	0.1
<i>Lomandra sericea</i>	0.3	0.1
<i>Lyginia barbata</i>	0.3	0.1
<i>Lyginia imberbis</i>	0.3	0.4
<i>Lysinema pentapetalum</i>		
<i>Melaleuca trichophylla</i>	0.3	0.2
<i>Mesomelaena pseudostygia</i>	0.4	0.3
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.3	1
<i>Petrophile rigida</i>	0.3	0.1
<i>Phlebocarya filifolia</i>	0.2	0.1
<i>Scaevola repens</i> var. <i>repens</i>	0.1	0.1
<i>Scholtzia involucreta</i>	0.4	0.1
<i>Stirlingia latifolia</i>	0.5	0.1
<i>Stylidium androsaceum</i>	0.1	0.1
<i>Stylidium bicolor</i>	0.1	0.1
<i>Stylidium diuroides</i> subsp. <i>diuroides</i>	0.1	0.1
<i>Stylidium piliferum</i>	0.1	0.1
<i>Stylidium repens</i>	0.1	0.1
<i>Stylidium tenue</i> subsp. <i>majusculum</i>	0.2	0.1
<i>Synaphea spinulosa</i> subsp. <i>spinulosa</i>	0.6	0.5
<i>Thysanotus patersonii</i>		0.1

<i>Tricoryne elatior</i>	0.2	0.1
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Verticordia densiflora</i>	0.3	0.1
<i>Xanthorrhoea brunonis</i>	0.4	0.1
<i>Xanthosia huegelii</i>	0.1	0.1

PHOTO

Site Name: GSI-23
 Site Type: QUADRAT
 Dimensions: 10m x 10m
 Survey Date: 01/10/2019
 GPS Location: GDA94 Zone 50 405368.52140498E 6458964.55709545N
 Community: 4
 Landform Type: Flat
 Slope Class: Very Gently Inclined (1 degree)
 Aspect: SE
 Soil Type: Sand
 Soil Colour: Grey
 Rock Outcrop: No bedrock exposed
 CF Abundance: 0%
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Disturbance: Exotic Weeds, (other) - Adjacent to tracks
 Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Eucalyptus todtiana*
 Mid Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum*
 Mid Stratum 2: *Xanthorrhoea preissii*
 Lower Stratum 1: *Phlebocarya ciliata*

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	3	8
<i>Alexgeorgea nitens</i>	0.1	0.1
<i>Anigozanthos manglesii</i> subsp. <i>manglesii</i>		
<i>Burchardia congesta</i>	0.5	0.1
<i>Cassytha glabella</i>		0.1
<i>Conostylis aurea</i>	0.2	0.1
<i>Conostylis juncea</i>	0.2	0.2
<i>Conostylis latens</i>	0.1	0.1
<i>Cyathochaeta equitans</i>	0.7	0.3
<i>Cytogonidium leptocarpoides</i>	0.4	0.4
<i>Dampiera linearis</i>	0.1	0.6
<i>Dasypogon bromeliifolius</i>	0.4	0.5
<i>Desmocladius fasciculatus</i>	0.1	0.1

<i>Eucalyptus tottiana</i>	7.5	90
* <i>Gladiolus caryophyllaceus</i>	0.4	0.1
<i>Gompholobium confertum</i>	0.5	0.1
<i>Gompholobium tomentosum</i>	0.3	0.1
<i>Hypolaena exsulca</i>	0.2	0.1
<i>Jacksonia floribunda</i>	0.4	0.2
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2)	0.2	0.1
<i>Lyginia barbata</i>	0.5	0.4
<i>Mesomelaena tetragona</i>	0.5	0.2
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.5	0.2
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	0.5	0.1
<i>Philothea spicata</i>		
<i>Phlebocarya ciliata</i>	0.6	15
<i>Poranthera microphylla</i>	0.1	0.1
<i>Schoenus caespititius</i>	0.4	0.3
<i>Schoenus efoliatus</i>	0.3	0.1
<i>Stirlingia latifolia</i>	0.7	0.6
<i>Stylidium androsaceum</i>		
<i>Stylidium repens</i>	0.2	0.1
<i>Stylidium tenue</i> subsp. <i>majusculum</i>	0.2	0.1
<i>Styphelia filifolia</i> (P3)	0.3	0.1
<i>Thysanotus sparteus</i>	0.3	0.1
<i>Verticordia densiflora</i>	0.5	0.2
* <i>Watsonia meriana</i>	0.4	0.1
<i>Xanthorrhoea brunonis</i>	0.6	0.1
<i>Xanthorrhoea preissii</i>	1.6	2
<i>Xanthosia huegelii</i>	0.1	0.1

PHOTO



Site Name:	GSI-24
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	02/10/2019
GPS Location:	GDA94 Zone 50 404942.04696556E 6459131.6523031N
Community:	4
Landform Type:	Flat
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NW
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 2 - Excellent
Disturbance:	Exotic Weeds
Fire:	>10 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	<i>Beaufortia squarrosa, Xanthorrhoea preissii</i>
Lower Stratum 1:	<i>Eremaea pauciflora</i> var. <i>pauciflora, Jacksonia floribunda, Melaleuca seriata</i>
Lower Stratum 2:	<i>Alexgeorgea nitens, Chordifex sinuosus, Dasypogon obliquifolius, Lyginia barbata, Phlebocarya ciliata</i>

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia applanata</i>	0.2	0.1
* <i>Acacia longifolia</i>	1	0.3
<i>Alexgeorgea nitens</i>	0.1	5
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.2	1
<i>Beaufortia squarrosa</i>	2	5
<i>Bossiaea eriocarpa</i>	0.3	0.1
* <i>Briza maxima</i>	0.1	0.1
<i>Burchardia congesta</i>	0.2	0.2
<i>Cassytha glabella</i> forma <i>dispar</i>		0.1
<i>Chordifex sinuosus</i>	0.2	3
<i>Conostylis juncea</i>	0.1	0.1
<i>Corymbia calophylla</i>		

<i>Cytogonidium leptocarpoides</i>	0.2	0.1
<i>Dampiera linearis</i>	0.2	0.1
<i>Dasypogon obliquifolius</i>	0.3	5
<i>Desmocladius fasciculatus</i>	0.1	0.1
<i>Drosera macrantha</i>		0.1
* <i>Ehrharta calycina</i>		
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	1	6
<i>Gastrolobium capitatum</i>		
* <i>Gladiolus caryophyllaceus</i>	0.6	0.1
<i>Gompholobium confertum</i>		
* <i>Hypochaeris glabra</i>	0.1	0.1
<i>Hypolaena exsulca</i>	0.3	0.2
<i>Jacksonia floribunda</i>	0.4	3
<i>Lomandra hermaphrodita</i>	0.2	0.1
<i>Lyginia barbata</i>	0.2	15
<i>Melaleuca preissiana</i>		
<i>Melaleuca seriata</i>	0.5	7
<i>Nuytsia floribunda</i>		
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.3	0.1
<i>Philothea spicata</i>	0.8	0.1
<i>Phlebocarya ciliata</i>	0.4	15
<i>Stirlingia latifolia</i>	0.5	0.1
<i>Styphelia filifolia</i> (P3)		
<i>Trachymene pilosa</i>	0.1	0.1
* <i>Ursinia anthemoides</i>	0.2	0.1
<i>Verticordia densiflora</i>	1	0.5
<i>Xanthorrhoea preissii</i>	1.3	2

PHOTO



Site Name: GSI-25
 Site Type: QUADRAT
 Dimensions: 10m x 10m
 Survey Date: 02/10/2019
 GPS Location: GDA94 Zone 50 405445.72E 6458962.17N
 Community: 4
 Landform Type: Open Depression
 Slope Class: Very Gently Inclined (1 degree)
 Aspect: NW
 Soil Type: Sand
 Soil Colour: Grey
 Rock Outcrop: No bedrock exposed
 CF Abundance: 0%
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Disturbance: Exotic Weeds
 Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

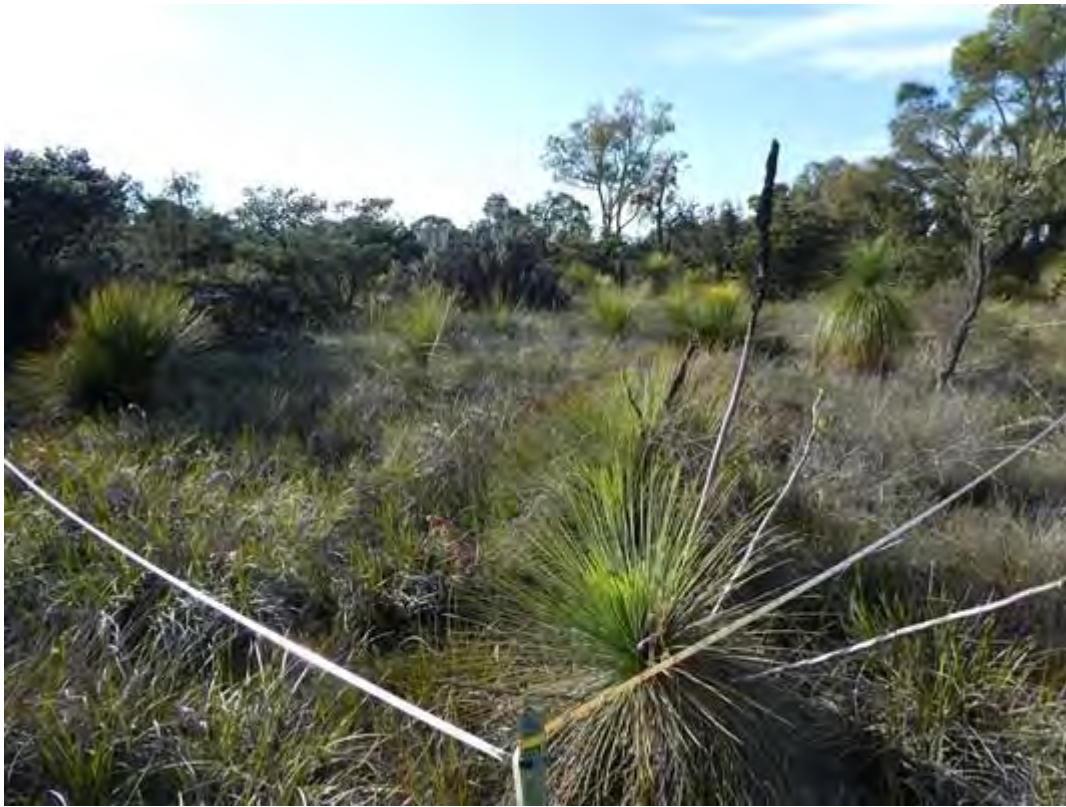
Lower Stratum 1: *Phlebocarya ciliata*

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	2.5	1
<i>Alexgeorgea nitens</i>	0.3	0.4
<i>Austrostipa compressa</i>	0.1	0.1
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.3	0.6
<i>Boronia ramosa</i> subsp. <i>anethifolia</i>	0.1	0.3
* <i>Briza maxima</i>	0.1	0.1
<i>Burchardia congesta</i>	0.4	0.2
<i>Cassytha racemosa</i> forma <i>pilosa</i>		0.1
<i>Conostylis juncea</i>	0.2	0.2
<i>Conostylis latens</i>	0.1	0.1
<i>Cyathochaeta equitans</i>	0.6	6
<i>Cytogonidium leptocarpoides</i>	0.4	0.6
<i>Dampiera linearis</i>	0.1	0.2
<i>Dasypogon bromeliifolius</i>	0.5	2
<i>Desmocladius fasciculatus</i>	0.1	0.2
* <i>Gladiolus caryophyllaceus</i>	0.5	0.2
* <i>Hypochaeris glabra</i>	0.1	0.1

<i>Hypolaena exsulca</i>	0.3	0.1
<i>Jacksonia floribunda</i>	0.5	0.7
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2)	0.1	0.2
<i>Kingia australis</i>	2	0.4
<i>Lomandra hermaphrodita</i>	0.1	0.1
<i>Mesomelaena pseudostygia</i>	0.4	0.1
<i>Mesomelaena tetragona</i>	0.6	0.8
<i>Nuytsia floribunda</i>	2.5	0.3
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.4	0.1
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	1.2	0.4
<i>Phlebocarya ciliata</i>	0.5	75
<i>Phyllangium paradoxum</i>	0.1	0.1
<i>Pimelea angustifolia</i>	0.3	0.1
<i>Podotrochea angustifolia</i>	0.1	0.1
<i>Schoenus caespititius</i>	0.5	0.4
<i>Stirlingia latifolia</i>	0.3	0.8
<i>Stylidium androsaceum</i>	0.1	0.1
<i>Stylidium repens</i>	0.1	0.1
<i>Synaphea spinulosa</i> subsp. <i>spinulosa</i>	0.4	0.2
<i>Thysanotus thyrsoideus</i>	0.3	0.1
<i>Trachymene pilosa</i>	0.1	0.1
<i>Tricoryne elatior</i>	0.4	0.1
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Verticordia densiflora</i>	0.5	0.2
<i>Xanthorrhoea brunonis</i>	1.5	1
<i>Xanthorrhoea preissii</i>	1.5	1

PHOTO



Site Name:	GSI-26
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	03/10/2019
GPS Location:	GDA94 Zone 50 404869.79308287E 6459302.36844737N
Community:	4
Landform Type:	Flat
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NW
Soil Type:	Sandy Loam
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 2 - Excellent
Disturbance:	Exotic Weeds
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	<i>Corymbia calophylla</i>
Mid Stratum 1:	<i>Callitris pyramidalis</i>
Mid Stratum 2:	<i>Hakea varia</i>
Lower Stratum 1:	<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i> , <i>Dasypogon obliquifolius</i> , <i>Jacksonia floribunda</i> , <i>Phlebocarya ciliata</i>
Lower Stratum 2:	<i>Lyginia imberbis</i>

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.2	5
<i>Boronia ramosa</i> subsp. <i>anethifolia</i>	0.2	0.1
* <i>Briza maxima</i>	0.1	0.1
<i>Burchardia congesta</i>	0.1	0.1
<i>Callitris pyramidalis</i>	2	5
<i>Cassytha glabella</i> forma <i>dispar</i>		0.3
<i>Chaetanthus aristatus</i>	0.2	0.1
<i>Conostylis juncea</i>	0.2	0.2
<i>Conostylis latens</i>		
<i>Corymbia calophylla</i>	7	4
<i>Cyathochaeta avenacea</i>	0.2	0.1

<i>Dampiera linearis</i>	0.2	0.1
<i>Dasypogon obliquifolius</i>	0.3	5
<i>Desmocladius fasciculatus</i>	0.1	0.1
* <i>Ehrharta calycina</i>	0.3	0.1
<i>Gastrolobium capitatum</i>	0.2	0.1
* <i>Gladiolus caryophyllaceus</i>	0.3	0.1
<i>Gompholobium tomentosum</i>	0.3	0.1
<i>Hakea varia</i>	1.8	2
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.3	0.3
* <i>Hypochaeris glabra</i>	0.1	0.1
<i>Jacksonia floribunda</i>	0.8	2
<i>Kingia australis</i>	1	1
<i>Lyginia imberbis</i>	0.4	2.1
<i>Melaleuca preissiana</i>		
<i>Mesomelaena tetragona</i>	0.3	0.3
<i>Nuytsia floribunda</i>		
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>		
<i>Philothea spicata</i>	0.4	0.1
<i>Phlebocarya ciliata</i>	0.3	70
<i>Pterostylis vittata</i>	0.1	0.1
<i>Schoenus laevigatus</i>	0.2	0.1
<i>Stirlingia latifolia</i>	0.3	0.5
<i>Thelymitra crinita</i>	0.1	0.1
<i>Trachymene pilosa</i>	0.1	0.1
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Verticordia densiflora</i>	0.6	0.2
<i>Xanthorrhoea brunonis</i>	0.6	1
<i>Xanthorrhoea preissii</i>	1.3	1

PHOTO



Site Name: GSI-27
 Site Type: QUADRAT
 Dimensions: 10m x 10m
 Survey Date: 02/10/2019
 GPS Location: GDA94 Zone 50 405416.82E 6458900.48N
 Community: 1
 Landform Type: Upper Slope
 Slope Class: Gently Inclined (3 degrees)
 Aspect: SE
 Soil Type: Sandy Loam
 Soil Colour: Grey
 Rock Outcrop: No bedrock exposed
 CF Abundance: 0%
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Disturbance: Exotic Weeds, (other) - Adjacent to track
 Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Allocasuarina fraseriana*, *Banksia menziesii*, *Eucalyptus marginata* subsp. *marginata*

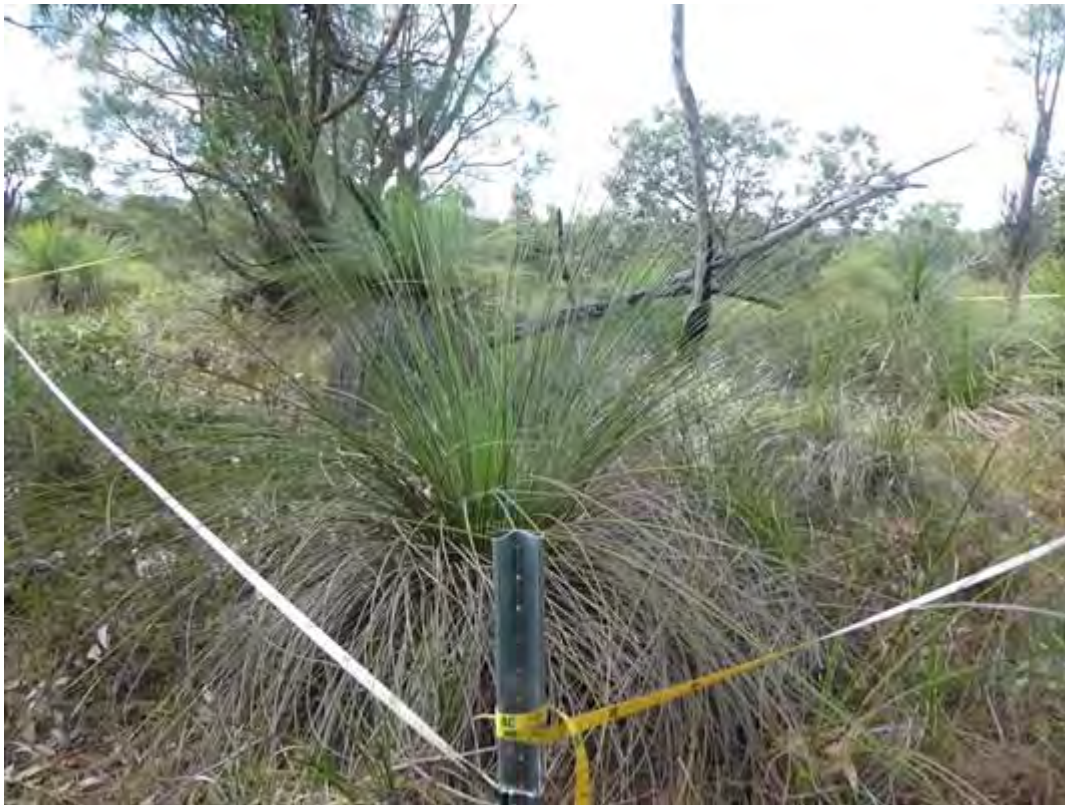
Lower Stratum 1: *Patersonia occidentalis* var. *occidentalis*

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>		
<i>Alexgeorgea nitens</i>	0.2	0.2
<i>Allocasuarina fraseriana</i>	6.5	18
<i>Amphipogon turbinatus</i>		
* <i>Asparagus asparagoides</i>		
<i>Banksia menziesii</i>	3.5	1.5
<i>Billardiera fraseri</i>	0.3	0.1
<i>Bossiaea eriocarpa</i>	0.3	0.1
* <i>Briza maxima</i>	0.1	0.1
<i>Burchardia congesta</i>	0.6	0.2
<i>Caladenia flava</i>	0.1	0.1
<i>Conostylis aurea</i>	0.1	0.1
<i>Conostylis juncea</i>	0.2	0.1
<i>Dampiera linearis</i>	0.2	0.3
<i>Dasyogon bromeliifolius</i>	0.4	0.8

<i>Desmodium fasciculatum</i>	0.1	0.3
<i>Drosera macrantha</i>		0.1
<i>Drosera porrecta</i>	0.1	0.5
* <i>Ehrharta calycina</i>	0.8	0.2
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>		
<i>Eucalyptus marginata</i> subsp. <i>marginata</i>	7.5	12
* <i>Gladiolus caryophyllaceus</i>	0.6	0.1
<i>Gompholobium confertum</i>		
<i>Gompholobium tomentosum</i>	0.3	0.3
<i>Hemiandra linearis</i>	0.2	0.1
<i>Hibbertia striata</i>	0.3	0.1
<i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)	0.6	0.1
<i>Lomandra caespitosa</i>	0.4	0.1
<i>Lomandra nigricans</i>	0.4	0.1
<i>Lomandra preissii</i>	0.5	0.5
<i>Lyginia barbata</i>	0.4	0.1
<i>Lyginia imberbis</i>	0.5	0.1
<i>Nuytsia floribunda</i>	6.5	5
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.6	2
<i>Petrophile linearis</i>		
<i>Philothea spicata</i>		
<i>Phlebocarya ciliata</i>	0.3	1
<i>Pyrorchis nigricans</i>		0.2
<i>Scaevola repens</i> var. <i>repens</i>		
<i>Stirlingia latifolia</i>	0.4	0.1
<i>Stylidium androsaceum</i>	0.1	0.1
<i>Stylidium bicolor</i>	0.4	0.1
<i>Stylidium tenue</i> subsp. <i>majusculum</i>	0.5	0.1
<i>Trachymene pilosa</i>	0.1	0.1
<i>Tricoryne elatior</i>	0.4	0.2
* <i>Ursinia anthemoides</i>	0.2	0.1
<i>Xanthorrhoea brunonis</i>	1.1	1
<i>Xanthorrhoea preissii</i>	1.7	1.5

PHOTO



Site Name: GSI-28
 Site Type: QUADRAT
 Dimensions: 10m x 10m
 Survey Date: 03/10/2019
 GPS Location: GDA94 Zone 50 404749.8470536E 6459349.4743835N
 Community: 5
 Landform Type: Flat
 Slope Class: Very Gently Inclined (1 degree)
 Aspect: NW
 Soil Type: Sandy Loam
 Soil Colour: Brown
 Rock Outcrop: No bedrock exposed
 CF Abundance: 0%
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Hakea sulcata*, *Pericalymma ellipticum* var. *floridum*
 Lower Stratum 1: *Hypocalymma angustifolium* subsp. Swan Coastal Plain (G.J. Keighery 16777)
 Lower Stratum 2: *Cytogonidium leptocarpoides*

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Anarthria gracilis</i>		
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.2	1
<i>Beaufortia squarrosa</i>	1.5	1
<i>Callitris pyramidalis</i>		
<i>Cassytha racemosa</i>		0.1
<i>Cytogonidium leptocarpoides</i>	0.3	5
<i>Dasypogon obliquifolius</i>	0.4	0.3
<i>Daviesia angulata</i>		
<i>Eutaxia virgata</i>	0.5	0.1
<i>Hakea sulcata</i>	1.5	10
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.3	10
<i>Hypolaena exsulca</i>	0.2	0.1

<i>Kingia australis</i>	1	1
<i>Melaleuca preissiana</i>	0.3	0.1
<i>Mesomelaena tetragona</i>	0.6	0.1
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	1	60
<i>Phlebocarya ciliata</i>	0.4	0.2
<i>Schoenus laevigatus</i>	0.2	0.1
<i>Schoenus rigens</i>	0.2	0.3
<i>Stirlingia latifolia</i>	0.5	0.5
<i>Thysanotus patersonii</i>		
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Verticordia densiflora</i>	0.5	0.3
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i> (P4)	0.5	1

PHOTO

Site Name:	GSI-29
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	02/10/2019
GPS Location:	GDA94 Zone 50 405444.03E 6458788.32N
Community:	7
Landform Type:	Flat
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SW
Soil Type:	Sandy Clay
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 2 - Excellent
Disturbance:	Exotic Weeds, Pig/Animal Disturbance - Rabbits
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>
Mid Stratum 2:	<i>Kingia australis</i> , <i>Verticordia densiflora</i>
Lower Stratum 1:	<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	2	1.5
<i>Austrostipa elegantissima</i>		
<i>Austrostipa</i> sp.	0.1	0.1
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.3	0.3
<i>Beaufortia squarrosa</i>	1.7	0.6
* <i>Briza maxima</i>	0.1	0.1
<i>Callitris pyramidalis</i>		
<i>Cassytha flava</i>		0.1
<i>Chamaescilla corymbosa</i> var. <i>corymbosa</i>	0.1	0.1
<i>Crassula colorata</i> var. <i>colorata</i>	0.1	0.1
<i>Dasypogon bromeliifolius</i>	0.2	0.1
* <i>Ehrharta calycina</i>	1	0.1
* <i>Gladiolus caryophyllaceus</i>	0.6	0.1

<i>Hakea ceratophylla</i>		
<i>Hakea sulcata</i>		
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.5	20
* <i>Hypochaeris glabra</i>	0.1	0.1
<i>Hypolaena exsulca</i>	0.3	0.9
<i>Kingia australis</i>	1.5	1
<i>Laxmannia ramosa</i> subsp. <i>ramosa</i>	0.1	0.1
<i>Lomandra caespitosa</i>	0.2	0.1
<i>Lyginia imberbis</i>	0.3	0.1
<i>Melaleuca preissiana</i>	1.5	0.5
* <i>Pentameris airoides</i> subsp. <i>airoides</i>	0.1	0.2
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	1.1	0.2
<i>Schoenus rigens</i>	0.1	0.2
<i>Siloxerus humifusus</i>	0.1	0.1
<i>Stirlingia latifolia</i>		
<i>Thelymitra graminea</i>		
<i>Trachymene pilosa</i>	0.1	0.1
<i>Tremulina tremula</i>	0.6	0.2
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Verticordia densiflora</i>	1.5	10
* <i>Vulpia bromoides</i>	0.1	0.1
* <i>Vulpia myuros</i> forma <i>myuros</i>	0.1	0.1
* <i>Watsonia meriana</i>		

PHOTO



Site Name:	GSI-31
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	02/10/2019
GPS Location:	GDA94 Zone 50 405386.81E 6458662.3N
Community:	7
Landform Type:	Lower Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SW
Soil Type:	Sandy Clay Loam
Soil Colour:	Grey-brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	<2%
CF Sizes:	2-6mm, 6-20mm, 20-60mm
CF Types:	Laterite, Quartz (other)
Vegetation Condition:	Southern Vegetation Condition - 3 - Very Good
Disturbance:	Exotic Weeds, Pig/Animal Disturbance - Rabbits, (other) - Rubbish
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	<i>Melaleuca viminea</i> subsp. <i>viminea</i>
Mid Stratum 2:	<i>Kunzea micrantha</i> subsp. <i>micrantha</i> , <i>Petrophile rigida</i> , <i>Verticordia densiflora</i>

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia saligna</i>	3.5	0.8
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	1.6	0.4
<i>Austrostipa elegantissima</i>	0.6	0.1
<i>Banksia telmatiaea</i>		
<i>Cassutha flava</i>		0.1
<i>Crassula colorata</i> var. <i>colorata</i>	0.1	0.1
* <i>Ehrharta calycina</i>	0.4	0.1
* <i>Eragrostis curvula</i>	1.2	0.7
<i>Eutaxia virgata</i>	0.6	0.1
* <i>Gladiolus caryophyllaceus</i>	0.3	0.1
<i>Hakea trifurcata</i>		
<i>Hakea varia</i>		

<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.4	0.5
* <i>Hypochaeris glabra</i>	0.1	0.1
<i>Hypolaena exsulca</i>	0.4	0.4
<i>Kunzea micrantha</i> subsp. <i>micrantha</i>	1.6	2
<i>Lepidosperma longitudinale</i>	0.5	0.1
<i>Lomandra suaveolens</i>	0.1	0.1
<i>Melaleuca viminea</i> subsp. <i>viminea</i>	2	19
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	0.4	0.1
<i>Petrophile rigida</i>	1.3	1
* <i>Plantago bellardii</i>	0.1	0.1
<i>Podotheca angustifolia</i>	0.1	0.1
* <i>Romulea rosea</i>	0.1	0.1
<i>Schoenus rigens</i>	0.2	0.1
<i>Thelymitra graminea</i>	0.4	0.1
<i>Thysanotus manglesianus</i>		0.1
<i>Trachymene pilosa</i>	0.1	0.1
<i>Triglochin nana</i>	0.1	0.1
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Verticordia densiflora</i>	1.5	4
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i> (P4)	1	0.2
* <i>Vulpia bromoides</i>	0.1	0.1
* <i>Vulpia myuros</i> forma <i>myuros</i>	0.1	0.1
* <i>Watsonia meriana</i>	1.2	0.4
<i>Xanthorrhoea brunonis</i>	0.3	0.1

PHOTO



Site Name: GSI-33
 Site Type: QUADRAT
 Dimensions: 10m x 10m
 Survey Date: 03/10/2019
 GPS Location: GDA94 Zone 50 405770E 6459344.64N
 Community: 1
 Landform Type: Flat
 Slope Class: Very Gently Inclined (1 degree)
 Aspect: SW
 Soil Type: Sand
 Soil Colour: Grey
 Rock Outcrop: No bedrock exposed
 CF Abundance: 0%
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Disturbance: Exotic Weeds, (other) - Adjacent to track
 Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Allocasuarina fraseriana*, *Eucalyptus marginata* subsp. *marginata*,
Xylomelum occidentale
 Mid Stratum 2: *Bossiaea eriocarpa*
 Lower Stratum 1: *Tetraria octandra*

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia applanata</i>	0.2	0.1
<i>Alexgeorgea nitens</i>	0.1	0.1
<i>Allocasuarina fraseriana</i>	10	8
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.3	0.9
<i>Banksia grandis</i>		
<i>Billardiera fraseri</i>		0.2
<i>Bossiaea eriocarpa</i>	0.4	2
* <i>Briza maxima</i>		
<i>Burchardia congesta</i>	0.6	0.2
<i>Calectasia narragara</i>	0.2	0.1
<i>Chamaescilla corymbosa</i> var. <i>corymbosa</i>	0.1	0.1
<i>Conostylis juncea</i>	0.1	0.1
<i>Cyathochaeta equitans</i>	0.5	0.2

<i>Dampiera linearis</i>	0.1	0.3
<i>Dasypogon bromeliifolius</i>	0.4	0.5
<i>Daviesia angulata</i>	0.6	0.2
<i>Desmocladius fasciculatus</i>	0.1	0.1
<i>Drosera erythrorhiza</i>		
<i>Drosera porrecta</i>	0.1	0.2
<i>Eucalyptus marginata</i> subsp. <i>marginata</i>	10	70
* <i>Gladiolus caryophyllaceus</i>	0.4	0.1
<i>Haemodorum laxum</i>	0.5	0.1
<i>Haemodorum ?laxum</i>	0.5	0.2
<i>Hemiandra linearis</i>	0.1	0.3
<i>Hibbertia aurea</i>	0.3	0.1
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.4	1
<i>Kingia australis</i>	2.5	0.5
<i>Labichea punctata</i>	0.1	0.1
<i>Lepidosperma</i> sp.	0.5	0.3
<i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)	0.4	0.1
<i>Lomandra preissii</i>	0.3	0.1
<i>Lomandra sericea</i>	0.4	0.1
<i>Mesomelaena pseudostygia</i>	0.5	0.3
<i>Nuytsia floribunda</i>	0.6	0.1
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.4	0.2
<i>Petrophile linearis</i>		
<i>Pterostylis recurva</i>	0.5	0.1
<i>Pterostylis vittata</i>	0.2	0.1
<i>Schoenus caespitius</i>	0.3	0.1
<i>Stirlingia latifolia</i>		
<i>Stylidium bicolor</i>	0.1	0.1
<i>Styphelia filifolia</i> (P3)	0.4	0.1
<i>Tetralix octandra</i>	0.6	2
<i>Thysanotus thyrsoides</i>	0.4	0.1
<i>Tricoryne elatior</i>	0.3	0.1
<i>Xanthorrhoea brunonis</i>	0.6	0.2
<i>Xanthorrhoea preissii</i>	1.2	0.4
<i>Xylomelum occidentale</i>	2	0.4

PHOTO



Site Name:	GSI-35
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	03/10/2019
GPS Location:	GDA94 Zone 50 405686.03E 6458494.12N
Community:	3
Landform Type:	Flat
Slope Class:	Level (0 degrees)
Soil Type:	Light Clay
Soil Colour:	Grey-brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 3 - Very Good
Disturbance:	Exotic Weeds
Fire:	< 5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	<i>Corymbia calophylla</i>
Mid Stratum 1:	<i>Acacia pulchella</i>
Mid Stratum 2:	<i>Gompholobium tomentosum</i>
Lower Stratum 1:	<i>Mesomelaena pseudostygia</i>

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia pulchella</i>	1.5	30
<i>Allocasuarina humilis</i>	0.9	0.1
* <i>Arctotheca calendula</i>	0.1	0.1
<i>Babingtonia camphorosmae</i>	0.2	0.1
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.3	0.2
* <i>Briza maxima</i>	0.1	0.2
<i>Burchardia congesta</i>	0.3	0.1
<i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i>	1	0.2
<i>Cassytha racemosa</i> forma <i>pilosa</i>		0.1
<i>Cheiranthra preissiana</i>		0.1
<i>Chorizema dicksonii</i>		
<i>Conostylis setigera</i> subsp. <i>setigera</i>	0.1	0.1
<i>Corymbia calophylla</i>	5.5	13
<i>Cristonia biloba</i> subsp. <i>biloba</i>	0.3	0.1

<i>Cyathochaeta equitans</i>	0.4	0.1
<i>Darwinia citriodora</i>		
<i>Daviesia angulata</i>	0.3	0.1
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.4	0.1
<i>Gastrolobium capitatum</i>	0.4	0.1
<i>Gompholobium marginatum</i>	0.2	0.1
<i>Gompholobium tomentosum</i>	0.5	3
<i>Haemodorum laxum</i>	0.5	0.1
<i>Hakea candolleana</i>	0.5	0.1
<i>Hakea incrassata</i>	0.6	0.2
<i>Hakea trifurcata</i>	0.5	0.1
<i>Hakea undulata</i>	1	0.3
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.6	1
<i>Hydrocotyle callicarpa</i>	0.1	0.1
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.5	0.1
<i>Lasioptalum bracteatum</i> (P4)		
<i>Lepidobolus preissianus</i>	0.4	0.1
<i>Lepidosperma</i> sp.	0.2	0.1
<i>Mesomelaena pseudostygia</i>	0.5	2
<i>Mesomelaena tetragona</i>	0.6	0.1
<i>Neurachne alopecuroidea</i>	0.1	0.1
* <i>Pentameris airoides</i> subsp. <i>airoides</i>	0.1	0.1
* <i>Romulea rosea</i>	0.1	0.1
<i>Schoenus</i> ?sp. smooth culms (K.R. Newbey 7823)	0.2	0.1
<i>Schoenus unispiculatus</i>	0.2	0.1
<i>Siloxerus humifusus</i>	0.1	0.1
<i>Synaphea gracillima</i>	0.6	0.2
<i>Tetraria octandra</i>	0.4	0.2
<i>Thelymitra crinita</i>	0.2	0.1
<i>Thomasia macrocarpa</i>		
<i>Thysanotus manglesianus</i>		0.1
<i>Thysanotus sparteus</i>	0.5	0.1
<i>Thysanotus thyrsoideus</i>	0.1	0.1
<i>Trymalium odoratissimum</i> subsp. <i>odoratissimum</i>	0.4	0.1
* <i>Ursinia anthemoides</i>	0.3	0.1
* <i>Watsonia meriana</i>	0.6	0.2
<i>Xanthorrhoea brunonis</i>	0.4	0.1
<i>Xanthorrhoea preissii</i>	1.5	0.5
<i>Xanthosia candida</i>	0.4	0.1

PHOTO



Site Name:	GSI-37R
Site Type:	RELEVE
Survey Date:	03/10/2019
GPS Location:	GDA94 Zone 50 405646.72743414E 6458443.54245588N
Landform Type:	Drainage Line, Creek runs East West. (other)
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Light Clay
Soil Colour:	Grey-brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	<2%
CF Sizes:	2-6mm, 6-20mm
CF Types:	Laterite
Vegetation Condition:	Southern Vegetation Condition - 4 - Good
Disturbance:	Exotic Weeds, (other) - Adjacent to track
Fire:	< 5 years

DOMINANT TAXA IN VEGETATION STRATA**SPECIES LIST**

Taxon Name	Avg. Height	Cover Alive
<i>Acacia alata</i> var. <i>alata</i>	1.6	2
* <i>Acacia podalyriifolia</i>	2	0.2
<i>Acacia pulchella</i>	1.2	25
<i>Acacia saligna</i>	1.8	0.1
* <i>Briza maxima</i>	0.1	0.1
<i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i>	0.8	0.1
<i>Cheiranthra preissiana</i>		0.1
<i>Corymbia calophylla</i>	10	12
* <i>Ehrharta calycina</i>	0.3	0.1
* <i>Eragrostis curvula</i>	0.3	0.1
* <i>Gladiolus caryophyllaceus</i>	0.2	0.1
<i>Hakea trifurcata</i>	0.9	0.1
<i>Lasiosyris bracteatum</i> (P4)	1.8	0.5
<i>Lepidosperma longitudinale</i>	0.4	0.1
<i>Melaleuca lateritia</i>	1	0.1
* <i>Oxalis pes-caprae</i>	0.1	0.1
<i>Stylidium recurvum</i>	0.2	0.1
<i>Thomasia macrocarpa</i>	1.2	0.5
<i>Trymalium odoratissimum</i> subsp.	1.7	0.5

<i>odoratissimum</i>		
<i>Viminaria juncea</i>	1.9	0.2
* <i>Watsonia meriana</i>	0.4	0.2

PHOTO

Site Name:	GSI-39
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	03/10/2019
GPS Location:	GDA94 Zone 50 405597.91E 6458758.04N
Community:	2
Landform Type:	Flat
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SW
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	Southern Vegetation Condition - 2 - Excellent
Disturbance:	Exotic Weeds, Pig/Animal Disturbance - Rabbits
Fire:	< 5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 2:	<i>Allocasuarina humilis</i> , <i>Lambertia multiflora</i> var. <i>darlingensis</i>
Lower Stratum 1:	<i>Eremaea pauciflora</i> var. <i>pauciflora</i>
Lower Stratum 2:	<i>Cyathochaeta equitans</i>

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia applanata</i>	0.2	0.1
<i>Allocasuarina humilis</i>	1	3
<i>Amphipogon turbinatus</i>	0.4	0.1
* <i>Arctotheca calendula</i>	0.1	0.1
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.3	0.1
<i>Boronia ramosa</i> subsp. <i>anethifolia</i>	0.3	0.1
<i>Burchardia congesta</i>	0.6	0.1
<i>Caladenia flava</i>	0.1	0.1
<i>Cassytha flava</i>		0.1
<i>Chamaescilla corymbosa</i> var. <i>corymbosa</i>	0.1	0.1
<i>Conospermum undulatum</i> (T)		
<i>Conostylis aurea</i>	0.2	0.1
<i>Conostylis juncea</i>	0.2	0.1
<i>Conostylis latens</i>	0.2	0.1

<i>Crassula colorata</i> var. <i>colorata</i>	0.1	0.1
<i>Cristonia biloba</i> subsp. <i>biloba</i>	0.2	0.1
<i>Cyathochaeta equitans</i>	0.8	1.5
<i>Dampiera linearis</i>	0.2	0.1
<i>Daviesia angulata</i>	0.8	0.5
<i>Daviesia decurrens</i> subsp. <i>decurrens</i>	0.3	0.1
<i>Desmocladius fasciculatus</i>	0.2	0.1
<i>Drosera macrantha</i>	0.1	0.1
<i>Drosera porrecta</i>	0.1	0.1
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.5	1.1
* <i>Gladiolus caryophyllaceus</i>	0.7	0.1
<i>Gompholobium confertum</i>	0.3	0.2
<i>Haemodorum laxum</i>	0.4	0.1
<i>Haemodorum ?laxum</i>	0.4	0.1
<i>Hibbertia aurea</i>	0.2	0.1
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.6	0.5
* <i>Hypochaeris glabra</i>	0.1	0.1
<i>Jacksonia floribunda</i>	0.4	0.1
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2)	0.3	0.1
<i>Kingia australis</i>	2	0.3
<i>Lambertia multiflora</i> var. <i>darlingensis</i>	2	3.5
<i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)	0.3	0.1
<i>Leptomeria empetriformis</i>	0.6	0.1
<i>Levenhookia pusilla</i>	0.1	0.1
<i>Lomandra preissii</i>	0.4	0.1
<i>Lomandra sericea</i>	0.4	0.1
<i>Lyginia imberbis</i>	0.3	0.1
<i>Melaleuca trichophylla</i>	0.2	0.2
<i>Mesomelaena tetragona</i>	0.4	0.1
<i>Neurachne alopecuroidea</i>	0.2	0.1
<i>Nuytsia floribunda</i>	3	0.3
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.5	0.5
* <i>Pentameris airoides</i> subsp. <i>airoides</i>	0.1	0.1
<i>Petrophile linearis</i>		
<i>Phyllangium paradoxum</i>	0.1	0.1
<i>Pimelea angustifolia</i>	0.3	0.1
<i>Podotrochea angustifolia</i>	0.1	0.1
<i>Pterochaeta paniculata</i>	0.1	0.1
<i>Scaevola repens</i> var. <i>repens</i>	0.1	0.1
<i>Schoenus caespitius</i>	0.4	0.2
<i>Schoenus nanus</i>	0.1	0.1
<i>Schoenus ?sp. smooth culms</i> (K.R. Newbey 7823)	0.2	0.1

<i>Schoenus sublateralis</i>	0.1	0.1
<i>Siloxerus humifusus</i>	0.1	0.1
<i>Sphaerolobium macranthum</i>	0.3	0.1
<i>Stirlingia latifolia</i>	0.3	0.1
<i>Stylidium bicolor</i>	0.1	0.1
<i>Stylidium repens</i>	0.1	0.1
<i>Stylidium tenue</i> subsp. <i>majusculum</i>	0.1	0.1
<i>Tetraria octandra</i>	0.5	0.3
<i>Thysanotus sparteus</i>	0.8	0.1
<i>Trachymene pilosa</i>	0.1	0.1
<i>Tripterococcus brunonis</i>	0.4	0.1
* <i>Watsonia meriana</i>	0.8	0.1
<i>Xanthorrhoea brunonis</i>	0.6	0.1
<i>Xanthorrhoea preissii</i>	1.6	0.9

PHOTO

Site Name: GSI-41R
 Site Type: RELEVE
 Survey Date: 03/10/2019
 GPS Location: GDA94 Zone 50 405389.98915025E 6458768.31299765N
 Landform Type: Lower Slope
 Slope Class: Very Gently Inclined (1 degree)
 Aspect: S
 Soil Type: Sandy Clay Loam
 Soil Colour: Grey
 Rock Outcrop: No bedrock exposed
 CF Abundance: <2%
 CF Sizes: 2-6mm, 6-20mm, 20-60mm
 CF Types: Laterite
 Vegetation Condition: Southern Vegetation Condition - 3 - Very Good
 Disturbance: (other) - Adjacent to track
 Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	0.9	0.1
<i>Astartea affinis</i>	1	0.3
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.4	0.2
<i>Beaufortia squarrosa</i>	0.6	1
<i>Callitris pyramidalis</i>	4.5	15
<i>Cassytha glabella</i>		0.1
<i>Chaetanthus aristatus</i>	0.4	0.1
<i>Conostylis juncea</i>	0.3	0.1
<i>Dasyogon bromeliifolius</i>	0.4	0.2
* <i>Ehrharta calycina</i>	0.3	0.1
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.4	0.5
<i>Hakea trifurcata</i>	1	0.5
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.4	3
<i>Hypolaena exsulca</i>	0.4	0.2
<i>Jacksonia gracillima</i> (P3)	0.5	0.2
<i>Kingia australis</i>	0.5	0.1
<i>Mesomelaena tetragona</i>	0.6	0.2
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	0.6	0.2

<i>Phlebocarya ciliata</i>	0.3	0.2
<i>Schoenus caespitius</i>	0.2	0.1
<i>Schoenus efoliatus</i>	0.2	0.1
<i>Schoenus rigens</i>	0.2	0.1
<i>Stirlingia latifolia</i>	0.5	0.1
<i>Tremulina tremula</i>	0.5	0.3
* <i>Ursinia anthemoides</i>	0.1	0.1
<i>Verticordia densiflora</i>	0.4	0.5
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i> (P4)	0.3	0.1
* <i>Watsonia meriana</i>	0.4	0.1
<i>Xanthorrhoea brunonis</i>	0.4	0.2

PHOTO

Site Name: GSI-R01
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 404452.21340457E 6460344.20946099N
 Landform Type: Lower Slope
 Slope Class: Moderately Inclined (10 degrees)
 Soil Type: Sandy Loam
 Soil Colour: Dark brown (other)
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
* <i>Avena barbata</i>	2	10
* <i>Bromus diandrus</i>	0.5	80
* <i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i>	1.5	0.2
* <i>Ehrharta calycina</i>	0.6	10
* <i>Eragrostis curvula</i>	1.2	7
* <i>Eucalyptus ?resinifera</i>	6	5
<i>Eucalyptus torquata</i>	4	3
* <i>Euphorbia terracina</i>	0.3	1
* <i>Fumaria capreolata</i>	0.4	5
<i>Melaleuca huegelii</i> subsp. <i>huegelii</i>	1.5	10
<i>Melaleuca incana</i> subsp. <i>incana</i>	1.2	8

PHOTO



Site Name: GSI-R02
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405092.48E 6458009.6N
 Landform Type: Flat
 Slope Class: Level (0 degrees)
 Soil Type: Sandy Loam
 Soil Colour: Grey-brown (other)
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia saligna</i>	2.5	2
* <i>Asparagus asparagoides</i>		0.3
* <i>Avena barbata</i>	0.5	20
* <i>Bromus diandrus</i>	0.5	5
* <i>Echium plantagineum</i>		
* <i>Ehrharta calycina</i>	0.5	20
* <i>Euphorbia terracina</i>	0.5	2
<i>Hakea varia</i>		
<i>Kunzea micrantha</i> subsp. <i>micrantha</i>		
<i>Melaleuca preissiana</i>	4	2
<i>Melaleuca raphiophylla</i>	6	15
<i>Mesomelaena tetragona</i>		
* <i>Moraea flaccida</i>		
<i>Schoenus subfascicularis</i>		
<i>Verticordia densiflora</i>		
* <i>Watsonia meriana</i>		
<i>Xanthorrhoea preissii</i>	1	1

PHOTO



Site Name: GSI-R03
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405008.59217153E 6459533.80483907N
 Landform Type: Plain
 Slope Class: Gently Inclined (3 degrees)
 Soil Type: Sand
 Soil Colour: Yellow-Grey (other)
 Vegetation Condition: Southern Vegetation Condition - 3 - Very Good
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	3	20
<i>Alexgeorgea nitens</i>	0.2	45
<i>Allocasuarina humilis</i>	0.6	0.8
<i>Banksia menziesii</i>	3.5	15
* <i>Briza maxima</i>	0.2	0.2
* <i>Ehrharta calycina</i>	0.7	0.5
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.5	4
* <i>Gladiolus caryophyllaceus</i>	0.7	0.2
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.4	0.5
<i>Stirlingia latifolia</i>	0.6	0.5
* <i>Ursinia anthemoides</i>	0.2	0.2

PHOTO



Site Name: GSI-R04
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405128.41E 6457955.28N
 Landform Type: Flat
 Slope Class: Level (0 degrees)
 Soil Type: Sand
 Soil Colour: Grey
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Banksia dallaneyi</i> subsp. <i>dallaneyi</i>	0.3	1
* <i>Briza maxima</i>	0.5	0.1
<i>Corymbia calophylla</i>	12	5
<i>Cyathochaeta equitans</i>	0.5	0.3
<i>Dasypogon bromeliifolius</i>	0.5	1
* <i>Ehrharta calycina</i>	0.5	10
<i>Hypolaena exsulca</i>	0.3	1
<i>Jacksonia floribunda</i>	0.4	0.3
<i>Kingia australis</i>	0.8	0.3
<i>Melaleuca preissiana</i>	4	3
<i>Mesomelaena tetragona</i>	0.5	1
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.3	1
<i>Schoenus rigens</i>	0.3	0.2
* <i>Ursinia anthemoides</i>	0.2	2
* <i>Vulpia myuros</i> forma <i>myuros</i>	0.2	0.3
* <i>Watsonia meriana</i>	0.5	0.2
<i>Xanthorrhoea preissii</i>	1.2	1

PHOTO



Site Name: GSI-R05
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405054.21147297E 6459484.23139088N
 Landform Type: Plain
 Slope Class: Gently Inclined (3 degrees)
 Soil Type: Sand
 Soil Colour: Yellow-Grey (other)
 CF Abundance: <2%
 CF Sizes: 2-6mm
 CF Types: Laterite
 Vegetation Condition: Southern Vegetation Condition - 4 - Good
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	3.5	35
<i>Banksia menziesii</i>	5	28
* <i>Briza maxima</i>	0.2	0.3
<i>Dasypogon obliquifolius</i>	0.6	0.8
<i>Jacksonia floribunda</i>	2	0.5
<i>Jacksonia gracillima</i> (P3)	0.6	1.3
* <i>Ursinia anthemoides</i>	0.3	0.2
<i>Verticordia densiflora</i>	0.4	0.4
* <i>Watsonia meriana</i>	0.5	0.3

PHOTO



Site Name: GSI-R06
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405182.48538398E 6458123.29142928N
 Landform Type: Flat
 Slope Class: Level (0 degrees)
 Soil Type: Sandy Clay
 Soil Colour: Pale brown (other)
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
* <i>Acacia longifolia</i>	2	0.3
* <i>Avena barbata</i>	0.5	0.2
<i>Cassutha racemosa</i>		0.2
<i>Corymbia calophylla</i>	6	1
* <i>Ehrharta calycina</i>	0.8	1
* <i>Eragrostis curvula</i>	0.8	0.3
<i>Eucalyptus rudis</i>	4	1
<i>Melaleuca preissiana</i>	4	3
<i>Melaleuca raphiophylla</i>	4	3
<i>Melaleuca viminea</i> subsp. <i>viminea</i>	2	3
* <i>Watsonia meriana</i>	1	70

PHOTO



Site Name: GSI-R07
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405095.36620074E 6459457.56418161N
 Landform Type: Plain
 Slope Class: Gently Inclined (3 degrees)
 Soil Type: Sand
 Soil Colour: Grey-brown (other)
 Vegetation Condition: Southern Vegetation Condition - 3 - Very Good
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	3	15
<i>Banksia ilicifolia</i>	5	0.5
<i>Banksia menziesii</i>	4	1
* <i>Briza maxima</i>	0.3	0.2
* <i>Ehrharta calycina</i>	1	0.3
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.6	50
* <i>Gladiolus caryophyllaceus</i>	0.5	0.2
<i>Jacksonia floribunda</i>	1	0.8
* <i>Ursinia anthemoides</i>	0.1	0.2
<i>Verticordia densiflora</i>	0.7	1.5

PHOTO



Site Name: GSI-R08
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405195.77763984E 6457841.38778946N
 Landform Type: Flat
 Slope Class: Level (0 degrees)
 Vegetation Condition: Southern Vegetation Condition - 6 - Completely Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
* <i>Acacia iteaphylla</i>		
<i>Agonis flexuosa</i>		
* <i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i>		
* <i>Ehrharta calycina</i>		
* <i>Ehrharta longiflora</i>		
<i>Eucalyptus camaldulensis</i>		
<i>Eucalyptus cornuta</i>		

PHOTO



Site Name: GSI-R09
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405125.54970391E 6459422.03699953N
 Landform Type: Plain
 Slope Class: Gently Inclined (3 degrees)
 Soil Type: Sand
 Soil Colour: Grey
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	4	40
<i>Cyathochaeta avenacea</i>	0.6	1
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.6	35
* <i>Gladiolus caryophyllaceus</i>	0.8	0.1
<i>Stirlingia latifolia</i>	0.6	0.3
<i>Xanthorrhoea preissii</i>	1.5	0.8

PHOTO



Site Name: GSI-R10
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405251.96953524E 6457679.72176673N
 Landform Type: Flat
 Slope Class: Level (0 degrees)
 Vegetation Condition: Southern Vegetation Condition - 6 - Completely Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>*Asparagus asparagoides</i>		
<i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i>		
<i>Chamelaucium uncinatum</i>		
<i>Corymbia calophylla</i>		
<i>Melaleuca viminalis</i> (P2)		

PHOTO



Site Name: GSI-R11
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405198.57259228E 6459330.92344569N
 Landform Type: Plain
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Sand
 Soil Colour: Grey
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	3	60
<i>Allocasuarina fraseriana</i>	9	20
<i>Cyathochaeta avenacea</i>	0.5	1
* <i>Gladiolus caryophyllaceus</i>	0.5	0.1
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.4	8
<i>Synaphea spinulosa</i> subsp. <i>spinulosa</i>	0.5	1

PHOTO



Site Name: GSI-R12
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405154.43E 6457868.72N
 Landform Type: Flat
 Slope Class: Level (0 degrees)
 Soil Type: Sand
 Soil Colour: Grey-brown (other)
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia pulchella</i>	1.2	0.5
* <i>Asparagus asparagoides</i>		0.2
* <i>Avena barbata</i>	0.8	0.2
* <i>Briza maxima</i>	0.3	0.2
<i>Conostylis juncea</i>	0.2	0.1
<i>Corymbia calophylla</i>	12	20
* <i>Ehrharta calycina</i>	0.8	10
* <i>Ehrharta longiflora</i>	0.5	5
<i>Gompholobium tomentosum</i>	0.4	0.2
<i>Jacksonia sternbergiana</i>	3	10
<i>Kingia australis</i>	0.6	0.5
<i>Lepidosperma longitudinale</i>	0.7	0.2
<i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)	0.4	0.2
<i>Lomandra micrantha</i> subsp. <i>micrantha</i>	0.3	0.1
<i>Melaleuca preissiana</i>	2	0.5
<i>Mesomelaena tetragona</i>	0.8	0.3
<i>Tricoryne elatior</i>	0.4	0.1
<i>Xanthorrhoea preissii</i>	1.5	1

PHOTO



Site Name: GSI-R13
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405189.69219243E 6459320.75279304N
 Landform Type: Plain
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Sand
 Soil Colour: Yellow-Grey (other)
 CF Abundance: <2%
 CF Sizes: 2-6mm, 6-20mm
 CF Types: Laterite
 Vegetation Condition: Southern Vegetation Condition - 3 - Very Good
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	4	50
<i>Allocasuarina fraseriana</i>	5	1
* <i>Briza maxima</i>	0.3	0.2
<i>Conospermum undulatum</i> (T)	0.8	0.4
* <i>Ehrharta calycina</i>	0.6	0.2
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.4	8
* <i>Gladiolus caryophyllaceus</i>	0.6	0.1
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.4	5
<i>Mesomelaena pseudostygia</i>	0.6	4
<i>Nuytsia floribunda</i>	5	2
* <i>Ursinia anthemoides</i>	0.3	0.2
<i>Verticordia densiflora</i>	0.5	1

PHOTO



Site Name: GSI-R14
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405724.21676534E 6456650.8827524N
 Landform Type: Flat
 Slope Class: Level (0 degrees)
 Soil Type: Sand
 Soil Colour: Grey-brown (other)
 Vegetation Condition: Southern Vegetation Condition - 4 - Good
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	2.5	0.4
<i>Alexgeorgea nitens</i>	0.3	0.2
<i>Allocasuarina fraseriana</i>	8	3
<i>Allocasuarina humilis</i>	1.5	2
<i>Babingtonia camphorosmae</i>	0.4	0.5
* <i>Briza maxima</i>	0.3	3
<i>Burchardia congesta</i>	0.4	0.1
<i>Chordifex sinuosus</i>	0.3	0.2
<i>Conospermum undulatum</i> (T)	0.8	0.4
<i>Conostylis aurea</i>	0.2	0.1
<i>Corymbia calophylla</i>	15	3
<i>Dampiera linearis</i>	0.4	0.3
<i>Dasypogon obliquifolius</i>	0.4	0.4
* <i>Ehrharta calycina</i>	0.6	3
* <i>Eragrostis curvula</i>	0.6	3
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.6	0.5
<i>Eucalyptus todtiana</i>	10	3
<i>Gompholobium tomentosum</i>	0.8	2
<i>Hakea ruscifolia</i>	0.6	0.3
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.4	0.2
<i>Jacksonia floribunda</i>	1	0.4
<i>Lyginia barbata</i>	0.6	0.5
<i>Mesomelaena pseudostygia</i>	0.4	0.1
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.5	0.2
<i>Philothea spicata</i>	1	0.2

<i>Stirlingia latifolia</i>	0.8	1
<i>Synaphea spinulosa</i> subsp. <i>spinulosa</i>	0.5	0.5
<i>Xanthorrhoea preissii</i>	1.5	2

PHOTO

Site Name: GSI-R15
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405227.03825542E 6459256.46835487N
 Landform Type: Lower Slope
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Light Clay
 Soil Colour: Light brown (other)
 CF Abundance: <2%
 CF Sizes: 2-6mm
 CF Types: Laterite
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	4	40
<i>Astartea affinis</i>	0.8	4
<i>Cassytha racemosa</i> forma <i>pilosa</i>		0.4
<i>Corymbia calophylla</i>	8	6
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.6	35
<i>Mesomelaena tetragona</i>	0.5	4.5
<i>Verticordia densiflora</i>	0.8	3

PHOTO



Site Name: GSI-R16
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405799.95925008E 6456446.71356618N
 Landform Type: Other, Artificial mound. (other)
 Soil Type: Sand
 Soil Colour: Yellow-Brown (other)
 Vegetation Condition: Southern Vegetation Condition - 6 - Completely Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
* <i>Bromus diandrus</i>		
<i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i>		
<i>Chamelaucium uncinatum</i>		
* <i>Ehrharta calycina</i>		
* <i>Eragrostis curvula</i>		
<i>Eucalyptus camaldulensis</i>		
* <i>Euphorbia terracina</i>		
<i>Grevillea thelemanniana</i> (T)		
* <i>Oxalis pes-caprae</i>		

PHOTO



Site Name: GSI-R17
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405266.77832599E 6459188.65849461N
 Landform Type: Lower Slope
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Light Clay
 Soil Colour: Grey
 CF Abundance: <2%
 CF Sizes: 2-6mm, 6-20mm, 20-60mm
 CF Types: Laterite
 Vegetation Condition: Southern Vegetation Condition - 3 - Very Good
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Astartea affinis</i>	0.6	2
* <i>Eragrostis curvula</i>	0.8	0.4
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.5	60
* <i>Hypochaeris glabra</i>	0.1	0.1
<i>Mesomelaena tetragona</i>	0.6	5
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	0.7	0.8
* <i>Ursinia anthemoides</i>	0.2	0.2
<i>Verticordia densiflora</i>	0.8	0.3

PHOTO



Site Name: GSI-R18
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405895.08030992E 6456117.45111993N
 Landform Type: Flat
 Slope Class: Level (0 degrees)
 Soil Type: Sand
 Soil Colour: Brown
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	5	3
<i>Corymbia calophylla</i>	14	20
* <i>Eragrostis curvula</i>	0.6	1
<i>Kunzea glabrescens</i>	5	3
* <i>Leptospermum laevigatum</i>	5	15
* <i>Oxalis glabra</i>	0.1	3

PHOTO



Site Name: GSI-R19
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405304.1473055E 6459101.42609327N
 Landform Type: Lower Slope
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Light Clay
 Soil Colour: Light brown (other)
 CF Abundance: 2-10%
 CF Sizes: 2-6mm, 6-20mm, 20-60mm
 CF Types: Laterite, Quartz (other)
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	2.2	10
<i>Callitris pyramidalis</i>	2	60
<i>Corymbia calophylla</i>	6	6
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.5	10
<i>Mesomelaena tetragona</i>	0.6	1
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	0.8	0.5
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i> (P4)	0.8	0.1

PHOTO



Site Name: GSI-R20
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 406357.18215127E 6455531.2650874N
 Landform Type: Flat
 Slope Class: Level (0 degrees)
 Soil Type: Sand
 Soil Colour: Grey-brown (other)
 Vegetation Condition: Southern Vegetation Condition - 6 - Completely Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Agonis flexuosa</i>		
* <i>Avena barbata</i>		
<i>Chamaelucium uncinatum</i>		
* <i>Ehrharta calycina</i>		
* <i>Eragrostis curvula</i>		
<i>Eucalyptus camaldulensis</i>		
<i>Eucalyptus</i> sp.		
<i>Melaleuca nesophila</i>		
<i>Melaleuca viminalis</i> (P2)		
<i>Melia azedarach</i>		

PHOTO



Site Name: GSI-R21
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405336.29575299E 6459006.6067251N
 Landform Type: Plain
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Sand
 Soil Colour: Grey
 Vegetation Condition: Southern Vegetation Condition - 3 - Very Good
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	2.8	5
<i>Allocasuarina fraseriana</i>	2.5	0.7
<i>Cyathochaeta avenacea</i>	0.6	4
* <i>Eragrostis curvula</i>	0.8	0.5
* <i>Gladiolus caryophyllaceus</i>	0.4	0.1
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.5	5
<i>Melaleuca seriata</i>	2.1	4
<i>Mesomelaena tetragona</i>	0.5	1
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	1.3	3
* <i>Ursinia anthemoides</i>	0.2	0.2

PHOTO



Site Name: GSI-R22
 Site Type: RELEVE
 Survey Date: 22/10/2019
 GPS Location: GDA94 Zone 50 405238.8737169E 6459080.5332981N
 Landform Type: Flat
 Slope Class: Level (0 degrees)
 Soil Type: Sand
 Soil Colour: Grey
 Vegetation Condition: Southern Vegetation Condition - 6 - Completely Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia saligna</i>		
* <i>Avena barbata</i>		
<i>Corymbia calophylla</i>		
<i>Cyathochaeta avenacea</i>		
* <i>Eragrostis curvula</i>		
<i>Eucalyptus cornuta</i>		
<i>Eucalyptus rudis</i>		
<i>Eucalyptus</i> sp.		
<i>Grevillea leucopteris</i>		
<i>Melaleuca viminalis</i> (P2)		
* <i>Pelargonium capitatum</i>		

PHOTO



Site Name: GSI-R23
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405368.54718826E 6458941.38770133N
 Landform Type: Plain
 Slope Class: Gently Inclined (3 degrees)
 Soil Type: Sand
 Soil Colour: Grey
 CF Abundance: <2%
 CF Sizes: 2-6mm, 6-20mm, 20-60mm
 CF Types: Laterite
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	3.5	3
<i>Alexgeorgea nitens</i>	0.2	18
<i>Allocasuarina fraseriana</i>	5	2
<i>Eucalyptus todtiana</i>	3	0.5
* <i>Gladiolus caryophyllaceus</i>	0.5	0.2
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.5	1.5
<i>Leucopogon conostephioides</i>	0.4	1.5
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.4	2
<i>Xanthorrhoea preissii</i>	1.5	1

PHOTO



Site Name: GSI-R24
 Site Type: RELEVE
 Survey Date: 22/10/2019
 GPS Location: GDA94 Zone 50 405290.8E 6458565.07N
 Landform Type: Flat
 Slope Class: Level (0 degrees)
 Soil Type: Sand
 Soil Colour: Grey
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia pulchella</i>	1.2	1
<i>Allocasuarina fraseriana</i>	12	2
<i>Banksia attenuata</i>		
<i>Boronia ramosa</i> subsp. <i>anethifolia</i>	0.4	0.1
<i>Bossiaea eriocarpa</i>	0.3	0.1
<i>Conostylis juncea</i>	0.2	0.1
<i>Corymbia calophylla</i>	15	6
<i>Dasypogon bromeliifolius</i>	0.3	0.4
* <i>Ehrharta calycina</i>	1	10
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.6	0.4
<i>Eucalyptus marginata</i> subsp. <i>marginata</i>	12	3
<i>Gompholobium tomentosum</i>	0.5	0.1
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.6	0.2
<i>Jacksonia floribunda</i>	1.8	0.1
<i>Jacksonia furcellata</i>	0.8	0.4
<i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)	0.6	0.1
<i>Lyginia barbata</i>	0.4	0.1
<i>Melaleuca preissiana</i>		
<i>Nuytsia floribunda</i>	5	1
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.4	0.1
<i>Stirlingia latifolia</i>	1	1
* <i>Watsonia meriana</i>	1	10
<i>Xanthorrhoea preissii</i>	2	3

PHOTO



Site Name: GSI-R25
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405356.81391608E 6458892.50077812N
 Landform Type: Plain
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Sand
 Soil Colour: Grey
 Vegetation Condition: Southern Vegetation Condition - 4 - Good
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	3.5	3
<i>Allocasuarina fraseriana</i>	4	15
<i>Corymbia calophylla</i>	11	20
* <i>Eragrostis curvula</i>	0.6	0.2
* <i>Gladiolus caryophyllaceus</i>	0.5	0.3
<i>Lyginia barbata</i>	0.3	2
<i>Stirlingia latifolia</i>	0.3	1
* <i>Ursinia anthemoides</i>	0.2	0.3

PHOTO



Site Name: GSI-R26
 Site Type: RELEVE
 Survey Date: 22/10/2019
 GPS Location: GDA94 Zone 50 405282.6196893E 6458489.17089527N
 Landform Type: Flat
 Slope Class: Level (0 degrees)
 Soil Type: Sandy Loam
 Soil Colour: Grey-black (other)
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia saligna</i>	1.5	0.5
* <i>Asparagus asparagoides</i>		1
* <i>Avena barbata</i>	0.6	2
<i>Corymbia calophylla</i>	15	7
* <i>Ehrharta calycina</i>	0.6	2
* <i>Ehrharta longiflora</i>	0.4	3
<i>Eucalyptus rudis</i>		
* <i>Fumaria capreolata</i>	0.3	0.2
<i>Jacksonia sternbergiana</i>	2	0.5
<i>Lepidosperma longitudinale</i>	0.6	0.5
<i>Melaleuca lateritia</i>	1.3	0.5
<i>Melaleuca preissiana</i>	8	15
* <i>Watsonia meriana</i>	0.8	15

PHOTO



Site Name: GSI-R27
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405383.63356046E 6458811.93275212N
 Landform Type: Plain
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Sandy Loam
 Soil Colour: Grey-brown (other)
 CF Abundance: <2%
 CF Sizes: 2-6mm, 6-20mm, 20-60mm
 CF Types: Laterite
 Vegetation Condition: Southern Vegetation Condition - 4 - Good
 Disturbance: Exotic Weeds, (other) - Physical disturbance
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	2	1
<i>Astartea affinis</i>	0.6	1.5
<i>Beaufortia squarrosa</i>	3	4
<i>Callitris pyramidalis</i>	6	8
* <i>Gladiolus caryophyllaceus</i>	0.2	0.1
<i>Mesomelaena tetragona</i>	0.7	1.8
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	0.6	1
<i>Tremulina tremula</i>	0.6	1.2
* <i>Ursinia anthemoides</i>	0.2	0.3

PHOTO



Site Name: GSI-R28
 Site Type: RELEVE
 Survey Date: 22/10/2019
 GPS Location: GDA94 Zone 50 405272.97316035E 6458408.9299034N
 Landform Type: Flat
 Slope Class: Level (0 degrees)
 Soil Type: Sandy Loam
 Soil Colour: Brown
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia alata</i> var. <i>alata</i>	1.6	0.2
* <i>Acacia podalyriifolia</i>	4	0.5
<i>Acacia pulchella</i>	1.3	0.1
<i>Acacia saligna</i>	3.5	10
* <i>Asparagus asparagoides</i>		1
* <i>Briza maxima</i>	0.3	0.6
<i>Corymbia calophylla</i>	15	1
* <i>Ehrharta calycina</i>	1	0.5
<i>Eucalyptus rudis</i>	15	35
<i>Hakea varia</i>	1.5	0.2
<i>Lepidosperma longitudinale</i>	0.6	1
<i>Melaleuca preissiana</i>	8	1
<i>Mesomelaena tetragona</i>	0.5	0.2
<i>Trymalium odoratissimum</i> subsp. <i>odoratissimum</i>		
* <i>Watsonia meriana</i>	1	60

PHOTO



Site Name: GSI-R29
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405380.3084531E 6458712.01751701N
 Landform Type: Plain
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Sandy Loam
 Soil Colour: Grey
 Vegetation Condition: Southern Vegetation Condition - 3 - Very Good
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Beaufortia squarrosa</i>	1.9	0.5
<i>Cassytha racemosa</i> forma <i>pilosa</i>		0.3
* <i>Ehrharta calycina</i>	0.7	0.1
* <i>Gladiolus caryophyllaceus</i>	0.6	0.1
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.4	85
<i>Jacksonia gracillima</i> (P3)	0.7	0.8
<i>Pericalymma ellipticum</i> var. <i>floridum</i>	0.6	1.3
* <i>Watsonia meriana</i>	0.5	0.4

PHOTO



Site Name: GSI-R30
 Site Type: RELEVE
 Survey Date: 22/10/2019
 GPS Location: GDA94 Zone 50 404745.02658448E 6459684.00376075N
 Landform Type: Flat
 Slope Class: Level (0 degrees)
 Soil Type: Sand
 Soil Colour: Grey-brown (other)
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia pulchella</i>	1.5	0.3
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	3	2
* <i>Briza maxima</i>	0.3	2
<i>Corymbia calophylla</i>	15	15
<i>Darwinia citriodora</i>	0.6	0.5
* <i>Ehrharta calycina</i>	1	20
<i>Eucalyptus marginata</i> subsp. <i>marginata</i>		
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.5	0.2
<i>Jacksonia sternbergiana</i>	6	15
<i>Lyginia imberbis</i>	0.4	0.2
<i>Stirlingia latifolia</i>	0.6	4
* <i>Watsonia meriana</i>	0.8	8
<i>Xanthorrhoea preissii</i>	1.5	1

PHOTO



Site Name: GSI-R31
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405365.98795379E 6458534.62039045N
 Landform Type: Plain
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Sandy Loam
 Soil Colour: Grey
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: 5-10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
* <i>Avena barbata</i>	0.5	0.4
* <i>Brachypodium distachyon</i>	0.2	60
<i>Corymbia calophylla</i>	9	12
* <i>Ehrharta calycina</i>	0.6	0.5
* <i>Eragrostis curvula</i>	0.7	3
<i>Jacksonia gracillima</i> (P3)	0.4	0.8
<i>Melaleuca preissiana</i>	4	6
* <i>Pinus radiata</i>		
* <i>Watsonia meriana</i>	0.4	0.2

PHOTO



Site Name: GSI-R32
 Site Type: RELEVE
 Survey Date: 22/10/2019
 GPS Location: GDA94 Zone 50 404353.9420023E 6460143.52081831N
 Landform Type: Other, Man-made swamp for artificial drainage. (other)
 Vegetation Condition: Southern Vegetation Condition - 6 - Completely Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Astartea scoparia</i>	2	1
<i>Juncus pallidus</i>	1.5	1
<i>Kunzea glabrescens</i>	3	3
<i>Melaleuca incana</i> subsp. <i>incana</i>	3	22
<i>Melaleuca teretifolia</i>	2.5	1
<i>Schoenoplectus tabernaemontani</i>	1.5	0.5
<i>Typha domingensis</i>	2	10

PHOTO



Site Name: GSI-R33
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405328.25247255E 6458366.20742182N
 Landform Type: Drainage Line
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Clay Loam
 Soil Colour: Brown
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: 5-10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
* <i>Acacia podalyriifolia</i>	1	0.5
<i>Acacia pulchella</i>	1.5	4
<i>Acacia saligna</i>	2.5	4
* <i>Cenchrus clandestinus</i>	0.4	85
<i>Corymbia calophylla</i>	9	4
* <i>Ehrharta calycina</i>	0.5	0.8
* <i>Eragrostis curvula</i>	0.5	1
<i>Eucalyptus rudis</i>	10	15
* <i>Fumaria capreolata</i>	0.2	0.5
* <i>Oxalis pes-caprae</i>	0.3	1
<i>Thomasia macrocarpa</i>	1.5	1
* <i>Watsonia meriana</i>	0.7	3

PHOTO



Site Name: GSI-R34
 Site Type: RELEVE
 Survey Date: 22/10/2019
 GPS Location: GDA94 Zone 50 405936.89E 6456263.95N
 Landform Type: Other, Artificial mound (other)
 Soil Type: Sand
 Soil Colour: Yellow-Brown (other)
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	4	5
<i>Allocasuarina fraseriana</i>	8	3
<i>Allocasuarina humilis</i>	1.5	0.2
* <i>Briza maxima</i>	0.3	0.3
<i>Corymbia calophylla</i>	12	5
<i>Dasypogon obliquifolius</i>	0.4	0.1
* <i>Ehrharta calycina</i>	0.8	1
* <i>Eragrostis curvula</i>	0.8	2
<i>Gompholobium tomentosum</i>	0.3	0.1
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.6	0.3
* <i>Leptospermum laevigatum</i>	6	15
<i>Lyginia imberbis</i>	0.4	0.1
<i>Mesomelaena pseudostygia</i>	0.4	0.1
<i>Tricoryne elatior</i>	0.4	0.2

PHOTO



Site Name: GSI-R35
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405318.82934968E 6458302.59748052N
 Landform Type: Drainage Line
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Sandy Loam
 Soil Colour: Brown
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: 5-10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia pulchella</i>	1.5	8
<i>Acacia saligna</i>	1.8	1
* <i>Asparagus asparagoides</i>		0.2
* <i>Cenchrus clandestinus</i>	0.5	10
* <i>Ehrharta calycina</i>	0.5	1
* <i>Euphorbia terracina</i>	0.5	0.5
* <i>Fumaria capreolata</i>	0.5	1
<i>Melaleuca raphiophylla</i>	5	20
* <i>Watsonia meriana</i>	0.7	70

PHOTO



Site Name: GSI-R37
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405262.0719237E 6458066.93761542N
 Landform Type: Plain
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Clay (other)
 Soil Colour: Brown
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: 5-10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Allocasuarina fraseriana</i>	2	4
* <i>Avena barbata</i>	0.5	50
* <i>Briza maxima</i>	0.5	2
* <i>Bromus diandrus</i>	0.5	10
* <i>Ehrharta calycina</i>	0.5	2
* <i>Eragrostis curvula</i>	0.6	6
<i>Melaleuca preissiana</i>	4	5
* <i>Watsonia meriana</i>	0.8	8

PHOTO



Site Name: GSI-R39
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405270.95640774E 6457801.73283372N
 Landform Type: Plain
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Sand
 Soil Colour: Grey
 Vegetation Condition: Southern Vegetation Condition - 6 - Completely Degraded
 Disturbance: Exotic Weeds
 Fire: 5-10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
* <i>Avena barbata</i>	0.5	2
* <i>Bromus diandrus</i>	0.5	4
<i>Corymbia calophylla</i>	13	30
* <i>Ehrharta calycina</i>	0.6	45

PHOTO



Site Name: GSI-R41
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405557.60379016E 6457172.26732795N
 Landform Type: Plain
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Sand
 Soil Colour: Grey
 Vegetation Condition: Southern Vegetation Condition - 6 - Completely Degraded
 Disturbance: Exotic Weeds

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
* <i>Avena barbata</i>	0.6	2
* <i>Bromus diandrus</i>	0.5	3
<i>Corymbia calophylla</i>	10	15
* <i>Ehrharta calycina</i>	0.6	25

PHOTO



Site Name: GSI-R43
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405755.97E 6456761.81N
 Landform Type: Plain
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Sand
 Soil Colour: Grey
 Vegetation Condition: Southern Vegetation Condition - 6 - Completely Degraded
 Disturbance: Exotic Weeds
 Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	2.5	25
* <i>Avena barbata</i>	0.5	5
<i>Chamelaucium uncinatum</i>	2	1.5
* <i>Ehrharta calycina</i>	0.6	55
* <i>Eragrostis curvula</i>	0.6	1
* <i>Lagurus ovatus</i>	0.5	2.5

PHOTO



Site Name: GSI-R45
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405786.91978172E 6456682.61351317N
 Landform Type: Plain
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Sand
 Soil Colour: Grey
 Vegetation Condition: Southern Vegetation Condition - 6 - Completely Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
* <i>Bromus diandrus</i>	0.5	1
<i>Chamelaucium uncinatum</i>	3.5	60
<i>Corymbia calophylla</i>	12	60
* <i>Ehrharta calycina</i>	0.5	2
* <i>Eragrostis curvula</i>	0.5	2
* <i>Leptospermum laevigatum</i>	3	20

PHOTO



Site Name: GSI-R47
 Site Type: RELEVE
 Survey Date: 16/10/2019
 GPS Location: GDA94 Zone 50 405871.29791055E 6456412.451193N
 Landform Type: Plain
 Slope Class: Very Gently Inclined (1 degree)
 Soil Type: Sand
 Soil Colour: Grey
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	1	1
<i>Allocasuarina fraseriana</i>	6.5	10
* <i>Brachypodium distachyon</i>	0.2	30
<i>Conospermum undulatum</i> (T)	0.4	0.1
<i>Corymbia calophylla</i>	14	30
* <i>Ehrharta calycina</i>	0.5	2
* <i>Eragrostis curvula</i>	0.5	10
<i>Eucalyptus rudis</i>	4	1.5
<i>Melaleuca viminea</i> subsp. <i>viminea</i>	4.5	6

PHOTO



Site Name: GSISITE1
 Site Type: RELEVE
 Survey Date: 18/09/2019
 GPS Location: GDA94 Zone 50 405882.09E 6455938.63N
 Landform Type: Drainage Line
 Aspect: S
 Soil Type: Sandy Loam
 Soil Colour: Dark grey (other)
 CF Types: Laterite
 Vegetation Condition: Southern Vegetation Condition - 4 - Good
 Disturbance: Exotic Weeds, (other) - Tracks, rubbish dumping
 Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
* <i>Asparagus asparagoides</i>		0.3
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.4	0.3
* <i>Briza maxima</i>	0.1	0.3
<i>Corymbia calophylla</i>	12	75
<i>Daviesia angulata</i>	0.6	0.5
<i>Desmocladius fasciculatus</i>	0.2	0.2
* <i>Ehrharta calycina</i>	0.6	0.3
* <i>Gladiolus caryophyllaceus</i>	0.4	0.2
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.4	1
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.4	0.2
<i>Kingia australis</i>	1.2	0.3
<i>Lepidosperma carphoides</i>	0.5	0.3
<i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)	0.4	0.1
* <i>Leptospermum laevigatum</i>	2.5	3
<i>Mesomelaena tetragona</i>	0.6	3
* <i>Moraea flaccida</i>	0.3	0.2
<i>Neurachne alopecuroidea</i>	0.2	0.1
<i>Nuytsia floribunda</i>	8	1
* <i>Olea europaea</i>	2	1.3
* <i>Oxalis</i> sp.	0.3	0.1
<i>Petrophile striata</i>	0.5	0.5
* <i>Romulea rosea</i>	0.1	0.1

<i>Tetraria octandra</i>	0.4	0.5
* <i>Vicia sativa</i>	0.2	0.1
* <i>Watsonia meriana</i>	0.5	2
<i>Xanthorrhoea brunonis</i>	0.7	4
<i>Xanthorrhoea preissii</i>	1.2	2

PHOTO

Site Name: GSISITE2
 Site Type: RELEVE
 Survey Date: 19/09/2019
 GPS Location: GDA94 Zone 50 405719.41E 6455965.06N
 Landform Type: Flat
 Slope Class: Level (0 degrees)
 Soil Type: Sand
 Soil Colour: Grey
 Vegetation Condition: Southern Vegetation Condition - 5 - Degraded
 Disturbance: Exotic Weeds
 Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
* <i>Arctotheca calendula</i>		
* <i>Avena barbata</i>		
* <i>Briza maxima</i>		
* <i>Bromus diandrus</i>		
* <i>Chamaecytisus palmensis</i>		
* <i>Ehrharta calycina</i>		
* <i>Ehrharta longiflora</i>		
* <i>Eragrostis curvula</i>		
* <i>Euphorbia terracina</i>		
* <i>Fumaria capreolata</i>		
* <i>Gladiolus caryophyllaceus</i>		
* <i>Leptospermum laevigatum</i>		
* <i>Lolium rigidum</i>		
* <i>Lotus subbiflorus</i>		
* <i>Lupinus angustifolius</i>		
* <i>Malva parviflora</i>		
* <i>Melilotus indicus</i>		
* <i>Moraea flaccida</i>		
* <i>Oxalis glabra</i>		
* <i>Oxalis</i> sp.		
* <i>Raphanus raphanistrum</i>		
* <i>Solanum nigrum</i>		
* <i>Sonchus oleraceus</i>		
* <i>Trifolium campestre</i> var. <i>campestre</i>		
* <i>Ursinia anthemoides</i>		

* <i>Urtica urens</i>		
* <i>Vicia hirsuta</i>		

PHOTO



Site Name: GSISITE3
 Site Type: RELEVE
 Survey Date: 19/09/2019
 GPS Location: GDA94 Zone 50 405853.37E 6456052.99N
 Landform Type: Lower Slope
 Aspect: SE
 Soil Type: Sandy Loam
 Soil Colour: Dark grey (other)
 Vegetation Condition: Southern Vegetation Condition - 2 - Excellent
 Disturbance: Exotic Weeds
 Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	2.5	2
<i>Alexgeorgea nitens</i>	0.1	8
<i>Allocasuarina fraseriana</i>	10	7
<i>Allocasuarina humilis</i>	2	7
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.3	3
<i>Bossiaea eriocarpa</i>	0.1	0.2
* <i>Briza maxima</i>	0.1	0.2
<i>Burchardia congesta</i>	0.2	0.1
<i>Caladenia flava</i>	0.1	0.1
<i>Conospermum undulatum</i> (T)	1.5	0.3
<i>Conostylis juncea</i>	0.1	0.3
<i>Cyathochaeta equitans</i>	0.4	0.4
<i>Dampiera linearis</i>	0.2	0.2
<i>Dasypogon bromeliifolius</i>	0.2	3
<i>Desmocladius fasciculatus</i>	0.1	0.2
<i>Diuris magnifica</i>	0.1	
<i>Drosera macrantha</i>		0.1
<i>Drosera porrecta</i>		0.1
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.5	1
<i>Eucalyptus marginata</i> subsp. <i>marginata</i>	14	25
<i>Gastrolobium linearifolium</i>	0.3	0.2
* <i>Gladiolus caryophyllaceus</i>	0.3	0.2
<i>Gompholobium tomentosum</i>	0.1	0.2
<i>Grevillea bipinnatifida</i> subsp. <i>bipinnatifida</i>	0.4	0.3
<i>Haemodorum laxum</i>	0.3	0.3

<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	0.4	10
<i>Hovea trisperma</i> var. <i>trisperma</i>	0.3	0.1
<i>Jacksonia floribunda</i>	0.5	2
<i>Kingia australis</i>	1	1
<i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)	0.2	0.2
<i>Lomandra hermaphrodita</i>	0.1	0.1
<i>Lomandra sericea</i>	0.3	0.5
<i>Lyginia imberbis</i>	0.2	0.2
<i>Mesomelaena pseudostygia</i>	0.3	1
<i>Mesomelaena tetragona</i>	0.3	0.5
* <i>Oxalis glabra</i>	0.1	0.1
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	0.3	0.3
<i>Philothea spicata</i>	0.5	0.2
<i>Pyrorchis nigricans</i>	0.1	0.2
<i>Scaevola repens</i> var. <i>repens</i>	0.1	0.5
<i>Stylidium androsaceum</i>	0.1	0.1
<i>Stylidium tenue</i> subsp. <i>majusculum</i>	0.1	0.1
<i>Synaphea spinulosa</i> subsp. <i>spinulosa</i>	0.4	0.3
<i>Tetraria octandra</i>	0.4	0.3
<i>Thysanotus patersonii</i>	0.2	0.1
<i>Trachymene pilosa</i>	0.1	0.1
* <i>Ursinia anthemoides</i>	0.1	0.2
* <i>Watsonia meriana</i>	0.4	0.2
<i>Xanthorrhoea brunonis</i>	0.5	0.5
<i>Xanthorrhoea preissii</i>	1.8	4.5
<i>Xanthosia huegelii</i>	0.1	0.2

PHOTO



Site Name: GSISITE4
 Site Type: RELEVE
 Survey Date: 19/09/2019
 GPS Location: GDA94 Zone 50 405936.91469168E 6455964.18533529N
 Landform Type: Lower Slope
 Aspect: NW
 Soil Type: Sandy Loam
 Soil Colour: Dark grey (other)
 Vegetation Condition: Southern Vegetation Condition - 3 - Very Good
 Disturbance: Exotic Weeds
 Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

SPECIES LIST

Taxon Name	Avg. Height	Cover Alive
<i>Acacia pulchella</i> var. <i>pulchella</i>	1	1
<i>Allocasuarina humilis</i>	0.8	0.5
<i>Babingtonia camphorosmae</i>	0.2	0.2
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	0.2	0.3
* <i>Briza maxima</i>	0.1	0.1
<i>Daviesia decurrens</i> subsp. <i>decurrens</i>	0.2	0.3
<i>Desmocladius fasciculatus</i>	0.1	0.3
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	0.4	0.3
<i>Eucalyptus todtiana</i>	6	4
<i>Eutaxia virgata</i>	0.3	0.3
* <i>Gladiolus caryophyllaceus</i>	0.4	0.2
<i>Grevillea bipinnatifida</i> subsp. <i>bipinnatifida</i>	0.3	0.3
<i>Haemodorum laxum</i>	0.5	0.3
<i>Hakea trifurcata</i>	3	20
<i>Kingia australis</i>	1	0.5
* <i>Leptospermum laevigatum</i>	5	4
<i>Mesomelaena tetragona</i>	0.4	0.8
<i>Neurachne alopecuroidea</i>	0.1	2
<i>Stirlingia latifolia</i>	0.4	0.2
<i>Tetraria australiensis</i> (T)	0.1	0.1
<i>Tetraria octandra</i>	0.3	2
<i>Tricostularia neesii</i>	0.3	0.5
* <i>Ursinia anthemoides</i>	0.1	0.2
<i>Verticordia densiflora</i>	0.4	0.2
<i>Viminaria juncea</i>	4	4

<i>Xanthorrhoea brunonis</i>	1.5	5
<i>Xanthorrhoea preissii</i>	2	8

PHOTO



Site Name: GSITES5
 Site Type: RELEVE
 Survey Date: 19/09/2019
 GPS Location: GDA94 Zone 50 405922.24152068E 6455957.73101097N
 Soil Type: Clay (other)
 Soil Colour: Brown
 Vegetation Condition: Southern Vegetation Condition - 6 - Completely Degraded
 Disturbance: Exotic Weeds

DOMINANT TAXA IN VEGETATION STRATA**SPECIES LIST**

Taxon Name	Avg. Height	Cover Alive
* <i>Eragrostis curvula</i>	1	5
<i>Hakea trifurcata</i>	3	0.1
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.3	0.1
<i>Kingia australis</i>	0.8	0.5
* <i>Leptospermum laevigatum</i>	4	2
* <i>Watsonia meriana</i>	1	90
<i>Xanthorrhoea preissii</i>	1.5	2

PHOTO



Appendix M: Location Details of Significant Flora and Introduced Flora Recorded in the Survey Area

Table 1: Significant Flora

Note: All locations are in datum GDA94, Zone 50.

Taxo	Status	Count	Easting	Northing	Comments
<i>Andersonia gracilis</i>	T	15	405248	6458767	
<i>Andersonia gracilis</i>	T	1	405274	6458766	
<i>Andersonia gracilis</i>	T	1	405274	6458772	
<i>Andersonia gracilis</i>	T	1	405271	6458775	
<i>Andersonia gracilis</i>	T	1	405273	6458776	
<i>Andersonia gracilis</i>	T	1	405273	6458777	
<i>Andersonia gracilis</i>	T	1	405273	6458777	
<i>Andersonia gracilis</i>	T	1	405274	6458777	
<i>Andersonia gracilis</i>	T	1	405274	6458777	
<i>Andersonia gracilis</i>	T	1	405269	6458773	
<i>Andersonia gracilis</i>	T	1	405269	6458770	
<i>Andersonia gracilis</i>	T	1	405252	6458762	
<i>Andersonia gracilis</i>	T	1	405251	6458762	
<i>Andersonia gracilis</i>	T	1	405248	6458774	
<i>Andersonia gracilis</i>	T	6	405245	6458772	
<i>Banksia mimica</i>	T	2	405169	6459152	
<i>Banksia mimica</i>	T	2	405180	6459130	Clumps
<i>Banksia mimica</i>	T	1	405181	6459127	Clumps
<i>Banksia mimica</i>	T	1	405175	6459138	Clumps
<i>Banksia mimica</i>	T	1	405175	6459143	Clumps
<i>Banksia mimica</i>	T	1	405171	6459153	
<i>Banksia mimica</i>	T	1	405175	6459154	
<i>Banksia mimica</i>	T	1	405180	6459152	
<i>Banksia mimica</i>	T	2	405181	6459151	
<i>Banksia mimica</i>	T	1	405073	6459148	
<i>Banksia mimica</i>	T	1	405120	6459173	
<i>Banksia mimica</i>	T	2	405416	6458786	
<i>Banksia mimica</i>	T	1	405576	6458779	
<i>Banksia mimica</i>	T	4	405581	6458780	
<i>Banksia mimica</i>	T	1	405586	6458777	
<i>Banksia mimica</i>	T	1	405586	6458770	
<i>Banksia mimica</i>	T	1	405593	6458772	
<i>Banksia mimica</i>	T	5	405594	6458769	
<i>Banksia mimica</i>	T	1	405534	6458757	
<i>Byblis gigantea</i>	P3	1	405372	6459143	
<i>Conospermum undulatum</i>	T	7	405125	6459743	
<i>Conospermum undulatum</i>	T	1	405114	6459746	
<i>Conospermum undulatum</i>	T	3	405088	6459735	
<i>Conospermum undulatum</i>	T	2	405082	6459713	
<i>Conospermum undulatum</i>	T	3	405017	6459642	
<i>Conospermum undulatum</i>	T	2	405480	6459641	
<i>Conospermum undulatum</i>	T	1	405561	6459696	
<i>Conospermum undulatum</i>	T	1	405647	6459715	
<i>Conospermum undulatum</i>	T	3	405384	6459660	
<i>Conospermum undulatum</i>	T	1	405341	6459594	
<i>Conospermum undulatum</i>	T	1	405308	6459567	

Taxo	Status	Count	Easting	Northing	Comments
<i>Conospermum undulatum</i>	T	1	405168	6459429	
<i>Conospermum undulatum</i>	T	7	405210	6459357	
<i>Conospermum undulatum</i>	T	10	405233	6459333	
<i>Conospermum undulatum</i>	T	7	405276	6459324	
<i>Conospermum undulatum</i>	T	5	405352	6459121	
<i>Conospermum undulatum</i>	T	2	405390	6459003	
<i>Conospermum undulatum</i>	T	1	405242	6458847	
<i>Conospermum undulatum</i>	T	1	405198	6458954	
<i>Conospermum undulatum</i>	T	1	405208	6458954	
<i>Conospermum undulatum</i>	T	1	405210	6458954	
<i>Conospermum undulatum</i>	T	1	405210	6458954	
<i>Conospermum undulatum</i>	T	1	405210	6458953	
<i>Conospermum undulatum</i>	T	1	405215	6458941	
<i>Conospermum undulatum</i>	T	1	405180	6459018	
<i>Conospermum undulatum</i>	T	1	405175	6459102	
<i>Conospermum undulatum</i>	T	1	405142	6459138	
<i>Conospermum undulatum</i>	T	1	405137	6459148	
<i>Conospermum undulatum</i>	T	1	405153	6459148	
<i>Conospermum undulatum</i>	T	4	405220	6458974	
<i>Conospermum undulatum</i>	T	1	404955	6459422	
<i>Conospermum undulatum</i>	T	3	404979	6459428	
<i>Conospermum undulatum</i>	T	1	405124	6459773	
<i>Conospermum undulatum</i>	T	3	405116	6459773	
<i>Conospermum undulatum</i>	T	4	405119	6459755	
<i>Conospermum undulatum</i>	T	1	405109	6459739	
<i>Conospermum undulatum</i>	T	1	405099	6459727	
<i>Conospermum undulatum</i>	T	1	405036	6459684	
<i>Conospermum undulatum</i>	T	3	405021	6459653	
<i>Conospermum undulatum</i>	T	1	405016	6459651	
<i>Conospermum undulatum</i>	T	2	405012	6459638	
<i>Conospermum undulatum</i>	T	1	405076	6459713	
<i>Conospermum undulatum</i>	T	1	405203	6459763	
<i>Conospermum undulatum</i>	T	1	405360	6459670	
<i>Conospermum undulatum</i>	T	1	405368	6459664	
<i>Conospermum undulatum</i>	T	1	405166	6459481	
<i>Conospermum undulatum</i>	T	3	405154	6459485	
<i>Conospermum undulatum</i>	T	1	405143	6459469	
<i>Conospermum undulatum</i>	T	1	405146	6459483	
<i>Conospermum undulatum</i>	T	2	405134	6459487	
<i>Conospermum undulatum</i>	T	1	405124	6459493	
<i>Conospermum undulatum</i>	T	1	405268	6459534	
<i>Conospermum undulatum</i>	T	1	405319	6459579	
<i>Conospermum undulatum</i>	T	3	405328	6459581	
<i>Conospermum undulatum</i>	T	3	405081	6459739	
<i>Conospermum undulatum</i>	T	3	405056	6459717	
<i>Conospermum undulatum</i>	T	2	405041	6459709	
<i>Conospermum undulatum</i>	T	1	405027	6459681	
<i>Conospermum undulatum</i>	T	1	405137	6459753	
<i>Conospermum undulatum</i>	T	3	405153	6459771	
<i>Conospermum undulatum</i>	T	2	405186	6459793	
<i>Conospermum undulatum</i>	T	1	405197	6459784	
<i>Conospermum undulatum</i>	T	1	405314	6459726	
<i>Conospermum undulatum</i>	T	2	405326	6459717	

Taxo	Status	Count	Easting	Northing	Comments
<i>Conospermum undulatum</i>	T	1	405342	6459708	
<i>Conospermum undulatum</i>	T	3	405353	6459690	
<i>Conospermum undulatum</i>	T	5	405374	6459674	
<i>Conospermum undulatum</i>	T	1	405390	6459681	
<i>Conospermum undulatum</i>	T	1	405359	6459697	
<i>Conospermum undulatum</i>	T	1	405338	6459617	
<i>Conospermum undulatum</i>	T	1	405308	6459576	
<i>Conospermum undulatum</i>	T	2	405279	6459554	
<i>Conospermum undulatum</i>	T	1	405173	6459473	
<i>Conospermum undulatum</i>	T	1	405138	6459476	
<i>Conospermum undulatum</i>	T	3	405122	6459489	
<i>Conospermum undulatum</i>	T	1	405081	6459537	
<i>Conospermum undulatum</i>	T	1	405175	6459177	
<i>Conospermum undulatum</i>	T	9	404911	6459284	
<i>Conospermum undulatum</i>	T	1	405003	6459436	
<i>Conospermum undulatum</i>	T	1	405054	6459484	
<i>Conospermum undulatum</i>	T	1	405884	6456109	
<i>Conospermum undulatum</i>	T	1	405888	6456110	
<i>Conospermum undulatum</i>	T	1	405874	6456111	
<i>Conospermum undulatum</i>	T	1	405881	6456120	
<i>Conospermum undulatum</i>	T	1	405882	6456127	
<i>Conospermum undulatum</i>	T	1	405864	6456174	
<i>Conospermum undulatum</i>	T	1	405869	6456177	
<i>Conospermum undulatum</i>	T	1	405729	6456638	
<i>Conospermum undulatum</i>	T	1	405725	6456633	
<i>Conospermum undulatum</i>	T	1	405727	6456639	
<i>Conospermum undulatum</i>	T	1	405727	6456642	
<i>Conospermum undulatum</i>	T	1	405726	6456643	
<i>Conospermum undulatum</i>	T	1	405720	6456651	
<i>Conospermum undulatum</i>	T	1	405731	6456659	
<i>Conospermum undulatum</i>	T	1	404972	6459427	
<i>Conospermum undulatum</i>	T	1	404970	6459415	
<i>Conospermum undulatum</i>	T	1	404971	6459415	
<i>Conospermum undulatum</i>	T	1	404970	6459411	
<i>Conospermum undulatum</i>	T	1	405062	6459335	
<i>Conospermum undulatum</i>	T	1	405063	6459337	
<i>Conospermum undulatum</i>	T	1	406065	6455766	
<i>Conospermum undulatum</i>	T	1	406091	6455791	
<i>Conospermum undulatum</i>	T	1	406094	6455799	
<i>Conospermum undulatum</i>	T	1	406097	6455800	
<i>Conospermum undulatum</i>	T	1	406095	6455801	
<i>Conospermum undulatum</i>	T	1	406101	6455803	
<i>Conospermum undulatum</i>	T	1	406104	6455804	
<i>Conospermum undulatum</i>	T	1	406120	6455816	
<i>Conospermum undulatum</i>	T	1	406120	6455817	
<i>Conospermum undulatum</i>	T	1	406124	6455837	
<i>Conospermum undulatum</i>	T	1	406120	6455838	
<i>Conospermum undulatum</i>	T	1	406117	6455837	
<i>Conospermum undulatum</i>	T	1	406116	6455833	
<i>Conospermum undulatum</i>	T	1	406116	6455832	
<i>Conospermum undulatum</i>	T	1	406113	6455835	
<i>Conospermum undulatum</i>	T	1	406119	6455842	
<i>Conospermum undulatum</i>	T	1	406094	6455808	

Taxo	Status	Count	Easting	Northing	Comments
<i>Conospermum undulatum</i>	T	1	406091	6455808	
<i>Conospermum undulatum</i>	T	1	406090	6455809	
<i>Conospermum undulatum</i>	T	1	406088	6455810	
<i>Conospermum undulatum</i>	T	1	406088	6455811	
<i>Conospermum undulatum</i>	T	1	406087	6455812	
<i>Conospermum undulatum</i>	T	1	406088	6455813	
<i>Conospermum undulatum</i>	T	1	406088	6455814	
<i>Conospermum undulatum</i>	T	1	406087	6455811	
<i>Conospermum undulatum</i>	T	1	406092	6455806	
<i>Conospermum undulatum</i>	T	1	406093	6455805	
<i>Conospermum undulatum</i>	T	1	406092	6455804	
<i>Conospermum undulatum</i>	T	1	406076	6455805	
<i>Conospermum undulatum</i>	T	1	406075	6455806	
<i>Conospermum undulatum</i>	T	1	406074	6455805	
<i>Conospermum undulatum</i>	T	1	406074	6455805	
<i>Conospermum undulatum</i>	T	1	406072	6455804	
<i>Conospermum undulatum</i>	T	1	406072	6455805	
<i>Conospermum undulatum</i>	T	1	406072	6455805	
<i>Conospermum undulatum</i>	T	1	406069	6455804	
<i>Conospermum undulatum</i>	T	1	406069	6455803	
<i>Conospermum undulatum</i>	T	1	406068	6455803	
<i>Conospermum undulatum</i>	T	1	406068	6455804	
<i>Conospermum undulatum</i>	T	1	406068	6455804	
<i>Conospermum undulatum</i>	T	1	406067	6455805	
<i>Conospermum undulatum</i>	T	1	406067	6455805	
<i>Conospermum undulatum</i>	T	1	406067	6455806	
<i>Conospermum undulatum</i>	T	1	406067	6455804	
<i>Conospermum undulatum</i>	T	1	406067	6455804	
<i>Conospermum undulatum</i>	T	1	406065	6455784	
<i>Conospermum undulatum</i>	T	1	406066	6455780	
<i>Conospermum undulatum</i>	T	1	406066	6455780	
<i>Conospermum undulatum</i>	T	1	406063	6455779	
<i>Conospermum undulatum</i>	T	1	406057	6455779	
<i>Conospermum undulatum</i>	T	1	406054	6455778	
<i>Conospermum undulatum</i>	T	1	406053	6455779	
<i>Conospermum undulatum</i>	T	1	406052	6455780	
<i>Conospermum undulatum</i>	T	1	406052	6455766	
<i>Conospermum undulatum</i>	T	1	406044	6455767	
<i>Conospermum undulatum</i>	T	1	406041	6455767	
<i>Conospermum undulatum</i>	T	1	406043	6455771	
<i>Conospermum undulatum</i>	T	1	406044	6455772	
<i>Conospermum undulatum</i>	T	1	406042	6455772	
<i>Conospermum undulatum</i>	T	1	406035	6455755	
<i>Conospermum undulatum</i>	T	1	406021	6455743	
<i>Conospermum undulatum</i>	T	1	406020	6455743	
<i>Conospermum undulatum</i>	T	1	405989	6455745	
<i>Conospermum undulatum</i>	T	1	405985	6455747	
<i>Conospermum undulatum</i>	T	1	405983	6455749	
<i>Conospermum undulatum</i>	T	1	406031	6455761	
<i>Conospermum undulatum</i>	T	1	406027	6455768	
<i>Conospermum undulatum</i>	T	1	406028	6455767	
<i>Conospermum undulatum</i>	T	1	406031	6455772	

Taxo	Status	Count	Easting	Northing	Comments
<i>Conospermum undulatum</i>	T	1	406032	6455768	
<i>Conospermum undulatum</i>	T	1	406036	6455776	
<i>Conospermum undulatum</i>	T	1	406041	6455775	
<i>Conospermum undulatum</i>	T	1	406042	6455779	
<i>Conospermum undulatum</i>	T	1	406043	6455781	
<i>Conospermum undulatum</i>	T	1	406044	6455778	
<i>Conospermum undulatum</i>	T	1	406046	6455787	
<i>Conospermum undulatum</i>	T	1	406046	6455794	
<i>Conospermum undulatum</i>	T	1	406054	6455793	
<i>Conospermum undulatum</i>	T	1	406054	6455794	
<i>Conospermum undulatum</i>	T	1	406054	6455795	
<i>Conospermum undulatum</i>	T	1	406054	6455795	
<i>Conospermum undulatum</i>	T	1	406056	6455795	
<i>Conospermum undulatum</i>	T	1	406059	6455796	
<i>Conospermum undulatum</i>	T	1	406061	6455793	
<i>Conospermum undulatum</i>	T	1	406063	6455792	
<i>Conospermum undulatum</i>	T	1	406061	6455808	
<i>Conospermum undulatum</i>	T	1	406061	6455808	
<i>Conospermum undulatum</i>	T	1	406065	6455808	
<i>Conospermum undulatum</i>	T	1	406052	6455801	
<i>Conospermum undulatum</i>	T	1	406050	6455799	
<i>Conospermum undulatum</i>	T	1	406049	6455800	
<i>Conospermum undulatum</i>	T	1	406048	6455801	
<i>Conospermum undulatum</i>	T	1	406056	6455810	
<i>Conospermum undulatum</i>	T	1	406063	6455817	
<i>Conospermum undulatum</i>	T	1	406067	6455818	
<i>Conospermum undulatum</i>	T	1	406071	6455817	
<i>Conospermum undulatum</i>	T	1	406072	6455818	
<i>Conospermum undulatum</i>	T	1	406074	6455817	
<i>Conospermum undulatum</i>	T	1	406076	6455813	
<i>Conospermum undulatum</i>	T	1	406076	6455818	
<i>Conospermum undulatum</i>	T	1	406081	6455817	
<i>Conospermum undulatum</i>	T	1	406081	6455817	
<i>Conospermum undulatum</i>	T	1	406083	6455817	
<i>Conospermum undulatum</i>	T	1	406080	6455808	
<i>Conospermum undulatum</i>	T	1	406084	6455820	
<i>Conospermum undulatum</i>	T	1	406083	6455823	
<i>Conospermum undulatum</i>	T	1	406083	6455826	
<i>Conospermum undulatum</i>	T	1	406092	6455826	
<i>Conospermum undulatum</i>	T	1	406093	6455827	
<i>Conospermum undulatum</i>	T	1	406094	6455826	
<i>Conospermum undulatum</i>	T	1	406103	6455836	
<i>Conospermum undulatum</i>	T	1	406100	6455837	
<i>Conospermum undulatum</i>	T	1	406105	6455837	
<i>Conospermum undulatum</i>	T	1	406112	6455835	
<i>Conospermum undulatum</i>	T	1	406113	6455834	
<i>Conospermum undulatum</i>	T	1	406113	6455841	
<i>Conospermum undulatum</i>	T	1	406112	6455852	
<i>Conospermum undulatum</i>	T	1	406100	6455849	
<i>Conospermum undulatum</i>	T	1	406097	6455852	
<i>Conospermum undulatum</i>	T	1	406077	6455841	
<i>Conospermum undulatum</i>	T	1	406076	6455841	
<i>Conospermum undulatum</i>	T	1	406076	6455844	

Taxo	Status	Count	Easting	Northing	Comments
<i>Conospermum undulatum</i>	T	1	406073	6455844	
<i>Conospermum undulatum</i>	T	1	406072	6455845	
<i>Conospermum undulatum</i>	T	1	406075	6455845	
<i>Conospermum undulatum</i>	T	1	406075	6455841	
<i>Conospermum undulatum</i>	T	1	406073	6455841	
<i>Conospermum undulatum</i>	T	1	406072	6455839	
<i>Conospermum undulatum</i>	T	1	406074	6455836	
<i>Conospermum undulatum</i>	T	1	406075	6455836	
<i>Conospermum undulatum</i>	T	1	406075	6455837	
<i>Conospermum undulatum</i>	T	1	406075	6455835	
<i>Conospermum undulatum</i>	T	1	406075	6455828	
<i>Conospermum undulatum</i>	T	1	406075	6455827	
<i>Conospermum undulatum</i>	T	1	406074	6455826	
<i>Conospermum undulatum</i>	T	1	406073	6455826	
<i>Conospermum undulatum</i>	T	1	406071	6455825	
<i>Conospermum undulatum</i>	T	1	406072	6455826	
<i>Conospermum undulatum</i>	T	1	406070	6455825	
<i>Conospermum undulatum</i>	T	1	406070	6455827	
<i>Conospermum undulatum</i>	T	1	406066	6455824	
<i>Conospermum undulatum</i>	T	1	406068	6455827	
<i>Conospermum undulatum</i>	T	1	406068	6455831	
<i>Conospermum undulatum</i>	T	1	406059	6455829	
<i>Conospermum undulatum</i>	T	1	406057	6455829	
<i>Conospermum undulatum</i>	T	1	406059	6455815	
<i>Conospermum undulatum</i>	T	1	406042	6455804	
<i>Conospermum undulatum</i>	T	1	406034	6455810	
<i>Conospermum undulatum</i>	T	1	406032	6455808	
<i>Conospermum undulatum</i>	T	1	406030	6455809	
<i>Conospermum undulatum</i>	T	1	406029	6455810	
<i>Conospermum undulatum</i>	T	1	406030	6455806	
<i>Conospermum undulatum</i>	T	1	406032	6455807	
<i>Conospermum undulatum</i>	T	1	406028	6455806	
<i>Conospermum undulatum</i>	T	1	406025	6455805	
<i>Conospermum undulatum</i>	T	1	406024	6455804	
<i>Conospermum undulatum</i>	T	1	406022	6455805	
<i>Conospermum undulatum</i>	T	1	406022	6455803	
<i>Conospermum undulatum</i>	T	1	406024	6455801	
<i>Conospermum undulatum</i>	T	1	406027	6455799	
<i>Conospermum undulatum</i>	T	1	406027	6455798	
<i>Conospermum undulatum</i>	T	1	406024	6455790	
<i>Conospermum undulatum</i>	T	1	406019	6455787	
<i>Conospermum undulatum</i>	T	1	406018	6455786	
<i>Conospermum undulatum</i>	T	1	406018	6455781	
<i>Conospermum undulatum</i>	T	1	406016	6455782	
<i>Conospermum undulatum</i>	T	1	406016	6455784	
<i>Conospermum undulatum</i>	T	1	406017	6455779	
<i>Conospermum undulatum</i>	T	1	406017	6455779	
<i>Conospermum undulatum</i>	T	1	406014	6455777	
<i>Conospermum undulatum</i>	T	1	405980	6455762	
<i>Conospermum undulatum</i>	T	1	405983	6455763	
<i>Conospermum undulatum</i>	T	1	405985	6455765	
<i>Conospermum undulatum</i>	T	1	405987	6455766	
<i>Conospermum undulatum</i>	T	1	405986	6455768	

Taxo	Status	Count	Easting	Northing	Comments
<i>Conospermum undulatum</i>	T	1	405986	6455768	
<i>Conospermum undulatum</i>	T	1	405990	6455768	
<i>Conospermum undulatum</i>	T	1	405992	6455764	
<i>Conospermum undulatum</i>	T	1	405992	6455769	
<i>Conospermum undulatum</i>	T	1	405993	6455771	
<i>Conospermum undulatum</i>	T	1	405991	6455770	
<i>Conospermum undulatum</i>	T	1	405992	6455771	
<i>Conospermum undulatum</i>	T	1	405991	6455772	
<i>Conospermum undulatum</i>	T	1	405993	6455776	
<i>Conospermum undulatum</i>	T	1	405994	6455772	
<i>Conospermum undulatum</i>	T	1	405995	6455773	
<i>Conospermum undulatum</i>	T	1	405995	6455775	
<i>Conospermum undulatum</i>	T	1	406004	6455776	
<i>Conospermum undulatum</i>	T	1	406008	6455773	
<i>Conospermum undulatum</i>	T	1	406002	6455785	
<i>Conospermum undulatum</i>	T	1	406002	6455787	
<i>Conospermum undulatum</i>	T	1	406002	6455787	
<i>Conospermum undulatum</i>	T	1	406002	6455790	
<i>Conospermum undulatum</i>	T	1	406001	6455791	
<i>Conospermum undulatum</i>	T	1	406011	6455785	
<i>Conospermum undulatum</i>	T	1	406012	6455790	
<i>Conospermum undulatum</i>	T	1	406011	6455789	
<i>Conospermum undulatum</i>	T	1	406011	6455791	
<i>Conospermum undulatum</i>	T	1	406011	6455791	
<i>Conospermum undulatum</i>	T	1	406013	6455795	
<i>Conospermum undulatum</i>	T	1	406020	6455797	
<i>Conospermum undulatum</i>	T	1	406022	6455794	
<i>Conospermum undulatum</i>	T	1	406022	6455798	
<i>Conospermum undulatum</i>	T	1	406023	6455797	
<i>Conospermum undulatum</i>	T	1	406015	6455813	
<i>Conospermum undulatum</i>	T	1	406015	6455814	
<i>Conospermum undulatum</i>	T	1	406014	6455808	
<i>Conospermum undulatum</i>	T	1	406013	6455806	
<i>Conospermum undulatum</i>	T	1	406012	6455805	
<i>Conospermum undulatum</i>	T	1	406011	6455801	
<i>Conospermum undulatum</i>	T	1	406010	6455802	
<i>Conospermum undulatum</i>	T	1	406009	6455802	
<i>Conospermum undulatum</i>	T	1	406008	6455804	
<i>Conospermum undulatum</i>	T	1	406007	6455805	
<i>Conospermum undulatum</i>	T	1	406006	6455805	
<i>Conospermum undulatum</i>	T	1	406006	6455800	
<i>Conospermum undulatum</i>	T	1	406006	6455799	
<i>Conospermum undulatum</i>	T	1	406004	6455800	
<i>Conospermum undulatum</i>	T	1	406007	6455802	
<i>Conospermum undulatum</i>	T	1	406005	6455804	
<i>Conospermum undulatum</i>	T	1	406003	6455805	
<i>Conospermum undulatum</i>	T	1	406002	6455807	
<i>Conospermum undulatum</i>	T	1	406007	6455805	
<i>Conospermum undulatum</i>	T	1	406010	6455809	
<i>Conospermum undulatum</i>	T	1	406009	6455810	
<i>Conospermum undulatum</i>	T	1	406021	6455819	
<i>Conospermum undulatum</i>	T	1	406022	6455819	
<i>Conospermum undulatum</i>	T	1	406028	6455817	

Taxo	Status	Count	Easting	Northing	Comments
<i>Conospermum undulatum</i>	T	1	406028	6455815	
<i>Conospermum undulatum</i>	T	1	406026	6455819	
<i>Conospermum undulatum</i>	T	1	406022	6455826	
<i>Conospermum undulatum</i>	T	1	406030	6455831	
<i>Conospermum undulatum</i>	T	1	406033	6455830	
<i>Conospermum undulatum</i>	T	1	406036	6455830	
<i>Conospermum undulatum</i>	T	1	406033	6455835	
<i>Conospermum undulatum</i>	T	1	406032	6455837	
<i>Conospermum undulatum</i>	T	1	406033	6455839	
<i>Conospermum undulatum</i>	T	1	406032	6455840	
<i>Conospermum undulatum</i>	T	1	406034	6455840	
<i>Conospermum undulatum</i>	T	1	406034	6455842	
<i>Conospermum undulatum</i>	T	1	406034	6455845	
<i>Conospermum undulatum</i>	T	1	406035	6455847	
<i>Conospermum undulatum</i>	T	1	406035	6455848	
<i>Conospermum undulatum</i>	T	1	406031	6455847	
<i>Conospermum undulatum</i>	T	1	406029	6455842	
<i>Conospermum undulatum</i>	T	1	406028	6455842	
<i>Conospermum undulatum</i>	T	1	406026	6455842	
<i>Conospermum undulatum</i>	T	1	406028	6455843	
<i>Conospermum undulatum</i>	T	1	406028	6455843	
<i>Conospermum undulatum</i>	T	1	406028	6455841	
<i>Conospermum undulatum</i>	T	1	406056	6455834	
<i>Conospermum undulatum</i>	T	1	406051	6455834	
<i>Conospermum undulatum</i>	T	1	406052	6455835	
<i>Conospermum undulatum</i>	T	1	406053	6455836	
<i>Conospermum undulatum</i>	T	1	406052	6455837	
<i>Conospermum undulatum</i>	T	1	406052	6455837	
<i>Conospermum undulatum</i>	T	1	406052	6455839	
<i>Conospermum undulatum</i>	T	1	406052	6455840	
<i>Conospermum undulatum</i>	T	1	406053	6455841	
<i>Conospermum undulatum</i>	T	1	406054	6455840	
<i>Conospermum undulatum</i>	T	1	406053	6455842	
<i>Conospermum undulatum</i>	T	1	406052	6455843	
<i>Conospermum undulatum</i>	T	1	406052	6455844	
<i>Conospermum undulatum</i>	T	1	406054	6455844	
<i>Conospermum undulatum</i>	T	1	406058	6455843	
<i>Conospermum undulatum</i>	T	1	406054	6455843	
<i>Conospermum undulatum</i>	T	1	406055	6455846	
<i>Conospermum undulatum</i>	T	1	406055	6455846	
<i>Conospermum undulatum</i>	T	1	406059	6455842	
<i>Conospermum undulatum</i>	T	1	406059	6455842	
<i>Conospermum undulatum</i>	T	1	406059	6455842	
<i>Conospermum undulatum</i>	T	1	406060	6455842	
<i>Conospermum undulatum</i>	T	1	406060	6455843	
<i>Conospermum undulatum</i>	T	1	406060	6455841	
<i>Conospermum undulatum</i>	T	1	406075	6455853	
<i>Conospermum undulatum</i>	T	1	406082	6455851	
<i>Conospermum undulatum</i>	T	1	406084	6455851	
<i>Conospermum undulatum</i>	T	1	406065	6455858	
<i>Conospermum undulatum</i>	T	1	406088	6455849	
<i>Conospermum undulatum</i>	T	1	406093	6455857	
<i>Conospermum undulatum</i>	T	1	406094	6455854	

Taxo	Status	Count	Easting	Northing	Comments
<i>Conospermum undulatum</i>	T	1	406093	6455856	
<i>Conospermum undulatum</i>	T	1	406094	6455860	
<i>Conospermum undulatum</i>	T	1	406096	6455861	
<i>Conospermum undulatum</i>	T	1	406089	6455868	
<i>Conospermum undulatum</i>	T	1	406087	6455871	
<i>Conospermum undulatum</i>	T	1	406075	6455878	
<i>Conospermum undulatum</i>	T	1	406074	6455878	
<i>Conospermum undulatum</i>	T	1	406071	6455877	
<i>Conospermum undulatum</i>	T	1	406071	6455880	
<i>Conospermum undulatum</i>	T	1	406073	6455882	
<i>Conospermum undulatum</i>	T	1	406069	6455883	
<i>Conospermum undulatum</i>	T	1	406070	6455881	
<i>Conospermum undulatum</i>	T	1	406077	6455863	
<i>Conospermum undulatum</i>	T	1	406078	6455862	
<i>Conospermum undulatum</i>	T	1	406079	6455862	
<i>Conospermum undulatum</i>	T	1	406065	6455850	
<i>Conospermum undulatum</i>	T	1	406063	6455844	
<i>Conospermum undulatum</i>	T	1	406063	6455844	
<i>Conospermum undulatum</i>	T	1	406040	6455814	
<i>Conospermum undulatum</i>	T	1	406030	6455810	
<i>Conospermum undulatum</i>	T	1	405972	6455763	
<i>Conospermum undulatum</i>	T	1	405959	6455759	
<i>Conospermum undulatum</i>	T	1	405960	6455760	
<i>Conospermum undulatum</i>	T	1	405975	6455775	
<i>Conospermum undulatum</i>	T	1	405982	6455785	
<i>Conospermum undulatum</i>	T	1	405983	6455785	
<i>Conospermum undulatum</i>	T	1	405988	6455787	
<i>Conospermum undulatum</i>	T	1	405994	6455790	
<i>Conospermum undulatum</i>	T	1	405989	6455791	
<i>Conospermum undulatum</i>	T	1	405987	6455790	
<i>Conospermum undulatum</i>	T	1	405984	6455789	
<i>Conospermum undulatum</i>	T	1	405984	6455795	
<i>Conospermum undulatum</i>	T	1	405983	6455797	
<i>Conospermum undulatum</i>	T	1	405981	6455797	
<i>Conospermum undulatum</i>	T	1	405991	6455798	
<i>Conospermum undulatum</i>	T	1	405993	6455799	
<i>Conospermum undulatum</i>	T	1	405993	6455800	
<i>Conospermum undulatum</i>	T	1	405978	6455796	
<i>Conospermum undulatum</i>	T	1	405978	6455800	
<i>Conospermum undulatum</i>	T	1	405979	6455801	
<i>Conospermum undulatum</i>	T	1	405984	6455803	
<i>Conospermum undulatum</i>	T	1	405983	6455808	
<i>Conospermum undulatum</i>	T	1	405982	6455810	
<i>Conospermum undulatum</i>	T	1	405981	6455809	
<i>Conospermum undulatum</i>	T	1	405996	6455803	
<i>Conospermum undulatum</i>	T	1	405999	6455805	
<i>Conospermum undulatum</i>	T	1	406000	6455810	
<i>Conospermum undulatum</i>	T	1	406000	6455811	
<i>Conospermum undulatum</i>	T	1	406001	6455810	
<i>Conospermum undulatum</i>	T	1	406001	6455811	
<i>Conospermum undulatum</i>	T	1	406002	6455814	
<i>Conospermum undulatum</i>	T	1	406002	6455815	
<i>Conospermum undulatum</i>	T	1	406001	6455815	

Taxo	Status	Count	Easting	Northing	Comments
<i>Conospermum undulatum</i>	T	1	406001	6455817	
<i>Conospermum undulatum</i>	T	1	406000	6455818	
<i>Conospermum undulatum</i>	T	1	405999	6455820	
<i>Conospermum undulatum</i>	T	1	405998	6455819	
<i>Conospermum undulatum</i>	T	1	405998	6455820	
<i>Conospermum undulatum</i>	T	1	405994	6455820	
<i>Conospermum undulatum</i>	T	1	405993	6455821	
<i>Conospermum undulatum</i>	T	1	406002	6455820	
<i>Conospermum undulatum</i>	T	1	406004	6455820	
<i>Conospermum undulatum</i>	T	1	406003	6455819	
<i>Conospermum undulatum</i>	T	1	406004	6455818	
<i>Conospermum undulatum</i>	T	1	406006	6455816	
<i>Conospermum undulatum</i>	T	1	406009	6455812	
<i>Conospermum undulatum</i>	T	1	406011	6455821	
<i>Conospermum undulatum</i>	T	1	406011	6455821	
<i>Conospermum undulatum</i>	T	1	406011	6455821	
<i>Conospermum undulatum</i>	T	1	406011	6455821	
<i>Conospermum undulatum</i>	T	1	406011	6455821	
<i>Conospermum undulatum</i>	T	1	406009	6455823	
<i>Conospermum undulatum</i>	T	1	406007	6455827	
<i>Conospermum undulatum</i>	T	1	406006	6455827	
<i>Conospermum undulatum</i>	T	1	406008	6455828	
<i>Conospermum undulatum</i>	T	1	406014	6455832	
<i>Conospermum undulatum</i>	T	1	406013	6455834	
<i>Conospermum undulatum</i>	T	1	406012	6455833	
<i>Conospermum undulatum</i>	T	1	406008	6455831	
<i>Conospermum undulatum</i>	T	1	406013	6455834	
<i>Conospermum undulatum</i>	T	1	406014	6455835	
<i>Conospermum undulatum</i>	T	1	406021	6455835	
<i>Conospermum undulatum</i>	T	1	406019	6455836	
<i>Conospermum undulatum</i>	T	1	406017	6455844	
<i>Conospermum undulatum</i>	T	1	406024	6455855	
<i>Conospermum undulatum</i>	T	1	406040	6455868	
<i>Conospermum undulatum</i>	T	1	406041	6455868	
<i>Conospermum undulatum</i>	T	1	406056	6455883	
<i>Conospermum undulatum</i>	T	1	406042	6455869	
<i>Conospermum undulatum</i>	T	1	406036	6455880	
<i>Conospermum undulatum</i>	T	1	406016	6455875	
<i>Conospermum undulatum</i>	T	1	406016	6455873	
<i>Conospermum undulatum</i>	T	1	406003	6455840	
<i>Conospermum undulatum</i>	T	1	406001	6455828	
<i>Conospermum undulatum</i>	T	1	405997	6455831	
<i>Conospermum undulatum</i>	T	1	405998	6455831	
<i>Conospermum undulatum</i>	T	1	405973	6455821	
<i>Conospermum undulatum</i>	T	1	405966	6455825	
<i>Conospermum undulatum</i>	T	1	405961	6455819	
<i>Conospermum undulatum</i>	T	1	405969	6455809	
<i>Conospermum undulatum</i>	T	1	405969	6455806	
<i>Conospermum undulatum</i>	T	1	405967	6455806	
<i>Conospermum undulatum</i>	T	1	405953	6455795	
<i>Conospermum undulatum</i>	T	1	405951	6455779	
<i>Conospermum undulatum</i>	T	1	405958	6455774	
<i>Conospermum undulatum</i>	T	1	405961	6455813	

Taxo	Status	Count	Easting	Northing	Comments
<i>Conospermum undulatum</i>	T	1	405961	6455846	
<i>Conospermum undulatum</i>	T	1	405986	6455837	
<i>Conospermum undulatum</i>	T	1	405997	6455857	
<i>Conospermum undulatum</i>	T	1	406000	6455857	
<i>Conospermum undulatum</i>	T	1	406010	6455893	
<i>Conospermum undulatum</i>	T	1	405989	6455878	
<i>Conospermum undulatum</i>	T	1	405990	6455877	
<i>Conospermum undulatum</i>	T	1	405992	6455877	
<i>Conospermum undulatum</i>	T	1	405990	6455875	
<i>Conospermum undulatum</i>	T	1	405980	6455865	
<i>Conospermum undulatum</i>	T	1	405947	6455821	
<i>Conospermum undulatum</i>	T	1	405855	6456041	
<i>Conospermum undulatum</i>	T	1	405884	6456098	
<i>Conospermum undulatum</i>	T	1	405883	6456098	
<i>Conospermum undulatum</i>	T	1	405884	6456100	
<i>Conospermum undulatum</i>	T	1	405838	6456055	
<i>Conospermum undulatum</i>	T	1	405836	6456057	
<i>Conospermum undulatum</i>	T	1	405852	6456080	
<i>Conospermum undulatum</i>	T	1	405851	6456086	
<i>Conospermum undulatum</i>	T	1	405851	6456087	
<i>Conospermum undulatum</i>	T	1	405852	6456087	
<i>Conospermum undulatum</i>	T	1	405852	6456092	
<i>Conospermum undulatum</i>	T	1	405849	6456094	
<i>Conospermum undulatum</i>	T	1	405848	6456096	
<i>Conospermum undulatum</i>	T	1	405844	6456090	
<i>Conospermum undulatum</i>	T	1	405848	6456081	
<i>Conospermum undulatum</i>	T	1	405847	6456079	
<i>Conospermum undulatum</i>	T	1	405838	6456075	
<i>Conospermum undulatum</i>	T	1	405883	6456108	
<i>Conospermum undulatum</i>	T	1	405866	6456109	
<i>Conospermum undulatum</i>	T	1	405855	6456099	
<i>Conospermum undulatum</i>	T	1	405842	6456089	
<i>Conospermum undulatum</i>	T	1	405255	6458948	
<i>Conospermum undulatum</i>	T	1	405251	6458947	
<i>Conospermum undulatum</i>	T	1	405257	6458962	
<i>Conospermum undulatum</i>	T	1	405247	6458963	
<i>Conospermum undulatum</i>	T	1	405245	6458964	
<i>Conospermum undulatum</i>	T	1	405236	6458962	
<i>Conospermum undulatum</i>	T	1	405248	6458980	
<i>Conospermum undulatum</i>	T	1	405252	6458992	
<i>Conospermum undulatum</i>	T	1	405176	6459150	
<i>Conospermum undulatum</i>	T	1	405176	6459150	
<i>Conospermum undulatum</i>	T	1	405031	6459315	
<i>Conospermum undulatum</i>	T	1	405027	6459315	
<i>Conospermum undulatum</i>	T	1	405025	6459315	
<i>Conospermum undulatum</i>	T	1	405025	6459316	
<i>Conospermum undulatum</i>	T	1	405026	6459317	
<i>Conospermum undulatum</i>	T	1	405028	6459318	
<i>Conospermum undulatum</i>	T	1	405023	6459320	
<i>Conospermum undulatum</i>	T	1	405025	6459322	
<i>Conospermum undulatum</i>	T	1	405025	6459323	
<i>Conospermum undulatum</i>	T	1	405033	6459335	
<i>Conospermum undulatum</i>	T	1	405029	6459331	

Taxo	Status	Count	Easting	Northing	Comments
<i>Conospermum undulatum</i>	T	1	405865	6456415	
<i>Conospermum undulatum</i>	T	1	405934	6456224	
<i>Conospermum undulatum</i>	T	1	405936	6456223	
<i>Conospermum undulatum</i>	T	1	405170	6459326	
<i>Conospermum undulatum</i>	T	1	405156	6459361	
<i>Conospermum undulatum</i>	T	1	405157	6459360	
<i>Conospermum undulatum</i>	T	1	405173	6459331	
<i>Conospermum undulatum</i>	T	1	405177	6459331	
<i>Conospermum undulatum</i>	T	1	405177	6459332	
<i>Conospermum undulatum</i>	T	1	405178	6459333	
<i>Conospermum undulatum</i>	T	1	405189	6459318	
<i>Conospermum undulatum</i>	T	1	405190	6459314	
<i>Conospermum undulatum</i>	T	1	405188	6459313	
<i>Conospermum undulatum</i>	T	1	405195	6459314	
<i>Conospermum undulatum</i>	T	1	405208	6459296	
<i>Conospermum undulatum</i>	T	1	405208	6459280	
<i>Conospermum undulatum</i>	T	1	405343	6458980	
<i>Conospermum undulatum</i>	T	1	405224	6459297	
<i>Conospermum undulatum</i>	T	1	405232	6459302	
<i>Conospermum undulatum</i>	T	1	405232	6459304	
<i>Conospermum undulatum</i>	T	1	405225	6459298	
<i>Conospermum undulatum</i>	T	1	405220	6459313	
<i>Conospermum undulatum</i>	T	1	405214	6459311	
<i>Conospermum undulatum</i>	T	1	405210	6459313	
<i>Conospermum undulatum</i>	T	1	405206	6459315	
<i>Conospermum undulatum</i>	T	1	405214	6459317	
<i>Conospermum undulatum</i>	T	1	405214	6459325	
<i>Conospermum undulatum</i>	T	1	405201	6459328	
<i>Conospermum undulatum</i>	T	1	405201	6459334	
<i>Conospermum undulatum</i>	T	1	405197	6459340	
<i>Conospermum undulatum</i>	T	1	405183	6459358	
<i>Conospermum undulatum</i>	T	1	405182	6459360	
<i>Conospermum undulatum</i>	T	1	405190	6459364	
<i>Conospermum undulatum</i>	T	1	405184	6459367	
<i>Conospermum undulatum</i>	T	1	405183	6459368	
<i>Conospermum undulatum</i>	T	1	405178	6459371	
<i>Conospermum undulatum</i>	T	1	405174	6459368	
<i>Conospermum undulatum</i>	T	1	405172	6459369	
<i>Conospermum undulatum</i>	T	1	405171	6459367	
<i>Conospermum undulatum</i>	T	1	405171	6459365	
<i>Conospermum undulatum</i>	T	1	405167	6459380	
<i>Conospermum undulatum</i>	T	1	405134	6459428	
<i>Conospermum undulatum</i>	T	1	405134	6459430	
<i>Conospermum undulatum</i>	T	1	405132	6459429	
<i>Conospermum undulatum</i>	T	1	405128	6459431	
<i>Conospermum undulatum</i>	T	1	405132	6459433	
<i>Conospermum undulatum</i>	T	1	405129	6459438	
<i>Conospermum undulatum</i>	T	1	405121	6459432	
<i>Conospermum undulatum</i>	T	1	405125	6459425	
<i>Conospermum undulatum</i>	T	1	405880	6455858	
<i>Conospermum undulatum</i>	T	2	405877	6455853	
<i>Conospermum undulatum</i>	T	1	405873	6455850	
<i>Conospermum undulatum</i>	T	1	405874	6455850	

Taxo	Status	Count	Easting	Northing	Comments
<i>Conospermum undulatum</i>	T	1	405823	6456050	
<i>Conospermum undulatum</i>	T	1	405823	6456054	
<i>Conospermum undulatum</i>	T	1	405780	6456007	
<i>Conospermum undulatum</i>	T	1	405218	6458903	
<i>Conospermum undulatum</i>	T	1	405237	6458898	
<i>Conospermum undulatum</i>	T	1	405238	6458967	
<i>Conospermum undulatum</i>	T	2	405213	6458960	
<i>Conospermum undulatum</i>	T	1	405207	6458968	
<i>Conospermum undulatum</i>	T	2	405216	6458975	
<i>Conospermum undulatum</i>	T	1	405221	6458975	
<i>Conospermum undulatum</i>	T	1	405244	6458989	
<i>Conospermum undulatum</i>	T	1	405198	6458992	
<i>Conospermum undulatum</i>	T	1	405233	6459029	
<i>Conospermum undulatum</i>	T	1	405080	6459106	
<i>Conospermum undulatum</i>	T	1	405180	6459127	
<i>Conospermum undulatum</i>	T	2	405157	6459148	
<i>Conospermum undulatum</i>	T	2	405158	6459150	
<i>Conospermum undulatum</i>	T	1	405001	6459152	
<i>Conospermum undulatum</i>	T	1	405127	6459191	
<i>Conospermum undulatum</i>	T	1	405933	6455812	
<i>Conospermum undulatum</i>	T	1	405882	6455852	
<i>Conospermum undulatum</i>	T	1	405842	6456018	
<i>Conospermum undulatum</i>	T	1	405817	6456026	
<i>Conospermum undulatum</i>	T	1	405822	6456066	
<i>Conospermum undulatum</i>	T	1	405216	6458909	
<i>Conospermum undulatum</i>	T	1	405188	6458929	
<i>Conospermum undulatum</i>	T	1	405214	6458932	
<i>Conospermum undulatum</i>	T	1	405227	6458931	
<i>Conospermum undulatum</i>	T	2	405226	6458953	
<i>Conospermum undulatum</i>	T	3	405215	6458950	
<i>Conospermum undulatum</i>	T	1	405158	6458954	
<i>Conospermum undulatum</i>	T	1	405177	6458979	
<i>Conospermum undulatum</i>	T	2	405216	6458977	
<i>Conospermum undulatum</i>	T	2	405220	6458978	
<i>Conospermum undulatum</i>	T	1	405232	6458977	
<i>Conospermum undulatum</i>	T	2	405213	6459021	
<i>Conospermum undulatum</i>	T	1	405193	6459123	
<i>Conospermum undulatum</i>	T	1	405325	6459579	
<i>Conospermum undulatum</i>	T	10	405202	6459450	
<i>Conospermum undulatum</i>	T	2	405204	6459446	
<i>Conospermum undulatum</i>	T	12	405208	6459439	
<i>Conospermum undulatum</i>	T	3	405211	6459435	
<i>Conospermum undulatum</i>	T	8	405215	6459444	
<i>Conospermum undulatum</i>	T	5	405220	6459439	
<i>Conospermum undulatum</i>	T	3	405221	6459433	
<i>Conospermum undulatum</i>	T	2	405257	6459452	
<i>Conospermum undulatum</i>	T	1	405244	6459428	
<i>Conospermum undulatum</i>	T	7	405216	6459428	
<i>Conospermum undulatum</i>	T	6	405212	6459431	
<i>Conospermum undulatum</i>	T	11	405209	6459425	
<i>Conospermum undulatum</i>	T	5	405205	6459426	
<i>Conospermum undulatum</i>	T	8	405199	6459425	
<i>Conospermum undulatum</i>	T	2	405193	6459424	

Taxo	Status	Count	Easting	Northing	Comments
<i>Conospermum undulatum</i>	T	3	405271	6459375	
<i>Conospermum undulatum</i>	T	5	405264	6459379	
<i>Conospermum undulatum</i>	T	4	405260	6459380	
<i>Conospermum undulatum</i>	T	1	405253	6459375	
<i>Conospermum undulatum</i>	T	1	405241	6459381	
<i>Conospermum undulatum</i>	T	1	405255	6459374	
<i>Conospermum undulatum</i>	T	3	405218	6459345	
<i>Conospermum undulatum</i>	T	1	405204	6459343	
<i>Conospermum undulatum</i>	T	2	405284	6459307	
<i>Conospermum undulatum</i>	T	1	405316	6459302	
<i>Conospermum undulatum</i>	T	2	405298	6459297	
<i>Conospermum undulatum</i>	T	1	405285	6459306	
<i>Conospermum undulatum</i>	T	1	405444	6458926	
<i>Conospermum undulatum</i>	T	1	405553	6458914	
<i>Conospermum undulatum</i>	T	1	405540	6458884	
<i>Conospermum undulatum</i>	T	2	405525	6458853	
<i>Conospermum undulatum</i>	T	2	405494	6458704	
<i>Conospermum undulatum</i>	T	1	405545	6458703	
<i>Conospermum undulatum</i>	T	2	405632	6458700	
<i>Conospermum undulatum</i>	T	1	405659	6458687	
<i>Conospermum undulatum</i>	T	2	405573	6458680	
<i>Conospermum undulatum</i>	T	1	405560	6458662	
<i>Conospermum undulatum</i>	T	2	405566	6458632	
<i>Conospermum undulatum</i>	T	3	405563	6458632	
<i>Conospermum undulatum</i>	T	1	405559	6458635	
<i>Conospermum undulatum</i>	T	4	405473	6458613	
<i>Conospermum undulatum</i>	T	3	405489	6458591	
<i>Conospermum undulatum</i>	T	2	405458	6458585	
<i>Conospermum undulatum</i>	T	5	405442	6458572	
<i>Conospermum undulatum</i>	T	1	405506	6458572	
<i>Conospermum undulatum</i>	T	2	405526	6458573	
<i>Conospermum undulatum</i>	T	1	405562	6458571	
<i>Conospermum undulatum</i>	T	7	405525	6458555	
<i>Conospermum undulatum</i>	T	1	405469	6458556	
<i>Conospermum undulatum</i>	T	2	405461	6458554	
<i>Conospermum undulatum</i>	T	7	405200	6459442	
<i>Conospermum undulatum</i>	T	1	405199	6459441	
<i>Conospermum undulatum</i>	T	6	405200	6459431	
<i>Conospermum undulatum</i>	T	5	405200	6459429	
<i>Conospermum undulatum</i>	T	6	405208	6459429	
<i>Conospermum undulatum</i>	T	2	405217	6459441	
<i>Conospermum undulatum</i>	T	5	405217	6459438	
<i>Conospermum undulatum</i>	T	5	405234	6459442	
<i>Conospermum undulatum</i>	T	8	405234	6459438	
<i>Conospermum undulatum</i>	T	2	405243	6459443	
<i>Conospermum undulatum</i>	T	2	405249	6459438	
<i>Conospermum undulatum</i>	T	1	405250	6459438	
<i>Conospermum undulatum</i>	T	3	405241	6459434	
<i>Conospermum undulatum</i>	T	3	405238	6459432	
<i>Conospermum undulatum</i>	T	1	405233	6459435	
<i>Conospermum undulatum</i>	T	9	405230	6459436	
<i>Conospermum undulatum</i>	T	1	405227	6459433	
<i>Conospermum undulatum</i>	T	2	405223	6459436	

Taxo	Status	Count	Easting	Northing	Comments
<i>Conospermum undulatum</i>	T	3	405219	6459438	
<i>Conospermum undulatum</i>	T	3	405207	6459435	
<i>Conospermum undulatum</i>	T	4	405257	6459397	
<i>Conospermum undulatum</i>	T	6	405258	6459391	
<i>Conospermum undulatum</i>	T	5	405250	6459364	
<i>Conospermum undulatum</i>	T	1	405268	6459364	
<i>Conospermum undulatum</i>	T	1	405278	6459362	
<i>Conospermum undulatum</i>	T	2	405291	6459351	
<i>Conospermum undulatum</i>	T	4	405279	6459341	
<i>Conospermum undulatum</i>	T	2	405265	6459354	
<i>Conospermum undulatum</i>	T	2	405248	6459358	
<i>Conospermum undulatum</i>	T	2	405234	6459352	
<i>Conospermum undulatum</i>	T	2	405225	6459351	
<i>Conospermum undulatum</i>	T	2	405200	6459352	
<i>Conospermum undulatum</i>	T	2	405229	6459326	
<i>Conospermum undulatum</i>	T	2	405246	6459324	
<i>Conospermum undulatum</i>	T	4	405255	6459331	
<i>Conospermum undulatum</i>	T	2	405282	6459327	
<i>Conospermum undulatum</i>	T	1	405250	6459316	
<i>Conospermum undulatum</i>	T	3	405285	6459313	
<i>Conospermum undulatum</i>	T	5	405291	6459310	
<i>Conospermum undulatum</i>	T	4	405281	6459290	
<i>Conospermum undulatum</i>	T	2	405241	6459284	
<i>Conospermum undulatum</i>	T	1	405422	6459136	
<i>Conospermum undulatum</i>	T	1	405352	6459137	
<i>Conospermum undulatum</i>	T	2	405334	6459104	
<i>Conospermum undulatum</i>	T	1	405597	6458831	
<i>Conospermum undulatum</i>	T	2	405573	6458826	
<i>Conospermum undulatum</i>	T	2	405634	6458691	
<i>Conospermum undulatum</i>	T	1	405636	6458689	
<i>Conospermum undulatum</i>	T	1	405638	6458688	
<i>Conospermum undulatum</i>	T	1	405648	6458665	
<i>Conospermum undulatum</i>	T	1	405606	6458677	
<i>Conospermum undulatum</i>	T	1	405597	6458675	
<i>Conospermum undulatum</i>	T	4	405596	6458675	
<i>Conospermum undulatum</i>	T	1	405570	6458676	
<i>Conospermum undulatum</i>	T	1	405568	6458677	
<i>Conospermum undulatum</i>	T	6	405568	6458680	
<i>Conospermum undulatum</i>	T	1	405550	6458655	
<i>Conospermum undulatum</i>	T	1	405638	6458656	
<i>Conospermum undulatum</i>	T	1	405564	6458625	
<i>Conospermum undulatum</i>	T	1	405561	6458624	
<i>Conospermum undulatum</i>	T	1	405561	6458629	
<i>Conospermum undulatum</i>	T	4	405559	6458623	
<i>Conospermum undulatum</i>	T	1	405556	6458629	
<i>Conospermum undulatum</i>	T	1	405553	6458628	
<i>Conospermum undulatum</i>	T	2	405546	6458631	
<i>Conospermum undulatum</i>	T	1	405551	6458628	
<i>Conospermum undulatum</i>	T	1	405547	6458624	
<i>Conospermum undulatum</i>	T	2	405543	6458627	
<i>Conospermum undulatum</i>	T	1	405541	6458623	
<i>Conospermum undulatum</i>	T	4	405424	6458619	
<i>Conospermum undulatum</i>	T	1	405450	6458601	

Taxo	Status	Count	Easting	Northing	Comments
<i>Conospermum undulatum</i>	T	1	405474	6458604	
<i>Conospermum undulatum</i>	T	3	405482	6458600	
<i>Conospermum undulatum</i>	T	2	405484	6458601	
<i>Conospermum undulatum</i>	T	5	405486	6458598	
<i>Conospermum undulatum</i>	T	1	405495	6458605	
<i>Conospermum undulatum</i>	T	1	405506	6458605	
<i>Conospermum undulatum</i>	T	3	405522	6458604	
<i>Conospermum undulatum</i>	T	5	405470	6458575	
<i>Conospermum undulatum</i>	T	8	405464	6458573	
<i>Conospermum undulatum</i>	T	1	405469	6458582	
<i>Conospermum undulatum</i>	T	1	405466	6458581	
<i>Conospermum undulatum</i>	T	1	405459	6458577	
<i>Conospermum undulatum</i>	T	1	405454	6458579	
<i>Conospermum undulatum</i>	T	2	405449	6458580	
<i>Conospermum undulatum</i>	T	1	405461	6458561	
<i>Conospermum undulatum</i>	T	1	405498	6458564	
<i>Conospermum undulatum</i>	T	2	405499	6458567	
<i>Conospermum undulatum</i>	T	1	405517	6458565	
<i>Conospermum undulatum</i>	T	1	405518	6458568	
<i>Conospermum undulatum</i>	T	1	405471	6458549	
<i>Conospermum undulatum</i>	T	1	405465	6458533	
<i>Conospermum undulatum</i>	T	1	405479	6458525	
<i>Conospermum undulatum</i>	T	2	405487	6458532	
<i>Conospermum undulatum</i>	T	1	405492	6458532	
<i>Isopogon autumnalis</i>	P3	1	405114	6459746	
<i>Isopogon autumnalis</i>	P3	1	405018	6459544	
<i>Isopogon autumnalis</i>	P3	1	405041	6459516	
<i>Isopogon autumnalis</i>	P3	1	405050	6459510	
<i>Isopogon autumnalis</i>	P3	1	405055	6459509	
<i>Isopogon autumnalis</i>	P3	1	405122	6459753	
<i>Isopogon autumnalis</i>	P3	4	405109	6459739	
<i>Isopogon autumnalis</i>	P3	11	405095	6459736	
<i>Isopogon autumnalis</i>	P3	1	405038	6459669	
<i>Isopogon autumnalis</i>	P3	2	405345	6459682	
<i>Isopogon autumnalis</i>	P3	2	405191	6459771	
<i>Isopogon autumnalis</i>	P3	1	405326	6459717	
<i>Isopogon autumnalis</i>	P3	1	405342	6459708	
<i>Isopogon autumnalis</i>	P3	3	405353	6459690	
<i>Isopogon autumnalis</i>	P3	1	405294	6459562	
<i>Isopogon autumnalis</i>	P3	4	405294	6459562	
<i>Isopogon autumnalis</i>	P3	1	405279	6459554	
<i>Isopogon autumnalis</i>	P3	1	405122	6459489	
<i>Isopogon autumnalis</i>	P3	1	405296	6459553	
<i>Isopogon autumnalis</i>	P3	1	405312	6459574	
<i>Isopogon autumnalis</i>	P3	1	405342	6459604	
<i>Isopogon autumnalis</i>	P3	1	404946	6459435	
<i>Isopogon autumnalis</i>	P3	1	404947	6459435	
<i>Isopogon autumnalis</i>	P3	1	406121	6455839	
<i>Isopogon autumnalis</i>	P3	1	406120	6455839	
<i>Isopogon autumnalis</i>	P3	1	406121	6455838	
<i>Isopogon autumnalis</i>	P3	1	406118	6455843	
<i>Isopogon autumnalis</i>	P3	1	406078	6455870	
<i>Isopogon autumnalis</i>	P3	1	405050	6459511	

Taxo	Status	Count	Easting	Northing	Comments
<i>Jacksonia gracillima</i>	P3	1	405017	6459519	Within Banksia woodland
<i>Jacksonia gracillima</i>	P3	1	405021	6459519	Mostly dead material
<i>Jacksonia gracillima</i>	P3	1	405021	6459516	
<i>Jacksonia gracillima</i>	P3	1	405025	6459519	
<i>Jacksonia gracillima</i>	P3	1	405033	6459509	
<i>Jacksonia gracillima</i>	P3	1	405029	6459508	
<i>Jacksonia gracillima</i>	P3	1	405028	6459507	
<i>Jacksonia gracillima</i>	P3	1	405041	6459496	
<i>Jacksonia gracillima</i>	P3	1	405041	6459496	
<i>Jacksonia gracillima</i>	P3	1	405042	6459494	
<i>Jacksonia gracillima</i>	P3	1	405041	6459494	
<i>Jacksonia gracillima</i>	P3	1	405051	6459489	Still within Banksia woodland
<i>Jacksonia gracillima</i>	P3	1	405056	6459486	
<i>Jacksonia gracillima</i>	P3	1	405056	6459482	
<i>Jacksonia gracillima</i>	P3	1	405056	6459479	
<i>Jacksonia gracillima</i>	P3	1	405058	6459476	
<i>Jacksonia gracillima</i>	P3	1	405060	6459474	
<i>Jacksonia gracillima</i>	P3	1	405062	6459475	
<i>Jacksonia gracillima</i>	P3	1	405062	6459474	
<i>Jacksonia gracillima</i>	P3	1	405068	6459469	
<i>Jacksonia gracillima</i>	P3	1	405071	6459471	
<i>Jacksonia gracillima</i>	P3	1	405084	6459456	
<i>Jacksonia gracillima</i>	P3	1	405085	6459454	
<i>Jacksonia gracillima</i>	P3	1	405083	6459452	
<i>Jacksonia gracillima</i>	P3	1	405084	6459455	
<i>Jacksonia gracillima</i>	P3	1	405088	6459446	
<i>Jacksonia gracillima</i>	P3	1	405087	6459446	
<i>Jacksonia gracillima</i>	P3	1	405091	6459446	
<i>Jacksonia gracillima</i>	P3	1	405091	6459441	
<i>Jacksonia gracillima</i>	P3	1	405096	6459444	
<i>Jacksonia gracillima</i>	P3	1	405095	6459439	
<i>Jacksonia gracillima</i>	P3	1	405095	6459439	
<i>Jacksonia gracillima</i>	P3	1	405096	6459439	
<i>Jacksonia gracillima</i>	P3	1	405095	6459439	
<i>Jacksonia gracillima</i>	P3	1	405094	6459438	
<i>Jacksonia gracillima</i>	P3	1	405098	6459436	
<i>Jacksonia gracillima</i>	P3	1	405104	6459431	
<i>Jacksonia gracillima</i>	P3	1	405106	6459428	
<i>Jacksonia gracillima</i>	P3	1	405105	6459427	
<i>Jacksonia gracillima</i>	P3	1	405110	6459422	
<i>Jacksonia gracillima</i>	P3	1	405359	6458905	
<i>Jacksonia gracillima</i>	P3	1	405359	6458900	
<i>Jacksonia gracillima</i>	P3	1	405365	6458845	
<i>Jacksonia gracillima</i>	P3	1	405391	6458766	
<i>Jacksonia gracillima</i>	P3	1	405393	6458766	
<i>Jacksonia gracillima</i>	P3	1	405395	6458764	
<i>Jacksonia gracillima</i>	P3	1	405392	6458760	
<i>Jacksonia gracillima</i>	P3	1	405390	6458760	
<i>Jacksonia gracillima</i>	P3	1	405391	6458760	
<i>Jacksonia gracillima</i>	P3	1	405389	6458760	
<i>Jacksonia gracillima</i>	P3	1	405388	6458760	
<i>Jacksonia gracillima</i>	P3	1	405388	6458757	

Taxo	Status	Count	Easting	Northing	Comments
<i>Jacksonia gracillima</i>	P3	1	405391	6458753	
<i>Jacksonia gracillima</i>	P3	1	405380	6458741	
<i>Jacksonia gracillima</i>	P3	1	405387	6458731	
<i>Jacksonia gracillima</i>	P3	1	405386	6458731	
<i>Jacksonia gracillima</i>	P3	1	405384	6458730	
<i>Jacksonia gracillima</i>	P3	1	405384	6458728	
<i>Jacksonia gracillima</i>	P3	1	405386	6458728	
<i>Jacksonia gracillima</i>	P3	1	405378	6458710	
<i>Jacksonia gracillima</i>	P3	1	405378	6458705	
<i>Jacksonia gracillima</i>	P3	1	405375	6458703	
<i>Jacksonia gracillima</i>	P3	1	405375	6458701	
<i>Jacksonia gracillima</i>	P3	1	405371	6458703	
<i>Jacksonia gracillima</i>	P3	1	405391	6458691	
<i>Jacksonia gracillima</i>	P3	1	405397	6458691	
<i>Jacksonia gracillima</i>	P3	1	405399	6458692	Just outside the Development Envelope
<i>Jacksonia gracillima</i>	P3	1	405384	6458632	
<i>Jacksonia gracillima</i>	P3	1	405384	6458632	
<i>Jacksonia gracillima</i>	P3	1	405383	6458631	
<i>Jacksonia gracillima</i>	P3	1	405390	6458631	Just outside the Development Envelope
<i>Jacksonia gracillima</i>	P3	1	405390	6458630	Just outside the Development Envelope
<i>Jacksonia gracillima</i>	P3	1	405385	6458622	
<i>Jacksonia gracillima</i>	P3	1	405381	6458609	
<i>Jacksonia gracillima</i>	P3	1	405382	6458608	
<i>Jacksonia gracillima</i>	P3	1	405384	6458607	
<i>Jacksonia gracillima</i>	P3	1	405386	6458609	
<i>Jacksonia gracillima</i>	P3	1	405375	6458575	
<i>Jacksonia gracillima</i>	P3	1	405371	6458572	
<i>Jacksonia gracillima</i>	P3	1	405372	6458566	
<i>Jacksonia gracillima</i>	P3	1	405373	6458563	
<i>Jacksonia gracillima</i>	P3	1	405367	6458558	
<i>Jacksonia gracillima</i>	P3	1	405367	6458557	
<i>Jacksonia gracillima</i>	P3	1	405366	6458555	
<i>Jacksonia gracillima</i>	P3	1	405364	6458531	
<i>Jacksonia gracillima</i>	P3	1	405367	6458531	
<i>Jacksonia gracillima</i>	P3	1	405369	6458530	
<i>Jacksonia gracillima</i>	P3	1	405368	6458530	
<i>Jacksonia gracillima</i>	P3	1	405367	6458530	
<i>Jacksonia gracillima</i>	P3	1	405368	6458529	
<i>Jacksonia gracillima</i>	P3	1	405369	6458529	
<i>Jacksonia gracillima</i>	P3	1	405366	6458530	
<i>Jacksonia gracillima</i>	P3	1	405366	6458529	
<i>Jacksonia gracillima</i>	P3	1	405365	6458527	
<i>Jacksonia gracillima</i>	P3	1	405365	6458527	
<i>Jacksonia gracillima</i>	P3	1	405368	6458523	
<i>Jacksonia gracillima</i>	P3	1	405367	6458523	
<i>Jacksonia gracillima</i>	P3	1	405368	6458522	
<i>Jacksonia gracillima</i>	P3	1	405369	6458522	
<i>Jacksonia gracillima</i>	P3	1	405369	6458522	
<i>Jacksonia gracillima</i>	P3	1	405368	6458522	
<i>Jacksonia gracillima</i>	P3	1	405369	6458522	

Taxo	Status	Count	Easting	Northing	Comments
<i>Jacksonia gracillima</i>	P3	1	405369	6458521	
<i>Jacksonia gracillima</i>	P3	1	405369	6458521	
<i>Jacksonia gracillima</i>	P3	1	405367	6458522	
<i>Jacksonia gracillima</i>	P3	1	405358	6458499	
<i>Jacksonia gracillima</i>	P3	1	405355	6458492	
<i>Jacksonia gracillima</i>	P3	1	405353	6458480	
<i>Jacksonia gracillima</i>	P3	1	405361	6458865	
<i>Jacksonia gracillima</i>	P3	1	405352	6458903	
<i>Jacksonia gracillima</i>	P3	1	405352	6458907	
<i>Jacksonia gracillima</i>	P3	1	405344	6458942	
<i>Jacksonia gracillima</i>	P3	1	405345	6458948	
<i>Jacksonia gracillima</i>	P3	1	405344	6458949	
<i>Jacksonia gracillima</i>	P3	1	405343	6458954	
<i>Jacksonia gracillima</i>	P3	1	405344	6458963	
<i>Jacksonia gracillima</i>	P3	1	405342	6458968	
<i>Jacksonia gracillima</i>	P3	1	405337	6458972	
<i>Jacksonia gracillima</i>	P3	1	405342	6458982	
<i>Jacksonia gracillima</i>	P3	1	405109	6459420	
<i>Jacksonia gracillima</i>	P3	1	405105	6459418	
<i>Jacksonia gracillima</i>	P3	1	405105	6459418	
<i>Jacksonia gracillima</i>	P3	1	405103	6459420	
<i>Jacksonia gracillima</i>	P3	1	405104	6459424	
<i>Jacksonia gracillima</i>	P3	1	405100	6459427	
<i>Jacksonia gracillima</i>	P3	1	405093	6459424	
<i>Jacksonia gracillima</i>	P3	1	405096	6459435	
<i>Jacksonia gracillima</i>	P3	1	405092	6459438	
<i>Jacksonia gracillima</i>	P3	1	405072	6459460	
<i>Jacksonia gracillima</i>	P3	1	405280	6458720	
<i>Jacksonia gracillima</i>	P3	1	405284	6458732	
<i>Jacksonia gracillima</i>	P3	1	405279	6458732	
<i>Jacksonia gracillima</i>	P3	1	405275	6458738	
<i>Jacksonia gracillima</i>	P3	1	405274	6458739	
<i>Jacksonia gracillima</i>	P3	1	405281	6458745	
<i>Jacksonia gracillima</i>	P3	1	405282	6458747	
<i>Jacksonia gracillima</i>	P3	1	405279	6458748	
<i>Jacksonia gracillima</i>	P3	1	405279	6458750	
<i>Jacksonia gracillima</i>	P3	1	405278	6458749	
<i>Jacksonia gracillima</i>	P3	1	405273	6458741	
<i>Jacksonia gracillima</i>	P3	1	405266	6458756	
<i>Jacksonia gracillima</i>	P3	1	405212	6459129	
<i>Jacksonia gracillima</i>	P3	1	405168	6459239	
<i>Jacksonia gracillima</i>	P3	1	405296	6458893	
<i>Jacksonia gracillima</i>	P3	1	405280	6458712	
<i>Jacksonia gracillima</i>	P3	1	405372	6458498	
<i>Jacksonia gracillima</i>	P3	1	405372	6458498	
<i>Jacksonia gracillima</i>	P3	1	405371	6458497	
<i>Jacksonia gracillima</i>	P3	1	405370	6458498	
<i>Jacksonia gracillima</i>	P3	1	405370	6458497	
<i>Jacksonia gracillima</i>	P3	1	405369	6458497	
<i>Jacksonia gracillima</i>	P3	1	405370	6458497	
<i>Jacksonia gracillima</i>	P3	1	405369	6458499	
<i>Jacksonia gracillima</i>	P3	1	405368	6458499	
<i>Jacksonia gracillima</i>	P3	1	405367	6458498	

Taxo	Status	Count	Easting	Northing	Comments
<i>Jacksonia gracillima</i>	P3	1	405368	6458497	
<i>Jacksonia gracillima</i>	P3	1	405366	6458496	
<i>Jacksonia gracillima</i>	P3	1	405365	6458496	
<i>Jacksonia gracillima</i>	P3	3	405271	6458749	
<i>Jacksonia gracillima</i>	P3	5	405279	6458750	
<i>Jacksonia gracillima</i>	P3	1	405224	6458814	
<i>Jacksonia gracillima</i>	P3	3	405194	6458839	
<i>Jacksonia gracillima</i>	P3	2	405004	6458998	
<i>Jacksonia gracillima</i>	P3	4	405012	6458998	
<i>Jacksonia gracillima</i>	P3	2	405022	6458988	
<i>Jacksonia gracillima</i>	P3	2	405035	6458990	
<i>Jacksonia gracillima</i>	P3	3	405037	6458986	
<i>Jacksonia gracillima</i>	P3	1	405042	6458985	
<i>Jacksonia gracillima</i>	P3	1	405051	6458990	
<i>Jacksonia gracillima</i>	P3	2	405063	6458988	
<i>Jacksonia gracillima</i>	P3	1	405068	6458992	
<i>Jacksonia gracillima</i>	P3	3	405072	6458988	
<i>Jacksonia gracillima</i>	P3	3	405076	6458993	
<i>Jacksonia gracillima</i>	P3	1	405079	6458995	
<i>Jacksonia gracillima</i>	P3	2	405082	6458993	
<i>Jacksonia gracillima</i>	P3	1	405086	6458992	
<i>Jacksonia gracillima</i>	P3	2	405089	6459019	
<i>Jacksonia gracillima</i>	P3	1	405090	6459014	
<i>Jacksonia gracillima</i>	P3	1	405081	6459022	
<i>Jacksonia gracillima</i>	P3	1	405076	6459021	
<i>Jacksonia gracillima</i>	P3	2	405069	6459016	
<i>Jacksonia gracillima</i>	P3	5	405027	6459016	
<i>Jacksonia gracillima</i>	P3	6	405018	6459013	
<i>Jacksonia gracillima</i>	P3	1	405014	6459016	
<i>Jacksonia gracillima</i>	P3	1	405042	6459050	
<i>Jacksonia gracillima</i>	P3	1	405047	6459055	
<i>Jacksonia gracillima</i>	P3	6	405048	6459050	
<i>Jacksonia gracillima</i>	P3	6	405051	6459049	
<i>Jacksonia gracillima</i>	P3	4	405063	6459046	
<i>Jacksonia gracillima</i>	P3	2	405074	6459051	
<i>Jacksonia gracillima</i>	P3	1	405096	6459051	
<i>Jacksonia gracillima</i>	P3	3	405099	6459046	
<i>Jacksonia gracillima</i>	P3	2	405118	6459053	
<i>Jacksonia gracillima</i>	P3	3	405120	6459048	
<i>Jacksonia gracillima</i>	P3	5	405122	6459049	
<i>Jacksonia gracillima</i>	P3	1	405126	6459050	
<i>Jacksonia gracillima</i>	P3	2	405128	6459047	
<i>Jacksonia gracillima</i>	P3	2	405132	6459052	
<i>Jacksonia gracillima</i>	P3	3	405166	6459053	
<i>Jacksonia gracillima</i>	P3	2	405171	6459054	
<i>Jacksonia gracillima</i>	P3	1	405270	6458732	
<i>Jacksonia gracillima</i>	P3	3	405062	6459135	Recorded on edge of Banksia woodland within Hartfield Park SW
<i>Jacksonia gracillima</i>	P3	2	405062	6459141	Recorded on edge of Banksia woodland within Hartfield Park SW
<i>Jacksonia gracillima</i>	P3	4	404882	6459139	

Taxo	Status	Count	Easting	Northing	Comments
<i>Jacksonia gracillima</i>	P3	1	404879	6459140	
<i>Jacksonia gracillima</i>	P3	2	404880	6459143	
<i>Jacksonia gracillima</i>	P3	1	404876	6459141	
<i>Jacksonia gracillima</i>	P3	1	404943	6459159	
<i>Jacksonia gracillima</i>	P3	9	405144	6459152	
<i>Jacksonia gracillima</i>	P3	8	405147	6459149	
<i>Jacksonia gracillima</i>	P3	1	405121	6459197	
<i>Jacksonia gracillima</i>	P3	2	405119	6459194	
<i>Jacksonia gracillima</i>	P3	1	405109	6459192	
<i>Jacksonia gracillima</i>	P3	1	405096	6459195	
<i>Jacksonia gracillima</i>	P3	1	405092	6459203	
<i>Jacksonia gracillima</i>	P3	1	405088	6459202	
<i>Jacksonia gracillima</i>	P3	1	405083	6459195	
<i>Jacksonia gracillima</i>	P3	4	405076	6459200	
<i>Jacksonia gracillima</i>	P3	8	404992	6459197	
<i>Jacksonia gracillima</i>	P3	2	404886	6459203	
<i>Jacksonia gracillima</i>	P3	12	404885	6459208	
<i>Jacksonia gracillima</i>	P3	2	404868	6459198	
<i>Jacksonia gracillima</i>	P3	3	404865	6459197	
<i>Jacksonia gracillima</i>	P3	1	404857	6459198	
<i>Jacksonia gracillima</i>	P3	1	404845	6459203	
<i>Jacksonia gracillima</i>	P3	2	404841	6459199	
<i>Jacksonia gracillima</i>	P3	3	404838	6459197	
<i>Jacksonia gracillima</i>	P3	1	404832	6459204	
<i>Jacksonia gracillima</i>	P3	4	404845	6459207	
<i>Jacksonia gracillima</i>	P3	1	404851	6459211	
<i>Jacksonia gracillima</i>	P3	3	404860	6459207	
<i>Jacksonia gracillima</i>	P3	2	404861	6459209	
<i>Jacksonia gracillima</i>	P3	3	404864	6459210	
<i>Jacksonia gracillima</i>	P3	2	404863	6459212	
<i>Jacksonia gracillima</i>	P3	1	404859	6459210	
<i>Jacksonia gracillima</i>	P3	2	404862	6459216	
<i>Jacksonia gracillima</i>	P3	1	404875	6459209	
<i>Jacksonia gracillima</i>	P3	2	404874	6459213	
<i>Jacksonia gracillima</i>	P3	1	404934	6459211	
<i>Jacksonia gracillima</i>	P3	1	404936	6459212	
<i>Jacksonia gracillima</i>	P3	1	404936	6459217	
<i>Jacksonia gracillima</i>	P3	3	404949	6459213	
<i>Jacksonia gracillima</i>	P3	1	405075	6459210	
<i>Jacksonia gracillima</i>	P3	1	405078	6459206	
<i>Jacksonia gracillima</i>	P3	1	405090	6459212	
<i>Jacksonia gracillima</i>	P3	3	405089	6459210	
<i>Jacksonia gracillima</i>	P3	4	405118	6459204	
<i>Jacksonia gracillima</i>	P3	7	405115	6459204	
<i>Jacksonia gracillima</i>	P3	1	405120	6459208	
<i>Jacksonia gracillima</i>	P3	1	405123	6459210	
<i>Jacksonia gracillima</i>	P3	1	405125	6459208	
<i>Jacksonia gracillima</i>	P3	1	404924	6459261	
<i>Jacksonia gracillima</i>	P3	1	404916	6459266	
<i>Jacksonia gracillima</i>	P3	2	404911	6459265	
<i>Jacksonia gracillima</i>	P3	1	404909	6459264	
<i>Jacksonia gracillima</i>	P3	1	404902	6459257	
<i>Jacksonia gracillima</i>	P3	3	404877	6459260	

Taxo	Status	Count	Easting	Northing	Comments
<i>Jacksonia gracillima</i>	P3	4	404853	6459260	
<i>Jacksonia gracillima</i>	P3	1	404845	6459252	
<i>Jacksonia gracillima</i>	P3	1	404844	6459259	
<i>Jacksonia gracillima</i>	P3	1	404841	6459257	
<i>Jacksonia gracillima</i>	P3	2	404839	6459254	
<i>Jacksonia gracillima</i>	P3	1	404839	6459256	
<i>Jacksonia gracillima</i>	P3	1	404843	6459260	
<i>Jacksonia gracillima</i>	P3	1	404838	6459256	
<i>Jacksonia gracillima</i>	P3	1	404837	6459257	
<i>Jacksonia gracillima</i>	P3	1	404836	6459257	
<i>Jacksonia gracillima</i>	P3	2	404833	6459258	
<i>Jacksonia gracillima</i>	P3	8	404828	6459258	
<i>Jacksonia gracillima</i>	P3	2	404811	6459258	
<i>Jacksonia gracillima</i>	P3	4	404811	6459262	
<i>Jacksonia gracillima</i>	P3	7	404778	6459271	
<i>Jacksonia gracillima</i>	P3	4	404780	6459269	
<i>Jacksonia gracillima</i>	P3	1	404781	6459265	
<i>Jacksonia gracillima</i>	P3	1	404839	6459270	
<i>Jacksonia gracillima</i>	P3	5	404849	6459268	
<i>Jacksonia gracillima</i>	P3	3	404873	6459271	
<i>Jacksonia gracillima</i>	P3	1	404905	6459273	
<i>Jacksonia gracillima</i>	P3	1	404908	6459271	
<i>Jacksonia gracillima</i>	P3	1	404905	6459267	
<i>Jacksonia gracillima</i>	P3	3	404907	6459266	
<i>Jacksonia gracillima</i>	P3	2	404915	6459268	
<i>Jacksonia gracillima</i>	P3	2	404918	6459269	
<i>Jacksonia gracillima</i>	P3	1	404917	6459274	
<i>Jacksonia gracillima</i>	P3	3	404920	6459273	
<i>Jacksonia gracillima</i>	P3	1	404921	6459271	
<i>Jacksonia gracillima</i>	P3	2	404850	6459321	
<i>Jacksonia gracillima</i>	P3	1	404841	6459327	
<i>Jacksonia gracillima</i>	P3	1	404838	6459323	
<i>Jacksonia gracillima</i>	P3	3	404684	6459322	
<i>Jacksonia gracillima</i>	P3	2	404679	6459322	
<i>Jacksonia gracillima</i>	P3	1	404673	6459325	
<i>Jacksonia gracillima</i>	P3	2	404681	6459325	
<i>Jacksonia gracillima</i>	P3	2	404687	6459333	
<i>Jacksonia gracillima</i>	P3	1	404831	6459331	
<i>Jacksonia gracillima</i>	P3	3	404843	6459335	
<i>Jacksonia gracillima</i>	P3	4	404844	6459331	
<i>Jacksonia gracillima</i>	P3	4	404844	6459338	
<i>Jacksonia gracillima</i>	P3	1	404850	6459339	
<i>Jacksonia gracillima</i>	P3	2	405416	6458790	
<i>Jacksonia gracillima</i>	P3	1	405419	6458788	
<i>Jacksonia gracillima</i>	P3	3	405458	6458781	
<i>Jacksonia gracillima</i>	P3	5	405457	6458776	
<i>Jacksonia gracillima</i>	P3	1	405454	6458782	
<i>Jacksonia gracillima</i>	P3	5	405452	6458780	
<i>Jacksonia gracillima</i>	P3	2	405448	6458780	
<i>Jacksonia gracillima</i>	P3	1	405446	6458781	
<i>Jacksonia gracillima</i>	P3	9	405430	6458781	
<i>Jacksonia gracillima</i>	P3	1	405418	6458780	
<i>Jacksonia gracillima</i>	P3	2	405417	6458775	

Taxo	Status	Count	Easting	Northing	Comments
<i>Jacksonia gracillima</i>	P3	1	405424	6458755	
<i>Jacksonia gracillima</i>	P3	3	405427	6458750	
<i>Jacksonia gracillima</i>	P3	1	405436	6458750	
<i>Jacksonia gracillima</i>	P3	1	405418	6458737	
<i>Jacksonia gracillima</i>	P3	1	405415	6458742	
<i>Jacksonia gracillima</i>	P3	1	405414	6458739	
<i>Jacksonia gracillima</i>	P3	1	405399	6458737	On boundary between Development Envelope and Hartfield Park NE
<i>Jacksonia gracillima</i>	P3	1	405402	6458734	Just within the Development Envelope (outside Hartfield Park NE)
<i>Jacksonia gracillima</i>	P3	1	405414	6458711	
<i>Jacksonia gracillima</i>	P3	1	405416	6458707	
<i>Jacksonia gracillima</i>	P3	3	405420	6458707	
<i>Jacksonia gracillima</i>	P3	1	405422	6458715	
<i>Jacksonia gracillima</i>	P3	5	405431	6458696	
<i>Jacksonia gracillima</i>	P3	2	405419	6458702	
<i>Jacksonia gracillima</i>	P3	1	405396	6458674	
<i>Jacksonia gracillima</i>	P3	1	405403	6458670	
<i>Jacksonia gracillima</i>	P3	1	405422	6458666	
<i>Jacksonia gracillima</i>	P3	7	405444	6458674	
<i>Jacksonia gracillima</i>	P3	8	405438	6458672	
<i>Jacksonia gracillima</i>	P3	5	405437	6458666	
<i>Jacksonia gracillima</i>	P3	15	405445	6458668	
<i>Jacksonia gracillima</i>	P3	11	405449	6458668	
<i>Jacksonia gracillima</i>	P3	7	405450	6458663	
<i>Jacksonia gracillima</i>	P3	9	405455	6458669	
<i>Jacksonia gracillima</i>	P3	9	405459	6458666	
<i>Jacksonia gracillima</i>	P3	3	405470	6458671	
<i>Jacksonia gracillima</i>	P3	4	405475	6458675	
<i>Jacksonia gracillima</i>	P3	5	405486	6458672	
<i>Jacksonia gracillima</i>	P3	5	405493	6458668	
<i>Jacksonia gracillima</i>	P3	6	405488	6458662	
<i>Jacksonia gracillima</i>	P3	5	405481	6458663	
<i>Jacksonia gracillima</i>	P3	2	405481	6458666	
<i>Jacksonia gracillima</i>	P3	5	405499	6458671	
<i>Jacksonia gracillima</i>	P3	2	405507	6458668	
<i>Jacksonia gracillima</i>	P3	1	405519	6458670	
<i>Jacksonia gracillima</i>	P3	3	405526	6458662	
<i>Jacksonia gracillima</i>	P3	8	405512	6458651	
<i>Jacksonia gracillima</i>	P3	6	405507	6458657	
<i>Jacksonia gracillima</i>	P3	4	405491	6458658	
<i>Jacksonia gracillima</i>	P3	5	405482	6458656	
<i>Jacksonia gracillima</i>	P3	3	405460	6458660	
<i>Jacksonia gracillima</i>	P3	10	405443	6458657	
<i>Jacksonia gracillima</i>	P3	6	405427	6458661	
<i>Jacksonia gracillima</i>	P3	3	405422	6458659	
<i>Jacksonia gracillima</i>	P3	2	405416	6458664	
<i>Jacksonia gracillima</i>	P3	3	405393	6458631	On boundary between Development Envelope and Hartfield Park NE
<i>Jacksonia gracillima</i>	P3	16	405469	6458636	

Taxo	Status	Count	Easting	Northing	Comments
<i>Jacksonia gracillima</i>	P3	12	405473	6458631	
<i>Jacksonia gracillima</i>	P3	10	405474	6458628	
<i>Jacksonia gracillima</i>	P3	26	405483	6458629	
<i>Jacksonia gracillima</i>	P3	5	405490	6458630	
<i>Jacksonia gracillima</i>	P3	22	405501	6458630	
<i>Jacksonia gracillima</i>	P3	5	405512	6458633	
<i>Jacksonia gracillima</i>	P3	4	405516	6458627	
<i>Jacksonia gracillima</i>	P3	8	405521	6458626	
<i>Jacksonia gracillima</i>	P3	14	405535	6458625	
<i>Jacksonia gracillima</i>	P3	23	405529	6458619	
<i>Jacksonia gracillima</i>	P3	16	405518	6458620	
<i>Jacksonia gracillima</i>	P3	5	405503	6458617	
<i>Jacksonia gracillima</i>	P3	4	405497	6458624	
<i>Jacksonia gracillima</i>	P3	10	405488	6458624	
<i>Jacksonia gracillima</i>	P3	2	405392	6458617	
<i>Jacksonia gracillima</i>	P3	1	405389	6458616	
<i>Jacksonia gracillima</i>	P3	2	405388	6458624	Just within the Development Envelope (outside Hartfield Park NE)
<i>Jacksonia gracillima</i>	P3	1	405385	6458621	Just within the Development Envelope (outside Hartfield Park NE)
<i>Jacksonia gracillima</i>	P3	1	405383	6458613	Just within the Development Envelope (outside Hartfield Park NE)
<i>Jacksonia gracillima</i>	P3	24	405376	6458553	Just within the Development Envelope (outside Hartfield Park NE)
<i>Jacksonia gracillima</i>	P3	9	405370	6458504	
<i>Jacksonia gracillima</i>	P3	1	405477	6458513	
<i>Jacksonia gracillima</i>	P3	11	405476	6458503	
<i>Jacksonia gracillima</i>	P3	2	405275	6458741	
<i>Jacksonia gracillima</i>	P3	2	405282	6458745	
<i>Jacksonia gracillima</i>	P3	3	405219	6458801	
<i>Jacksonia gracillima</i>	P3	1	405144	6458950	
<i>Jacksonia gracillima</i>	P3	2	405010	6458981	
<i>Jacksonia gracillima</i>	P3	1	405012	6458992	
<i>Jacksonia gracillima</i>	P3	3	405041	6458985	
<i>Jacksonia gracillima</i>	P3	1	405076	6458985	
<i>Jacksonia gracillima</i>	P3	3	405079	6458990	
<i>Jacksonia gracillima</i>	P3	3	405084	6458988	
<i>Jacksonia gracillima</i>	P3	4	405102	6459010	
<i>Jacksonia gracillima</i>	P3	1	405095	6459006	
<i>Jacksonia gracillima</i>	P3	1	405092	6459007	
<i>Jacksonia gracillima</i>	P3	2	405044	6459010	
<i>Jacksonia gracillima</i>	P3	3	405039	6459012	
<i>Jacksonia gracillima</i>	P3	1	405016	6459008	
<i>Jacksonia gracillima</i>	P3	1	405013	6459006	
<i>Jacksonia gracillima</i>	P3	1	404993	6459010	
<i>Jacksonia gracillima</i>	P3	3	405018	6459037	
<i>Jacksonia gracillima</i>	P3	1	405021	6459036	
<i>Jacksonia gracillima</i>	P3	1	405054	6459044	
<i>Jacksonia gracillima</i>	P3	2	405060	6459043	

Taxo	Status	Count	Easting	Northing	Comments
<i>Jacksonia gracillima</i>	P3	1	405091	6459043	
<i>Jacksonia gracillima</i>	P3	5	405126	6459043	
<i>Jacksonia gracillima</i>	P3	1	405132	6459038	
<i>Jacksonia gracillima</i>	P3	2	405174	6459039	
<i>Jacksonia gracillima</i>	P3	2	405173	6459067	
<i>Jacksonia gracillima</i>	P3	3	405044	6459060	
<i>Jacksonia gracillima</i>	P3	5	405044	6459055	
<i>Jacksonia gracillima</i>	P3	1	404843	6459167	
<i>Jacksonia gracillima</i>	P3	1	404848	6459163	
<i>Jacksonia gracillima</i>	P3	1	404937	6459162	
<i>Jacksonia gracillima</i>	P3	4	404947	6459161	
<i>Jacksonia gracillima</i>	P3	8	405118	6459192	
<i>Jacksonia gracillima</i>	P3	2	405113	6459189	
<i>Jacksonia gracillima</i>	P3	2	405105	6459189	
<i>Jacksonia gracillima</i>	P3	1	405048	6459193	
<i>Jacksonia gracillima</i>	P3	5	404995	6459193	
<i>Jacksonia gracillima</i>	P3	1	404993	6459191	
<i>Jacksonia gracillima</i>	P3	1	404937	6459191	
<i>Jacksonia gracillima</i>	P3	1	404920	6459193	
<i>Jacksonia gracillima</i>	P3	1	404886	6459186	
<i>Jacksonia gracillima</i>	P3	1	404835	6459221	
<i>Jacksonia gracillima</i>	P3	1	404848	6459213	
<i>Jacksonia gracillima</i>	P3	1	404954	6459221	
<i>Jacksonia gracillima</i>	P3	1	404926	6459254	
<i>Jacksonia gracillima</i>	P3	3	404921	6459251	
<i>Jacksonia gracillima</i>	P3	1	404917	6459250	
<i>Jacksonia gracillima</i>	P3	1	404917	6459247	
<i>Jacksonia gracillima</i>	P3	1	404911	6459250	
<i>Jacksonia gracillima</i>	P3	1	404909	6459248	
<i>Jacksonia gracillima</i>	P3	1	404908	6459248	
<i>Jacksonia gracillima</i>	P3	1	404889	6459248	
<i>Jacksonia gracillima</i>	P3	1	404884	6459249	
<i>Jacksonia gracillima</i>	P3	3	404853	6459250	
<i>Jacksonia gracillima</i>	P3	2	404840	6459249	
<i>Jacksonia gracillima</i>	P3	1	404837	6459249	
<i>Jacksonia gracillima</i>	P3	1	404835	6459249	
<i>Jacksonia gracillima</i>	P3	1	404833	6459246	
<i>Jacksonia gracillima</i>	P3	1	404824	6459253	
<i>Jacksonia gracillima</i>	P3	1	404750	6459251	
<i>Jacksonia gracillima</i>	P3	1	404739	6459251	
<i>Jacksonia gracillima</i>	P3	1	404738	6459253	
<i>Jacksonia gracillima</i>	P3	1	404713	6459277	
<i>Jacksonia gracillima</i>	P3	1	404713	6459281	
<i>Jacksonia gracillima</i>	P3	1	404745	6459281	
<i>Jacksonia gracillima</i>	P3	1	404747	6459281	
<i>Jacksonia gracillima</i>	P3	1	404797	6459277	
<i>Jacksonia gracillima</i>	P3	1	404798	6459275	
<i>Jacksonia gracillima</i>	P3	1	404804	6459278	
<i>Jacksonia gracillima</i>	P3	1	404805	6459281	
<i>Jacksonia gracillima</i>	P3	1	404844	6459286	
<i>Jacksonia gracillima</i>	P3	1	404893	6459274	
<i>Jacksonia gracillima</i>	P3	2	404844	6459314	
<i>Jacksonia gracillima</i>	P3	6	405364	6458496	

Taxo	Status	Count	Easting	Northing	Comments
<i>Jacksonia gracillima</i>	P3	1	405372	6458486	
<i>Jacksonia gracillima</i>	P3	5	405375	6458483	
<i>Jacksonia gracillima</i>	P3	5	405376	6458480	
<i>Jacksonia gracillima</i>	P3	1	405468	6458484	
<i>Jacksonia gracillima</i>	P3	1	405470	6458487	
<i>Jacksonia gracillima</i>	P3	1	405469	6458488	
<i>Jacksonia gracillima</i>	P3	1	405469	6458490	
<i>Jacksonia gracillima</i>	P3	1	405465	6458494	
<i>Jacksonia gracillima</i>	P3	1	405468	6458493	
<i>Jacksonia gracillima</i>	P3	1	405471	6458490	
<i>Jacksonia gracillima</i>	P3	6	405472	6458492	
<i>Jacksonia gracillima</i>	P3	2	405281	6458732	
<i>Jacksonia gracillima</i>	P3	3	405286	6458733	
<i>Jacksonia gracillima</i>	P3	1	405267	6458760	
<i>Jacksonia gracillima</i>	P3	2	405191	6458824	
<i>Jacksonia gracillima</i>	P3	1	405175	6458821	
<i>Jacksonia gracillima</i>	P3	1	405197	6458850	
<i>Jacksonia gracillima</i>	P3	1	405197	6458853	
<i>Jacksonia gracillima</i>	P3	3	405212	6458850	
<i>Jacksonia gracillima</i>	P3	2	405214	6458855	
<i>Jacksonia gracillima</i>	P3	3	405095	6459001	
<i>Jacksonia gracillima</i>	P3	2	405082	6459002	
<i>Jacksonia gracillima</i>	P3	4	405078	6459001	
<i>Jacksonia gracillima</i>	P3	2	405071	6458999	
<i>Jacksonia gracillima</i>	P3	1	405060	6459000	
<i>Jacksonia gracillima</i>	P3	1	405039	6459000	
<i>Jacksonia gracillima</i>	P3	2	405014	6458998	
<i>Jacksonia gracillima</i>	P3	1	405101	6459028	
<i>Jacksonia gracillima</i>	P3	5	405104	6459032	
<i>Jacksonia gracillima</i>	P3	3	405124	6459031	
<i>Jacksonia gracillima</i>	P3	1	405144	6459029	
<i>Jacksonia gracillima</i>	P3	1	405219	6459056	
<i>Jacksonia gracillima</i>	P3	1	405215	6459055	
<i>Jacksonia gracillima</i>	P3	7	405171	6459060	
<i>Jacksonia gracillima</i>	P3	2	405090	6459059	
<i>Jacksonia gracillima</i>	P3	6	405049	6459051	
<i>Jacksonia gracillima</i>	P3	4	404833	6459175	
<i>Jacksonia gracillima</i>	P3	1	404951	6459166	
<i>Jacksonia gracillima</i>	P3	3	404956	6459167	
<i>Jacksonia gracillima</i>	P3	1	404961	6459173	
<i>Jacksonia gracillima</i>	P3	1	404990	6459172	
<i>Jacksonia gracillima</i>	P3	1	405127	6459183	
<i>Jacksonia gracillima</i>	P3	8	405079	6459186	
<i>Jacksonia gracillima</i>	P3	3	405049	6459183	
<i>Jacksonia gracillima</i>	P3	1	405036	6459181	
<i>Jacksonia gracillima</i>	P3	1	405032	6459181	
<i>Jacksonia gracillima</i>	P3	1	405000	6459181	
<i>Jacksonia gracillima</i>	P3	2	405001	6459179	
<i>Jacksonia gracillima</i>	P3	2	404999	6459178	
<i>Jacksonia gracillima</i>	P3	1	404996	6459179	
<i>Jacksonia gracillima</i>	P3	1	404992	6459181	
<i>Jacksonia gracillima</i>	P3	1	404938	6459180	
<i>Jacksonia gracillima</i>	P3	1	404907	6459179	

Taxo	Status	Count	Easting	Northing	Comments
<i>Jacksonia gracillima</i>	P3	1	404853	6459180	
<i>Jacksonia gracillima</i>	P3	1	404847	6459179	
<i>Jacksonia gracillima</i>	P3	1	404838	6459180	
<i>Jacksonia gracillima</i>	P3	4	404832	6459181	
<i>Jacksonia gracillima</i>	P3	1	404771	6459233	
<i>Jacksonia gracillima</i>	P3	2	404810	6459228	
<i>Jacksonia gracillima</i>	P3	1	404881	6459232	
<i>Jacksonia gracillima</i>	P3	3	404896	6459230	
<i>Jacksonia gracillima</i>	P3	1	404898	6459231	
<i>Jacksonia gracillima</i>	P3	1	404941	6459231	
<i>Jacksonia gracillima</i>	P3	1	404945	6459229	
<i>Jacksonia gracillima</i>	P3	1	405056	6459231	
<i>Jacksonia gracillima</i>	P3	1	404932	6459241	
<i>Jacksonia gracillima</i>	P3	3	404928	6459242	
<i>Jacksonia gracillima</i>	P3	2	404835	6459245	
<i>Jacksonia gracillima</i>	P3	3	404801	6459243	
<i>Jacksonia gracillima</i>	P3	1	404788	6459241	
<i>Jacksonia gracillima</i>	P3	1	404867	6459287	
<i>Jacksonia gracillima</i>	P3	2	404876	6459290	
<i>Jacksonia gracillima</i>	P3	1	404881	6459302	
<i>Jacksonia gracillima</i>	P3	5	404798	6459300	
<i>Jacksonia gracillima</i>	P3	2	404794	6459302	
<i>Jacksonia gracillima</i>	P3	1	404669	6459330	
<i>Jacksonia gracillima</i>	P3	2	404768	6459344	
<i>Jacksonia gracillima</i>	P3	2	404765	6459344	
<i>Jacksonia gracillima</i>	P3	1	405462	6458801	
<i>Jacksonia gracillima</i>	P3	5	405451	6458773	
<i>Jacksonia gracillima</i>	P3	4	405414	6458768	
<i>Jacksonia gracillima</i>	P3	6	405415	6458761	
<i>Jacksonia gracillima</i>	P3	5	405437	6458758	
<i>Jacksonia gracillima</i>	P3	3	405422	6458732	
<i>Jacksonia gracillima</i>	P3	2	405416	6458718	
<i>Jacksonia gracillima</i>	P3	3	405560	6458691	
<i>Jacksonia gracillima</i>	P3	4	405547	6458690	
<i>Jacksonia gracillima</i>	P3	25	405515	6458689	
<i>Jacksonia gracillima</i>	P3	10	405503	6458684	
<i>Jacksonia gracillima</i>	P3	14	405492	6458690	
<i>Jacksonia gracillima</i>	P3	12	405480	6458693	
<i>Jacksonia gracillima</i>	P3	1	405422	6458691	
<i>Jacksonia gracillima</i>	P3	10	405402	6458691	
<i>Jacksonia gracillima</i>	P3	4	405395	6458682	
<i>Jacksonia gracillima</i>	P3	9	405424	6458679	
<i>Jacksonia gracillima</i>	P3	5	405433	6458682	
<i>Jacksonia gracillima</i>	P3	18	405446	6458682	
<i>Jacksonia gracillima</i>	P3	4	405456	6458682	
<i>Jacksonia gracillima</i>	P3	6	405471	6458685	
<i>Jacksonia gracillima</i>	P3	2	405480	6458682	
<i>Jacksonia gracillima</i>	P3	5	405493	6458681	
<i>Jacksonia gracillima</i>	P3	4	405510	6458676	
<i>Jacksonia gracillima</i>	P3	10	405518	6458679	
<i>Jacksonia gracillima</i>	P3	3	405524	6458679	
<i>Jacksonia gracillima</i>	P3	2	405549	6458684	
<i>Jacksonia gracillima</i>	P3	25	405516	6458646	

Taxo	Status	Count	Easting	Northing	Comments
<i>Jacksonia gracillima</i>	P3	5	405496	6458654	
<i>Jacksonia gracillima</i>	P3	2	405488	6458650	
<i>Jacksonia gracillima</i>	P3	6	405457	6458647	
<i>Jacksonia gracillima</i>	P3	3	405448	6458645	
<i>Jacksonia gracillima</i>	P3	10	405425	6458655	
<i>Jacksonia gracillima</i>	P3	1	405417	6458645	
<i>Jacksonia gracillima</i>	P3	4	405443	6458640	
<i>Jacksonia gracillima</i>	P3	6	405460	6458639	
<i>Jacksonia gracillima</i>	P3	7	405470	6458642	
<i>Jacksonia gracillima</i>	P3	3	405481	6458635	
<i>Jacksonia gracillima</i>	P3	5	405495	6458642	
<i>Jacksonia gracillima</i>	P3	19	405583	6458611	
<i>Jacksonia gracillima</i>	P3	8	405567	6458611	
<i>Jacksonia gracillima</i>	P3	10	405557	6458613	
<i>Jacksonia gracillima</i>	P3	9	405546	6458615	
<i>Jacksonia gracillima</i>	P3	25	405534	6458609	
<i>Jacksonia gracillima</i>	P3	28	405522	6458614	
<i>Jacksonia gracillima</i>	P3	5	405511	6458615	
<i>Jacksonia gracillima</i>	P3	6	405483	6458612	
<i>Jacksonia gracillima</i>	P3	1	405416	6458605	
<i>Jacksonia gracillima</i>	P3	5	405388	6458612	
<i>Jacksonia gracillima</i>	P3	1	405421	6458602	
<i>Jacksonia gracillima</i>	P3	9	405571	6458605	
<i>Jacksonia gracillima</i>	P3	2	405583	6458604	
<i>Jacksonia gracillima</i>	P3	2	405385	6458573	
<i>Jacksonia gracillima</i>	P3	12	405378	6458572	
<i>Jacksonia gracillima</i>	P3	15	405378	6458558	Just within the Development Envelope (outside Hartfield Park NE)
<i>Jacksonia gracillima</i>	P3	3	405511	6458533	
<i>Jacksonia gracillima</i>	P3	4	405370	6458500	
<i>Jacksonia gracillima</i>	P3	2	405366	6458501	
<i>Jacksonia gracillima</i>	P3	2	405377	6458495	
<i>Jacksonia gracillima</i>	P3	3	405376	6458489	
<i>Jacksonia gracillima</i>	P3	5	405468	6458498	
<i>Jacksonia gracillima</i>	P3	4	405471	6458497	
<i>Jacksonia gracillima</i>	P3	7	405476	6458496	
<i>Jacksonia gracillima</i>	P3	1	405480	6458496	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405151	6459790	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	2	405249	6459450	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	3	405629	6459682	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405234	6458970	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405169	6459161	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405268	6459331	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405369	6458965	

Taxo	Status	Count	Easting	Northing	Comments
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	2	405446	6458962	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405598	6458758	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405181	6459117	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405173	6459139	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	3	404987	6459437	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	3	404976	6459412	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	2	404992	6459392	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405006	6459384	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405080	6459314	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405001	6459628	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405376	6459655	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405193	6459457	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	2	405244	6459487	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405259	6459498	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	2	405050	6459657	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	6	405252	6459524	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	2	405238	6459512	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405138	6459476	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405342	6459604	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	3	404984	6459426	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	3	404963	6459396	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404956	6459410	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404956	6459410	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404956	6459410	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404956	6459410	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404955	6459410	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404956	6459410	

Taxo	Status	Count	Easting	Northing	Comments
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404958	6459410	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404955	6459411	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404955	6459412	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404955	6459411	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404955	6459410	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404955	6459411	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404952	6459413	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404941	6459418	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404952	6459427	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404941	6459425	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404941	6459424	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404940	6459422	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404954	6459420	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404954	6459420	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404955	6459420	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404954	6459419	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404954	6459419	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404954	6459419	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404953	6459420	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404955	6459420	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404956	6459422	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404962	6459418	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404963	6459418	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404967	6459418	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404965	6459419	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404964	6459430	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404969	6459411	

Taxo	Status	Count	Easting	Northing	Comments
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404970	6459412	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404970	6459413	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404969	6459412	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404976	6459402	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404972	6459454	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405017	6459409	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406044	6455777	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406072	6455801	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406086	6455804	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406085	6455804	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406087	6455802	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406087	6455801	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406087	6455796	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406088	6455808	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406083	6455827	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406083	6455825	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406083	6455827	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406074	6455824	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406075	6455824	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406073	6455823	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406071	6455824	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406005	6455800	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406056	6455834	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406056	6455835	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406056	6455835	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406056	6455835	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406054	6455835	

Taxo	Status	Count	Easting	Northing	Comments
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406055	6455834	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406056	6455834	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406054	6455834	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406052	6455836	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406052	6455834	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406066	6455839	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406096	6455859	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406035	6455905	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406035	6455906	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406001	6455857	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406001	6455857	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406001	6455857	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406001	6455857	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406001	6455856	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	406001	6455856	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405936	6455824	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405944	6455879	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405944	6455891	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405944	6455891	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405959	6455920	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405958	6455919	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405958	6455919	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405957	6455919	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405960	6455920	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405959	6455921	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405960	6455919	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405959	6455919	

Taxo	Status	Count	Easting	Northing	Comments
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405952	6455918	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405949	6455918	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405949	6455922	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405924	6455894	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405938	6455911	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405938	6455910	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405866	6456029	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405870	6456032	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405257	6458942	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405263	6458949	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405181	6459152	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405942	6456205	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405940	6456209	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405940	6456217	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405939	6456216	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405930	6456220	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405223	6459269	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405224	6459269	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405358	6458903	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405358	6458902	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405359	6458903	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405359	6458892	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405359	6458891	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405360	6458890	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405363	6458858	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405366	6458852	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405367	6458855	

Taxo	Status	Count	Easting	Northing	Comments
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405366	6458855	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405364	6458855	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405366	6458852	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405379	6458870	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405372	6458880	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405370	6458883	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405369	6458882	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405370	6458885	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405361	6458891	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405361	6458892	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405361	6458892	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405360	6458893	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405360	6458894	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405360	6458894	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405360	6458894	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405360	6458895	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405359	6458900	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405360	6458903	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405360	6458903	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405360	6458904	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405360	6458904	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405359	6458904	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405359	6458904	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405359	6458905	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405359	6458906	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405359	6458907	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405359	6458907	

Taxo	Status	Count	Easting	Northing	Comments
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405360	6458907	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405360	6458907	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405360	6458906	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405360	6458941	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405361	6458942	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405363	6458948	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405198	6459320	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405198	6459320	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405199	6459321	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405199	6459321	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405179	6459343	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405040	6459507	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405022	6459517	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405018	6459529	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405913	6455850	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	3	405248	6458826	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405261	6458911	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405185	6458921	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405134	6458988	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405003	6459128	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405843	6456009	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405796	6455982	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405184	6459146	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	404764	6459402	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	3	405297	6459304	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	2	405350	6459157	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	3	405438	6459124	

Taxo	Status	Count	Easting	Northing	Comments
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405390	6459075	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	2	405413	6459044	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405511	6458954	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405574	6458881	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405560	6458848	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405707	6458704	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405233	6459472	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405230	6459471	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405246	6459324	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	5	405269	6459312	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	3	405291	6459310	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	2	405281	6459290	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	4	405239	6459288	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405497	6459054	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405494	6459056	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405510	6458977	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405401	6458977	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405402	6458943	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405407	6458941	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405385	6458930	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405409	6458902	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405540	6458900	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	2	405586	6458904	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	3	405541	6458872	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	4	405539	6458869	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	9	405537	6458873	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405410	6458878	

Taxo	Status	Count	Easting	Northing	Comments
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405386	6458870	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	1	405390	6458864	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	2	405553	6458867	
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i>	P2	2	405560	6458865	
<i>Lasiopetalum bracteatum</i>	P4	1	405686	6458494	
<i>Lasiopetalum bracteatum</i>	P4	3	405647	6458444	
<i>Styphelia filifolia</i>	P3	1	405226	6459275	In Development Envelope
<i>Styphelia filifolia</i>	P3	1	405365	6458962	
<i>Styphelia filifolia</i>	P3	1	405365	6458804	
<i>Styphelia filifolia</i>	P3	1	405337	6458998	
<i>Styphelia filifolia</i>	P3	1	405171	6459348	
<i>Styphelia filifolia</i>	P3	1	405164	6459352	
<i>Styphelia filifolia</i>	P3	1	405229	6459283	
<i>Styphelia filifolia</i>	P3	1	405231	6459276	
<i>Styphelia filifolia</i>	P3	1	405254	6458953	
<i>Styphelia filifolia</i>	P3	2	405249	6459450	
<i>Styphelia filifolia</i>	P3	2	405268	6459331	
<i>Styphelia filifolia</i>	P3	1	405770	6459345	
<i>Styphelia filifolia</i>	P3	1	405037	6459175	
<i>Styphelia filifolia</i>	P3	1	404829	6459293	
<i>Styphelia filifolia</i>	P3	1	404939	6459129	
<i>Styphelia filifolia</i>	P3	1	404941	6459118	
<i>Styphelia filifolia</i>	P3	1	404908	6459141	
<i>Styphelia filifolia</i>	P3	1	404839	6459222	
<i>Styphelia filifolia</i>	P3	1	405100	6459221	
<i>Styphelia filifolia</i>	P3	1	405298	6459356	ID confirmed
<i>Styphelia filifolia</i>	P3	1	405212	6459320	ID confirmed
<i>Styphelia filifolia</i>	P3	2	405287	6459281	ID confirmed
<i>Styphelia filifolia</i>	P3	1	405282	6459280	ID confirmed
<i>Styphelia filifolia</i>	P3	1	405311	6459149	ID confirmed
<i>Styphelia filifolia</i>	P3	1	405469	6458987	ID confirmed
<i>Styphelia filifolia</i>	P3	1	405507	6458986	ID confirmed
<i>Styphelia filifolia</i>	P3	1	405466	6458874	ID confirmed
<i>Tetraria australiensis</i>	T	2	405825	6455865	
<i>Tetraria australiensis</i>	T	1	405937	6455964	
<i>Tetraria australiensis</i>	T	1	405965	6455951	
<i>Tetraria australiensis</i>	T	1	405918	6455900	
<i>Tetraria australiensis</i>	T	1	405911	6455903	
<i>Tetraria australiensis</i>	T	1	405938	6455866	
<i>Tetraria australiensis</i>	T	1	405938	6455866	
<i>Tetraria australiensis</i>	T	1	405935	6455864	
<i>Tetraria australiensis</i>	T	1	405934	6455864	
<i>Tetraria australiensis</i>	T	1	405934	6455861	
<i>Tetraria australiensis</i>	T	1	405935	6455863	
<i>Tetraria australiensis</i>	T	1	405929	6455857	
<i>Tetraria australiensis</i>	T	1	405928	6455865	
<i>Tetraria australiensis</i>	T	1	405938	6455887	
<i>Tetraria australiensis</i>	T	1	405938	6455889	
<i>Tetraria australiensis</i>	T	1	405940	6455886	

Taxo	Status	Count	Easting	Northing	Comments
<i>Tetraria australiensis</i>	T	1	405950	6455893	
<i>Tetraria australiensis</i>	T	1	405948	6455893	
<i>Tetraria australiensis</i>	T	1	405963	6455950	
<i>Tetraria australiensis</i>	T	1	405934	6455888	
<i>Tetraria australiensis</i>	T	1	405932	6455883	
<i>Tetraria australiensis</i>	T	1	405932	6455882	
<i>Tetraria australiensis</i>	T	1	405930	6455882	
<i>Tetraria australiensis</i>	T	1	405930	6455881	
<i>Tetraria australiensis</i>	T	1	405931	6455876	
<i>Tetraria australiensis</i>	T	1	405930	6455875	
<i>Tetraria australiensis</i>	T	1	405928	6455875	
<i>Tetraria australiensis</i>	T	1	405925	6455880	
<i>Tetraria australiensis</i>	T	1	405924	6455885	
<i>Tetraria australiensis</i>	T	1	405925	6455889	
<i>Tetraria australiensis</i>	T	1	405925	6455889	
<i>Tetraria australiensis</i>	T	1	405923	6455891	
<i>Tetraria australiensis</i>	T	1	405951	6455932	
<i>Tetraria australiensis</i>	T	1	405956	6455931	
<i>Tetraria australiensis</i>	T	1	405953	6455934	
<i>Tetraria australiensis</i>	T	1	405943	6455966	
<i>Tetraria australiensis</i>	T	1	405947	6455942	
<i>Tetraria australiensis</i>	T	1	405938	6455942	
<i>Tetraria australiensis</i>	T	1	405923	6455909	
<i>Tetraria australiensis</i>	T	1	405924	6455901	
<i>Tetraria australiensis</i>	T	1	405925	6455899	
<i>Tetraria australiensis</i>	T	1	405925	6455899	
<i>Tetraria australiensis</i>	T	1	405900	6455892	
<i>Tetraria australiensis</i>	T	1	405907	6455902	
<i>Tetraria australiensis</i>	T	1	405906	6455906	
<i>Tetraria australiensis</i>	T	1	405906	6455906	
<i>Tetraria australiensis</i>	T	1	405906	6455906	
<i>Tetraria australiensis</i>	T	1	405906	6455906	
<i>Tetraria australiensis</i>	T	1	405914	6455904	
<i>Tetraria australiensis</i>	T	1	405914	6455904	
<i>Tetraria australiensis</i>	T	1	405915	6455903	
<i>Tetraria australiensis</i>	T	1	405916	6455902	
<i>Tetraria australiensis</i>	T	1	405918	6455929	
<i>Tetraria australiensis</i>	T	1	405924	6455919	
<i>Tetraria australiensis</i>	T	1	405923	6455915	
<i>Tetraria australiensis</i>	T	1	405924	6455914	
<i>Tetraria australiensis</i>	T	1	405919	6455912	
<i>Tetraria australiensis</i>	T	1	405933	6455943	
<i>Tetraria australiensis</i>	T	1	405967	6455967	
<i>Tetraria australiensis</i>	T	1	405908	6455928	
<i>Tetraria australiensis</i>	T	1	405908	6455928	
<i>Tetraria australiensis</i>	T	1	405907	6455926	
<i>Tetraria australiensis</i>	T	1	405907	6455926	
<i>Tetraria australiensis</i>	T	1	405908	6455925	
<i>Tetraria australiensis</i>	T	1	405907	6455925	
<i>Tetraria australiensis</i>	T	1	405907	6455923	
<i>Tetraria australiensis</i>	T	1	405905	6455922	
<i>Tetraria australiensis</i>	T	1	405904	6455922	
<i>Tetraria australiensis</i>	T	1	405904	6455922	
<i>Tetraria australiensis</i>	T	1	405904	6455920	

Taxo	Status	Count	Easting	Northing	Comments
<i>Tetraria australiensis</i>	T	1	405901	6455921	
<i>Tetraria australiensis</i>	T	1	405901	6455922	
<i>Tetraria australiensis</i>	T	1	405903	6455926	
<i>Tetraria australiensis</i>	T	1	405936	6455997	
<i>Tetraria australiensis</i>	T	1	405891	6455931	
<i>Tetraria australiensis</i>	T	1	405893	6455927	
<i>Tetraria australiensis</i>	T	1	405893	6455928	
<i>Tetraria australiensis</i>	T	1	405893	6455928	
<i>Tetraria australiensis</i>	T	1	405894	6455928	
<i>Tetraria australiensis</i>	T	1	405910	6456056	
<i>Tetraria australiensis</i>	T	1	405908	6456057	
<i>Tetraria australiensis</i>	T	1	405908	6456056	
<i>Tetraria australiensis</i>	T	1	405908	6456056	
<i>Tetraria australiensis</i>	T	1	405906	6456056	
<i>Tetraria australiensis</i>	T	1	405907	6456051	
<i>Tetraria australiensis</i>	T	1	405907	6456051	
<i>Tetraria australiensis</i>	T	1	405905	6456051	
<i>Tetraria australiensis</i>	T	1	405905	6456050	
<i>Tetraria australiensis</i>	T	1	405905	6456048	
<i>Tetraria australiensis</i>	T	1	405905	6456052	
<i>Tetraria australiensis</i>	T	1	405903	6456047	
<i>Tetraria australiensis</i>	T	1	405902	6456049	
<i>Tetraria australiensis</i>	T	1	405901	6456049	
<i>Tetraria australiensis</i>	T	1	405900	6456051	
<i>Tetraria australiensis</i>	T	1	405899	6456052	
<i>Tetraria australiensis</i>	T	1	405899	6456051	
<i>Tetraria australiensis</i>	T	1	405899	6456051	
<i>Tetraria australiensis</i>	T	1	405899	6456050	
<i>Tetraria australiensis</i>	T	1	405900	6456048	
<i>Tetraria australiensis</i>	T	1	405900	6456048	
<i>Tetraria australiensis</i>	T	1	405899	6456047	
<i>Tetraria australiensis</i>	T	1	405898	6456047	
<i>Tetraria australiensis</i>	T	1	405898	6456047	
<i>Tetraria australiensis</i>	T	1	405899	6456046	
<i>Tetraria australiensis</i>	T	1	405899	6456045	
<i>Tetraria australiensis</i>	T	1	405897	6456046	
<i>Tetraria australiensis</i>	T	1	405898	6456045	
<i>Tetraria australiensis</i>	T	1	405899	6456045	
<i>Tetraria australiensis</i>	T	1	405900	6456044	
<i>Tetraria australiensis</i>	T	1	405900	6456043	
<i>Tetraria australiensis</i>	T	1	405900	6456042	
<i>Tetraria australiensis</i>	T	1	405903	6456043	
<i>Tetraria australiensis</i>	T	1	405905	6456044	
<i>Tetraria australiensis</i>	T	1	405905	6456045	
<i>Tetraria australiensis</i>	T	1	405907	6456044	
<i>Tetraria australiensis</i>	T	1	405906	6456044	
<i>Tetraria australiensis</i>	T	1	405907	6456041	
<i>Tetraria australiensis</i>	T	1	405907	6456040	
<i>Tetraria australiensis</i>	T	1	405899	6456036	
<i>Tetraria australiensis</i>	T	1	405898	6456037	
<i>Tetraria australiensis</i>	T	1	405899	6456038	
<i>Tetraria australiensis</i>	T	1	405882	6456010	
<i>Tetraria australiensis</i>	T	1	405882	6456010	

Taxo	Status	Count	Easting	Northing	Comments
<i>Tetraria australiensis</i>	T	1	405882	6456008	
<i>Tetraria australiensis</i>	T	1	405881	6456007	
<i>Tetraria australiensis</i>	T	1	405880	6456007	
<i>Tetraria australiensis</i>	T	1	405879	6456008	
<i>Tetraria australiensis</i>	T	1	405880	6456005	
<i>Tetraria australiensis</i>	T	1	405878	6456008	
<i>Tetraria australiensis</i>	T	1	405877	6456008	
<i>Tetraria australiensis</i>	T	1	405875	6456006	
<i>Tetraria australiensis</i>	T	1	405874	6455992	
<i>Tetraria australiensis</i>	T	1	405869	6455993	
<i>Tetraria australiensis</i>	T	1	405866	6455997	
<i>Tetraria australiensis</i>	T	1	405864	6455998	
<i>Tetraria australiensis</i>	T	1	405864	6455999	
<i>Tetraria australiensis</i>	T	1	405863	6455998	
<i>Tetraria australiensis</i>	T	1	405859	6455995	
<i>Tetraria australiensis</i>	T	1	405866	6456001	
<i>Tetraria australiensis</i>	T	1	405867	6456001	
<i>Tetraria australiensis</i>	T	1	405868	6456001	
<i>Tetraria australiensis</i>	T	1	405870	6456003	
<i>Tetraria australiensis</i>	T	1	405869	6456005	
<i>Tetraria australiensis</i>	T	1	405872	6456006	
<i>Tetraria australiensis</i>	T	1	405870	6456007	
<i>Tetraria australiensis</i>	T	1	405871	6456008	
<i>Tetraria australiensis</i>	T	1	405873	6456009	
<i>Tetraria australiensis</i>	T	1	405872	6456009	
<i>Tetraria australiensis</i>	T	1	405871	6456009	
<i>Tetraria australiensis</i>	T	1	405872	6456011	
<i>Tetraria australiensis</i>	T	1	405870	6456012	
<i>Tetraria australiensis</i>	T	1	405869	6456011	
<i>Tetraria australiensis</i>	T	1	405871	6456013	
<i>Tetraria australiensis</i>	T	1	405871	6456014	
<i>Tetraria australiensis</i>	T	1	405872	6456015	
<i>Tetraria australiensis</i>	T	1	405874	6456009	
<i>Tetraria australiensis</i>	T	1	405879	6456010	
<i>Tetraria australiensis</i>	T	1	405879	6456011	
<i>Tetraria australiensis</i>	T	1	405878	6456012	
<i>Tetraria australiensis</i>	T	1	405886	6456016	
<i>Tetraria australiensis</i>	T	1	405886	6456017	
<i>Tetraria australiensis</i>	T	1	405892	6456030	
<i>Tetraria australiensis</i>	T	1	405896	6456036	
<i>Tetraria australiensis</i>	T	1	405907	6456055	
<i>Tetraria australiensis</i>	T	1	405910	6456057	
<i>Tetraria australiensis</i>	T	1	405912	6456058	
<i>Tetraria australiensis</i>	T	1	405912	6456062	
<i>Tetraria australiensis</i>	T	1	405910	6456062	
<i>Tetraria australiensis</i>	T	1	405909	6456063	
<i>Tetraria australiensis</i>	T	1	405912	6456069	
<i>Tetraria australiensis</i>	T	1	405911	6456068	
<i>Tetraria australiensis</i>	T	1	405911	6456066	
<i>Tetraria australiensis</i>	T	1	405905	6456067	
<i>Tetraria australiensis</i>	T	1	405905	6456066	
<i>Tetraria australiensis</i>	T	1	405906	6456066	
<i>Tetraria australiensis</i>	T	1	405906	6456059	

Taxo	Status	Count	Easting	Northing	Comments
<i>Tetraria australiensis</i>	T	1	405904	6456055	
<i>Tetraria australiensis</i>	T	1	405904	6456053	
<i>Tetraria australiensis</i>	T	1	405905	6456055	
<i>Tetraria australiensis</i>	T	1	405901	6456057	
<i>Tetraria australiensis</i>	T	1	405897	6456053	
<i>Tetraria australiensis</i>	T	1	405897	6456052	
<i>Tetraria australiensis</i>	T	1	405895	6456050	
<i>Tetraria australiensis</i>	T	1	405895	6456049	
<i>Tetraria australiensis</i>	T	1	405895	6456049	
<i>Tetraria australiensis</i>	T	1	405892	6456048	
<i>Tetraria australiensis</i>	T	1	405891	6456048	
<i>Tetraria australiensis</i>	T	1	405892	6456047	
<i>Tetraria australiensis</i>	T	1	405892	6456047	
<i>Tetraria australiensis</i>	T	1	405892	6456046	
<i>Tetraria australiensis</i>	T	1	405893	6456046	
<i>Tetraria australiensis</i>	T	1	405893	6456046	
<i>Tetraria australiensis</i>	T	1	405893	6456045	
<i>Tetraria australiensis</i>	T	1	405894	6456045	
<i>Tetraria australiensis</i>	T	1	405894	6456044	
<i>Tetraria australiensis</i>	T	1	405894	6456043	
<i>Tetraria australiensis</i>	T	1	405896	6456044	
<i>Tetraria australiensis</i>	T	1	405896	6456040	
<i>Tetraria australiensis</i>	T	1	405889	6456034	
<i>Tetraria australiensis</i>	T	1	405890	6456034	
<i>Tetraria australiensis</i>	T	1	405891	6456033	
<i>Tetraria australiensis</i>	T	1	405886	6456033	
<i>Tetraria australiensis</i>	T	1	405891	6456030	
<i>Tetraria australiensis</i>	T	1	405889	6456030	
<i>Tetraria australiensis</i>	T	1	405885	6456028	
<i>Tetraria australiensis</i>	T	1	405882	6456026	
<i>Tetraria australiensis</i>	T	1	405883	6456025	
<i>Tetraria australiensis</i>	T	1	405878	6456018	
<i>Tetraria australiensis</i>	T	1	405879	6456017	
<i>Tetraria australiensis</i>	T	1	405878	6456018	
<i>Tetraria australiensis</i>	T	1	405879	6456014	
<i>Tetraria australiensis</i>	T	1	405876	6456015	
<i>Tetraria australiensis</i>	T	1	405876	6456013	
<i>Tetraria australiensis</i>	T	1	405878	6456011	
<i>Tetraria australiensis</i>	T	1	405874	6456013	
<i>Tetraria australiensis</i>	T	1	405875	6456012	
<i>Tetraria australiensis</i>	T	1	405873	6456012	
<i>Tetraria australiensis</i>	T	1	405872	6456011	
<i>Tetraria australiensis</i>	T	1	405870	6456009	
<i>Tetraria australiensis</i>	T	1	405868	6456010	
<i>Tetraria australiensis</i>	T	1	405862	6456013	
<i>Tetraria australiensis</i>	T	1	405863	6456013	
<i>Tetraria australiensis</i>	T	1	405864	6456012	
<i>Tetraria australiensis</i>	T	1	405863	6456013	
<i>Tetraria australiensis</i>	T	1	405863	6456014	
<i>Tetraria australiensis</i>	T	1	405861	6456014	
<i>Tetraria australiensis</i>	T	1	405861	6456014	
<i>Tetraria australiensis</i>	T	1	405862	6456015	
<i>Tetraria australiensis</i>	T	1	405863	6456015	

Taxo	Status	Count	Easting	Northing	Comments
<i>Tetraria australiensis</i>	T	1	405863	6456015	
<i>Tetraria australiensis</i>	T	1	405863	6456016	
<i>Tetraria australiensis</i>	T	1	405865	6456014	
<i>Tetraria australiensis</i>	T	1	405866	6456014	
<i>Tetraria australiensis</i>	T	1	405866	6456013	
<i>Tetraria australiensis</i>	T	1	405866	6456015	
<i>Tetraria australiensis</i>	T	1	405864	6456016	
<i>Tetraria australiensis</i>	T	1	405868	6456018	
<i>Tetraria australiensis</i>	T	1	405868	6456018	
<i>Tetraria australiensis</i>	T	1	405869	6456019	
<i>Tetraria australiensis</i>	T	1	405871	6456021	
<i>Tetraria australiensis</i>	T	1	405872	6456021	
<i>Tetraria australiensis</i>	T	1	405875	6456023	
<i>Tetraria australiensis</i>	T	1	405877	6456025	
<i>Tetraria australiensis</i>	T	1	405880	6456027	
<i>Tetraria australiensis</i>	T	1	405880	6456029	
<i>Tetraria australiensis</i>	T	1	405877	6456031	
<i>Tetraria australiensis</i>	T	1	405879	6456029	
<i>Tetraria australiensis</i>	T	1	405878	6456031	
<i>Tetraria australiensis</i>	T	1	405878	6456031	
<i>Tetraria australiensis</i>	T	1	405877	6456033	
<i>Tetraria australiensis</i>	T	1	405878	6456034	
<i>Tetraria australiensis</i>	T	1	405877	6456034	
<i>Tetraria australiensis</i>	T	1	405875	6456033	
<i>Tetraria australiensis</i>	T	1	405875	6456034	
<i>Tetraria australiensis</i>	T	1	405874	6456033	
<i>Tetraria australiensis</i>	T	1	405875	6456032	
<i>Tetraria australiensis</i>	T	1	405874	6456031	
<i>Tetraria australiensis</i>	T	1	405875	6456031	
<i>Tetraria australiensis</i>	T	1	405876	6456031	
<i>Tetraria australiensis</i>	T	1	405878	6456033	
<i>Tetraria australiensis</i>	T	1	405880	6456034	
<i>Tetraria australiensis</i>	T	1	405880	6456033	
<i>Tetraria australiensis</i>	T	1	405879	6456033	
<i>Tetraria australiensis</i>	T	1	405881	6456035	
<i>Tetraria australiensis</i>	T	1	405882	6456033	
<i>Tetraria australiensis</i>	T	1	405883	6456037	
<i>Tetraria australiensis</i>	T	1	405884	6456036	
<i>Tetraria australiensis</i>	T	1	405885	6456037	
<i>Tetraria australiensis</i>	T	1	405884	6456036	
<i>Tetraria australiensis</i>	T	1	405885	6456035	
<i>Tetraria australiensis</i>	T	1	405885	6456037	
<i>Tetraria australiensis</i>	T	1	405886	6456037	
<i>Tetraria australiensis</i>	T	1	405885	6456037	
<i>Tetraria australiensis</i>	T	1	405890	6456040	
<i>Tetraria australiensis</i>	T	1	405893	6456054	
<i>Tetraria australiensis</i>	T	1	405895	6456057	
<i>Tetraria australiensis</i>	T	1	405893	6456056	
<i>Tetraria australiensis</i>	T	1	405901	6456059	
<i>Tetraria australiensis</i>	T	1	405901	6456060	
<i>Tetraria australiensis</i>	T	1	405901	6456061	
<i>Tetraria australiensis</i>	T	1	405904	6456062	
<i>Tetraria australiensis</i>	T	1	405907	6456064	

Taxo	Status	Count	Easting	Northing	Comments
<i>Tetraria australiensis</i>	T	1	405900	6456067	
<i>Tetraria australiensis</i>	T	1	405902	6456066	
<i>Tetraria australiensis</i>	T	1	405901	6456063	
<i>Tetraria australiensis</i>	T	1	405898	6456062	
<i>Tetraria australiensis</i>	T	1	405898	6456063	
<i>Tetraria australiensis</i>	T	1	405894	6456061	
<i>Tetraria australiensis</i>	T	1	405893	6456061	
<i>Tetraria australiensis</i>	T	1	405894	6456063	
<i>Tetraria australiensis</i>	T	1	405894	6456059	
<i>Tetraria australiensis</i>	T	1	405891	6456055	
<i>Tetraria australiensis</i>	T	1	405890	6456054	
<i>Tetraria australiensis</i>	T	1	405891	6456054	
<i>Tetraria australiensis</i>	T	1	405891	6456054	
<i>Tetraria australiensis</i>	T	1	405892	6456054	
<i>Tetraria australiensis</i>	T	1	405876	6456041	
<i>Tetraria australiensis</i>	T	1	405871	6456036	
<i>Tetraria australiensis</i>	T	1	405866	6456026	
<i>Tetraria australiensis</i>	T	1	405867	6456022	
<i>Tetraria australiensis</i>	T	1	405867	6456022	
<i>Tetraria australiensis</i>	T	1	405863	6456018	
<i>Tetraria australiensis</i>	T	1	405858	6456019	
<i>Tetraria australiensis</i>	T	1	405861	6456019	
<i>Tetraria australiensis</i>	T	1	405859	6456018	
<i>Tetraria australiensis</i>	T	1	405859	6456017	
<i>Tetraria australiensis</i>	T	1	405859	6456017	
<i>Tetraria australiensis</i>	T	1	405858	6456016	
<i>Tetraria australiensis</i>	T	1	405857	6456016	
<i>Tetraria australiensis</i>	T	1	405858	6456015	
<i>Tetraria australiensis</i>	T	1	405859	6456015	
<i>Tetraria australiensis</i>	T	1	405860	6456013	
<i>Tetraria australiensis</i>	T	1	405861	6456013	
<i>Tetraria australiensis</i>	T	1	405861	6456013	
<i>Tetraria australiensis</i>	T	1	405866	6456031	
<i>Tetraria australiensis</i>	T	1	405868	6456034	
<i>Tetraria australiensis</i>	T	1	405875	6456048	
<i>Tetraria australiensis</i>	T	1	405890	6456065	
<i>Tetraria australiensis</i>	T	1	405888	6456064	
<i>Tetraria australiensis</i>	T	1	405888	6456063	
<i>Tetraria australiensis</i>	T	1	405888	6456063	
<i>Tetraria australiensis</i>	T	1	405888	6456062	
<i>Tetraria australiensis</i>	T	1	405889	6456063	
<i>Tetraria australiensis</i>	T	1	405889	6456063	
<i>Tetraria australiensis</i>	T	1	405890	6456063	
<i>Tetraria australiensis</i>	T	1	405890	6456062	
<i>Tetraria australiensis</i>	T	1	405890	6456063	
<i>Tetraria australiensis</i>	T	1	405891	6456063	
<i>Tetraria australiensis</i>	T	1	405892	6456063	
<i>Tetraria australiensis</i>	T	1	405890	6456064	
<i>Tetraria australiensis</i>	T	1	405892	6456064	
<i>Tetraria australiensis</i>	T	1	405861	6456034	
<i>Tetraria australiensis</i>	T	10	405936	6455769	
<i>Tetraria australiensis</i>	T	5	405932	6455777	
<i>Tetraria australiensis</i>	T	3	405922	6455783	

Taxo	Status	Count	Easting	Northing	Comments
<i>Tetraria australiensis</i>	T	1	405917	6455785	On edge of fire break – has been mowed
<i>Tetraria australiensis</i>	T	2	405918	6455788	
<i>Tetraria australiensis</i>	T	1	405921	6455794	
<i>Tetraria australiensis</i>	T	1	405929	6455804	
<i>Tetraria australiensis</i>	T	1	405914	6455819	
<i>Tetraria australiensis</i>	T	1	405938	6455868	
<i>Tetraria australiensis</i>	T	1	405908	6455840	
<i>Tetraria australiensis</i>	T	1	405908	6455841	
<i>Tetraria australiensis</i>	T	1	405909	6455837	
<i>Tetraria australiensis</i>	T	1	405904	6455836	
<i>Tetraria australiensis</i>	T	1	405898	6455834	
<i>Tetraria australiensis</i>	T	1	405899	6455830	
<i>Tetraria australiensis</i>	T	1	405899	6455827	
<i>Tetraria australiensis</i>	T	1	405921	6455858	
<i>Tetraria australiensis</i>	T	1	405920	6455859	
<i>Tetraria australiensis</i>	T	1	405923	6455856	
<i>Tetraria australiensis</i>	T	1	405924	6455855	
<i>Tetraria australiensis</i>	T	2	405939	6455883	On edge of Development Envelope
<i>Tetraria australiensis</i>	T	1	405924	6455889	
<i>Tetraria australiensis</i>	T	1	405924	6455886	
<i>Tetraria australiensis</i>	T	1	405898	6455873	
<i>Tetraria australiensis</i>	T	1	405863	6455841	
<i>Tetraria australiensis</i>	T	2	405876	6455858	
<i>Tetraria australiensis</i>	T	1	405882	6455870	
<i>Tetraria australiensis</i>	T	1	405885	6455870	
<i>Tetraria australiensis</i>	T	1	405906	6455886	
<i>Tetraria australiensis</i>	T	1	405935	6455899	
<i>Tetraria australiensis</i>	T	1	405909	6455908	
<i>Tetraria australiensis</i>	T	1	405906	6455907	
<i>Tetraria australiensis</i>	T	1	405899	6455905	
<i>Tetraria australiensis</i>	T	2	405896	6455906	
<i>Tetraria australiensis</i>	T	4	405895	6455904	
<i>Tetraria australiensis</i>	T	1	405894	6455899	
<i>Tetraria australiensis</i>	T	1	405888	6455898	
<i>Tetraria australiensis</i>	T	1	405883	6455894	
<i>Tetraria australiensis</i>	T	1	405883	6455891	
<i>Tetraria australiensis</i>	T	2	405886	6455890	
<i>Tetraria australiensis</i>	T	2	405888	6455889	
<i>Tetraria australiensis</i>	T	3	405881	6455889	
<i>Tetraria australiensis</i>	T	3	405872	6455880	
<i>Tetraria australiensis</i>	T	2	405872	6455881	
<i>Tetraria australiensis</i>	T	1	405872	6455878	
<i>Tetraria australiensis</i>	T	1	405867	6455876	
<i>Tetraria australiensis</i>	T	1	405867	6455875	
<i>Tetraria australiensis</i>	T	1	405865	6455873	
<i>Tetraria australiensis</i>	T	2	405864	6455875	
<i>Tetraria australiensis</i>	T	1	405854	6455866	
<i>Tetraria australiensis</i>	T	3	405853	6455866	
<i>Tetraria australiensis</i>	T	1	405855	6455863	
<i>Tetraria australiensis</i>	T	1	405842	6455860	
<i>Tetraria australiensis</i>	T	3	405842	6455861	

Taxo	Status	Count	Easting	Northing	Comments
<i>Tetraria australiensis</i>	T	1	405848	6455860	
<i>Tetraria australiensis</i>	T	1	405847	6455864	
<i>Tetraria australiensis</i>	T	2	405852	6455867	
<i>Tetraria australiensis</i>	T	1	405859	6455875	
<i>Tetraria australiensis</i>	T	1	405861	6455875	
<i>Tetraria australiensis</i>	T	1	405861	6455877	
<i>Tetraria australiensis</i>	T	1	405868	6455883	
<i>Tetraria australiensis</i>	T	3	405869	6455884	
<i>Tetraria australiensis</i>	T	2	405870	6455887	
<i>Tetraria australiensis</i>	T	1	405872	6455886	
<i>Tetraria australiensis</i>	T	1	405872	6455888	
<i>Tetraria australiensis</i>	T	1	405877	6455890	
<i>Tetraria australiensis</i>	T	1	405885	6455899	
<i>Tetraria australiensis</i>	T	2	405890	6455901	
<i>Tetraria australiensis</i>	T	1	405893	6455908	
<i>Tetraria australiensis</i>	T	1	405896	6455903	
<i>Tetraria australiensis</i>	T	1	405898	6455906	
<i>Tetraria australiensis</i>	T	3	405900	6455908	
<i>Tetraria australiensis</i>	T	1	405890	6455927	
<i>Tetraria australiensis</i>	T	1	405880	6455927	
<i>Tetraria australiensis</i>	T	1	405879	6455919	
<i>Tetraria australiensis</i>	T	2	405874	6455921	
<i>Tetraria australiensis</i>	T	2	405867	6455920	
<i>Tetraria australiensis</i>	T	1	405865	6455919	
<i>Tetraria australiensis</i>	T	3	405859	6455910	
<i>Tetraria australiensis</i>	T	1	405850	6455907	
<i>Tetraria australiensis</i>	T	1	405830	6455872	
<i>Tetraria australiensis</i>	T	3	405826	6455868	
<i>Tetraria australiensis</i>	T	1	405825	6455873	
<i>Tetraria australiensis</i>	T	3	405830	6455877	
<i>Tetraria australiensis</i>	T	1	405829	6455881	
<i>Tetraria australiensis</i>	T	3	405824	6455879	
<i>Tetraria australiensis</i>	T	2	405841	6455903	
<i>Tetraria australiensis</i>	T	1	405865	6455924	
<i>Tetraria australiensis</i>	T	1	405866	6455925	
<i>Tetraria australiensis</i>	T	3	405869	6455926	
<i>Tetraria australiensis</i>	T	1	405872	6455928	
<i>Tetraria australiensis</i>	T	1	405875	6455928	
<i>Tetraria australiensis</i>	T	1	405806	6455889	
<i>Tetraria australiensis</i>	T	1	405804	6455888	
<i>Tetraria australiensis</i>	T	1	405865	6455947	
<i>Tetraria australiensis</i>	T	1	405867	6455948	
<i>Tetraria australiensis</i>	T	2	405860	6456003	
<i>Tetraria australiensis</i>	T	1	405858	6456004	
<i>Tetraria australiensis</i>	T	1	405856	6456005	
<i>Tetraria australiensis</i>	T	1	405855	6456005	
<i>Tetraria australiensis</i>	T	1	405842	6455995	
<i>Tetraria australiensis</i>	T	2	405840	6455992	
<i>Tetraria australiensis</i>	T	1	405840	6455988	
<i>Tetraria australiensis</i>	T	1	405836	6455986	
<i>Tetraria australiensis</i>	T	1	405808	6455959	
<i>Tetraria australiensis</i>	T	1	405792	6455954	
<i>Tetraria australiensis</i>	T	1	405796	6455958	

Taxo	Status	Count	Easting	Northing	Comments
<i>Tetraria australiensis</i>	T	1	405808	6455965	
<i>Tetraria australiensis</i>	T	1	405815	6455977	
<i>Tetraria australiensis</i>	T	1	405816	6455978	
<i>Tetraria australiensis</i>	T	1	405819	6455981	
<i>Tetraria australiensis</i>	T	1	405819	6455983	
<i>Tetraria australiensis</i>	T	1	405820	6455985	
<i>Tetraria australiensis</i>	T	2	405822	6455986	
<i>Tetraria australiensis</i>	T	2	405832	6455989	
<i>Tetraria australiensis</i>	T	1	405835	6455989	
<i>Tetraria australiensis</i>	T	1	405832	6455991	
<i>Tetraria australiensis</i>	T	1	405833	6455991	
<i>Tetraria australiensis</i>	T	3	405837	6455995	
<i>Tetraria australiensis</i>	T	1	405837	6455999	
<i>Tetraria australiensis</i>	T	2	405839	6456000	
<i>Tetraria australiensis</i>	T	3	405843	6456002	
<i>Tetraria australiensis</i>	T	1	405849	6456006	
<i>Tetraria australiensis</i>	T	2	405852	6456006	
<i>Tetraria australiensis</i>	T	3	405853	6456011	
<i>Tetraria australiensis</i>	T	1	405833	6456011	
<i>Tetraria australiensis</i>	T	1	405922	6455782	
<i>Tetraria australiensis</i>	T	2	405914	6455790	
<i>Tetraria australiensis</i>	T	2	405914	6455795	
<i>Tetraria australiensis</i>	T	2	405913	6455799	
<i>Tetraria australiensis</i>	T	3	405917	6455804	
<i>Tetraria australiensis</i>	T	1	405924	6455806	
<i>Tetraria australiensis</i>	T	2	405926	6455805	
<i>Tetraria australiensis</i>	T	2	405921	6455806	
<i>Tetraria australiensis</i>	T	3	405917	6455809	
<i>Tetraria australiensis</i>	T	1	405913	6455803	
<i>Tetraria australiensis</i>	T	3	405911	6455795	
<i>Tetraria australiensis</i>	T	3	405909	6455819	
<i>Tetraria australiensis</i>	T	2	405913	6455818	
<i>Tetraria australiensis</i>	T	1	405918	6455827	
<i>Tetraria australiensis</i>	T	2	405922	6455828	
<i>Tetraria australiensis</i>	T	1	405923	6455840	
<i>Tetraria australiensis</i>	T	3	405889	6455838	
<i>Tetraria australiensis</i>	T	1	405927	6455882	
<i>Tetraria australiensis</i>	T	1	405869	6455857	
<i>Tetraria australiensis</i>	T	1	405875	6455859	
<i>Tetraria australiensis</i>	T	1	405881	6455867	
<i>Tetraria australiensis</i>	T	3	405882	6455871	
<i>Tetraria australiensis</i>	T	2	405903	6455893	
<i>Tetraria australiensis</i>	T	2	405936	6455902	
<i>Tetraria australiensis</i>	T	1	405925	6455906	
<i>Tetraria australiensis</i>	T	1	405915	6455903	
<i>Tetraria australiensis</i>	T	2	405896	6455897	
<i>Tetraria australiensis</i>	T	3	405894	6455897	
<i>Tetraria australiensis</i>	T	6	405887	6455893	
<i>Tetraria australiensis</i>	T	4	405887	6455885	
<i>Tetraria australiensis</i>	T	2	405881	6455884	
<i>Tetraria australiensis</i>	T	4	405875	6455874	
<i>Tetraria australiensis</i>	T	1	405871	6455872	
<i>Tetraria australiensis</i>	T	2	405868	6455866	

Taxo	Status	Count	Easting	Northing	Comments
<i>Tetraria australiensis</i>	T	1	405858	6455861	
<i>Tetraria australiensis</i>	T	4	405853	6455854	
<i>Tetraria australiensis</i>	T	3	405850	6455852	
<i>Tetraria australiensis</i>	T	4	405849	6455848	
<i>Tetraria australiensis</i>	T	2	405840	6455864	
<i>Tetraria australiensis</i>	T	1	405844	6455868	
<i>Tetraria australiensis</i>	T	1	405851	6455873	
<i>Tetraria australiensis</i>	T	3	405854	6455876	
<i>Tetraria australiensis</i>	T	1	405858	6455883	
<i>Tetraria australiensis</i>	T	3	405866	6455890	
<i>Tetraria australiensis</i>	T	2	405870	6455897	
<i>Tetraria australiensis</i>	T	1	405880	6455903	
<i>Tetraria australiensis</i>	T	2	405907	6455920	
<i>Tetraria australiensis</i>	T	2	405910	6455925	
<i>Tetraria australiensis</i>	T	1	405906	6455929	
<i>Tetraria australiensis</i>	T	1	405862	6455911	
<i>Tetraria australiensis</i>	T	3	405860	6455912	
<i>Tetraria australiensis</i>	T	2	405840	6455874	
<i>Tetraria australiensis</i>	T	2	405833	6455867	
<i>Tetraria australiensis</i>	T	3	405823	6455878	
<i>Tetraria australiensis</i>	T	3	405816	6455885	
<i>Tetraria australiensis</i>	T	1	405873	6456007	
<i>Tetraria australiensis</i>	T	1	405854	6455995	
<i>Tetraria australiensis</i>	T	2	405841	6455986	
<i>Tetraria australiensis</i>	T	1	405835	6455973	
<i>Tetraria australiensis</i>	T	1	405790	6455959	
<i>Tetraria australiensis</i>	T	2	405806	6455969	
<i>Tetraria australiensis</i>	T	1	405806	6455982	
<i>Tetraria australiensis</i>	T	2	405811	6455978	
<i>Tetraria australiensis</i>	T	2	405816	6455987	
<i>Tetraria australiensis</i>	T	3	405820	6455994	
<i>Tetraria australiensis</i>	T	5	405828	6455993	
<i>Tetraria australiensis</i>	T	7	405845	6456010	
<i>Tetraria australiensis</i>	T	1	405832	6456006	
<i>Tetraria australiensis</i>	T	2	405811	6455989	
<i>Tetraria australiensis</i>	T	1	405888	6455942	
<i>Tetraria australiensis</i>	T	1	405918	6455900	ID confirmed
<i>Tetraria australiensis</i>	T	1	405941	6455866	ID confirmed
<i>Tetraria australiensis</i>	T	1	405873	6455924	ID confirmed
<i>Tetraria australiensis</i>	T	3	405805	6455976	ID confirmed
<i>Tetraria australiensis</i>	T	2	405825	6455865	ID confirmed
<i>Tetraria australiensis</i>	T	1	405965	6455951	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	405332	6459088	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405387	6458662	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405310	6459148	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	405087	6459217	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	405088	6459208	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405118	6459196	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405129	6459191	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405132	6459199	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405133	6459200	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405120	6459198	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405111	6459194	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405101	6459196	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405091	6459191	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405080	6459218	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404946	6459240	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404946	6459245	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404953	6459244	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404970	6459248	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405007	6459253	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405017	6459250	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405023	6459267	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	8	405038	6459260	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	6	405043	6459257	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405046	6459247	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405051	6459249	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405054	6459247	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	405058	6459247	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405059	6459249	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	6	405065	6459252	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405068	6459257	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405071	6459254	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405075	6459254	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405077	6459253	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405083	6459256	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	404929	6459256	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404922	6459252	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404942	6459223	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404943	6459227	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404951	6459234	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404953	6459235	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404952	6459239	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404857	6459306	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404851	6459303	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404835	6459297	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	6	404827	6459295	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	8	404823	6459293	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	12	404820	6459298	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	7	404815	6459298	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	11	404809	6459300	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404797	6459308	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404809	6459309	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	404783	6459299	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404693	6459292	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404750	6459337	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404754	6459336	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404754	6459340	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404751	6459343	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	405051	6459264	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	7	405050	6459258	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	405053	6459256	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	405058	6459260	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405057	6459258	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	405060	6459268	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	405060	6459262	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	405063	6459264	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405067	6459265	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404919	6459245	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404914	6459248	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404767	6459237	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404775	6459319	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404690	6459312	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404745	6459326	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404745	6459323	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404751	6459311	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	404753	6459309	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404757	6459313	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404754	6459304	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404767	6459349	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404763	6459353	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405248	6458767	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405736	6456640	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405294	6458794	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405294	6458796	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405270	6458772	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405270	6458772	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405250	6458768	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405267	6458778	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405280	6458786	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405250	6458799	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405250	6458798	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405257	6458798	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405257	6458798	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405284	6458804	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405272	6458812	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405270	6458811	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405272	6458812	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405256	6458820	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405266	6458821	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405149	6459201	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405108	6459250	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405108	6459249	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405107	6459250	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405104	6459249	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405109	6459252	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405103	6459244	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405105	6459239	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405102	6459242	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405101	6459240	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405100	6459241	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405099	6459243	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405098	6459240	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405101	6459243	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405099	6459244	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405100	6459245	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405101	6459247	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405100	6459247	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405101	6459248	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405096	6459241	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405097	6459243	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405095	6459243	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405095	6459246	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405095	6459247	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405096	6459248	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405097	6459250	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405097	6459251	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405093	6459249	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405092	6459249	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405093	6459248	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405093	6459247	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405089	6459247	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405087	6459248	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405088	6459248	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405089	6459252	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405090	6459251	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405090	6459254	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405089	6459255	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405093	6459254	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405092	6459251	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405093	6459249	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405094	6459249	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405086	6459266	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405085	6459267	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405081	6459268	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405076	6459270	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405076	6459276	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405126	6459247	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405237	6459247	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405239	6459246	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405240	6459245	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405242	6459232	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405243	6459230	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405242	6459230	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405241	6459229	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405243	6459228	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405243	6459229	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405243	6459229	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405243	6459230	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405238	6459237	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405240	6459237	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405242	6459236	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405249	6459227	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405248	6459225	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405247	6459224	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405248	6459223	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405247	6459223	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405248	6459223	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405248	6459223	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405248	6459223	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405245	6459227	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405242	6459223	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405248	6459220	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405249	6459221	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405248	6459222	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405249	6459222	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405249	6459223	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405249	6459221	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405250	6459222	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405250	6459221	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405250	6459221	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405250	6459221	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405250	6459222	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405251	6459223	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405251	6459223	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405250	6459224	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405250	6459224	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405250	6459225	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405249	6459224	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405251	6459222	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405252	6459222	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405252	6459219	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405251	6459219	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405253	6459218	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405254	6459212	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405250	6459208	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405251	6459207	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405253	6459207	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405256	6459209	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405257	6459209	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405259	6459209	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405255	6459207	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405253	6459205	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405252	6459202	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405253	6459201	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405298	6459125	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405311	6459088	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405312	6459086	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405331	6458999	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405338	6458990	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405341	6458985	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405338	6458969	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405340	6458963	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405339	6458959	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405341	6458954	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405365	6458811	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405367	6458708	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405373	6458705	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405369	6458721	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405368	6458723	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405367	6458724	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405367	6458723	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405378	6458729	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405383	6458734	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405382	6458734	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405383	6458736	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405390	6458735	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405387	6458736	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405390	6458738	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405391	6458739	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405386	6458753	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405390	6458754	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405388	6458801	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405383	6458804	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405395	6458811	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405382	6458812	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405378	6458815	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405366	6458854	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405363	6458884	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405331	6459036	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405325	6459072	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405315	6459085	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405323	6459097	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405322	6459098	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405270	6459190	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405269	6459191	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405269	6459192	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405269	6459193	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405269	6459193	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405271	6459193	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405270	6459194	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405210	6459318	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405180	6459356	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405183	6459355	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405253	6458799	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405230	6458796	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405248	6458839	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405226	6458884	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405182	6458879	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405103	6458906	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405136	6458942	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405147	6458937	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405151	6458936	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405122	6458959	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405081	6458993	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404986	6459052	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404986	6459050	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405005	6459051	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405037	6459052	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405140	6459074	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405138	6459074	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405117	6459073	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405079	6459068	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405075	6459067	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405064	6459070	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405065	6459072	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405043	6459075	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404970	6459064	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405121	6459088	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405122	6459091	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405149	6459091	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405149	6459088	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405156	6459090	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405193	6459089	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405202	6459088	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	405162	6459193	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405086	6459189	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405061	6459187	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405065	6459213	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405130	6459209	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404813	6459226	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404881	6459247	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404894	6459246	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404917	6459246	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404920	6459248	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404926	6459252	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404930	6459254	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405059	6459269	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	405052	6459270	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405042	6459268	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404918	6459270	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	11	404897	6459272	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	404896	6459268	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404889	6459270	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404883	6459271	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404715	6459290	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	8	404781	6459292	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404805	6459292	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404812	6459291	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	13	404816	6459296	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	7	404823	6459298	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	10	404824	6459294	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	10	404830	6459297	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	404860	6459312	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	404837	6459311	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404816	6459309	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	8	404812	6459309	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404810	6459311	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404757	6459309	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404759	6459311	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404756	6459315	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	404752	6459313	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404751	6459313	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	404744	6459310	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404742	6459314	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404724	6459310	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404716	6459309	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404715	6459309	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404709	6459308	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404706	6459308	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404701	6459306	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404695	6459314	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404756	6459335	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404763	6459333	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	404767	6459331	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404780	6459329	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404793	6459325	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404763	6459351	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	404760	6459352	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	404751	6459354	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404725	6459350	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	7	404711	6459359	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	6	404706	6459360	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	404704	6459363	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404713	6459367	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405245	6458772	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405207	6458811	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405258	6458820	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405237	6458848	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405248	6458849	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405256	6458873	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405249	6458873	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	405188	6458874	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405212	6458886	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405101	6458909	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405151	6458929	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	405158	6458926	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405191	6458927	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405128	6459026	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405133	6459028	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405030	6459060	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	405071	6459061	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405076	6459060	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405079	6459063	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405081	6459061	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405085	6459063	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405147	6459060	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405210	6459082	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405160	6459080	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405156	6459082	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405129	6459081	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	405088	6459081	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404901	6459180	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404902	6459181	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404909	6459181	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404753	6459264	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404907	6459255	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404915	6459258	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404923	6459256	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404917	6459277	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404841	6459277	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	404745	6459305	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404754	6459302	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404757	6459301	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404780	6459296	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	7	404782	6459295	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	8	404782	6459296	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	8	404811	6459302	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404808	6459301	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	404811	6459300	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	404813	6459304	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404813	6459305	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	404814	6459301	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404828	6459301	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	7	404834	6459301	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404837	6459303	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404838	6459298	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404797	6459325	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404793	6459324	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404791	6459329	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	404759	6459330	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404756	6459330	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	404728	6459316	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404722	6459318	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404719	6459319	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404714	6459318	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404714	6459333	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404748	6459341	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	404753	6459342	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404755	6459342	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404760	6459342	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404766	6459340	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	404771	6459337	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404772	6459345	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404762	6459358	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	404759	6459358	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405286	6459421	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405261	6459419	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405316	6459335	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405297	6459304	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405263	6459303	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405323	6459117	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405336	6459114	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405344	6459034	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405422	6459004	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	405416	6458786	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405535	6458765	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405466	6458762	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405416	6458743	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405470	6458729	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405465	6458726	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405460	6458725	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	405441	6458725	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405414	6458728	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405424	6458705	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405429	6458705	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405465	6458687	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405440	6458686	ID confirmed

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405559	6458661	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405272	6459437	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405266	6459430	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	5	405281	6459407	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405295	6459408	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405309	6459413	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405303	6459395	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405298	6459390	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405284	6459396	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405340	6459350	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405192	6459345	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405212	6459320	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405287	6459187	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405392	6459188	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	3	405324	6459146	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405374	6459149	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	405330	6459106	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405346	6459091	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405324	6459098	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405433	6459019	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405436	6458799	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405424	6458790	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405417	6458793	ID confirmed
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	4	405423	6458755	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405415	6458756	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	6	405498	6458713	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	1	405486	6458714	

Taxo	Status	Count	Easting	Northing	Comments
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405433	6458695	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	6	405494	6458677	
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	2	405455	6458677	

Table 2: Introduced Flora

Note: All locations are in datum GDA94, Zone 50.

Weeds of National Significance (WoNS) and Declared Pests are highlighted in yellow.

Taxon	Easting	Northing	Count
<i>Acacia iteaphylla</i>	405196	6457841	
<i>Acacia longifolia</i>	405182	6458123	
<i>Acacia longifolia</i>	405072	6459234	
<i>Acacia longifolia</i>	404942	6459132	
<i>Acacia longifolia</i>	405955	6456178	
<i>Acacia podalyriifolia</i>	405273	6458409	
<i>Acacia podalyriifolia</i>	405647	6458444	
<i>Acacia podalyriifolia</i>	405328	6458366	
<i>Acacia podalyriifolia</i>	406544	6455197	
<i>Aira cupaniana</i>	405249	6459450	
<i>Arctotheca calendula</i>	405629	6459682	
<i>Arctotheca calendula</i>	405598	6458758	
<i>Arctotheca calendula</i>	405686	6458494	
<i>Arctotheca calendula</i>	405719	6455965	
<i>Arundo donax</i>	404776	6459635	
<i>Arundo donax</i>	404776	6459635	
<i>Asparagus asparagoides</i>	405677	6456921	1
<i>Asparagus asparagoides</i>	405288	6458877	1
<i>Asparagus asparagoides</i>	404957	6459493	1
<i>Asparagus asparagoides</i>	405093	6459339	1
<i>Asparagus asparagoides</i>	405130	6459287	1
<i>Asparagus asparagoides</i>	405123	6459293	1
<i>Asparagus asparagoides</i>	405139	6459284	1
<i>Asparagus asparagoides</i>	405142	6459265	1
<i>Asparagus asparagoides</i>	405144	6459260	5
<i>Asparagus asparagoides</i>	405161	6459248	20
<i>Asparagus asparagoides</i>	405171	6459236	2
<i>Asparagus asparagoides</i>	405177	6459223	1
<i>Asparagus asparagoides</i>	405225	6459129	2
<i>Asparagus asparagoides</i>	405239	6459107	1
<i>Asparagus asparagoides</i>	405289	6458949	2
<i>Asparagus asparagoides</i>	405306	6458772	20
<i>Asparagus asparagoides</i>	405304	6458741	1
<i>Asparagus asparagoides</i>	405303	6458721	5
<i>Asparagus asparagoides</i>	405319	6458303	2
<i>Asparagus asparagoides</i>	405882	6455939	
<i>Asparagus asparagoides</i>	405882	6455939	1
<i>Asparagus asparagoides</i>	405283	6458939	5
<i>Asparagus asparagoides</i>	405294	6458887	5
<i>Asparagus asparagoides</i>	405300	6458877	2
<i>Asparagus asparagoides</i>	405300	6458764	3
<i>Asparagus asparagoides</i>	405292	6458720	2
<i>Asparagus asparagoides</i>	405092	6458010	5
<i>Asparagus asparagoides</i>	405273	6458409	
<i>Asparagus asparagoides</i>	405283	6458489	
<i>Asparagus asparagoides</i>	405252	6457680	
<i>Asparagus asparagoides</i>	405154	6457869	
<i>Asparagus asparagoides</i>	405417	6458900	

Taxon	Easting	Northing	Count
<i>Asparagus asparagoides</i>	405169	6459161	
<i>Asparagus asparagoides</i>	404483	6460005	5
<i>Asparagus asparagoides</i>	404391	6460108	3
<i>Asparagus asparagoides</i>	405744	6456787	2
<i>Asparagus asparagoides</i>	405736	6456795	10
<i>Asparagus asparagoides</i>	404430	6460051	
<i>Avena barbata</i>	405154	6457869	
<i>Avena barbata</i>	405283	6458489	
<i>Avena barbata</i>	406357	6455531	
<i>Avena barbata</i>	405239	6459081	
<i>Avena barbata</i>	405182	6458123	
<i>Avena barbata</i>	404452	6460344	
<i>Avena barbata</i>	405092	6458010	
<i>Avena barbata</i>	405719	6455965	
<i>Avena barbata</i>	405756	6456762	
<i>Avena barbata</i>	405558	6457172	
<i>Avena barbata</i>	405271	6457802	
<i>Avena barbata</i>	405262	6458067	
<i>Avena barbata</i>	405366	6458535	
<i>Avena barbata</i>	404374	6460122	
<i>Avena barbata</i>	404250	6460169	
<i>Avena barbata</i>	405128	6459290	
<i>Avena barbata</i>	405292	6458768	
<i>Brachypodium distachyon</i>	405366	6458535	
<i>Brachypodium distachyon</i>	405871	6456412	
<i>Briza maxima</i>	405719	6455965	
<i>Briza maxima</i>	405882	6455939	
<i>Briza maxima</i>	404745	6459684	
<i>Briza maxima</i>	405262	6458067	
<i>Briza maxima</i>	405937	6456264	
<i>Briza maxima</i>	405937	6455964	
<i>Briza maxima</i>	405813	6455917	
<i>Briza maxima</i>	405853	6456053	
<i>Briza maxima</i>	405444	6458788	
<i>Briza maxima</i>	404870	6459302	
<i>Briza maxima</i>	405417	6458900	
<i>Briza maxima</i>	405446	6458962	
<i>Briza maxima</i>	404942	6459132	
<i>Briza maxima</i>	405629	6459682	
<i>Briza maxima</i>	405037	6459603	
<i>Briza maxima</i>	405275	6458771	
<i>Briza maxima</i>	405033	6459654	
<i>Briza maxima</i>	405151	6459790	
<i>Briza maxima</i>	406057	6455836	
<i>Briza maxima</i>	405911	6455903	
<i>Briza maxima</i>	404910	6460822	
<i>Briza maxima</i>	405970	6455922	
<i>Briza maxima</i>	405054	6459484	
<i>Briza maxima</i>	405128	6457955	
<i>Briza maxima</i>	405009	6459534	
<i>Briza maxima</i>	405686	6458494	
<i>Briza maxima</i>	405770	6459345	
<i>Briza maxima</i>	405647	6458444	

Taxon	Easting	Northing	Count
<i>Briza maxima</i>	405273	6458409	
<i>Briza maxima</i>	405154	6457869	
<i>Briza maxima</i>	405095	6459458	
<i>Briza maxima</i>	405190	6459321	
<i>Briza maxima</i>	405724	6456651	
<i>Briza maxima</i>	404430	6460051	
<i>Bromus diandrus</i>	405800	6456447	
<i>Bromus diandrus</i>	405092	6458010	
<i>Bromus diandrus</i>	404452	6460344	
<i>Bromus diandrus</i>	405262	6458067	
<i>Bromus diandrus</i>	405271	6457802	
<i>Bromus diandrus</i>	405558	6457172	
<i>Bromus diandrus</i>	405787	6456683	
<i>Bromus diandrus</i>	405719	6455965	
<i>Bromus diandrus</i>	404250	6460169	
<i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i>	404452	6460344	
<i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i>	405196	6457841	
<i>Cenchrus clandestinus</i>	405319	6458303	
<i>Cenchrus clandestinus</i>	405328	6458366	
<i>Cenchrus clandestinus</i>	404776	6459635	
<i>Chamaecytisus palmensis</i>	405719	6455965	
<i>Chamaecytisus palmensis</i>	405217	6458326	
<i>Cortaderia selleana</i>	405906	6455946	1
<i>Cucumis myriocarpus</i>	405820	6455872	
<i>Disa bracteata</i>	405825	6455908	
<i>Echium plantagineum</i>	405092	6458010	
<i>Echium plantagineum</i>	405917	6455978	10
<i>Echium plantagineum</i>	405945	6456043	5
<i>Echium plantagineum</i>	405820	6455872	6
<i>Echium plantagineum</i>	405813	6455917	
<i>Echium plantagineum</i>	405813	6455917	10
<i>Echium plantagineum</i>	406569	6455102	5
<i>Echium plantagineum</i>	406085	6455991	3
<i>Echium plantagineum</i>	406056	6456016	2
<i>Ehrharta calycina</i>	405719	6455965	
<i>Ehrharta calycina</i>	405787	6456683	
<i>Ehrharta calycina</i>	405756	6456762	
<i>Ehrharta calycina</i>	405558	6457172	
<i>Ehrharta calycina</i>	405871	6456412	
<i>Ehrharta calycina</i>	405882	6455939	
<i>Ehrharta calycina</i>	405328	6458366	
<i>Ehrharta calycina</i>	404745	6459684	
<i>Ehrharta calycina</i>	405366	6458535	
<i>Ehrharta calycina</i>	405271	6457802	
<i>Ehrharta calycina</i>	405262	6458067	
<i>Ehrharta calycina</i>	405937	6456264	
<i>Ehrharta calycina</i>	405319	6458303	
<i>Ehrharta calycina</i>	405092	6458010	
<i>Ehrharta calycina</i>	404452	6460344	
<i>Ehrharta calycina</i>	405009	6459534	
<i>Ehrharta calycina</i>	405128	6457955	
<i>Ehrharta calycina</i>	405182	6458123	
<i>Ehrharta calycina</i>	405647	6458444	

Taxon	Easting	Northing	Count
<i>Ehrharta calycina</i>	405390	6458768	
<i>Ehrharta calycina</i>	405387	6458662	
<i>Ehrharta calycina</i>	405724	6456651	
<i>Ehrharta calycina</i>	405190	6459321	
<i>Ehrharta calycina</i>	405800	6456447	
<i>Ehrharta calycina</i>	405154	6457869	
<i>Ehrharta calycina</i>	405095	6459458	
<i>Ehrharta calycina</i>	405196	6457841	
<i>Ehrharta calycina</i>	405273	6458409	
<i>Ehrharta calycina</i>	405380	6458712	
<i>Ehrharta calycina</i>	405283	6458489	
<i>Ehrharta calycina</i>	405291	6458565	
<i>Ehrharta calycina</i>	406357	6455531	
<i>Ehrharta calycina</i>	405275	6458771	
<i>Ehrharta calycina</i>	405033	6459654	
<i>Ehrharta calycina</i>	405037	6459603	
<i>Ehrharta calycina</i>	405825	6455908	
<i>Ehrharta calycina</i>	405970	6455922	
<i>Ehrharta calycina</i>	405169	6459161	
<i>Ehrharta calycina</i>	404942	6459132	
<i>Ehrharta calycina</i>	405417	6458900	
<i>Ehrharta calycina</i>	404870	6459302	
<i>Ehrharta calycina</i>	405444	6458788	
<i>Ehrharta calycina</i>	405128	6459290	
<i>Ehrharta calycina</i>	404935	6459505	
<i>Ehrharta calycina</i>	405292	6458768	
<i>Ehrharta calycina</i>	404776	6459635	
<i>Ehrharta calycina</i>	404250	6460169	
<i>Ehrharta calycina</i>	404374	6460122	
<i>Ehrharta calycina</i>	404430	6460051	
<i>Ehrharta calycina</i>	405955	6456178	
<i>Ehrharta longiflora</i>	405283	6458489	
<i>Ehrharta longiflora</i>	405196	6457841	
<i>Ehrharta longiflora</i>	405154	6457869	
<i>Ehrharta longiflora</i>	405719	6455965	
<i>Ehrharta longiflora</i>	405128	6459290	
<i>Eragrostis curvula</i>	405719	6455965	
<i>Eragrostis curvula</i>	405871	6456412	
<i>Eragrostis curvula</i>	405756	6456762	
<i>Eragrostis curvula</i>	405787	6456683	
<i>Eragrostis curvula</i>	405937	6456264	
<i>Eragrostis curvula</i>	405262	6458067	
<i>Eragrostis curvula</i>	405366	6458535	
<i>Eragrostis curvula</i>	405328	6458366	
<i>Eragrostis curvula</i>	405922	6455958	
<i>Eragrostis curvula</i>	405800	6456447	
<i>Eragrostis curvula</i>	405267	6459189	
<i>Eragrostis curvula</i>	405724	6456651	
<i>Eragrostis curvula</i>	405357	6458893	
<i>Eragrostis curvula</i>	406357	6455531	
<i>Eragrostis curvula</i>	405895	6456117	
<i>Eragrostis curvula</i>	405239	6459081	
<i>Eragrostis curvula</i>	405336	6459007	

Taxon	Easting	Northing	Count
<i>Eragrostis curvula</i>	405387	6458662	
<i>Eragrostis curvula</i>	405647	6458444	
<i>Eragrostis curvula</i>	405182	6458123	
<i>Eragrostis curvula</i>	404452	6460344	
<i>Eragrostis curvula</i>	404374	6460122	
<i>Eragrostis curvula</i>	405955	6456178	
<i>Eragrostis curvula</i>	404282	6460240	
<i>Erodium botrys</i>	405917	6455978	
<i>Erythrina x sykesii</i>	404669	6459727	
<i>Eucalyptus ?resinifera</i>	404452	6460344	
<i>Euphorbia terracina</i>	405092	6458010	
<i>Euphorbia terracina</i>	404452	6460344	
<i>Euphorbia terracina</i>	405800	6456447	
<i>Euphorbia terracina</i>	405719	6455965	
<i>Euphorbia terracina</i>	405319	6458303	
<i>Euphorbia terracina</i>	404282	6460240	
<i>Fumaria capreolata</i>	405319	6458303	
<i>Fumaria capreolata</i>	405328	6458366	
<i>Fumaria capreolata</i>	405719	6455965	
<i>Fumaria capreolata</i>	405283	6458489	
<i>Fumaria capreolata</i>	404452	6460344	
<i>Gladiolus caryophyllaceus</i>	405009	6459534	
<i>Gladiolus caryophyllaceus</i>	405647	6458444	
<i>Gladiolus caryophyllaceus</i>	405598	6458758	
<i>Gladiolus caryophyllaceus</i>	405387	6458662	
<i>Gladiolus caryophyllaceus</i>	405770	6459345	
<i>Gladiolus caryophyllaceus</i>	405380	6458712	
<i>Gladiolus caryophyllaceus</i>	405357	6458893	
<i>Gladiolus caryophyllaceus</i>	405384	6458812	
<i>Gladiolus caryophyllaceus</i>	405336	6459007	
<i>Gladiolus caryophyllaceus</i>	405369	6458941	
<i>Gladiolus caryophyllaceus</i>	405199	6459331	
<i>Gladiolus caryophyllaceus</i>	405190	6459321	
<i>Gladiolus caryophyllaceus</i>	405126	6459422	
<i>Gladiolus caryophyllaceus</i>	405095	6459458	
<i>Gladiolus caryophyllaceus</i>	405444	6458788	
<i>Gladiolus caryophyllaceus</i>	404870	6459302	
<i>Gladiolus caryophyllaceus</i>	405417	6458900	
<i>Gladiolus caryophyllaceus</i>	404942	6459132	
<i>Gladiolus caryophyllaceus</i>	405369	6458965	
<i>Gladiolus caryophyllaceus</i>	405446	6458962	
<i>Gladiolus caryophyllaceus</i>	405372	6459143	
<i>Gladiolus caryophyllaceus</i>	405072	6459234	
<i>Gladiolus caryophyllaceus</i>	405181	6459057	
<i>Gladiolus caryophyllaceus</i>	404974	6459414	
<i>Gladiolus caryophyllaceus</i>	405268	6459331	
<i>Gladiolus caryophyllaceus</i>	405310	6459148	
<i>Gladiolus caryophyllaceus</i>	405970	6455922	
<i>Gladiolus caryophyllaceus</i>	404910	6460822	
<i>Gladiolus caryophyllaceus</i>	405911	6455903	
<i>Gladiolus caryophyllaceus</i>	405249	6459450	
<i>Gladiolus caryophyllaceus</i>	406057	6455836	
<i>Gladiolus caryophyllaceus</i>	405151	6459790	

Taxon	Easting	Northing	Count
<i>Gladiolus caryophyllaceus</i>	405825	6455908	
<i>Gladiolus caryophyllaceus</i>	405037	6459603	
<i>Gladiolus caryophyllaceus</i>	405629	6459682	
<i>Gladiolus caryophyllaceus</i>	405033	6459654	
<i>Gladiolus caryophyllaceus</i>	405234	6458970	
<i>Gladiolus caryophyllaceus</i>	405719	6455965	
<i>Gladiolus caryophyllaceus</i>	405882	6455939	
<i>Gladiolus caryophyllaceus</i>	405853	6456053	
<i>Gladiolus caryophyllaceus</i>	405937	6455964	
<i>Gladiolus caryophyllaceus</i>	406021	6455835	
<i>Gladiolus caryophyllaceus</i>	405949	6455780	
<i>Gomphocarpus fruticosus</i>	406543	6454832	1
<i>Hesperantha falcata</i>	405911	6455903	
<i>Hypochaeris glabra</i>	404910	6460822	
<i>Hypochaeris glabra</i>	405151	6459790	
<i>Hypochaeris glabra</i>	405249	6459450	
<i>Hypochaeris glabra</i>	406057	6455836	
<i>Hypochaeris glabra</i>	405033	6459654	
<i>Hypochaeris glabra</i>	405629	6459682	
<i>Hypochaeris glabra</i>	405970	6455922	
<i>Hypochaeris glabra</i>	405037	6459603	
<i>Hypochaeris glabra</i>	405310	6459148	
<i>Hypochaeris glabra</i>	405072	6459234	
<i>Hypochaeris glabra</i>	405372	6459143	
<i>Hypochaeris glabra</i>	405332	6459088	
<i>Hypochaeris glabra</i>	405446	6458962	
<i>Hypochaeris glabra</i>	404942	6459132	
<i>Hypochaeris glabra</i>	404870	6459302	
<i>Hypochaeris glabra</i>	405444	6458788	
<i>Hypochaeris glabra</i>	405267	6459189	
<i>Hypochaeris glabra</i>	405387	6458662	
<i>Hypochaeris glabra</i>	405598	6458758	
<i>Ipomoea cairica</i>	404776	6459635	
<i>Ipomoea cairica</i>	404776	6459635	
<i>Lagurus ovatus</i>	405756	6456762	
<i>Leontodon rhagadioloides</i>	405945	6456043	
<i>Leontodon rhagadioloides</i>	405981	6455982	
<i>Leptospermum laevigatum</i>	405787	6456683	
<i>Leptospermum laevigatum</i>	405882	6455939	
<i>Leptospermum laevigatum</i>	405937	6456264	
<i>Leptospermum laevigatum</i>	405937	6455964	
<i>Leptospermum laevigatum</i>	405922	6455958	
<i>Leptospermum laevigatum</i>	405719	6455965	
<i>Leptospermum laevigatum</i>	405895	6456117	
<i>Leptospermum laevigatum</i>	405911	6455903	
<i>Leptospermum laevigatum</i>	405970	6455922	
<i>Leptospermum laevigatum</i>	406057	6455836	
<i>Leptospermum laevigatum</i>	405825	6455908	
<i>Leptospermum laevigatum</i>	404974	6459414	
<i>Leptospermum laevigatum</i>	405072	6459234	
<i>Leptospermum laevigatum</i>	405613	6456957	
<i>Leptospermum laevigatum</i>	406021	6455835	
<i>Leptospermum laevigatum</i>	405794	6455943	

Taxon	Easting	Northing	Count
<i>Leptospermum laevigatum</i>	404935	6459505	
<i>Leptospermum laevigatum</i>	405664	6456946	
<i>Leptospermum laevigatum</i>	405164	6459223	
<i>Leptospermum laevigatum</i>	405128	6459290	
<i>Leptospermum laevigatum</i>	404430	6460051	
<i>Leptospermum laevigatum</i>	406544	6455197	
<i>Leptospermum laevigatum</i>	406510	6455342	
<i>Leptospermum laevigatum</i>	405955	6456178	
<i>Leptospermum laevigatum</i>	406229	6455819	
<i>Lolium rigidum</i>	405719	6455965	
<i>Lotus subbiflorus</i>	405719	6455965	
<i>Lupinus angustifolius</i>	405719	6455965	
<i>Lysimachia arvensis</i>	405970	6455922	
<i>Malva parviflora</i>	405719	6455965	
<i>Melilotus indicus</i>	405719	6455965	
<i>Moraea flaccida</i>	405882	6455939	
<i>Moraea flaccida</i>	405719	6455965	
<i>Moraea flaccida</i>	405092	6458010	
<i>Olea europaea</i>	405882	6455939	
<i>Opuntia stricta</i>	406191	6455758	9
<i>Oxalis glabra</i>	405853	6456053	
<i>Oxalis glabra</i>	405719	6455965	
<i>Oxalis glabra</i>	405895	6456117	
<i>Oxalis glabra</i>	405911	6455903	
<i>Oxalis glabra</i>	405825	6455908	
<i>Oxalis pes-caprae</i>	405800	6456447	
<i>Oxalis pes-caprae</i>	405647	6458444	
<i>Oxalis pes-caprae</i>	405328	6458366	
<i>Oxalis</i> sp.	405882	6455939	
<i>Oxalis</i> sp.	405719	6455965	
<i>Paspalum dilatatum</i>	405945	6456043	
<i>Pelargonium capitatum</i>	405239	6459081	
<i>Pelargonium capitatum</i>	405128	6459290	
<i>Pentameris airoides</i> subsp. <i>airoides</i>	405686	6458494	
<i>Pentameris airoides</i> subsp. <i>airoides</i>	405598	6458758	
<i>Pentameris airoides</i> subsp. <i>airoides</i>	405444	6458788	
<i>Pinus pinaster</i>	406411	6455606	
<i>Pinus pinaster</i>	404430	6460051	
<i>Pinus pinaster</i>	406411	6455606	
<i>Pinus radiata</i>	405366	6458535	
<i>Plantago bellardii</i>	405387	6458662	
<i>Raphanus raphanistrum</i>	405719	6455965	
<i>Ricinus communis</i>	404291	6460090	
<i>Romulea rosea</i>	405882	6455939	
<i>Romulea rosea</i>	405686	6458494	
<i>Romulea rosea</i>	405387	6458662	
<i>Schinus terebinthifolia</i>	405350	6457588	
<i>Schinus terebinthifolia</i>	405358	6457571	
<i>Solanum nigrum</i>	405719	6455965	
<i>Sonchus asper</i>	404250	6460169	
<i>Sonchus oleraceus</i>	405719	6455965	
<i>Sonchus oleraceus</i>	405037	6459603	
<i>Sonchus oleraceus</i>	405151	6459790	

Taxon	Easting	Northing	Count
<i>Stachys arvensis</i>	405813	6455917	
<i>Trifolium angustifolium</i>	405945	6456043	
<i>Trifolium campestre</i> var. <i>campestre</i>	405719	6455965	
<i>Ursinia anthemoides</i>	405853	6456053	
<i>Ursinia anthemoides</i>	405719	6455965	
<i>Ursinia anthemoides</i>	405937	6455964	
<i>Ursinia anthemoides</i>	405911	6455903	
<i>Ursinia anthemoides</i>	404910	6460822	
<i>Ursinia anthemoides</i>	405151	6459790	
<i>Ursinia anthemoides</i>	406057	6455836	
<i>Ursinia anthemoides</i>	405249	6459450	
<i>Ursinia anthemoides</i>	405037	6459603	
<i>Ursinia anthemoides</i>	405970	6455922	
<i>Ursinia anthemoides</i>	405275	6458771	
<i>Ursinia anthemoides</i>	405234	6458970	
<i>Ursinia anthemoides</i>	404942	6459132	
<i>Ursinia anthemoides</i>	405446	6458962	
<i>Ursinia anthemoides</i>	405444	6458788	
<i>Ursinia anthemoides</i>	404750	6459349	
<i>Ursinia anthemoides</i>	404870	6459302	
<i>Ursinia anthemoides</i>	405417	6458900	
<i>Ursinia anthemoides</i>	404974	6459414	
<i>Ursinia anthemoides</i>	405072	6459234	
<i>Ursinia anthemoides</i>	405310	6459148	
<i>Ursinia anthemoides</i>	405326	6459193	
<i>Ursinia anthemoides</i>	405332	6459088	
<i>Ursinia anthemoides</i>	405372	6459143	
<i>Ursinia anthemoides</i>	405686	6458494	
<i>Ursinia anthemoides</i>	405387	6458662	
<i>Ursinia anthemoides</i>	405009	6459534	
<i>Ursinia anthemoides</i>	405128	6457955	
<i>Ursinia anthemoides</i>	405390	6458768	
<i>Ursinia anthemoides</i>	405336	6459007	
<i>Ursinia anthemoides</i>	405384	6458812	
<i>Ursinia anthemoides</i>	405357	6458893	
<i>Ursinia anthemoides</i>	405267	6459189	
<i>Ursinia anthemoides</i>	405190	6459321	
<i>Ursinia anthemoides</i>	405054	6459484	
<i>Ursinia anthemoides</i>	405095	6459458	
<i>Urtica urens</i>	405719	6455965	
<i>Vicia hirsuta</i>	405719	6455965	
<i>Vicia sativa</i>	405882	6455939	
<i>Vulpia bromoides</i>	405444	6458788	
<i>Vulpia bromoides</i>	405387	6458662	
<i>Vulpia myuros</i> forma <i>myuros</i>	405387	6458662	
<i>Vulpia myuros</i> forma <i>myuros</i>	405128	6457955	
<i>Vulpia myuros</i> forma <i>myuros</i>	405444	6458788	
<i>Vulpia myuros</i> forma <i>myuros</i>	405181	6459057	
<i>Watsonia meriana</i>	405181	6459057	
<i>Watsonia meriana</i>	405444	6458788	
<i>Watsonia meriana</i>	405369	6458965	
<i>Watsonia meriana</i>	405275	6458771	
<i>Watsonia meriana</i>	405825	6455908	

Taxon	Easting	Northing	Count
<i>Watsonia meriana</i>	405911	6455903	
<i>Watsonia meriana</i>	405054	6459484	
<i>Watsonia meriana</i>	405182	6458123	
<i>Watsonia meriana</i>	405128	6457955	
<i>Watsonia meriana</i>	405092	6458010	
<i>Watsonia meriana</i>	405387	6458662	
<i>Watsonia meriana</i>	405686	6458494	
<i>Watsonia meriana</i>	405598	6458758	
<i>Watsonia meriana</i>	405390	6458768	
<i>Watsonia meriana</i>	405647	6458444	
<i>Watsonia meriana</i>	405291	6458565	
<i>Watsonia meriana</i>	405283	6458489	
<i>Watsonia meriana</i>	405380	6458712	
<i>Watsonia meriana</i>	405273	6458409	
<i>Watsonia meriana</i>	405853	6456053	
<i>Watsonia meriana</i>	405922	6455958	
<i>Watsonia meriana</i>	405882	6455939	
<i>Watsonia meriana</i>	404745	6459684	
<i>Watsonia meriana</i>	405366	6458535	
<i>Watsonia meriana</i>	405328	6458366	
<i>Watsonia meriana</i>	405319	6458303	
<i>Watsonia meriana</i>	405262	6458067	
<i>Watsonia meriana</i>	405866	6455976	
<i>Watsonia meriana</i>	405794	6455943	
<i>Watsonia meriana</i>	405949	6455780	
<i>Watsonia meriana</i>	405936	6456032	
<i>Watsonia meriana</i>	405955	6456178	
<i>Watsonia meriana</i>	405292	6458768	
<i>Watsonia</i> sp.	405372	6459143	
? <i>Watsonia</i> sp.	405151	6459790	

Appendix N: Maps of Significant Flora of the Survey Area



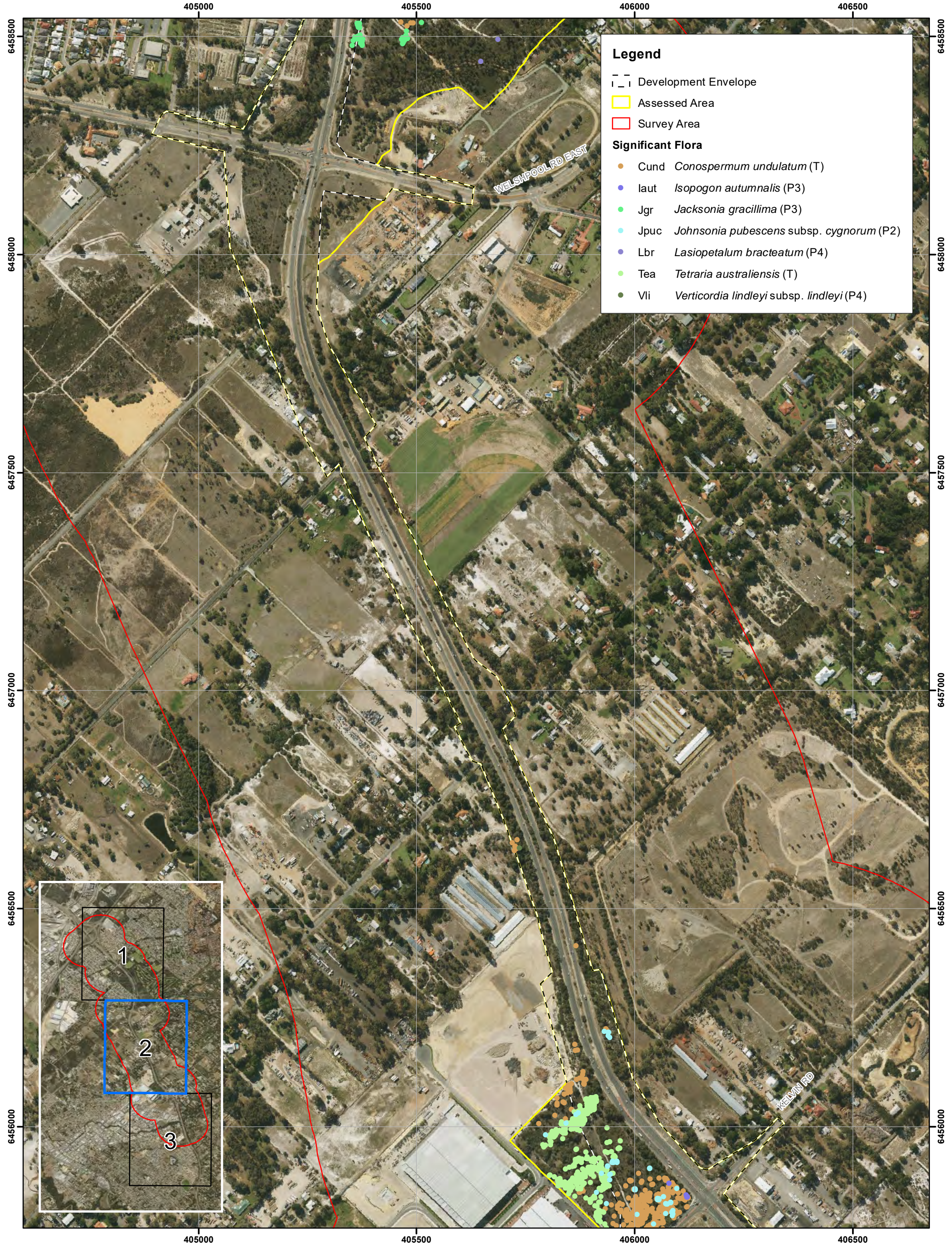
Legend

- Development Envelope
- Assessed Area
- Survey Area

Significant Flora

- Agr *Andersonia gracilis* (T)
- Bmi *Banksia mimica* (T)
- Bgi *Byblis gigantea* (P3)
- Cund *Conospermum undulatum* (T)
- laut *Isopogon autumnalis* (P3)
- Jgr *Jacksonia gracillima* (P3)
- Jpuc *Johnsonia pubescens* subsp. *cygnorum* (P2)
- Sfi *Styphelia filifolia* (P3)
- Vli *Verticordia lindleyi* subsp. *lindleyi* (P4)





Legend

- Development Envelope
- Assessed Area
- Survey Area

Significant Flora

- Cund *Conospermum undulatum* (T)
- laut *Isopogon autumnalis* (P3)
- Jgr *Jacksonia gracillima* (P3)
- Jpuc *Johnsonia pubescens* subsp. *cygnorum* (P2)
- Lbr *Lasiopetalum bracteatum* (P4)
- Tea *Tetraria australiensis* (T)
- Vli *Verticordia lindleyi* subsp. *lindleyi* (P4)





Legend

- Development Envelope
- Assessed Area
- Survey Area

Significant Flora

- Cund *Conospermum undulatum* (T)
- Tea *Tetraia australiensis* (T)



**Significant Flora recorded by
Woodman Environmental
in the Assessment Area**

Author: Marlee Starcevich

WEC Ref: MR19-34-01

Filename: MR19-34-01-App-N

Appendix

N3

This map should only be used in conjunction with WEC report MR19-34-01.

Revision: 0 - 30 July 2020

Scale: 1:7,500 (A3)

Projection: GDA 1994 MGA Zone 50

Appendix O: Threatened and Priority Flora Report Forms and TEC/PEC Report Forms



Threatened and Priority Flora Report Form

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at <http://dpaw.wa.gov.au> under Standard Report Forms

TAXON: <u>Andersonia gracilis</u>		TPFL Pop. No.: _____	
OBSERVATION DATE: <u>22/10/2019</u>	CONSERVATION STATUS: <u>T</u>	New population <input type="checkbox"/>	
OBSERVER/S: <u>David Coultas and Leah Firth</u>		PHONE	<u>9315 4688</u>
ROLE: <u>Botanists</u>		ORGANISATION: <u>Woodman Environmental Consulting</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):
 Located along Tonkin Hwy on western side of highway in Bush Forever site 320, approximately 560 m north of the Welshpool Rd E and Tonkin Hwy intersection and 1.9 km southwest of Forrestfield

Reserve No.: _____

DBC DISTRICT: <u>Swan Coastal</u>	LGA: <u>Kalamunda</u>	Land manager present: <input type="checkbox"/>	
DATUM:	COORDINATES: (If UTM coords provided, Zone is also required)	METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/>	GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: <u>6458766</u>	No. satellites: _____	Map used: _____
WGS84 <input type="checkbox"/>	Long / Easting: <u>405274</u>	Boundary polygon captured: <input type="checkbox"/>	Map scale: _____
Unknown <input type="checkbox"/>	ZONE: <u>50 H</u>		
LAND TENURE:			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/>	SLK/Pole _____ to _____
			Shire road reserve <input type="checkbox"/>
			Other Crown reserve <input checked="" type="checkbox"/>
			Specify other: _____

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

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

POP'N COUNT ACCURACY: Actual Extrapolation Estimate Count method: _____
(Refer to field manual for list)

WHAT COUNTED:	Plants <input checked="" type="checkbox"/>	Clumps <input type="checkbox"/>	Clonal stems <input type="checkbox"/>	
TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:
Alive	34			34
Dead				

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

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

Summary Quad. Totals: Alive _____

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

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: _____

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



Threatened and Priority Flora Report Form

HABITAT INFORMATION:

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

VEGETATION CLASSIFICATION*:

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

1. Tall open shrubland (*Callitris pyramidalis*)
2. Mid sparse shrubland (*Beaufortia squarrosa* and *Petrophile seminuda*)
3. Low sparse shrubland (*Hypocalymma angustifolium* subsp. *Swan Coastal Plain* (G.J. Keighery 16777))
- 4.

ASSOCIATED SPECIES:

Other (non-dominant) spp _____

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

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

COMMENT: _____

FIRE HISTORY: Last Fire: Season/Month: _____ Year: >10 Fire Intensity: High Medium Low No signs of fire

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

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

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.) _____

Species found during a survey for Main Roads WA (Woodman Environmental Consulting job code MR19-34).

Shapefile of all locations recorded attached

Collection No. : DCLFOpp2

DRF PERMIT/ LICENCE No: TFL 23-1819 Note if only observing plants (i.e. no specimens or plant material is taken) then no permit/licence is required. For further information on permit and licencing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under licence/permit should be recorded above in the OTHER COMMENTS section.

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

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

COPY SENT TO: Regional Office District Office Other: DBCA Species and Communities Branch

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 08/05/2020

Please return completed form to **Species And Communities Branch DBCA**,
Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Branch.
Record entered by: _____ Sheet No.: _____ Record Entered in Database



Threatened and Priority Flora Report Form

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at <http://dpaw.wa.gov.au> under Standard Report Forms

TAXON: <u>Banksia mimica</u>		TPFL Pop. No.: _____	
OBSERVATION DATE: <u>01/10/2019</u>	CONSERVATION STATUS: <u>T</u>	New population <input type="checkbox"/>	
OBSERVER/S: <u>Kim Kershaw and Leah Firth</u>		PHONE: <u>9315 4688</u>	
ROLE: <u>Botanists</u>		ORGANISATION: <u>Woodman Environmental Consulting</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): _____
 Located along Tonkin Hwy on western side of highway in Bush Forever site 320, approximately 910 m north of the Welshpool Road E and Tonkin Highway intersection and 1.7 km southwest of Forrestfield.

Reserve No.: _____

DBC DISTRICT: <u>Swan Coastal</u>	LGA: <u>Kalamunda</u>	Land manager present: <input type="checkbox"/>	
DATUM:	COORDINATES: (If UTM coords provided, Zone is also required)	METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/>	GPS <input checked="" type="checkbox"/>	Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: <u>6459127</u>	No. satellites: _____	Map used: _____
WGS84 <input type="checkbox"/>	Long / Easting: <u>405181</u>	Boundary polygon captured: <input type="checkbox"/>	Map scale: _____
Unknown <input type="checkbox"/>	ZONE: <u>50 J</u>		
LAND TENURE:			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/>	SLK/Pole _____ to _____
			Shire road reserve <input type="checkbox"/>
			Other Crown reserve <input checked="" type="checkbox"/>
			Specify other: _____

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

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: _____

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



Threatened and Priority Flora Report Form

HABITAT INFORMATION:

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

VEGETATION CLASSIFICATION*:

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

1. Low open woodland (Eucalyptus patens)
2. Tall sparse shrubland (Adenanthos cygnorum subsp. cygnorum)
3. Mid sparse shrubland (Xanthorrhoea preissii)
4. Low open shrubland (Eremaea pauciflora var. pauciflora)
5. Mid sparse sedgeland (Cyathochaeta avenacea)

ASSOCIATED SPECIES:

Other (non-dominant) spp _____

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

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

COMMENT: _____

FIRE HISTORY: Last Fire: Season/Month: _____ Year: >10 Fire Intensity: High Medium Low No signs of fire

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

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

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.) _____

Species found during a survey for Main Roads WA (Woodman Environmental Consulting job code MR19-34).

Shapefile of all locations recorded attached

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

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

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

COPY SENT TO: Regional Office District Office Other: DBCA Species and Communities Branch

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 08/05/2020

Please return completed form to **Species And Communities Branch DBCA**,
Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Branch.
Record entered by: _____ Sheet No.: _____ Record Entered in Database



Threatened and Priority Flora Report Form

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at <http://dpaw.wa.gov.au> under Standard Report Forms

TAXON: <u>Byblis gigantea</u>		TPFL Pop. No.: _____	
OBSERVATION DATE: <u>20/09/2019</u>		CONSERVATION STATUS: <u>P3</u> <input type="checkbox"/> New population <input type="checkbox"/>	
OBSERVER/S: <u>Marlee Starcevich and Emalyn Loudon</u>		PHONE: <u>9315 4688</u>	
ROLE: <u>Botanists</u>		ORGANISATION: <u>Woodman Environmental Consulting</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):
Located along Tonkin Hwy on eastern side of highway in Bush Forever site 320, approximately 920 m north of the Welshpool Road E and Tonkin Highway intersection and 1.6 km southwest of Forrestfield

Reserve No.: _____

DBC DISTRICT: <u>Perth Hills</u>		LGA: <u>Kalamunda</u>		Land manager present: <input type="checkbox"/>	
DATUM:		COORDINATES: (If UTM coords provided, Zone is also required)		METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input type="checkbox"/> Unknown <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/> Lat / Northing: <u>6459143</u> Long / Easting: <u>405372</u> ZONE: <u>50 J</u>		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 scale: _____	
LAND TENURE:					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____	
				Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>	
				MRWA road reserve <input type="checkbox"/> Other Crown reserve <input checked="" type="checkbox"/>	
				Specify other: _____	

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/>		Area observed (m ²): _____	
EFFORT: Time spent surveying (minutes): _____		No. of minutes spent / 100 m ² : _____	
POP'N COUNT ACCURACY: Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input checked="" type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
WHAT COUNTED:		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
TOTAL POP'N STRUCTURE:			
	Mature:	Juveniles:	Seedlings:
Alive	1		1
Dead			
QUADRATS PRESENT:		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m ²): _____	
Summary Quad. Totals: Alive			
REPRODUCTIVE STATE:		Clonal <input type="checkbox"/> Vegetative <input checked="" type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: _____

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



Threatened and Priority Flora Report Form

HABITAT INFORMATION:

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

CONDITION OF SOIL: Dry Moist Waterlogged Inundated

VEGETATION CLASSIFICATION*:

1. Low open shrubland (Eremaea pauciflora var. pauciflora and Hypocalymma angustifolium subsp. Swan Coastal Plain (G.J. Keighery 16777))

2. _____

3. _____

4. _____

ASSOCIATED SPECIES:

Other (non-dominant) spp _____

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

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

COMMENT: _____

FIRE HISTORY: Last Fire: Season/Month: _____ Year: >10 Fire Intensity: High Medium Low No signs of fire

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

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

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

Species found during a survey for Main Roads WA (Woodman Environmental Consulting job code MR19-34).

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

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

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

COPY SENT TO: Regional Office District Office Other: DBCA Species and Communities Branch

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 08/05/2020



Threatened and Priority Flora Report Form

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at <http://dpaw.wa.gov.au/> under Standard Report Forms

TAXON: <u>Conospermum undulatum</u>		TPFL Pop. No.: _____	
OBSERVATION DATE: <u>02/10/2019</u>		CONSERVATION STATUS: <u>T</u> <input type="checkbox"/> New population <input type="checkbox"/>	
OBSERVER/S: <u>Kim Kershaw and Leah Firth</u>		PHONE: <u>9315 4688</u>	
ROLE: <u>Botanists</u>		ORGANISATION: <u>Woodman Environmental Consulting</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):
 Located along Tonkin Hwy on western side of highway in Bush Forever site 320, approximately 740 m north of the Welshpool Road E and Tonkin Highway intersection and 1.8 km southwest of Forrestfield

Reserve No.: _____

DBC DISTRICT: <u>Swan Coastal</u>		LGA: <u>Kalamunda</u>		Land manager present: <input type="checkbox"/>	
DATUM:		COORDINATES: (If UTM coords provided, Zone is also required)		METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input type="checkbox"/> Unknown <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/> Lat / Northing: <u>6458975</u> Long / Easting: <u>405234</u> ZONE: <u>50 J</u>		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 scale: _____	
LAND TENURE:					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____	
				Rail reserve <input type="checkbox"/>	
				Shire road reserve <input type="checkbox"/>	
				MRWA road reserve <input type="checkbox"/>	
				Other Crown reserve <input checked="" type="checkbox"/>	
				Specify other: _____	

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/>		Area observed (m ²): _____													
EFFORT: Time spent surveying (minutes): _____		No. of minutes spent / 100 m ² : _____													
POP'N COUNT ACCURACY: Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input checked="" type="checkbox"/>		Count method: _____													
(Refer to field manual for list)															
WHAT COUNTED:		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
TOTAL POP'N STRUCTURE:															
		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1114</td> <td></td> <td></td> <td style="text-align: center;">1114</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Mature:	Juveniles:	Seedlings:	Totals:	1114			1114				
Mature:	Juveniles:	Seedlings:	Totals:												
1114			1114												
Alive Dead		Area of pop (m ²): _____ Note: Pls record count as numbers (not percentages) for database.													
QUADRATS PRESENT:		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m ²): _____													
Summary Quad. Totals: Alive															
REPRODUCTIVE STATE:															
Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>															
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/> Percentage in flower: _____%															

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: _____

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



Threatened and Priority Flora Report Form

HABITAT INFORMATION:

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

VEGETATION CLASSIFICATION*:

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

1. Low open woodland (*Allocasuarina fraseriana* and *Eucalyptus marginata* subsp. *marginata*)
2. Mid sparse shrubland (*Hibbertia hypericoides* subsp. *hypericoides*)
- 3.
- 4.

ASSOCIATED SPECIES:

Other (non-dominant) spp

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

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

COMMENT:

FIRE HISTORY: Last Fire: Season/Month: _____ Year: >10 **Fire Intensity:** High Medium Low No signs of fire

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

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

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

Species found during a survey for Main Roads WA (Woodman Environmental Consulting job code MR19-34).

Shapefile of all locations recorded attached

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

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

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

COPY SENT TO: Regional Office District Office Other: DBCA Species and Communities Branch

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 08/05/2020

Please return completed form to **Species And Communities Branch DBCA**,
 Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

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

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



Threatened and Priority Flora Report Form

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at <http://dpaw.wa.gov.au> under Standard Report Forms

TAXON: <u>Isopogon autumnalis</u>		TPFL Pop. No.: _____	
OBSERVATION DATE: <u>22/10/2019</u>		CONSERVATION STATUS: <u>P3</u> <input type="checkbox"/> New population <input type="checkbox"/>	
OBSERVER/S: <u>Marlee Starceвич and Emalyn Loudon</u>		PHONE: <u>9315 4688</u>	
ROLE: <u>Botanists</u>		ORGANISATION: <u>Woodman Environmental Consulting</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): _____
 Located on southern side of Hale Rd in Bush Forever site 320, approximately 260 m northeast of the Tonkin Hwy and Hale Rd intersection and 1.5 km southwest of Forrestfield

Reserve No.: _____

DBC DISTRICT: <u>Perth Hills</u>		LGA: <u>Kalamunda</u>		Land manager present: <input type="checkbox"/>	
DATUM:		COORDINATES: (If UTM coords provided, Zone is also required)		METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input type="checkbox"/> Unknown <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/> Lat / Northing: <u>6459753</u> Long / Easting: <u>405122</u> ZONE: <u>50 J</u>		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 scale: _____	
LAND TENURE:					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____	
				Rail reserve <input type="checkbox"/>	
				Shire road reserve <input type="checkbox"/>	
				MRWA road reserve <input type="checkbox"/>	
				Other Crown reserve <input checked="" type="checkbox"/>	
				Specify other: _____	

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/>		Area observed (m ²): _____	
EFFORT: Time spent surveying (minutes): _____		No. of minutes spent / 100 m ² : _____	
POP'N COUNT ACCURACY: Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input checked="" type="checkbox"/>		Count method: _____	
(Refer to field manual for list)			
WHAT COUNTED:		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>	
TOTAL POP'N STRUCTURE:			
	Mature:	Juveniles:	Seedlings:
Alive	49		49
Dead			
		Area of pop (m ²): _____	
Note: Pls record count as numbers (not percentages) for database.			
QUADRATS PRESENT:		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m ²): _____	
Summary Quad. Totals: Alive			
REPRODUCTIVE STATE:		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input type="checkbox"/>	
Immature fruit <input type="checkbox"/> Fruit <input checked="" type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%	

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: _____

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



Threatened and Priority Flora Report Form

HABITAT INFORMATION:

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

VEGETATION CLASSIFICATION*:

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

1. Low woodland (*Allocasuarina fraseriana*, *Banksia attenuata* and *Eucalyptus marginata* subsp. *marginata*)
2. Mid sparse shrubland (*Xanthorrhoea preissii*)
3. Low sparse forbland (*Dasyogon bromeliifolius*)
4. Mid sparse sedgeland (*Mesomelaena pseudostygia*)

ASSOCIATED SPECIES:

Other (non-dominant) spp _____

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

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

COMMENT: _____

FIRE HISTORY: Last Fire: Season/Month: _____ Year: >10 Fire Intensity: High Medium Low No signs of fire

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

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

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.) _____

Species found during a survey for Main Roads WA (Woodman Environmental Consulting job code MR19-34).

Shapefile of all locations recorded attached

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

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

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

COPY SENT TO: Regional Office District Office Other: DBCA Species and Communities Branch

Submitter of Record: Marlee Starcevich Role: Botanist Signed: Marlee Starcevich Date: 04/06/2020

Please return completed form to **Species And Communities Branch DBCA**,
Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Branch.
Record entered by: _____ Sheet No.: _____ Record Entered in Database



Threatened and Priority Flora Report Form

Version 1.3 August 2017

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at <http://dpaw.wa.gov.au> under Standard Report Forms

TAXON: Jacksonia gracillima		TPFL Pop. No.: _____	
OBSERVATION DATE: 16/10/2019		CONSERVATION STATUS: P3 New population <input type="checkbox"/>	
OBSERVER/S: Marlee Starceвич and Emalyn Loudon		PHONE: 9315 4688	
ROLE: Botanists		ORGANISATION: Woodman Environmental Consulting	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):
 Located along Tonkin Hwy on eastern side of highway in Bush Forever site 320, approximately 190 m southeast of the Tonkin Hwy and Hale Rd intersection and 1.6 km southwest of Forrestfield

Reserve No.: _____

DBC DISTRICT: Swan Coastal		LGA: Kalamunda		Land manager present: <input type="checkbox"/>	
DATUM:		COORDINATES: (If UTM coords provided, Zone is also required)		METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		Lat / Northing: 6459484		No. satellites: _____ Map used: _____	
WGS84 <input type="checkbox"/>		Long / Easting: 405054		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		ZONE: 50 J			
LAND TENURE:					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input checked="" type="checkbox"/> SLK/Pole _____ to _____	
				Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>	
				MRWA road reserve <input checked="" type="checkbox"/> Other Crown reserve <input type="checkbox"/>	
				Specify other: _____	

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/>		Area observed (m²): _____													
EFFORT: Time spent surveying (minutes): _____		No. of minutes spent / 100 m²: _____													
POP'N COUNT ACCURACY: Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input checked="" type="checkbox"/>		Count method: _____													
<small>(Refer to field manual for list)</small>															
WHAT COUNTED:		Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
TOTAL POP'N STRUCTURE:															
		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> </thead> <tbody> <tr> <td>1676</td> <td></td> <td></td> <td>1676</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Mature:	Juveniles:	Seedlings:	Totals:	1676			1676				
Mature:	Juveniles:	Seedlings:	Totals:												
1676			1676												
Alive		Area of pop (m ²): _____													
Dead		Note: Pls record count as numbers (not percentages) for database.													
QUADRATS PRESENT:		No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m ²): _____													
Summary Quad. Totals: Alive															
REPRODUCTIVE STATE:		Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>													
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>		Percentage in flower: _____%													

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: _____

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



Threatened and Priority Flora Report Form

HABITAT INFORMATION:

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

VEGETATION CLASSIFICATION*:

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

1. Low open woodland (Banksia ilicifolia and Banksia menziesii)
2. Tall open shrubland (Adenanthos cygnorum subsp. cygnorum)
3. _____
4. _____

ASSOCIATED SPECIES:

Other (non-dominant) spp _____

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

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

COMMENT: Some weeds present

FIRE HISTORY: Last Fire: Season/Month: _____ Year: >10 Fire Intensity: High Medium Low No signs of fire

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

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

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.) _____

Species found during a survey for Main Roads WA (Woodman Environmental Consulting job code MR19-34).

Shapefile of all locations recorded attached

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

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

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

COPY SENT TO: Regional Office District Office Other: DBCA Species and Communities Branch

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 08/05/2020

Please return completed form to **Species And Communities Branch DBCA**,
 Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Branch.
 Record entered by: _____ Sheet No.: _____ Record Entered in Database



Threatened and Priority Flora Report Form

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at <http://dpaw.wa.gov.au> under Standard Report Forms

TAXON: <u>Johnsonia pubescens subsp. cygnorum</u>		TPFL Pop. No.: _____
OBSERVATION DATE: <u>20/09/2019</u>	CONSERVATION STATUS: <u>P2</u>	New population <input checked="" type="checkbox"/>
OBSERVER/S: <u>Kim Kershaw and Marco Pratisoli</u>		PHONE: <u>9315 4688</u>
ROLE: <u>Botanists</u>	ORGANISATION: <u>Woodman Environmental Consulting</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):
 Located along Tonkin Hwy on western side of highway in Bush Forever site 320, approximately 900 m north of the Welshpool Road E and Tonkin Highway intersection and 1.8 km southwest of Forrestfield.

DBC DISTRICT: <u>Swan Coastal</u>		LGA: <u>Kalamunda</u>	Land manager present: <input type="checkbox"/>
DATUM:	COORDINATES: (If UTM coords provided, Zone is also required)	METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input checked="" type="checkbox"/>	GPS <input checked="" type="checkbox"/>	Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: <u>6459117</u>	No. satellites: _____	Map used: _____
WGS84 <input type="checkbox"/>	Long / Easting: <u>405181</u>	Boundary polygon captured: <input type="checkbox"/>	Map scale: _____
Unknown <input type="checkbox"/>	ZONE: <u>50 J</u>		
LAND TENURE:			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input 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 checked="" 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 <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/>	Area observed (m ²): _____												
EFFORT: Time spent surveying (minutes): _____	No. of minutes spent / 100 m ² : _____												
POP'N COUNT ACCURACY: Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input checked="" type="checkbox"/>	Count method: _____												
(Refer to field manual for list)													
WHAT COUNTED: Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
TOTAL POP'N STRUCTURE:													
Alive	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> <tr> <td style="text-align: center;">282</td> <td></td> <td></td> <td style="text-align: center;">282</td> </tr> <tr> <td>Dead</td> <td></td> <td></td> <td></td> </tr> </table>	Mature:	Juveniles:	Seedlings:	Totals:	282			282	Dead			
Mature:	Juveniles:	Seedlings:	Totals:										
282			282										
Dead													
	Area of pop (m ²): _____												
	Note: Pls record count as numbers (not percentages) for database.												
QUADRATS PRESENT: No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m ²): _____												
Summary Quad. Totals: Alive													
REPRODUCTIVE STATE: Clonal <input type="checkbox"/> Vegetative <input type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>													
Immature fruit <input type="checkbox"/> Fruit <input checked="" type="checkbox"/> Dehisced fruit <input type="checkbox"/> Percentage in flower: _____%													

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: _____

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



Threatened and Priority Flora Report Form

HABITAT INFORMATION:

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

VEGETATION CLASSIFICATION*:

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

1. Low open woodland (Eucalyptus patens)
2. Tall sparse shrubland (Adenanthos cygnorum subsp. cygnorum)
3. Mid sparse shrubland (Xanthorrhoea preissii)
4. Low open shrubland (Eremaea pauciflora var. pauciflora)
5. Mid sparse sedgeland (Cyathochaeta avenacea)

ASSOCIATED SPECIES:

Other (non-dominant) spp _____

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

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

COMMENT: _____

FIRE HISTORY: Last Fire: Season/Month: _____ Year: >10 Fire Intensity: High Medium Low No signs of fire

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

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

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.) _____

Species found during a survey for Main Roads WA (Woodman Environmental Consulting job code MR19-34).

Shapefile of all locations recorded attached

Collection No: GSI-02-Opp05

DRF PERMIT/ LICENCE No: FB62000054 Note if only observing plants (i.e. no specimens or plant material is taken) then no permit/licence is required. For further information on permit and licencing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under licence/permit should be recorded above in the OTHER COMMENTS section.

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

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

COPY SENT TO: Regional Office District Office Other: DBCA Species and Communities Branch

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 08/05/2020

Please return completed form to **Species And Communities Branch DBCA**,
Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Branch.
Record entered by: _____ Sheet No.: _____ Record Entered in Database



Threatened and Priority Flora Report Form

Version 1.3 August 2017

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at <http://dpaw.wa.gov.au> under Standard Report Forms

TAXON:	Lasiopetalum bracteatum	TPFL Pop. No.:	
OBSERVATION DATE:	03/10/2019	CONSERVATION STATUS:	P4 <input type="checkbox"/> New population <input type="checkbox"/>
OBSERVER/S:	Marco Pratissoli and Emalyn Loudon	PHONE	9315 4688
ROLE:	Botanists	ORGANISATION:	Woodman Environmental Consulting

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):
 East of Tonkin Hwy in Bush Forever site 320, approximately 500 m northeast of the Welshpool Rd E and Tonkin Hwy intersection and 1.9 km south-southwest of Forrestfield

Reserve No.: _____

DBC DISTRICT:	Perth Hills	LGA:	Kalamunda	Land manager present:	<input type="checkbox"/>
DATUM:	COORDINATES: (If UTM coords provided, Zone is also required)		METHOD USED:		
GDA94 / MGA94 <input checked="" type="checkbox"/>	DecDegrees <input type="checkbox"/>	DegMinSec <input type="checkbox"/>	UTMs <input checked="" type="checkbox"/>	GPS <input checked="" type="checkbox"/>	Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: 6458494		No. satellites:	Map used: _____	
WGS84 <input type="checkbox"/>	Long / Easting: 405686		Boundary polygon captured:	Map scale: _____	
Unknown <input type="checkbox"/>	ZONE: 50 H				
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 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 checked="" 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 <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/>		Area observed (m ²):	_____
EFFORT: Time spent surveying (minutes): _____		No. of minutes spent / 100 m ² :	_____
POP'N COUNT ACCURACY: Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input checked="" type="checkbox"/>		Count method:	_____
(Refer to field manual for list)			
WHAT COUNTED:	Plants <input checked="" type="checkbox"/>	Clumps <input type="checkbox"/>	Clonal stems <input type="checkbox"/>
TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:
Alive	4		4
Dead			
			Area of pop (m ²): _____
Note: Pls record count as numbers (not percentages) for database.			
QUADRATS PRESENT:	No. _____	Size _____	Data attached <input type="checkbox"/> Total area of quadrats (m ²): _____
Summary Quad. Totals: Alive			
REPRODUCTIVE STATE:	Clonal <input type="checkbox"/>	Vegetative <input type="checkbox"/>	Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>
	Immature fruit <input type="checkbox"/>	Fruit <input type="checkbox"/>	Dehisced fruit <input type="checkbox"/> Percentage in flower: _____%

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: _____

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



Threatened and Priority Flora Report Form

HABITAT INFORMATION:

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

VEGETATION CLASSIFICATION*:

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

1. Low woodland (Corymbia calophylla)
2. Mid open shrubland (Acacia pulchella)
3. Low sparse shrubland (Gompholobium tomentosum)
4. Mid sparse sedgeland (Mesomelaena pseudostygia)

ASSOCIATED SPECIES:

Other (non-dominant) spp _____

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

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

COMMENT: Some weeds present

FIRE HISTORY: Last Fire: Season/Month: _____ Year: < 5 Fire Intensity: High Medium Low No signs of fire

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

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

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.) _____

Species found during a survey for Main Roads WA (Woodman Environmental Consulting job code MR19-34).

1 plant recorded at this location, 3 plants recorded at 405647 m E, 6458444 m N

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

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

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

COPY SENT TO: Regional Office District Office Other: DBCA Species and Communities Branch

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 08/05/2020

Please return completed form to **Species And Communities Branch DBCA**, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Branch. Record entered by: _____ Sheet No.: _____ Record Entered in Database



Threatened and Priority Flora Report Form

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at <http://dpaw.wa.gov.au> under Standard Report Forms

TAXON: <u>Styphelia filifolia</u>		TPFL Pop. No.: _____	
OBSERVATION DATE: <u>18/09/2019</u>		CONSERVATION STATUS: <u>P3</u> New population <input type="checkbox"/>	
OBSERVER/S: <u>Marlee Starceвич and Emalyn Loudon</u>		PHONE: <u>9315 4688</u>	
ROLE: <u>Botanists</u>		ORGANISATION: <u>Woodman Environmental Consulting</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):
Located along Tonkin Hwy on eastern side of highway in Bush Forever site 320, approximately 370 m east-southeast of the Hale Rd and Tonkin Hwy intersection and 1.5 km southwest of Forrestfield

DBC DISTRICT: <u>Perth Hills</u>		LGA: <u>Kalamunda</u>		Reserve No.: _____	
DATUM:		COORDINATES: (If UTM coords provided, Zone is also required)		METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input type="checkbox"/> Unknown <input type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/> Lat / Northing: <u>6459450</u> Long / Easting: <u>405249</u> ZONE: <u>50 J</u>		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 scale: _____	
LAND TENURE:					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Pastoral lease <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		UCL <input type="checkbox"/> SLK/Pole _____ to _____	
				Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>	
				MRWA road reserve <input type="checkbox"/> Other Crown reserve <input checked="" type="checkbox"/>	
				Specify other: _____	

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

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

POP'N COUNT ACCURACY: Actual Extrapolation Estimate Count method: _____
(Refer to field manual for list)

WHAT COUNTED: Plants Clumps Clonal stems

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:	Area of pop (m ²): _____ <small>Note: Pls record count as numbers (not percentages) for database.</small>
	Alive	30		30	
Dead					

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

Summary Quad. Totals: Alive _____

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

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: _____

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



Threatened and Priority Flora Report Form

HABITAT INFORMATION:

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

VEGETATION CLASSIFICATION*:

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

1. Low open woodland (*Corymbia calophylla*)
2. Tall sparse shrubland (*Adenanthos cygnorum* subsp. *cygnorum*)
3. Low open forbland (*Dasypogon bromeliifolius* and *Phlebocarya ciliata*)
- 4.

ASSOCIATED SPECIES:

Other (non-dominant) spp _____

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

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

COMMENT: _____

FIRE HISTORY: Last Fire: Season/Month: _____ Year: >10 Fire Intensity: High Medium Low No signs of fire

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

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

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.) _____

Species found during a survey for Main Roads WA (Woodman Environmental Consulting job code MR19-34).

Shapefile of all locations recorded attached

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

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

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

COPY SENT TO: Regional Office District Office Other: DBCA Species and Communities Branch

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 27/05/2020

Please return completed form to **Species And Communities Branch DBCA**,
Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Branch.
Record entered by: _____ Sheet No.: _____ Record Entered in Database



Threatened and Priority Flora Report Form

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at <http://dpaw.wa.gov.au> under Standard Report Forms

TAXON: <u>Tetraria australiensis</u>		TPFL Pop. No.: _____	
OBSERVATION DATE: <u>17/09/2019</u>	CONSERVATION STATUS: <u>T</u>	New population <input type="checkbox"/>	
OBSERVER/S: <u>Kim Kershaw and Marco Pratisoli</u>		PHONE	<u>9315 4688</u>
ROLE: <u>Botanists</u>		ORGANISATION: <u>Woodman Environmental Consulting</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): _____
 Located along Tonkin Hwy on western side of highway in Bush Forever site 53, approximately 230 m west-northwest of the intersection between Tonkin Hwy and Kelvin Rd and 2.1 km east-northeast of Kenwick

Reserve No.: _____

DBC DISTRICT: <u>Swan Coastal</u>	LGA: <u>Gosnells</u>	Land manager present: <input type="checkbox"/>	
DATUM:	COORDINATES: (If UTM coords provided, Zone is also required)	METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/>	DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/>	GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: <u>6455899</u>	No. satellites: _____	Map used: _____
WGS84 <input type="checkbox"/>	Long / Easting: <u>405918</u>	Boundary polygon captured: <input type="checkbox"/>	Map scale: _____
Unknown <input type="checkbox"/>	ZONE: <u>50 H</u>		
LAND TENURE:			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input checked="" type="checkbox"/> Other Crown reserve <input checked="" 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 <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/>	Area observed (m ²): _____												
EFFORT: Time spent surveying (minutes): _____	No. of minutes spent / 100 m ² : _____												
POP'N COUNT ACCURACY: Actual <input type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input checked="" type="checkbox"/>	Count method: _____												
(Refer to field manual for list)													
WHAT COUNTED: Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
TOTAL POP'N STRUCTURE:													
Alive	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">681</td> <td></td> <td></td> <td style="text-align: center;">681</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Mature:	Juveniles:	Seedlings:	Totals:	681			681				
Mature:	Juveniles:	Seedlings:	Totals:										
681			681										
Dead													
QUADRATS PRESENT: No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m ²): _____												
Summary Quad. Totals: Alive													
REPRODUCTIVE STATE: Clonal <input type="checkbox"/> Vegetative <input checked="" type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input type="checkbox"/>													
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/> Percentage in flower: _____%													

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: _____

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



Threatened and Priority Flora Report Form

HABITAT INFORMATION:

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

VEGETATION CLASSIFICATION*:

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

1. _____
 2. _____
 3. _____
 4. _____

ASSOCIATED SPECIES:

Other (non-dominant) spp _____

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

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

COMMENT: On edge of remnant vegetation and old revegetated road verge

FIRE HISTORY: Last Fire: Season/Month: _____ Year: > 10 Fire Intensity: High Medium Low No signs of fire

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

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

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)
 Species found during a survey for Main Roads WA (Woodman Environmental Consulting job code MR19-34).
 Shapefile of all locations recorded attached

Collection No: GSI-KK-Opp1

DRF PERMIT/ LICENCE No: TFL 22-1819 Note if only observing plants (i.e. no specimens or plant material is taken) then no permit/licence is required. For further information on permit and licencing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under licence/permit should be recorded above in the OTHER COMMENTS section.

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

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

COPY SENT TO: Regional Office District Office Other: DBCA Species and Communities Branch

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 27/05/2020

Please return completed form to **Species And Communities Branch DBCA**,
Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Branch.
Record entered by: _____ Sheet No.: _____ Record Entered in Database



Threatened and Priority Flora Report Form

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at <http://dpaw.wa.gov.au> under Standard Report Forms

TAXON: <u>Verticordia lindleyi subsp. lindleyi</u>		TPFL Pop. No.: _____
OBSERVATION DATE: <u>17/12/2019</u>	CONSERVATION STATUS: <u>P4</u>	New population <input type="checkbox"/>
OBSERVER/S: <u>Marco Pratisoli</u>	PHONE: <u>9315 4688</u>	
ROLE: <u>Botanist</u>	ORGANISATION: <u>Woodman Environmental Consulting</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): _____
 Located along Tonkin Hwy on eastern side of highway in Bush Forever site 320, approximately 650 m southeast of the Hale Rd and Tonkin Hwy intersection and 1.6 km southwest of Forrestfield

DBC DISTRICT: <u>Perth Hills</u>		LGA: <u>Kalamunda</u>	Reserve No.: _____
DATUM:		COORDINATES: (If UTM coords provided, Zone is also required)	METHOD USED:
GDA94 / MGA94 <input checked="" type="checkbox"/>	DecDegrees <input type="checkbox"/>	DegMinSec <input type="checkbox"/>	UTMs <input checked="" type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: <u>6459149</u>		GPS <input checked="" type="checkbox"/>
WGS84 <input type="checkbox"/>	Long / Easting: <u>405374</u>		Differential GPS <input type="checkbox"/>
Unknown <input type="checkbox"/>	ZONE: <u>50 J</u>		Map <input type="checkbox"/>
LAND TENURE:		Land manager present: <input type="checkbox"/>	
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/>	SLK/Pole _____ to _____
		Shire road reserve <input type="checkbox"/>	
		Other Crown reserve <input checked="" type="checkbox"/>	
		Specify other: _____	

AREA ASSESSMENT: Edge survey <input type="checkbox"/>	Partial survey <input checked="" type="checkbox"/>	Full survey <input type="checkbox"/>	Area observed (m ²): _____
EFFORT: Time spent surveying (minutes): _____	No. of minutes spent / 100 m ² : _____		
POP'N COUNT ACCURACY: Actual <input type="checkbox"/>	Extrapolation <input type="checkbox"/>	Estimate <input checked="" type="checkbox"/>	Count method: _____
(Refer to field manual for list)			
WHAT COUNTED:	Plants <input checked="" type="checkbox"/>	Clumps <input type="checkbox"/>	Clonal stems <input type="checkbox"/>
TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:
Alive	933		933
Dead			
Area of pop (m ²): _____			
Note: Pls record count as numbers (not percentages) for database.			
QUADRATS PRESENT:	No. _____	Size _____	Data attached <input type="checkbox"/>
			Total area of quadrats (m ²): _____
Summary Quad. Totals: Alive			
REPRODUCTIVE STATE:	Clonal <input type="checkbox"/>	Vegetative <input type="checkbox"/>	Flowerbud <input type="checkbox"/>
Immature fruit <input type="checkbox"/>	Fruit <input type="checkbox"/>	Dehisced fruit <input type="checkbox"/>	Flower <input checked="" type="checkbox"/>
			Percentage in flower: _____%

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: _____

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



Threatened and Priority Flora Report Form

HABITAT INFORMATION:

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

VEGETATION CLASSIFICATION*:

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

1. Low open shrubland (Eremaea pauciflora var. pauciflora and Hypocalymma angustifolium subsp. Swan Coastal Plain (G.J. Keighery 16777))
 2. _____
 3. _____
 4. _____

ASSOCIATED SPECIES:

Other (non-dominant) spp _____

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

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

COMMENT: _____

FIRE HISTORY: Last Fire: Season/Month: _____ Year: >10 Fire Intensity: High Medium Low No signs of fire

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

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

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.) _____

Species found during a survey for Main Roads WA (Woodman Environmental Consulting job code MR19-34).
 Shapefile of all locations recorded attached

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

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

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

COPY SENT TO: Regional Office District Office Other: DBCA Species and Communities Branch

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 08/05/2020

Please return completed form to **Species And Communities Branch DBCA**,
 Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Branch.
 Record entered by: _____ Sheet No.: _____ Record Entered in Database

Threatened Ecological Community (TEC)

Occurrence Report Form

Community: Banksia woodlands of the Swan Coastal Plain **OBSERVATION DATE:** 18/09/2019
 New occurrence **Site ID:** Banksia WL SCP **CONS CODE:** P3
OBSERVERS: Kim Kershaw and Marco Pratissoli **ORGANISATION:** Woodman Environmental Consulting
ROLE: Botanist **DISTRICT:** Perth Hills **SHIRE:** Kalamunda
DESCRIPTION OF LOCATION: Located in an area of remnant vegetaion adjacent to housing; approximately 4.31 km ENE of Queens Park, 460 m SE of Roe Highway along Hicks Street (Forrestfield).

DATUM:	COORDINATES:	METHOD USED:	SURVEY EFFORT:
GDA94 <input checked="" type="checkbox"/>	LAT/Northing: <u>6460839.00</u>	GPS/ Differential-GPS/ MAP	Edge survey <input type="checkbox"/>
AGD84 <input type="checkbox"/>	LONG/Easting: <u>404930.00</u>	No. Sats: _____	Partial survey <input checked="" type="checkbox"/>
WGS84 <input type="checkbox"/>	MGA ZONE: <u>50 J</u>	Map Used: _____	Full survey <input type="checkbox"/>
Unknown <input type="checkbox"/>		Map Scale: _____	Area surveyed (ha): _____

LAND TENURE:

Nature Reserve <input type="checkbox"/>	Timber Reserve <input type="checkbox"/>	Private Property <input type="checkbox"/>	Rail Reserve <input type="checkbox"/>	Shire Rd Res <input type="checkbox"/>
National Park <input type="checkbox"/>	State Forest <input type="checkbox"/>	Pastoral Lease <input type="checkbox"/>	MRWA Rd Res <input checked="" type="checkbox"/>	Shire Reserve <input type="checkbox"/>
Cons. Park <input type="checkbox"/>	Water Reserve <input type="checkbox"/>	UCL <input type="checkbox"/>	SLK/Pole _____ to _____	Other (Specify) _____

Landowners permission sought: Landowner present: Reserve: _____

Threat type and supporting information:	Current impact (1-4)	Area affected	Potential Impact (1-4)	Onset Imminent	Long Term
Eg clearing, recreation, too frequent fire, grazing, weeds, disease, fragmentation, hydrological change. • Rate current and potential threat impact: 1=LOW, 2=MEDIUM, 3=HIGH, 4=EXTREME.					
• Exotic weeds (e.g. <i>Ehrharta calycina</i>, <i>Leptospermum laevigatum</i>)	<u>1</u>	____%	<u>2</u>	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>

CONDITION OF SOIL:

Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	Mud <input type="checkbox"/>
Dry <input type="checkbox"/>	Cracked <input type="checkbox"/>	Saline <input type="checkbox"/>	Other: _____

CONDITION OF OCCURRENCE (Bush Forever Scale) (estimate % of area in each): Pristine <input type="checkbox"/> _____% Excellent <input type="checkbox"/> _____%	RECOMMENDED MANAGEMENT ACTIONS: eg. roadside markers required, weed control, etc. _____ _____ _____ _____
---	--

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 15/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

Threatened Ecological Community (TEC) Occurrence Report Form

Very Good	<input checked="" type="checkbox"/> 100%	ACTIONS IMPLEMENTED (include date): _____ _____ _____
Good	<input type="checkbox"/> %	
Degraded	<input type="checkbox"/> %	
Completely Degraded	<input type="checkbox"/> %	

Submitter of Record: Emma Marsh

Role: Botanist

Signed: Emma Marsh

Date: 15/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

HABITAT INFORMATION:

LANDFORM:

- Crest
- Hillock
- Ridge
- Slope
- Flat
- Outcrop
- Closed depression
- Open depression
- Wetland
- Drainage line

ROCK FORM:

- Bedrock
- Boulder
- Cobble
- Coarse gravel
- Medium gravel
- Fine gravel

ROCK TYPE:

- Granite
- Dolerite
- Laterite
- Ironstone
- Limestone

Specify other: _____

SOIL TYPE:

- Sand
- Sandy loam
- Clay loam
- Light clay
- >20% Gravel
- Peat

Specify other: _____

SOIL COLOUR:

- Red
- Brown
- Yellow
- White
- Grey
- Black

Specify other: _____

DRAINAGE:

- Well drained
- Mod. drained
- Seasonally inundated
- Permanently inundated
- Tidal

Specific Landform Element: _____

VEGETATION CLASSIFICATION:

1. _____
2. _____
3. _____
4. _____

FIRE HISTORY:

Last Fire: Season/Month: _____ Year: _____ Fire Intensity: High/Medium/Low Long unburnt

LANDUSES:

SITE: **Crown land**

ADJACENT:

Nature Reserve – R 37997

OTHER COMMENTS (include recommended management actions and/or implemented actions (include date):

Associated Species:

Banksia WL SCP TEC directly overlays SCP20a - Banksia attenuata woodland over species rich dense shrublands TEC

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

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 15/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to TEC Database Administrator, SCB. Record Entered in Database Date: ____/____/____

Threatened Ecological Community (TEC) Occurrence Report Form

Community: Banksia woodlands of the Swan Coastal Plain **OBSERVATION DATE:** 17/09/2019
 New occurrence **Site ID:** Banksia WL SCP **CONS CODE:** P3
OBSERVERS: Kim Kershaw and Marco Pratissoli **ORGANISATION:** Woodman Environmental Consulting
ROLE: Botanist **DISTRICT:** Perth Hills **SHIRE:** Kalamunda
DESCRIPTION OF LOCATION: Located within the Tokin Hwy road reserve (on the E side of the Highway); approximately 1.15 km NNE of Wattle Grove and 1.62 km SE of the Row Hwy and Tonkin Hwy Intersection.

DATUM: GDA94 <input checked="" type="checkbox"/> AGD84 <input type="checkbox"/> WGS84 <input type="checkbox"/> Unknown <input type="checkbox"/>	COORDINATES: LAT/Northing: <u>6455836.36</u> LONG/Easting: <u>406056.99</u> MGA ZONE: <u>50 J</u>	METHOD USED: GPS/ Differential GPS/ MAP No. Sats: _____ Map Used: _____ Map Scale: _____	SURVEY EFFORT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/> Area surveyed (ha): _____
--	--	---	--

LAND TENURE:

Nature Reserve Timber Reserve Private Property Rail Reserve Shire Rd Res
 National Park State Forest Pastoral Lease MRWA Rd Res Shire Reserve
 Cons. Park Water Reserve UCL SLK/Pole _____ to _____ Other (Specify) Bush Forever site
 Landowners permission sought: Landowner present: Reserve: _____

Threat type and supporting information:	Current impact (1-4)	Area affected	Potential Impact (1-4)	Onset Imminent	Long Term
Eg clearing, recreation, too frequent fire, grazing, weeds, disease, fragmentation, hydrological change. • Rate current and potential threat impact: 1=LOW, 2=MEDIUM, 3=HIGH, 4=EXTREME.					
• Exotic weeds	<u>1</u>	____%	<u>2</u>	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>

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

CONDITION OF OCCURRENCE (Bush Forever Scale) (estimate % of area in each): Pristine <input type="checkbox"/> _____% Excellent <input checked="" type="checkbox"/> <u>53.7%</u>	RECOMMENDED MANAGEMENT ACTIONS: eg. roadside markers required, weed control, etc. _____ _____ _____
--	---

Submitter of Record: Emma Marsh

Role: Botanist

Signed: Emma Marsh

Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

Threatened Ecological Community (TEC) Occurrence Report Form

Very Good	<input checked="" type="checkbox"/> 44.1%	ACTIONS IMPLEMENTED (include date): _____ _____ _____
Good	<input checked="" type="checkbox"/> 1.3%	
Degraded	<input checked="" type="checkbox"/> 0.87%	
Completely Degraded	<input type="checkbox"/> _____%	

Submitter of Record: Emma Marsh

Role: Botanist

Signed: Emma Marsh

Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

Threatened Ecological Community (TEC)

Occurrence Report Form

HABITAT INFORMATION:					
LANDFORM: Crest <input type="checkbox"/> Hillock <input type="checkbox"/> Ridge <input type="checkbox"/> Slope <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Outcrop <input type="checkbox"/> Closed depression <input type="checkbox"/> Open depression <input type="checkbox"/> Wetland <input type="checkbox"/> Drainage line <input type="checkbox"/>	ROCK FORM: Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Coarse gravel <input type="checkbox"/> Medium gravel <input type="checkbox"/> Fine gravel <input type="checkbox"/>	ROCK TYPE: Granite <input type="checkbox"/> Dolerite <input type="checkbox"/> Laterite <input type="checkbox"/> Ironstone <input type="checkbox"/> Limestone <input type="checkbox"/> Specify other:	SOIL TYPE: Sand <input checked="" type="checkbox"/> Sandy loam <input type="checkbox"/> Clay loam <input type="checkbox"/> Light clay <input type="checkbox"/> >20% Gravel <input type="checkbox"/> Peat <input type="checkbox"/> Specify other:	SOIL COLOUR: Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> White <input type="checkbox"/> Grey <input type="checkbox"/> Black <input type="checkbox"/> Specify other Grey-white	DRAINAGE: Well drained <input type="checkbox"/> Mod. drained <input type="checkbox"/> Seasonally inundated <input type="checkbox"/> Permanently inundated <input type="checkbox"/> Tidal <input type="checkbox"/>
Specific Landform Element:					

VEGETATION CLASSIFICATION:	1. Open Allocasuarina fraseriana woodland 2. Banksia attenuata, Banksia menziesii and Eucalyptus todtiana woodland 3. Open tall shrubland (Adenanthos cygnorum subsp. cygnorum) 4. Low dense shrubland of mixed species (Melaleuca trichophylla, Burchardia congesta, Hibbertia hypericoides subsp. hypericoides)
-----------------------------------	--

FIRE HISTORY: Last Fire: Season/Month: _____ Year: >5 **Fire Intensity:** High/Medium/Low Long unburnt

LANDUSES:	SITE: <u>Crown Land</u>
ADJACENT:	<u>UCL (W), road (W)</u>

OTHER COMMENTS (include recommended management actions and/or implemented actions (include date):	Associated Species:
Banksia WL SCP TEC directly overlays SCP20a - Banksia attenuata woodland over species rich dense shrublands TEC	

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

Threatened Ecological Community (TEC)

Occurrence Report Form

Community: Banksia woodlands of the Swan Coastal Plain **OBSERVATION DATE:** 22/10/2019
 New occurrence **Site ID:** Banksia WL SCP **CONS CODE:** P3
OBSERVERS: David Coultas and Leah Firth **ORGANISATION:** Woodman Environmental Consulting
ROLE: Botanist **DISTRICT:** Swan Coastal **SHIRE:** Kalamunda
DESCRIPTION OF LOCATION: Located within the Tonkin Hwy road reserve (on the W side of the Hwy); approximately 1.02 km NNE of Wattle Grove and 1.40 km SE of the Roe Hwy and Tonkin Hwy intersection.

DATUM:	COORDINATES:	METHOD USED:	SURVEY EFFORT:
GDA94 <input checked="" type="checkbox"/>	LAT/Northing: <u>6459504.85</u>	GPS/ Differential-GPS/ MAP	Edge survey <input type="checkbox"/>
AGD84 <input type="checkbox"/>	LONG/Easting: <u>404934.70</u>	No. Sats: _____	Partial survey <input checked="" type="checkbox"/>
WGS84 <input type="checkbox"/>	MGA ZONE: <u>50 J</u>	Map Used: _____	Full survey <input type="checkbox"/>
Unknown <input type="checkbox"/>		Map Scale: _____	Area surveyed (ha): _____

LAND TENURE:

Nature Reserve <input type="checkbox"/>	Timber Reserve <input type="checkbox"/>	Private Property <input type="checkbox"/>	Rail Reserve <input type="checkbox"/>	Shire Rd Res <input type="checkbox"/>
National Park <input type="checkbox"/>	State Forest <input type="checkbox"/>	Pastoral Lease <input type="checkbox"/>	MRWA Rd Res <input checked="" type="checkbox"/>	Shire Reserve <input type="checkbox"/>
Cons. Park <input type="checkbox"/>	Water Reserve <input type="checkbox"/>	UCL <input checked="" type="checkbox"/>	SLK/Pole _____ to _____	Other (Specify) Bush Forever site

Landowners permission sought: Landowner present: Reserve: _____

Threat type and supporting information:	Current impact (1-4)	Area affected	Potential Impact (1-4)	Onset	Long Term
Eg clearing, recreation, too frequent fire, grazing, weeds, disease, fragmentation, hydrological change. • Rate current and potential threat impact: 1=LOW, 2=MEDIUM, 3=HIGH, 4=EXTREME.					
• Exotic weeds	2	____%	3	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>

CONDITION OF SOIL:

Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	Mud <input type="checkbox"/>
Dry <input type="checkbox"/>	Cracked <input type="checkbox"/>	Saline <input type="checkbox"/>	Other: _____

CONDITION OF OCCURRENCE (Bush Forever Scale) (estimate % of area in each): Pristine <input type="checkbox"/> _____% Excellent <input checked="" type="checkbox"/> <u>7.91</u> %	RECOMMENDED MANAGEMENT ACTIONS: eg. roadside markers required, weed control, etc. _____ _____ _____
---	---

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 16/07/2019

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

Occurrence Report Form

Very Good	<input checked="" type="checkbox"/> 31.62%	ACTIONS IMPLEMENTED (include date): _____ _____ _____
Good	<input checked="" type="checkbox"/> 40.47%	
Degraded	<input checked="" type="checkbox"/> 20%	
Completely Degraded	<input type="checkbox"/> ____%	

Submitter of Record: Emma Marsh

Role: Botanist

Signed: Emma Marsh

Date: 16/07/2019

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

**Threatened Ecological Community (TEC)
Occurrence Report Form**

HABITAT INFORMATION:

LANDFORM: Crest <input type="checkbox"/> Hillock <input type="checkbox"/> Ridge <input type="checkbox"/> Slope <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Outcrop <input type="checkbox"/> Closed depression <input type="checkbox"/> Open depression <input type="checkbox"/> Wetland <input type="checkbox"/> Drainage line <input type="checkbox"/>	ROCK FORM: Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Coarse gravel <input type="checkbox"/> Medium gravel <input type="checkbox"/> Fine gravel <input type="checkbox"/> Specify other: _____	ROCK TYPE: Granite <input type="checkbox"/> Dolerite <input type="checkbox"/> Laterite <input type="checkbox"/> Ironstone <input type="checkbox"/> Limestone <input type="checkbox"/> Specify other: _____	SOIL TYPE: Sand <input checked="" type="checkbox"/> Sandy loam <input type="checkbox"/> Clay loam <input type="checkbox"/> Light clay <input type="checkbox"/> >20% Gravel <input type="checkbox"/> Peat <input type="checkbox"/> Specify other: _____	SOIL COLOUR: Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> White <input type="checkbox"/> Grey <input checked="" type="checkbox"/> Black <input type="checkbox"/> Specify other: _____	DRAINAGE: Well drained <input type="checkbox"/> Mod. drained <input type="checkbox"/> Seasonally inundated <input type="checkbox"/> Permanently inundated <input type="checkbox"/> Tidal <input type="checkbox"/>
--	--	---	--	--	---

VEGETATION CLASSIFICATION:

1. Mid open woodland (*Banksia menziesii*)
2. Tall open shrubland (*Jacksonia floribunda*, *Adenanthos cygnorum* subsp. *cygnorum*, *Calytrix fraseri*)
3. Low shrubland (*Boronia ramosa* subsp. *anethifolia*, *Hibbertia hypericoides* subsp. *hypericoides*)
4. Sedgesland of mixed species (*Mesomelaena pseudostygia*, *Stylidium repens*)

FIRE HISTORY: Last Fire: Season/Month: _____ Year: >10 Fire Intensity: High/Medium/Low Long unburnt

LANDUSES: SITE: Crown land
ADJACENT: Road (E), UCL (E)

OTHER COMMENTS (include recommended management actions and/or implemented actions (include date):	Associated Species:

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

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 16/07/2019

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator, SCB. Record Entered in Database** Date: ____/____/____

Threatened Ecological Community (TEC)

Occurrence Report Form

Community: Banksia woodlands of the Swan Coastal Plain **OBSERVATION DATE:** 20/09/2019
 New occurrence **Site ID:** Banksia WL SCP **CONS CODE:** P3
OBSERVERS: Kim Kershaw and Marco Pratissoli **ORGANISATION:** Woodman Environmental Consulting
ROLE: Botanist **DISTRICT:** Swan Coastal **SHIRE:** Kalamunda
DESCRIPTION OF LOCATION: Located within the Tonkin Hwy rad reserve (on the W side of the Hwy); approx. 810.52 m NE of wattle grove.

DATUM:	COORDINATES:	METHOD USED:	SURVEY EFFORT:
GDA94 <input checked="" type="checkbox"/>	LAT/Northing: <u>6458978.00</u>	GPS/ Differential GPS/ MAP	Edge survey <input type="checkbox"/>
AGD84 <input type="checkbox"/>	LONG/Easting: <u>405248.00</u>	No. Sats: _____	Partial survey <input checked="" type="checkbox"/>
WGS84 <input type="checkbox"/>	MGA ZONE: <u>50 J</u>	Map Used: _____	Full survey <input type="checkbox"/>
Unknown <input type="checkbox"/>		Map Scale: _____	Area surveyed (ha): _____

LAND TENURE:

Nature Reserve <input type="checkbox"/>	Timber Reserve <input type="checkbox"/>	Private Property <input type="checkbox"/>	Rail Reserve <input type="checkbox"/>	Shire Rd Res <input type="checkbox"/>
National Park <input type="checkbox"/>	State Forest <input type="checkbox"/>	Pastoral Lease <input type="checkbox"/>	MRWA Rd Res <input checked="" type="checkbox"/>	Shire Reserve <input type="checkbox"/>
Cons. Park <input type="checkbox"/>	Water Reserve <input type="checkbox"/>	UCL <input type="checkbox"/>	SLK/Pole _____ to _____	Other (Specify) <u>Bush Forever site</u>

Landowners permission sought: Landowner present: Reserve: _____

Threat type and supporting information:	Current impact (1-4)	Area affected	Potential Impact (1-4)	Onset	Long Term
Eg clearing, recreation, too frequent fire, grazing, weeds, disease, fragmentation, hydrological change. • Rate current and potential threat impact: 1=LOW, 2=MEDIUM, 3=HIGH, 4=EXTREME.					
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>

CONDITION OF SOIL:

Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	Mud <input type="checkbox"/>
Dry <input type="checkbox"/>	Cracked <input type="checkbox"/>	Saline <input type="checkbox"/>	Other: _____

CONDITION OF OCCURRENCE (Bush Forever Scale) (estimate % of area in each): Pristine <input type="checkbox"/> _____ % Excellent <input checked="" type="checkbox"/> <u>90.68</u> %	RECOMMENDED MANAGEMENT ACTIONS: eg. roadside markers required, weed control, etc. _____ _____ _____ _____
---	--

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

Threatened Ecological Community (TEC) Occurrence Report Form

Very Good	<input type="checkbox"/> ____%	ACTIONS IMPLEMENTED (include date): _____ _____ _____
Good	<input checked="" type="checkbox"/> 9.32%	
Degraded	<input type="checkbox"/> ____%	
Completely Degraded	<input type="checkbox"/> ____%	

Submitter of Record: Emma Marsh

Role: Botanist

Signed: Emma Marsh

Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

Threatened Ecological Community (TEC)

Occurrence Report Form

HABITAT INFORMATION:					
LANDFORM: Crest <input type="checkbox"/> Hillock <input type="checkbox"/> Ridge <input type="checkbox"/> Slope <input type="checkbox"/> Flat <input checked="" type="checkbox"/> Outcrop <input type="checkbox"/> Closed depression <input type="checkbox"/> Open depression <input type="checkbox"/> Wetland <input type="checkbox"/> Drainage line <input type="checkbox"/>	ROCK FORM: Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Coarse gravel <input type="checkbox"/> Medium gravel <input type="checkbox"/> Fine gravel <input type="checkbox"/>	ROCK TYPE: Granite <input type="checkbox"/> Dolerite <input type="checkbox"/> Laterite <input type="checkbox"/> Ironstone <input type="checkbox"/> Limestone <input type="checkbox"/> Specify other: _____	SOIL TYPE: Sand <input checked="" type="checkbox"/> Sandy loam <input type="checkbox"/> Clay loam <input type="checkbox"/> Light clay <input type="checkbox"/> >20% Gravel <input type="checkbox"/> Peat <input type="checkbox"/> Specify other: _____	SOIL COLOUR: Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> White <input type="checkbox"/> Grey <input checked="" type="checkbox"/> Black <input type="checkbox"/> Specify other: _____	DRAINAGE: Well drained <input type="checkbox"/> Mod. drained <input type="checkbox"/> Seasonally inundated <input type="checkbox"/> Permanently inundated <input type="checkbox"/> Tidal <input type="checkbox"/>
Specific Landform Element: _____					

VEGETATION CLASSIFICATION:	1. Open woodland (<i>Banksia menziesii</i> , <i>Allocasuarina fraseriana</i> , <i>Eucalyptus marginata</i> subsp. <i>marginata</i>) 2. Tall sparse shrubland (<i>Eremaea pauciflora</i> var. <i>pauciflora</i> , <i>Kingia australis</i> , <i>Xanthorrhoea preissii</i>) 3. Low sparse shrubland (<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i> , <i>Goodenia coerulea</i>) 4. Mid open sedgeland (<i>Tetraria octandra</i> , <i>Mesomelaena tetragona</i>)
-----------------------------------	---

FIRE HISTORY: **Last Fire:** Season/Month: _____ Year: >10 **Fire Intensity:** High/Medium/Low Long unburnt

LANDUSES:	SITE: <u>Crown Land</u>
ADJACENT:	<u>UCL (E), Road (E)</u>

OTHER COMMENTS (include recommended management actions and/or implemented actions (include date):	Associated Species:

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

Threatened Ecological Community (TEC)

Occurrence Report Form

Community: Banksia woodlands of the Swan Coastal Plain **OBSERVATION DATE:** 02/10/2019
 New occurrence **Site ID:** Banksia WL SCP **CONS CODE:** P3
OBSERVERS: Marco Pratissoli and Emalyn Loudon **ORGANISATION:** Woodman Environmental Consulting
ROLE: Botanist **DISTRICT:** Perth Hills **SHIRE:** Kalamunda
DESCRIPTION OF LOCATION: Located within the Tonkin Hwy road reserve (on the E side of the Hwy); approx. 931 m NE of Wattle Grove.

DATUM:	COORDINATES:	METHOD USED:	SURVEY EFFORT:
GDA94 <input checked="" type="checkbox"/>	LAT/Northing: <u>6458900.48</u>	GPS/ Differential <u>GPS/ MAP</u>	Edge survey <input type="checkbox"/>
AGD84 <input type="checkbox"/>	LONG/Easting: <u>405416.82</u>	No. Sats: _____	Partial survey <input checked="" type="checkbox"/>
WGS84 <input type="checkbox"/>	MGA ZONE: <u>50 J</u>	Map Used: _____	Full survey <input type="checkbox"/>
Unknown <input type="checkbox"/>		Map Scale: _____	Area surveyed (ha): _____

LAND TENURE:

Nature Reserve <input type="checkbox"/>	Timber Reserve <input type="checkbox"/>	Private Property <input type="checkbox"/>	Rail Reserve <input type="checkbox"/>	Shire Rd Res <input type="checkbox"/>
National Park <input type="checkbox"/>	State Forest <input type="checkbox"/>	Pastoral Lease <input type="checkbox"/>	MRWA Rd Res <input checked="" type="checkbox"/>	Shire Reserve <input type="checkbox"/>
Cons. Park <input type="checkbox"/>	Water Reserve <input type="checkbox"/>	UCL <input type="checkbox"/>	SLK/Pole _____ to _____	Other (Specify) _____

Landowners permission sought: Landowner present: Reserve: _____

Threat type and supporting information:	Current impact (1-4)	Area affected	Potential Impact (1-4)	Onset Imminent	Long Term
Eg clearing, recreation, too frequent fire, grazing, weeds, disease, fragmentation, hydrological change. • Rate current and potential threat impact: 1=LOW, 2=MEDIUM, 3=HIGH, 4=EXTREME.					
• Exotic weeds	<u>1</u>	____%	<u>2</u>	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>

CONDITION OF SOIL:

Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	Mud <input type="checkbox"/>
Dry <input type="checkbox"/>	Cracked <input type="checkbox"/>	Saline <input type="checkbox"/>	Other: _____

CONDITION OF OCCURRENCE (Bush Forever Scale) (estimate % of area in each): Pristine <input type="checkbox"/> _____% Excellent <input checked="" type="checkbox"/> <u>100%</u>	RECOMMENDED MANAGEMENT ACTIONS: eg. roadside markers required, weed control, etc. _____ _____ _____ _____
---	--

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

Occurrence Report Form

Very Good	<input type="checkbox"/> ____%	ACTIONS IMPLEMENTED (include date): _____ _____ _____
Good	<input type="checkbox"/> ____%	
Degraded	<input type="checkbox"/> ____%	
Completely Degraded	<input type="checkbox"/> ____%	

Submitter of Record: Emma Marsh

Role: Botanist

Signed: Emma Marsh

Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

HABITAT INFORMATION:					
LANDFORM:	ROCK FORM:	ROCK TYPE:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest <input type="checkbox"/> Hillock <input type="checkbox"/> Ridge <input type="checkbox"/> Slope <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Outcrop <input type="checkbox"/> Closed depression <input type="checkbox"/> Open depression <input type="checkbox"/> Wetland <input type="checkbox"/> Drainage line <input type="checkbox"/>	Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Coarse gravel <input type="checkbox"/> Medium gravel <input type="checkbox"/> Fine gravel <input type="checkbox"/>	Granite <input type="checkbox"/> Dolerite <input type="checkbox"/> Laterite <input type="checkbox"/> Ironstone <input type="checkbox"/> Limestone <input type="checkbox"/> Specify other:	Sand <input type="checkbox"/> Sandy loam <input checked="" type="checkbox"/> Clay loam <input type="checkbox"/> Light clay <input type="checkbox"/> >20% Gravel <input type="checkbox"/> Peat <input type="checkbox"/> Specify other:	Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> White <input type="checkbox"/> Grey <input checked="" type="checkbox"/> Black <input type="checkbox"/> Specify other:	Well drained <input type="checkbox"/> Mod. drained <input type="checkbox"/> Seasonally inundated <input type="checkbox"/> Permanently inundated <input type="checkbox"/> Tidal <input type="checkbox"/>
Specific Landform Element:					

VEGETATION CLASSIFICATION:	1. Eucalyptus marginata and Allocasuarina fraseriana woodland <hr/> 2. Banksia menziesii open woodland <hr/> 3. Xanthorrhoea preissii low shrubland <hr/> 4. Open grasses and sedges (Ehrharta calycina, Lomandra caespitosa)
-----------------------------------	--

FIRE HISTORY: Last Fire: Season/Month: _____ Year: >5 Fire Intensity: High/Medium/Low Long unburnt

LANDUSES:	SITE: Bush Forever site, Crown Land
ADJACENT:	UCL (W), Road (W), Private property (gold-course) (E)

OTHER COMMENTS (include recommended management actions and/or implemented actions (include date):	Associated Species:

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

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

Threatened Ecological Community (TEC)

Occurrence Report Form

Community: Banksia woodlands of the Swan Coastal Plain **OBSERVATION DATE:** 17/09/2019
 New occurrence **Site ID:** Banksia WL SCP **CONS CODE:** P3
OBSERVERS: Kim Kershaw, Marco Pratissoli **ORGANISATION:** Woodman Environmental Consulting
ROLE: Botanist **DISTRICT:** Swan Coastal Gosnells **SHIRE:** _____
DESCRIPTION OF LOCATION: Located within Tonkim Hwy road reserve (on the W side of the Hwy); approx. 2.03 km ENE of Kenwick.

DATUM:	COORDINATES:	METHOD USED:	SURVEY EFFORT:
GDA94 <input checked="" type="checkbox"/>	LAT/Northing: <u>6455985.37</u>	GPS/ Differential GPS/ MAP	Edge survey <input type="checkbox"/>
AGD84 <input type="checkbox"/>	LONG/Easting: <u>405824.63</u>	No. Sats: _____	Partial survey <input checked="" type="checkbox"/>
WGS84 <input type="checkbox"/>	MGA ZONE: <u>50 J</u>	Map Used: _____	Full survey <input type="checkbox"/>
Unknown <input type="checkbox"/>		Map Scale: _____	Area surveyed (ha): _____

LAND TENURE:

Nature Reserve Timber Reserve Private Property Rail Reserve Shire Rd Res
 National Park State Forest Pastoral Lease MRWA Rd Res Shire Reserve
 Cons. Park Water Reserve UCL SLK/Pole _____ to _____ Other (Specify) _____

Landowners permission sought: Landowner present: Reserve: _____

Threat type and supporting information:	Current impact (1-4)	Area affected	Potential Impact (1-4)	Onset Imminent	Long Term
Eg clearing, recreation, too frequent fire, grazing, weeds, disease, fragmentation, hydrological change. • Rate current and potential threat impact: 1=LOW, 2=MEDIUM, 3=HIGH, 4=EXTREME.					
• Exotic weeds	<u>1</u>	____%	<u>2</u>	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>

CONDITION OF SOIL:

Moist Waterlogged Inundated Mud
 Dry Cracked Saline Other: _____

CONDITION OF OCCURRENCE (Bush Forever Scale) (estimate % of area in each): Pristine <input type="checkbox"/> _____% Excellent <input checked="" type="checkbox"/> <u>93.22</u> %	RECOMMENDED MANAGEMENT ACTIONS: eg. roadside markers required, weed control, etc. _____ _____ _____ _____
--	--

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

Threatened Ecological Community (TEC) Occurrence Report Form

Very Good	<input checked="" type="checkbox"/> 5.09%	ACTIONS IMPLEMENTED (include date): _____ _____ _____
Good	<input checked="" type="checkbox"/> 1.69%	
Degraded	<input type="checkbox"/> _____%	
Completely Degraded	<input type="checkbox"/> _____%	

Submitter of Record: Emma Marsh

Role: Botanist

Signed: Emma Marsh

Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

HABITAT INFORMATION:

<p>LANDFORM:</p> <p>Crest <input type="checkbox"/></p> <p>Hillock <input type="checkbox"/></p> <p>Ridge <input type="checkbox"/></p> <p>Slope <input checked="" type="checkbox"/></p> <p>Flat <input type="checkbox"/></p> <p>Outcrop <input type="checkbox"/></p> <p>Closed depression <input type="checkbox"/></p> <p>Open depression <input type="checkbox"/></p> <p>Wetland <input type="checkbox"/></p> <p>Drainage line <input type="checkbox"/></p>	<p>ROCK FORM:</p> <p>Bedrock <input type="checkbox"/></p> <p>Boulder <input type="checkbox"/></p> <p>Cobble <input type="checkbox"/></p> <p>Coarse gravel <input type="checkbox"/></p> <p>Medium gravel <input type="checkbox"/></p> <p>Fine gravel <input type="checkbox"/></p>	<p>ROCK TYPE:</p> <p>Granite <input type="checkbox"/></p> <p>Dolerite <input type="checkbox"/></p> <p>Laterite <input type="checkbox"/></p> <p>Ironstone <input type="checkbox"/></p> <p>Limestone <input type="checkbox"/></p> <p>Specify other: _____</p>	<p>SOIL TYPE:</p> <p>Sand <input checked="" type="checkbox"/></p> <p>Sandy loam <input type="checkbox"/></p> <p>Clay loam <input type="checkbox"/></p> <p>Light clay <input type="checkbox"/></p> <p>>20% Gravel <input type="checkbox"/></p> <p>Peat <input type="checkbox"/></p> <p>Specify other: _____</p>	<p>SOIL COLOUR:</p> <p>Red <input type="checkbox"/></p> <p>Brown <input type="checkbox"/></p> <p>Yellow <input type="checkbox"/></p> <p>White <input type="checkbox"/></p> <p>Grey <input type="checkbox"/></p> <p>Black <input type="checkbox"/></p> <p>Specify other Grey-white</p>	<p>DRAINAGE:</p> <p>Well drained <input type="checkbox"/></p> <p>Mod. drained <input type="checkbox"/></p> <p>Seasonally inundated <input type="checkbox"/></p> <p>Permanently inundated <input type="checkbox"/></p> <p>Tidal <input type="checkbox"/></p>
Specific Landform Element: _____					

VEGETATION CLASSIFICATION:

1. Open Allocasuarina fraseriana woodland
2. Banksia attenuata, Banksia menziesii, Eucalyptus todtiana woodland
3. Tall shrubland (Adenanthos cygnorum subsp. cygnorum, Conospermum undulatum)
4. Low dense shrubland

FIRE HISTORY: Last Fire: Season/Month: _____ Year: >15 Fire Intensity: High/Medium/Low Long unburnt

LANDUSES: SITE: Crown Land

ADJACENT: Road (E)

OTHER COMMENTS (include recommended management actions and/or implemented actions (include date):	Associated Species:
Banksia WL SCP TEC directly overlays SCP20a - Banksia attenuata woodland over species rich dense shrublands TEC	

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

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to TEC Database Administrator, SCB. Record Entered in Database Date: ____/____/____

Threatened Ecological Community (TEC)

Occurrence Report Form

Community: Banksia woodlands of the Swan Coastal Plain **OBSERVATION DATE:** 17/09/2019
 New occurrence **Site ID:** Banksia WL SCP **CONS CODE:** P3
OBSERVERS: Kim Kershaw, Marco Pratisoli **ORGANISATION:** Woodman Environmental Consulting
ROLE: Botanist **DISTRICT:** Swan Coastal Gosnells **SHIRE:** _____
DESCRIPTION OF LOCATION: Located within Tonkim Hwy road reserve (on the W side of the Hwy); approx. 2.03 km ENE of Kenwick.

DATUM:	COORDINATES:	METHOD USED:	SURVEY EFFORT:
GDA94 <input checked="" type="checkbox"/>	LAT/Northing: <u>6455835.14</u>	GPS/ Differential GPS/ MAP	Edge survey <input type="checkbox"/>
AGD84 <input type="checkbox"/>	LONG/Easting: <u>406020.83</u>	No. Sats: _____	Partial survey <input checked="" type="checkbox"/>
WGS84 <input type="checkbox"/>	MGA ZONE: <u>50 J</u>	Map Used: _____	Full survey <input type="checkbox"/>
Unknown <input type="checkbox"/>		Map Scale: _____	Area surveyed (ha): _____

LAND TENURE:

Nature Reserve Timber Reserve Private Property Rail Reserve Shire Rd Res
 National Park State Forest Pastoral Lease MRWA Rd Res Shire Reserve
 Cons. Park Water Reserve UCL SLK/Pole _____ to _____ Other (Specify) _____

Landowners permission sought: Landowner present: Reserve: _____

Threat type and supporting information:	Current impact (1-4)	Area affected	Potential Impact (1-4)	Onset Imminent	Long Term
Eg clearing, recreation, too frequent fire, grazing, weeds, disease, fragmentation, hydrological change. • Rate current and potential threat impact: 1=LOW, 2=MEDIUM, 3=HIGH, 4=EXTREME.					
• Exotic weeds	<u>1</u>	____%	<u>2</u>	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	____	____%	____	<input type="checkbox"/>	<input type="checkbox"/>

CONDITION OF SOIL:

Moist Waterlogged Inundated Mud
 Dry Cracked Saline Other: _____

CONDITION OF OCCURRENCE (Bush Forever Scale) (estimate % of area in each): Pristine <input type="checkbox"/> _____% Excellent <input checked="" type="checkbox"/> <u>91.04</u> %	RECOMMENDED MANAGEMENT ACTIONS: eg. roadside markers required, weed control, etc. _____ _____ _____ _____
--	--

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

Threatened Ecological Community (TEC)

Occurrence Report Form

Very Good <input checked="" type="checkbox"/> 8.96%	ACTIONS IMPLEMENTED (include date): <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/>
Good <input type="checkbox"/> %	
Degraded <input type="checkbox"/> ____%	
Completely Degraded <input type="checkbox"/> ____%	

Submitter of Record: Emma Marsh

Role: Botanist

Signed: Emma Marsh

Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

Occurrence Report Form

HABITAT INFORMATION:					
LANDFORM: Crest <input type="checkbox"/> Hillock <input type="checkbox"/> Ridge <input type="checkbox"/> Slope <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Outcrop <input type="checkbox"/> Closed depression <input type="checkbox"/> Open depression <input type="checkbox"/> Wetland <input type="checkbox"/> Drainage line <input type="checkbox"/>	ROCK FORM: Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Coarse gravel <input type="checkbox"/> Medium gravel <input type="checkbox"/> Fine gravel <input type="checkbox"/>	ROCK TYPE: Granite <input type="checkbox"/> Dolerite <input type="checkbox"/> Laterite <input type="checkbox"/> Ironstone <input type="checkbox"/> Limestone <input type="checkbox"/> Specify other:	SOIL TYPE: Sand <input checked="" type="checkbox"/> Sandy loam <input type="checkbox"/> Clay loam <input type="checkbox"/> Light clay <input type="checkbox"/> >20% Gravel <input type="checkbox"/> Peat <input type="checkbox"/> Specify other:	SOIL COLOUR: Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> White <input type="checkbox"/> Grey <input type="checkbox"/> Black <input type="checkbox"/> Specify other: Grey-white	DRAINAGE: Well drained <input type="checkbox"/> Mod. drained <input type="checkbox"/> Seasonally inundated <input type="checkbox"/> Permanently inundated <input type="checkbox"/> Tidal <input type="checkbox"/>
Specific Landform Element:					

VEGETATION CLASSIFICATION:	1. Open Allocasuarina fraseriana woodland 2. Banksia attenuata, Banksia menziesii, Eucalyptus todtiana woodland 3. Tall shrubland (Adenanthos cygnorum subsp. cygnorum, Conospermum undulatum) 4. Low dense shrubland
-----------------------------------	--

FIRE HISTORY: Last Fire: Season/Month: _____ Year: >15 Fire Intensity: High/Medium/Low Long unburnt

LANDUSES:	SITE: Crown Land
ADJACENT:	<u>Road (E)</u>

OTHER COMMENTS (include recommended management actions and/or implemented actions (include date):	Associated Species:
Banksia WL SCP TEC directly overlays SCP20a - Banksia attenuata woodland over species rich dense shrublands TEC	

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

Threatened Ecological Community (TEC)

Occurrence Report Form

Community: Banksia attenuata woodland over species rich dense shrublands **OBSERVATION DATE:** 22/10/2019
 TEC

New occurrence **Site ID:** SCP20a **CONS CODE:** EN

OBSERVERS: David Coultas and Leah Firth **ORGANISATION:** Woodman Environmental Consulting

ROLE: Botanist **DISTRICT:** Perth Hills **SHIRE:** Gosnells

DESCRIPTION OF LOCATION: Located within Tonkin Hwy road reserve (on the E side of the Hwy); approx. 2.60 km E of Kenwick.

DATUM:	COORDINATES:	METHOD USED:	SURVEY EFFORT:
GDA94 <input checked="" type="checkbox"/>	LAT/Northing: <u>6455342.10</u>	GPS/ Differential GPS/ MAP	Edge survey <input type="checkbox"/>
AGD84 <input type="checkbox"/>			Partial survey <input checked="" type="checkbox"/>
WGS84 <input type="checkbox"/>	LONG/Easting: <u>406510.20</u>	No. Sats: _____	Full survey <input type="checkbox"/>
Unknown <input type="checkbox"/>	MGA ZONE: <u>50 J</u>	Map Used: _____	Area surveyed (ha): _____
		Map Scale: _____	

LAND TENURE:

Nature Reserve <input type="checkbox"/>	Timber Reserve <input type="checkbox"/>	Private Property <input type="checkbox"/>	Rail Reserve <input type="checkbox"/>	Shire Rd Res <input type="checkbox"/>
National Park <input type="checkbox"/>	State Forest <input type="checkbox"/>	Pastoral Lease <input type="checkbox"/>	MRWA Rd Res <input checked="" type="checkbox"/>	Shire Reserve <input type="checkbox"/>
Cons. Park <input type="checkbox"/>	Water Reserve <input type="checkbox"/>	UCL <input checked="" type="checkbox"/>	SLK/Pole _____ to _____	Other (Specify) _____

Landowners permission sought: Landowner present: Reserve: _____

Threat type and supporting information:	Current impact (1-4)	Area affected	Potential Impact (1-4)	Onset	Long Term
Eg clearing, recreation, too frequent fire, grazing, weeds, disease, fragmentation, hydrological change. • Rate current and potential threat impact: 1=LOW, 2=MEDIUM, 3=HIGH, 4=EXTREME.					
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>

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

CONDITION OF OCCURRENCE (Bush Forever Scale) (estimate % of area in each): Pristine <input type="checkbox"/> _____ % Excellent <input checked="" type="checkbox"/> <u>60.84</u> %	RECOMMENDED MANAGEMENT ACTIONS: eg. roadside markers required, weed control, etc. _____ _____ _____ _____
---	--

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

Threatened Ecological Community (TEC) Occurrence Report Form

Very Good	<input checked="" type="checkbox"/> 29.47%	ACTIONS IMPLEMENTED (include date): _____ _____ _____
Good	<input checked="" type="checkbox"/> 5.69%	
Degraded	<input checked="" type="checkbox"/> 4.00%	
Completely Degraded	<input type="checkbox"/> _____%	

Submitter of Record: Emma Marsh

Role: Botanist

Signed: Emma Marsh

Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

Threatened Ecological Community (TEC)

Occurrence Report Form

HABITAT INFORMATION:					
LANDFORM:	ROCK FORM:	ROCK TYPE:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest <input type="checkbox"/>	Bedrock <input type="checkbox"/>	Granite <input type="checkbox"/>	Sand <input checked="" type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input type="checkbox"/>
Hillock <input type="checkbox"/>	Boulder <input type="checkbox"/>	Dolerite <input type="checkbox"/>	Sandy loam <input type="checkbox"/>	Brown <input type="checkbox"/>	Mod. drained <input type="checkbox"/>
Ridge <input type="checkbox"/>	Cobble <input type="checkbox"/>	Laterite <input type="checkbox"/>	Clay loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Slope <input type="checkbox"/>	Coarse gravel <input type="checkbox"/>	Ironstone <input type="checkbox"/>	Light clay <input type="checkbox"/>	White <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Flat <input checked="" type="checkbox"/>	Medium gravel <input type="checkbox"/>	Limestone <input type="checkbox"/>	>20% Gravel <input type="checkbox"/>	Grey <input type="checkbox"/>	Tidal <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Fine gravel <input type="checkbox"/>	Specify other: _____	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Closed depression <input type="checkbox"/>			Specify other: _____	Specify other _____	
Open depression <input type="checkbox"/>	Specific Landform Element: _____				
Wetland <input type="checkbox"/>					
Drainage line <input type="checkbox"/>					

VEGETATION CLASSIFICATION:	1. _____
	2. _____
	3. _____
	4. _____

FIRE HISTORY: Last Fire: Season/Month: _____ Year: ≥10 Fire Intensity: High/Medium/Low Long unburnt

LANDUSES:	SITE: <u>Crown Land (Main roads)</u>
ADJACENT:	<u>Road (W)</u>

OTHER COMMENTS (include recommended management actions and/or implemented actions (include date):	Associated Species:

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

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator, SCB.** Record Entered in Database Date: ____/____/____

Threatened Ecological Community (TEC)

Occurrence Report Form

Community: Banksia attenuata woodland over species rich dense shrublands **OBSERVATION DATE:** 22/10/2019
 TEC

New occurrence **Site ID:** SCP20a **CONS CODE:** EN

OBSERVERS: David Coultas and Leah Firth **ORGANISATION:** Woodman Environmental Consulting

ROLE: Botanist **DISTRICT:** Perth Hills **SHIRE:** Gosnells

DESCRIPTION OF LOCATION: Located within the Tonkin Hwy road reserve (on the W side of Hwy); approx. 2.13 km SW of Forrestfield.

DATUM:	COORDINATES:	METHOD USED:	SURVEY EFFORT:
GDA94 <input checked="" type="checkbox"/>	LAT/Northing: <u>6458565.07</u>	GPS/ Differential GPS/ MAP	Edge survey <input type="checkbox"/>
AGD84 <input type="checkbox"/>			Partial survey <input checked="" type="checkbox"/>
WGS84 <input type="checkbox"/>	LONG/Easting: <u>405290.80</u>	No. Sats: _____	Full survey <input type="checkbox"/>
Unknown <input type="checkbox"/>	MGA ZONE: <u>50 J</u>	Map Used: _____	Area surveyed (ha): _____
		Map Scale: _____	

LAND TENURE:

Nature Reserve <input type="checkbox"/>	Timber Reserve <input type="checkbox"/>	Private Property <input type="checkbox"/>	Rail Reserve <input type="checkbox"/>	Shire Rd Res <input type="checkbox"/>
National Park <input type="checkbox"/>	State Forest <input type="checkbox"/>	Pastoral Lease <input type="checkbox"/>	MRWA Rd Res <input checked="" type="checkbox"/>	Shire Reserve <input type="checkbox"/>
Cons. Park <input type="checkbox"/>	Water Reserve <input type="checkbox"/>	UCL <input checked="" type="checkbox"/>	SLK/Pole _____ to _____	Other (Specify) _____

Landowners permission sought: Landowner present: Reserve: _____

Threat type and supporting information:	Current impact (1-4)	Area affected	Potential Impact (1-4)	Onset	Long Term
Eg clearing, recreation, too frequent fire, grazing, weeds, disease, fragmentation, hydrological change. • Rate current and potential threat impact: 1=LOW, 2=MEDIUM, 3=HIGH, 4=EXTREME.					
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>
• _____	_____	_____ %	_____	<input type="checkbox"/>	<input type="checkbox"/>

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

CONDITION OF OCCURRENCE (Bush Forever Scale) (estimate % of area in each): Pristine <input type="checkbox"/> _____ % Excellent <input checked="" type="checkbox"/> <u>60.84</u> %	RECOMMENDED MANAGEMENT ACTIONS: eg. roadside markers required, weed control, etc. _____ _____ _____ _____
---	--

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

Threatened Ecological Community (TEC) Occurrence Report Form

Very Good	<input checked="" type="checkbox"/> 29.47%	ACTIONS IMPLEMENTED (include date): _____ _____ _____
Good	<input checked="" type="checkbox"/> 5.69%	
Degraded	<input checked="" type="checkbox"/> 4.00%	
Completely Degraded	<input type="checkbox"/> _____%	

Submitter of Record: Emma Marsh

Role: Botanist

Signed: Emma Marsh

Date: 16/07/2020

Please return completed form to, DEC, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: Please forward to **TEC Database Administrator**, SCB. Record Entered in Database Date: ____/____/____

HABITAT INFORMATION:					
LANDFORM:	ROCK FORM:	ROCK TYPE:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest <input type="checkbox"/>	Bedrock <input type="checkbox"/>	Granite <input type="checkbox"/>	Sand <input checked="" type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input type="checkbox"/>
Hillock <input type="checkbox"/>	Boulder <input type="checkbox"/>	Dolerite <input type="checkbox"/>	Sandy loam <input type="checkbox"/>	Brown <input type="checkbox"/>	Mod. drained <input type="checkbox"/>
Ridge <input type="checkbox"/>	Cobble <input type="checkbox"/>	Laterite <input type="checkbox"/>	Clay loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Slope <input type="checkbox"/>	Coarse gravel <input type="checkbox"/>	Ironstone <input type="checkbox"/>	Light clay <input type="checkbox"/>	White <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Flat <input checked="" type="checkbox"/>	Medium gravel <input type="checkbox"/>	Limestone <input type="checkbox"/>	>20% Gravel <input type="checkbox"/>	Grey <input checked="" type="checkbox"/>	Tidal <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Fine gravel <input type="checkbox"/>		Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Closed depression <input type="checkbox"/>		Specify other:	Specify other:	Specify other:	
Open depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
Drainage line <input type="checkbox"/>					
Specific Landform Element:					

VEGETATION CLASSIFICATION:	1.
	2.
	3.
	4.

FIRE HISTORY: Last Fire: Season/Month: _____ Year: <u>≥10</u> Fire Intensity: High/Medium/Low Long unburnt <input type="checkbox"/>
--

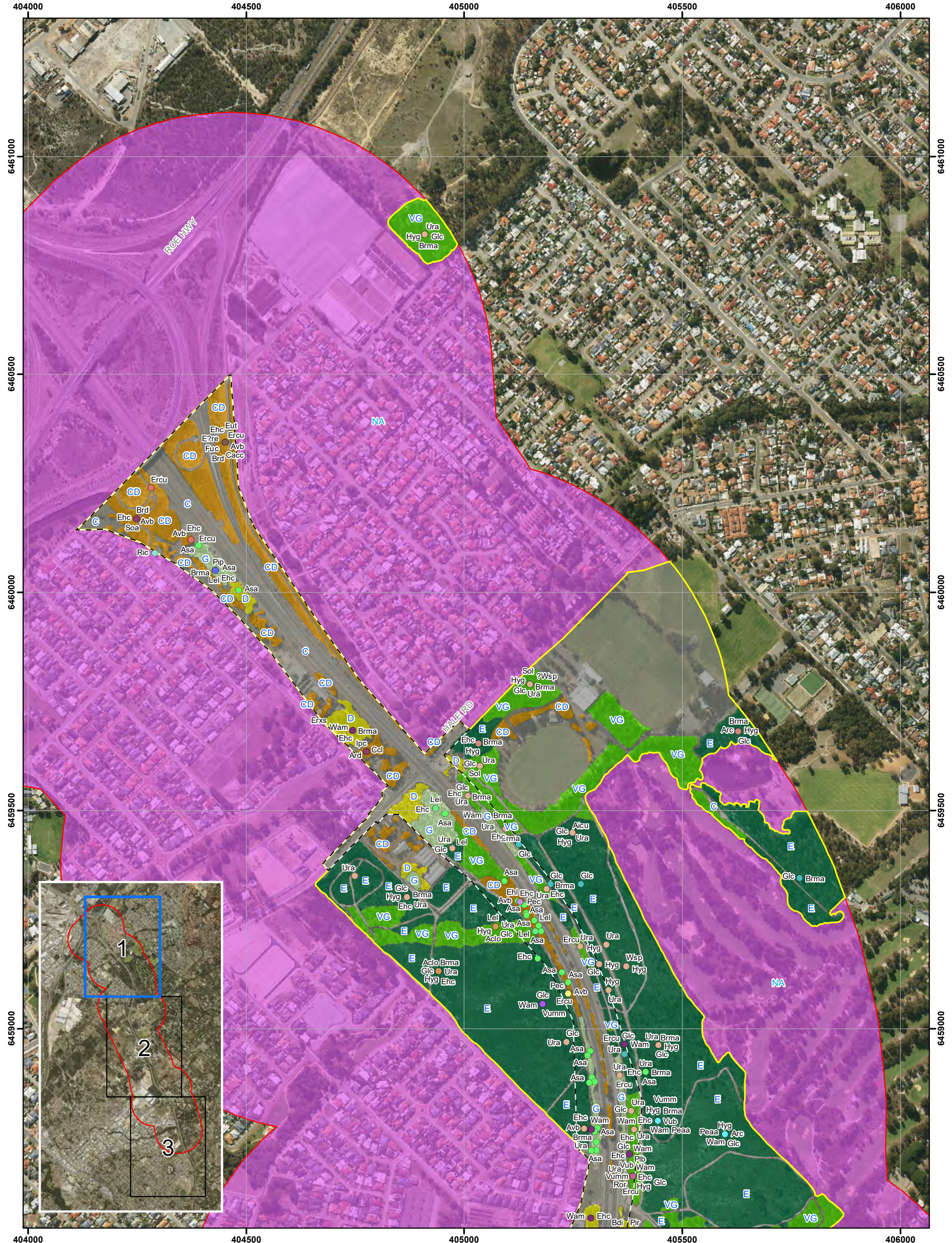
LANDUSES: SITE: <u>Crown Land (Main roads)</u>
ADJACENT: <u>Road (E), UCL (N)</u>

OTHER COMMENTS (include recommended management actions and/or implemented actions (include date):	Associated Species:

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

Submitter of Record: Emma Marsh Role: Botanist Signed: Emma Marsh Date: 16/07/2020

Appendix P: Vegetation Condition and Introduced Taxa of the Survey Area



This map should only be used in conjunction with WEC report MR19-34-01.



Vegetation Condition and Introduced Taxa of the Assessment Area

Revision: 0 - 30 July 2020

Scale: 1:7,500 (A3)

Author: Marlee Starceвич

WEC Ref: MR19-34-01

Filename: MR19-34-01-App-P

Projection: GDA 1994 MGA Zone 50

Appendix

P1

405000

405500

406000

406500

6458500

6458500

6458000

6458000

6457500

6457500

6457000

6457000

6456500

6456500

6456000

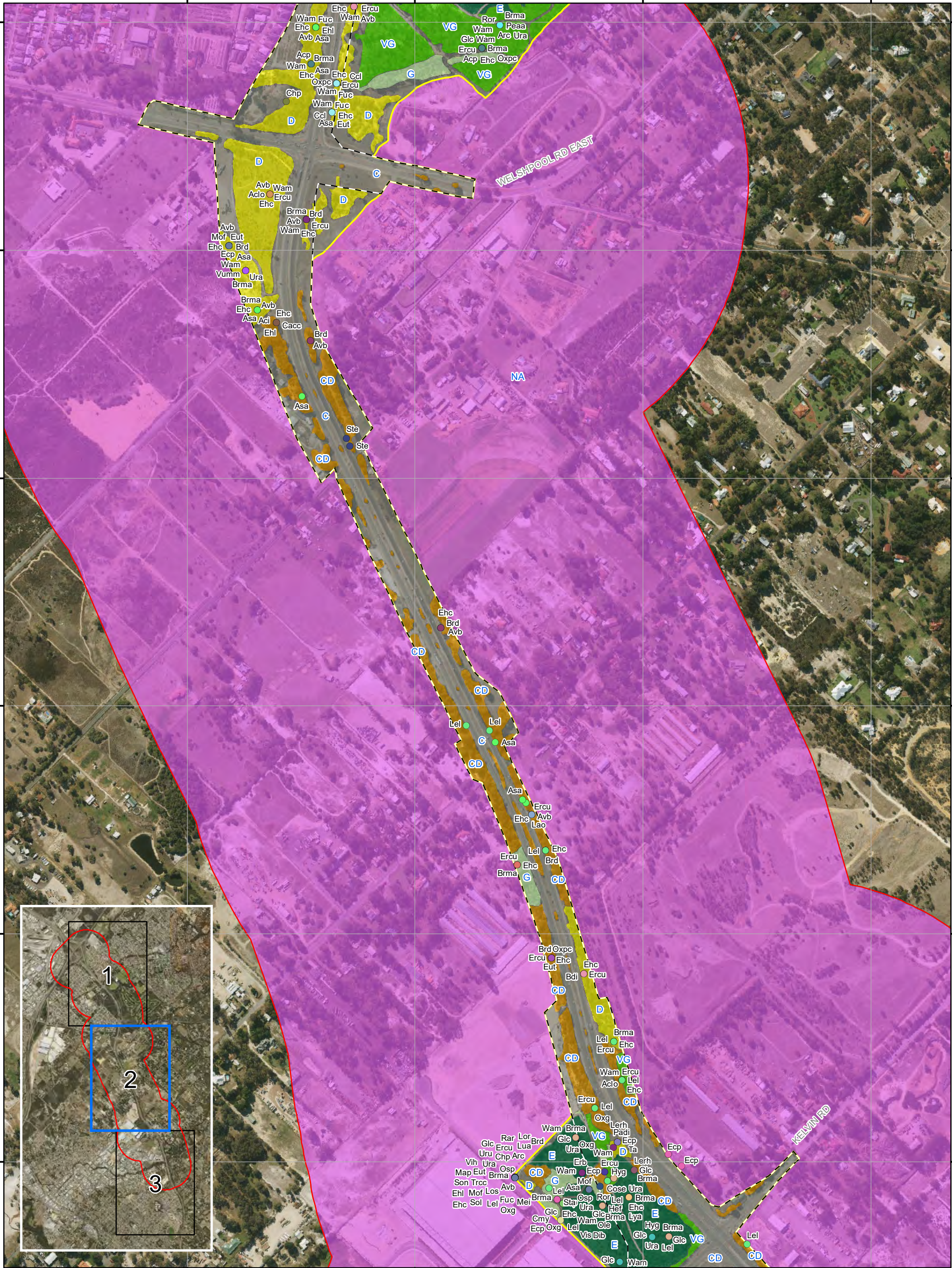
6456000

405000

405500

406000

406500



This map should only be used in conjunction with WEC report MR19-34-01.

Vegetation Condition and Introduced Taxa of the Assessment Area

Revision: 0 - 30 July 2020

Scale: 1:7,500 (A3)

Author: Marlee Starceвич

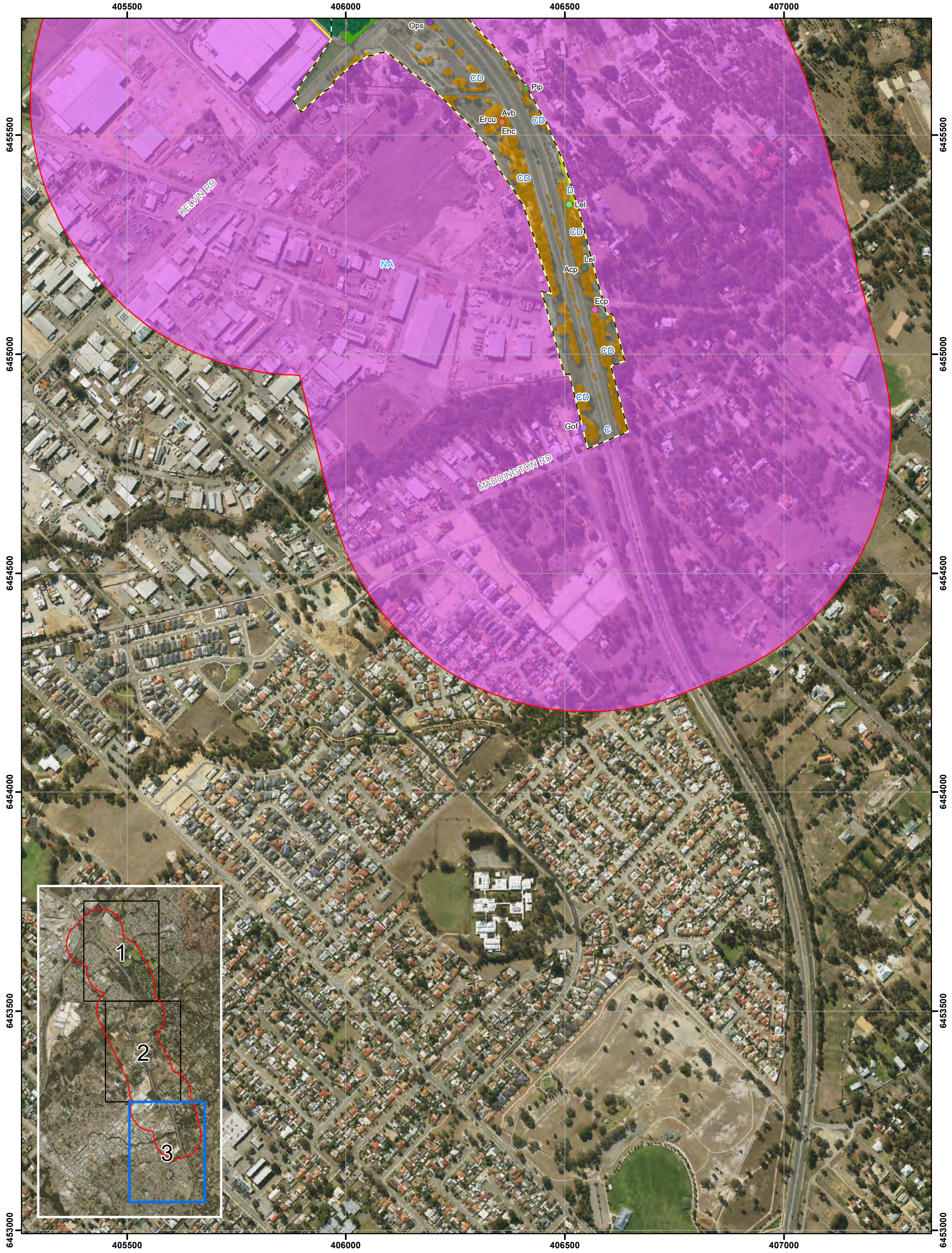
WEC Ref: MR19-34-01

Filename: MR19-34-01-App-P

Projection: GDA 1994 MGA Zone 50

Appendix

P2



This map should only be used in conjunction with WEC report MR19-34-01.



Vegetation Condition and Introduced Taxa of the Assessment Area

Revision: 0 - 30 July 2020

Scale: 1:7,500 (A3)

Author: Marlee Starcevich

WEC Ref: MR19-34-01


Filename: MR19-34-01-App-P


Projection: GDA 1994 MGA Zone 50


Appendix

P3


Legend

 Development Envelope

 Assessed Area

 Survey Area


Vegetation Condition


 E Excellent


 VG Very Good

 G Good







































































 D Degraded

 CD Completely Degraded

 NA Not Assessed

 C Cleared Land

Introduced Flora

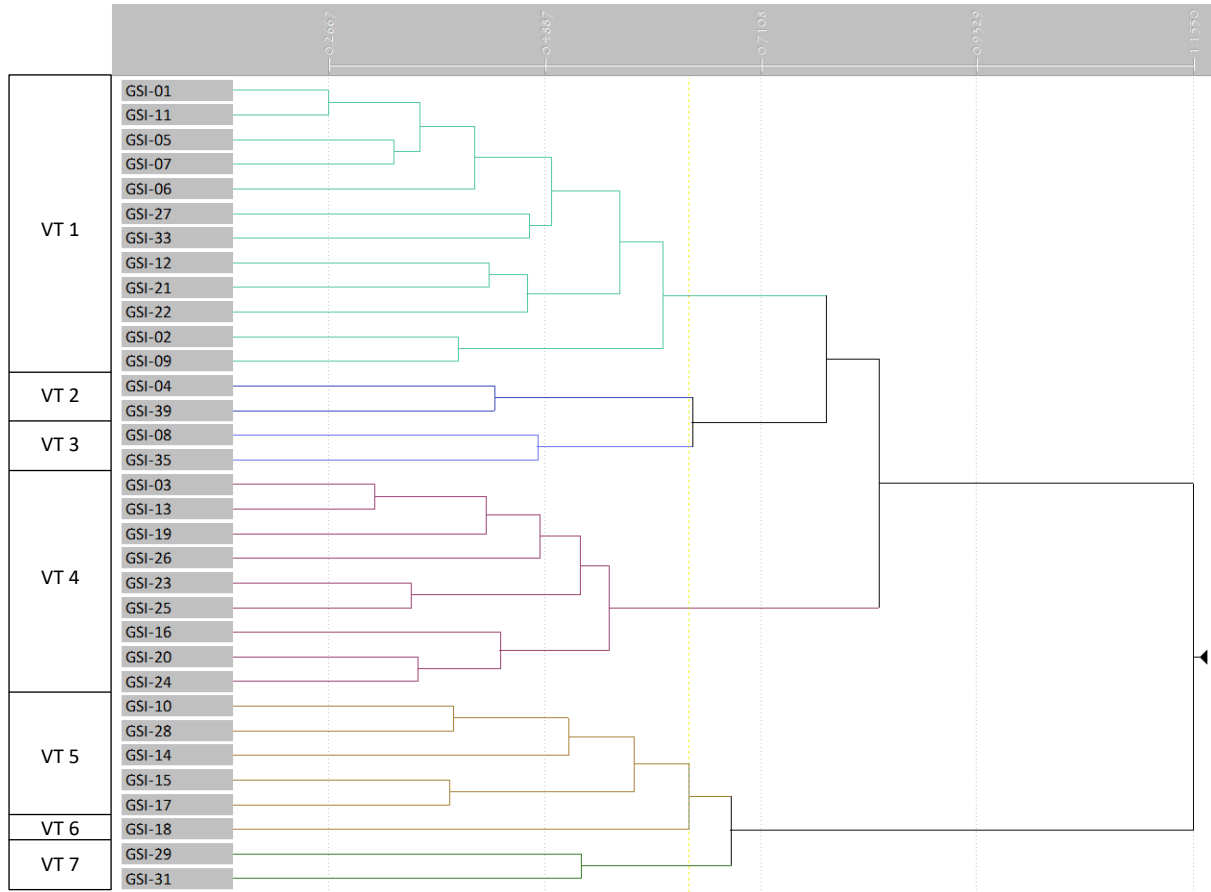
 Aci	<i>*Acacia iteaphylla</i>	 Los	<i>*Lotus subbiflorus</i>
 Aclo	<i>*Acacia longifolia</i>	 Lua	<i>*Lupinus angustifolius</i>
 Acp	<i>*Acacia podalyriifolia</i>	 Lya	<i>*Lysimachia arvensis</i>
 Aicu	<i>*Aira cupaniana</i>	 Map	<i>*Malva parviflora</i>
 Arc	<i>*Arctotheca calendula</i>	 Mei	<i>*Melilotus indicus</i>
 Ard	<i>*Arundo donax</i>	 Mof	<i>*Moraea flaccida</i>
 Asa	<i>*Asparagus asparagoides</i>	 Ole	<i>*Olea europaea</i>
 Avb	<i>*Avena barbata</i>	 Ops	<i>*Opuntia stricta</i>
 Bdi	<i>*Brachypodium distachyon</i>	 Osp	<i>*Oxalis sp.</i>
 Brd	<i>*Bromus diandrus</i>	 Oyg	<i>*Oxalis glabra</i>
 Brma	<i>*Briza maxima</i>	 Oxpc	<i>*Oxalis pes-caprae</i>
 Cacc	<i>*Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i>	 Padi	<i>*Paspalum dilatatum</i>
 Ccl	<i>*Cenchrus clandestinus</i>	 Peaa	<i>*Pentameris airoides</i> subsp. <i>airoides</i>
 Chp	<i>*Chamaecytisus palmensis</i>	 Pec	<i>*Pelargonium capitatum</i>
 Cmy	<i>*Cucumis myriocarpus</i>	 Pip	<i>*Pinus pinaster</i>
 Cose	<i>*Cortaderia selloana</i>	 Pir	<i>*Pinus radiata</i>
 Dib	<i>*Disa bracteata</i>	 Plb	<i>*Plantago bellardii</i>
 E?re	<i>*Eucalyptus ?resinifera</i>	 Rar	<i>*Raphanus raphanistrum</i>
 Ecp	<i>*Echium plantagineum</i>	 Ric	<i>*Ricinus communis</i>
 Ehc	<i>*Ehrharta calycina</i>	 Ror	<i>*Romulea rosea</i>
 Ehl	<i>*Ehrharta longiflora</i>	 Soa	<i>*Sonchus asper</i>
 Erb	<i>*Erodium botrys</i>	 Sol	<i>*Sonchus oleraceus</i>
 Ercu	<i>*Eragrostis curvula</i>	 Son	<i>*Solanum nigrum</i>
 Erxs	<i>*Erythrina x sykesii</i>	 Sta	<i>*Stachys arvensis</i>
 Eut	<i>*Euphorbia terracina</i>	 Ste	<i>*Schinus terebinthifolia</i>
 Fuc	<i>*Fumaria capreolata</i>	 Ta	<i>*Trifolium angustifolium</i>
 Glc	<i>*Gladiolus caryophyllaceus</i>	 Trcc	<i>*Trifolium campestre</i> var. <i>campestre</i>
 Gof	<i>*Gomphocarpus fruticosus</i>	 Ura	<i>*Ursinia anthemoides</i>
 Hef	<i>*Hesperantha falcata</i>	 Uru	<i>*Urtica urens</i>
 Hyg	<i>*Hypochaeris glabra</i>	 Vih	<i>*Vicia hirsuta</i>
 Ipc	<i>*Ipomoea cairica</i>	 Vis	<i>*Vicia sativa</i>
 Lao	<i>*Lagurus ovatus</i>	 Vub	<i>*Vulpia bromoides</i>
 Lel	<i>*Leptospermum laevigatum</i>	 Vumm	<i>*Vulpia myuros</i> forma <i>myuros</i>
 Lerh	<i>*Leontodon rhagadioloides</i>	 Wam	<i>*Watsonia meriana</i>
 Lor	<i>*Lolium rigidum</i>	 Wsp	<i>*Watsonia sp.</i>
		 ?Wsp	<i>*?Watsonia sp.</i>

Appendix Q: Vascular Plant Taxa Amalgamated in or Omitted from the Floristic Classification Analysis

Description	Taxon	Reasoning
Amalgamated Taxa	<i>Acacia pulchella</i> , <i>Acacia pulchella</i> var. <i>pulchella</i>	Variants could not be consistently positively identified due to inadequate material
	<i>Caladenia flava</i> , <i>Caladenia</i> ? <i>flava</i>	Although taxon could not be positively identified in all cases, unconfirmed records are considered highly likely to represent taxon
	<i>Cassytha glabella</i> , <i>Cassytha glabella</i> forma <i>dispar</i>	Forms could not be consistently positively identified due to inadequate material
	<i>Cassytha racemosa</i> , <i>Cassytha racemosa</i> forma <i>pilosa</i>	Forms could not be consistently positively identified due to inadequate material
	<i>Haemodorum laxum</i> , <i>Haemodorum</i> ? <i>laxum</i>	Although taxon could not be positively identified in all cases, unconfirmed records are considered highly likely to represent taxon
	<i>Watsonia meriana</i> , <i>Watsonia</i> sp.	Although taxon could not be positively identified in all cases, unconfirmed records are considered highly likely to represent taxon
Omitted taxa	<i>Austrostipa</i> sp.	Could not be positively identified due to inadequate material
	<i>Drosera</i> ? <i>menziesii</i>	Could not be positively identified due to inadequate material
	<i>Lepidosperma</i> sp.	Could not be positively identified due to inadequate material
	? <i>Microtis</i> sp.	Could not be positively identified due to inadequate material
	<i>Thelymitra</i> sp.	Could not be positively identified due to inadequate material
	? <i>Watsonia</i> sp.	Could not be positively identified due to inadequate material



Appendix R: Classification Analysis Dendrogram of Quadrats Established in the Survey Area



Appendix S: Classification Analysis Two-way Table of Quadrats Established in the Survey Area

VT 7	VT 6	VT 5	VT 4	VT 3	VT 2	VT 1	
GSI-29	GSI-18	GSI-17	GSI-20	GSI-35	GSI-04	GSI-02	GSI-01
							GSI-11
							GSI-05
							GSI-07
							GSI-06
							GSI-27
							GSI-33
							GSI-12
							GSI-21
							GSI-22
							GSI-09
							GSI-04
							GSI-39
							GSI-08
							GSI-03
							GSI-13
							GSI-19
							GSI-26
							GSI-23
							GSI-25
							GSI-16
							GSI-24
							GSI-10
							GSI-28
							GSI-14
							GSI-15
							GSI-17
							GSI-31
							ACAAPP
							CALFLA
							ALLFRA
							LOMPRE
							DROPOR
							EUCMARMA
							LEPSP.1
							ALLHUM
							HAELAX
							HIBHYPHY
							TETOCT
							MESPSE
							GOMTOM
							LOMCAE
							JACLEH
							LOMSER
							MELTRI
							PHLFIL
							SCAREPRE
							SYNSPISP
							ALENIT
							BOSERI
							TRIELA
							BURCON
							PATOCOC
							DAMLIN
							DEFAS
							XANPRE
							XANBRU
							CONJUN
							JACFLO
							EREPAUPA
							LOMHER
							TRAPIL
							PHISPI
							BILFRA
							SCHCAE
							WAHMUL
							CONUND
							STYFIL

VT 7	VT 6	VT 5	VT 4	VT 3	VT 2	VT 1	
GSI-29	GSI-18	GSI-15 GSI-14 GSI-17	GSI-24 GSI-20 GSI-16 GSI-25 GSI-23 GSI-26 GSI-19 GSI-13 GSI-03	GSI-35 GSI-08	GSI-04 GSI-39	GSI-02 GSI-22 GSI-21 GSI-12 GSI-33 GSI-27	GSI-01 GSI-11 GSI-05 GSI-07 GSI-06
							AMPTUR BORRAMAN JOHPUBCY CONAUR STYTENMA CONLAT STYREP XANHUE CONSETSE HOVTRITR LAXRAMRA DASOBL LYGBAR DROMAC ANIMANMA NUYFLO STYAND
							ANIHUMHU STYPIL PTEVIT THYPAT CHOSIN DAVDECDE PTEPAN
							ACASES HIBSTR CONPEN PETLIN LOMNIG BANMEN HEMLIN CALNAR CASFLA CRACOLCO PETRIG MESGRA THYMAN
							BANATT CRIBILBI DROERY DAVTRI LOMSUA LEPPRE

VT 7	VT 6	VT 5	VT 4	VT 3	VT 2	VT 1	
GSI-31	GSI-18	GSI-15	GSI-20	GSI-35	GSI-39	GSI-02	
							LABPUN
							XYLOCC
							STYCIL
							PTEREC
							PYRNIG
							ACAPUL
							HAKTRI
							THEBEN
							BABCAM
							GOMMAR
							HAKUND
							CASRAC
							THYTHY
							CYAEQU
							THYSPA
							DAVANG
							GOMCON
							EUCTOD
							GOOCOE
							TRIBRU
							LAMMULDA
							CHACORCO
							HIBAUR
							SCHSUB
							STYBIC
							NEUALO
							SCH?SP
							SILHUM
							PHYPAR
							PIMANG
							PODANG
							ADECYGCY
							DASBRO
							HYPEXS
							BANDALDA
							MESTET
							STILAT
							CYAAVE
							GASCAP
							HYPANGSW
							KINAUS
							PERELFL
							VERDEN
							LYGIMB
							BEASQU
							CASGLA
							CYTLEP
							PHLCIL

VT 7	VT 6	VT 5	VT 4	VT 3	VT 2	VT 1	
GSI-31	GSI-18	GSI-15	GSI-23	GSI-08	GSI-04	GSI-01	
							CALPYR
							DAVPHY
							HAKCER
							EUTVIR
							SCHRIG
							VERLINLI
							EUCPAT
							MELSER
							TRINEE
							AUSELE
							MELVIMVI
							MELPRE
							CHAARI
							HAKVAR
							SCHLAE
							LEPDEC
							HAKSUL
							KUNMICMI
							CORCAL
							THECRI

Appendix T: Matrix of Vascular Plant Taxa Recorded within Each Vegetation Type Described in the Survey Area

Taxon	Vegetation Type							
	1	2	3	4	5	6	7	8
<i>Acacia appplanata</i>	X	X	X	X				
<i>Acacia huegelii</i>	X							
* <i>Acacia longifolia</i>				X		X		X
<i>Acacia pulchella</i> var. <i>pulchella</i>	X	X	X	X				X
<i>Acacia saligna</i>			X				X	X
<i>Acacia sessilis</i>	X							
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i>	X		X	X	X	X	X	X
* <i>Aira cupaniana</i>				X				
<i>Alexgeorgea nitens</i>	X			X				
<i>Allocasuarina fraseriana</i>	X		X	X	X			X
<i>Allocasuarina humilis</i>	X	X	X	X				
<i>Amphipogon ?strictus</i>	X							
<i>Amphipogon turbinatus</i>	X	X						
<i>Anarthria gracilis</i>					X			
<i>Andersonia gracilis</i> (T)					X			
<i>Anigozanthos humilis</i> subsp. <i>humilis</i>	X							
<i>Anigozanthos manglesii</i> subsp. <i>manglesii</i>	X			X		X		
* <i>Arctotheca calendula</i>	X	X	X					
* <i>Asparagus asparagoides</i>	X		X	X				X
<i>Astartea affinis</i>				X	X			
<i>Astroloma pallidum</i>	X							
<i>Austrostipa compressa</i>				X				
<i>Austrostipa elegantissima</i>						X	X	
<i>Austrostipa hemipogon</i>			X					
<i>Babingtonia camphorosmae</i>	X	X	X	X				
<i>Banksia attenuata</i>	X							
<i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i>	X	X	X	X	X		X	
<i>Banksia grandis</i>	X							
<i>Banksia menziesii</i>	X							
<i>Banksia mimica</i> (T)				X				
<i>Banksia telmatiaea</i>					X		X	
<i>Banksia victoriae</i>						X		
<i>Beaufortia squarrosa</i>				X	X		X	
<i>Billardiera fraseri</i>	X			X				
<i>Boronia ramosa</i> subsp. <i>anethifolia</i>	X	X		X				
<i>Bossiaea eriocarpa</i>	X			X				
* <i>Briza maxima</i>	X	X	X	X	X		X	X
<i>Burchardia congesta</i>	X	X	X	X		X		
<i>Byblis gigantea</i> (P3)				X				
<i>Caesia micrantha</i>		X						
<i>Calytrix aurea</i>				X				
<i>Caladenia flava</i>	X	X		X	X			
<i>Calytrix flavescens</i>	X							
<i>Calytrix fraseri</i>	X							
<i>Caladenia macrostylis</i>	X	X						
<i>Calectasia narragara</i>	X	X						
<i>Caladenia paludosa</i>					X			
<i>Callitris pyramidalis</i>				X	X		X	
<i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i>			X					

Taxon	Vegetation Type							
	1	2	3	4	5	6	7	8
<i>Calothamnus sanguineus</i>				X				
<i>Cassytha flava</i>	X	X			X		X	
<i>Cassytha glabella</i> forma <i>dispar</i>				X	X			
<i>Cassytha racemosa</i> forma <i>pilosa</i>		X	X	X	X		X	X
<i>Centrolepis aristata</i>					X			
<i>Chaetanthus aristatus</i>				X	X			
<i>Chamaescilla corymbosa</i> var. <i>corymbosa</i>	X	X					X	
<i>Cheiranthra preissiana</i>			X					
<i>Chorizema dicksonii</i>			X					
<i>Chordifex sinuosus</i>	X			X				
<i>Conostylis aurea</i>	X	X		X				
<i>Conostylis juncea</i>	X	X	X	X	X			
<i>Conostylis latens</i>	X	X		X				
<i>Conostephium pendulum</i>	X							
<i>Conostylis setigera</i> subsp. <i>setigera</i>	X		X		X			
<i>Conospermum undulatum</i> (T)	X	X		X				X
<i>Corymbia calophylla</i>	X		X	X				X
<i>Crassula colorata</i> var. <i>colorata</i>	X	X					X	
<i>Cristonia biloba</i> subsp. <i>biloba</i>	X	X	X					
<i>Cyathochaeta avenacea</i>	X		X	X	X	X		
<i>Cyathochaeta equitans</i>	X	X	X	X	X			
<i>Cytogonidium leptocarpoides</i>				X	X	X		
<i>Dampiera linearis</i>	X	X		X				
<i>Darwinia citriodora</i>			X	X				
<i>Dasyogon bromeliifolius</i>	X			X	X		X	
<i>Dasyogon obliquifolius</i>	X		X	X	X			
<i>Daviesia angulata</i>	X	X	X		X			
<i>Daviesia decurrens</i> subsp. <i>decurrens</i>	X	X	X	X				
<i>Daviesia divaricata</i> subsp. <i>divaricata</i>	X							
<i>Daviesia nudiflora</i> subsp. <i>nudiflora</i>	X							
<i>Daviesia physodes</i>				X	X			
<i>Daviesia triflora</i>	X							
<i>Desmocladus fasciculatus</i>	X	X	X	X				
* <i>Disa bracteata</i>			X					
<i>Diuris magnifica</i>	X							
<i>Drosera erythrorhiza</i>	X		X	X				
<i>Drosera glanduligera</i>					X	X		
<i>Drosera macrantha</i>	X	X		X				
<i>Drosera menziesii</i>		X			X			
<i>Drosera neesii</i>					X			
<i>Drosera porrecta</i>	X	X						
* <i>Ehrharta calycina</i>	X		X	X	X		X	X
* <i>Eragrostis curvula</i>			X	X	X		X	X
<i>Eremaea pauciflora</i> var. <i>pauciflora</i>	X	X	X	X	X			
<i>Eucalyptus marginata</i> subsp. <i>marginata</i>	X			X				
<i>Eucalyptus patens</i>	X			X				
<i>Eucalyptus todtiana</i>	X	X		X				
<i>Eutaxia virgata</i>		X		X	X		X	
<i>Gastrolobium capitatum</i>			X	X	X	X		
<i>Gastrolobium linearifolium</i>	X							
* <i>Gladiolus caryophyllaceus</i>	X	X	X	X	X	X	X	
<i>Gompholobium confertum</i>	X	X		X				

Taxon	Vegetation Type							
	1	2	3	4	5	6	7	8
<i>Gompholobium marginatum</i>		X	X					
<i>Gompholobium tomentosum</i>	X	X	X	X		X		
<i>Goodenia coerulea</i>	X	X						
<i>Grevillea bipinnatifida</i> subsp. <i>bipinnatifida</i>	X	X	X					
<i>Grevillea obtusifolia</i>	X							
<i>Haemodorum laxum</i>	X	X	X	X		X		
<i>Hakea candolleana</i>			X					
<i>Hakea ceratophylla</i>				X	X	X	X	
<i>Hakea incrassata</i>			X					
<i>Hakea ruscifolia</i>	X			X				
<i>Hakea sulcata</i>					X		X	
<i>Hakea trifurcata</i>		X	X	X	X		X	
<i>Hakea undulata</i>		X	X	X				
<i>Hakea varia</i>				X	X	X	X	X
<i>Hemiandra linearis</i>	X							
* <i>Hesperantha falcata</i>		X						
<i>Hibbertia aurea</i>	X	X						
<i>Hibbertia huegelii</i>	X							
<i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>	X	X	X	X				
<i>Hibbertia striata</i>	X							
<i>Hovea trisperma</i> var. <i>trisperma</i>	X			X				
<i>Hybanthus calycinus</i>	X							
<i>Hydrocotyle callicarpa</i>			X					
<i>Hypocalymma angustifolium</i> subsp. Swan Coastal Plain (G.J. Keighery 16777)			X	X	X	X	X	
<i>Hypolaena exsulca</i>	X			X	X	X	X	
* <i>Hypochoeris glabra</i>	X	X		X	X	X	X	
<i>Isolepis marginata</i>	X							
<i>Jacksonia floribunda</i>	X	X		X				
<i>Jacksonia gracillima</i> (P3)	X				X		X	X
<i>Jacksonia lehmannii</i>	X							
<i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> (P2)	X	X		X				
<i>Kingia australis</i>	X	X	X	X	X	X	X	
<i>Kunzea micrantha</i> subsp. <i>micrantha</i>					X		X	X
<i>Labichea punctata</i>	X							
<i>Lambertia multiflora</i> var. <i>darlingensis</i>	X	X		X				
<i>Lasiopetalum bracteatum</i> (P4)			X					
<i>Laxmannia ramosa</i> subsp. <i>ramosa</i>	X				X		X	
<i>Lechenaultia biloba</i>	X							
<i>Lechenaultia expansa</i>				X				
<i>Lepidosperma carphoides</i>		X	X					
<i>Leptocarpus coangustatus</i>						X		
<i>Leptocarpus decipiens</i>					X			
<i>Leptomeria empetriformis</i>		X						
<i>Leporella fimbriata</i>	X							
* <i>Leptospermum laevigatum</i>	X	X	X			X		
<i>Lepidosperma leptostachyum</i>	X							
<i>Lepidosperma longitudinale</i>			X	X			X	X
<i>Lepidobolus preissianus</i>	X		X					
<i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)	X	X	X	X				
<i>Leucopogon conostephioides</i>	X							
<i>Levenhookia pusilla</i>		X						
<i>Lomandra caespitosa</i>	X	X		X			X	

Taxon	Vegetation Type							
	1	2	3	4	5	6	7	8
<i>Lomandra hermaphrodita</i>	X			X				
<i>Lomandra nigricans</i>	X							
<i>Lomandra preissii</i>	X	X	X					
<i>Lomandra sericea</i>	X	X						
<i>Lomandra suaveolens</i>	X						X	
<i>Lyginia barbata</i>	X			X				
<i>Lyginia imberbis</i>	X	X	X	X	X		X	
* <i>Lysimachia arvensis</i>	X							
<i>Lysinema pentapetalum</i>	X							
<i>Melaleuca preissiana</i>	X			X	X	X	X	X
<i>Melaleuca seriata</i>				X	X			
<i>Melaleuca trichophylla</i>	X	X						
<i>Melaleuca viminea</i> subsp. <i>viminea</i>						X	X	X
<i>Mesomelaena graciliceps</i>	X							
<i>Mesomelaena pseudostygia</i>	X		X	X				
<i>Mesomelaena tetragona</i>	X	X	X	X	X	X		X
<i>Millotia tenuifolia</i> var. <i>tenuifolia</i>	X							
<i>Neurachne alopecuroidea</i>	X	X	X					
<i>Nuytsia floribunda</i>	X	X	X	X				
<i>Opercularia vaginata</i>	X							
* <i>Oxalis glabra</i>	X	X	X					
<i>Patersonia occidentalis</i> var. <i>occidentalis</i>	X	X		X		X		
* <i>Pentameris airoides</i> subsp. <i>airoides</i>		X	X				X	
<i>Persoonia angustiflora</i>	X							
<i>Pericalymma ellipticum</i> var. <i>floridum</i>		X		X	X	X	X	
<i>Petrophile linearis</i>	X	X						
<i>Petrophile macrostachya</i>	X							
<i>Petrophile rigida</i>	X						X	
<i>Petrophile seminuda</i>					X			
<i>Petrophile striata</i>			X					
<i>Philothea spicata</i>	X	X	X	X				
<i>Phlebocarya ciliata</i>	X			X	X			
<i>Phlebocarya filifolia</i>	X			X				
<i>Phyllangium paradoxum</i>	X	X		X				
<i>Pimelea angustifolia</i>		X		X				
<i>Pimelea sulphurea</i>	X							
* <i>Plantago bellardii</i>							X	
<i>Podotheca angustifolia</i>	X	X		X			X	
<i>Poranthera microphylla</i>				X				
<i>Pterochaeta paniculata</i>	X	X						
<i>Pterostylis recurva</i>	X							
<i>Pterostylis vittata</i>	X	X		X		X		
<i>Pyrorchis nigricans</i>	X							
<i>Regelia ciliata</i>						X		
* <i>Romulea rosea</i>			X				X	
<i>Scaevola repens</i> var. <i>repens</i>	X	X		X				
<i>Schoenus</i> ?sp. smooth culms (K.R. Newbey 7823)		X	X					
<i>Schoenus asperocarpus</i>						X		
<i>Schoenus brevisetis</i>		X						
<i>Schoenus caespitius</i>	X	X		X	X			
<i>Schoenus clandestinus</i>					X			
<i>Schoenus curvifolius</i>	X							

Taxon	Vegetation Type							
	1	2	3	4	5	6	7	8
<i>Schoenus efoliatus</i>				X	X			
<i>Scholtzia involucreta</i>	X							
<i>Schoenus laevigatus</i>				X	X	X		
<i>Schoenus nanus</i>		X						
<i>Schoenus rigens</i>				X	X		X	
<i>Schoenus sublateralis</i>	X	X						
<i>Schoenus unispiculatus</i>			X					
<i>Siloxerus humifusus</i>		X	X				X	
* <i>Sonchus oleraceus</i>	X							
<i>Sphaerolobium macranthum</i>		X						
<i>Stirlingia latifolia</i>	X	X		X	X		X	
<i>Stylidium androsaceum</i>	X			X				
<i>Stylidium bicolor</i>	X	X						
<i>Stylidium ciliatum</i>	X							
<i>Stylidium diuroides</i> subsp. <i>diuroides</i>	X							
<i>Styphelia filifolia</i> (P3)	X			X				
<i>Stylidium piliferum</i>	X							
<i>Stylidium repens</i>	X	X		X				
<i>Stylidium schoenoides</i>	X							
<i>Stylidium tenue</i> subsp. <i>majusculum</i>	X	X		X				
<i>Synaphea gracillima</i>			X					
<i>Synaphea spinulosa</i> subsp. <i>spinulosa</i>	X			X				
<i>Tetralia australiensis</i> (T)		X						
<i>Tetralia octandra</i>	X	X	X					
<i>Thelymitra ?benthamiana</i>		X		X				
<i>Thelymitra crinita</i>			X	X				
<i>Thelymitra graminea</i>							X	
<i>Thomasia macrocarpa</i>			X					X
<i>Thysanotus manglesianus</i>	X		X		X		X	
<i>Thysanotus patersonii</i>	X	X		X	X	X		
<i>Thysanotus sparteus</i>	X	X	X	X	X			
<i>Thysanotus thyrsoides</i>	X		X	X	X			
<i>Trachymene pilosa</i>	X	X		X			X	
<i>Tremulina tremula</i>			X		X		X	
<i>Tripterococcus brunonis</i>	X	X						
<i>Tricoryne elatior</i>	X	X	X	X				
<i>Tricostularia exsul</i>	X				X			
<i>Triglochin nana</i>							X	
<i>Tricostularia neesii</i>		X		X	X			
<i>Trymalium odoratissimum</i> subsp. <i>odoratissimum</i>			X					X
* <i>Ursinia anthemoides</i>	X	X	X	X	X	X	X	
<i>Verticordia densiflora</i>	X	X	X	X	X	X	X	X
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i> (P4)				X	X	X	X	
* <i>Vulpia bromoides</i>							X	
* <i>Vulpia myuros</i> forma <i>myuros</i>				X	X		X	
<i>Wahlenbergia multicaulis</i>	X			X				
* <i>Watsonia meriana</i>	X	X	X	X	X		X	X
<i>Xanthorrhoea brunonis</i>	X	X	X	X	X	X	X	
<i>Xanthosia candida</i>			X					
<i>Xanthosia huegelii</i>	X			X				
<i>Xanthorrhoea preissii</i>	X	X	X	X		X		X
<i>Xylomelum occidentale</i>	X							

Appendix U: Results of Indicator Species Analysis of Quadrat Data from the Survey Area

Note:

- Shading denotes highest indicator values per taxon;
- Indicator values are shown only for taxa that were significant at $p < 0.05$:
 - * = $p < 0.05$;
 - ** = $p < 0.01$;
 - *** = $p < 0.001$); and
- There are no indicator taxa for VT 6 as this VT was represented by a single quadrat, or VT 8 as this VT was defined via structural vegetation classification.

Taxon	Vegetation Type					
	1	2	3	4	5	7
<i>Alexgeorgea nitens</i> ***	64	0	0	20	0	0
<i>Allocasuarina fraseriana</i> **	52	0	19	0	0	0
<i>Bossiaea eriocarpa</i> ***	74	0	0	4	0	0
<i>Burchardia congesta</i> **	29	29	7	29	0	0
<i>Lomandra hermaphrodita</i> *	43	0	0	24	0	0
<i>Mesomelaena pseudostygia</i> *	48	0	17	1	0	0
<i>Patersonia occidentalis</i> var. <i>occidentalis</i> ***	35	35	0	27	0	0
<i>Acacia applanata</i> **	22	50	0	6	0	0
<i>Caladenia flava</i> , <i>Caladenia ?flava</i> **	21	48	0	2	2	0
<i>Chamaescilla corymbosa</i> var. <i>corymbosa</i> *	2	60	0	0	0	15
<i>Conostylis aurea</i> **	16	62	0	1	0	0
<i>Conostylis latens</i> *	4	63	0	7	0	0
<i>Desmocladius fasciculatus</i> *	22	31	8	25	0	0
<i>Gompholobium confertum</i> *	2	62	0	12	0	0
<i>Lambertia multiflora</i> var. <i>darlingensis</i> **	0	100	0	0	0	0
<i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)**	16	62	0	1	0	0
<i>Stylidium tenue</i> subsp. <i>majusculum</i> **	7	64	0	3	0	0
<i>Tripterococcus brunonis</i> **	1	92	0	0	0	0
<i>Corymbia calophylla</i> *	1	0	77	4	0	0
<i>Gompholobium marginatum</i> *	0	17	67	0	0	0
<i>Hakea undulata</i> *	0	16	62	1	0	0
<i>Conostylis juncea</i> ***	16	12	0	48	0	0
<i>Dampiera linearis</i> ***	29	34	0	34	0	0
<i>Jacksonia floribunda</i> *	13	13	0	42	0	0
<i>Stirlingia latifolia</i> *	10	30	0	30	19	0
<i>Schoenus laevigatus</i> *	0	0	0	2	51	0
<i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> *	7	0	0	18	6	40
<i>Crassula colorata</i> var. <i>colorata</i> *	0	16	0	0	0	63
<i>Hypolaena exsulca</i> *	6	0	0	20	21	33
<i>Trachymene pilosa</i> *	19	9	0	15	0	34

Appendix V: Vegetation Types of the Survey Area



This map should only be used in conjunction with WEC report MR19-34-01.



**Vegetation Types
of the Assessment Area**

Revision: 0 - 30 July 2020

Scale: 1:7,500 (A3)

Author: Marlee Starcevich

WEC Ref: MR19-34-01

Filename: MR19-34-01-App-V

Projection: GDA 1994 MGA Zone 50

Appendix

V1

405000

405500

406000

406500

6458500

6458500

6458000

6458000

6457500

6457500

6457000

6457000

6456500

6456500

6456000

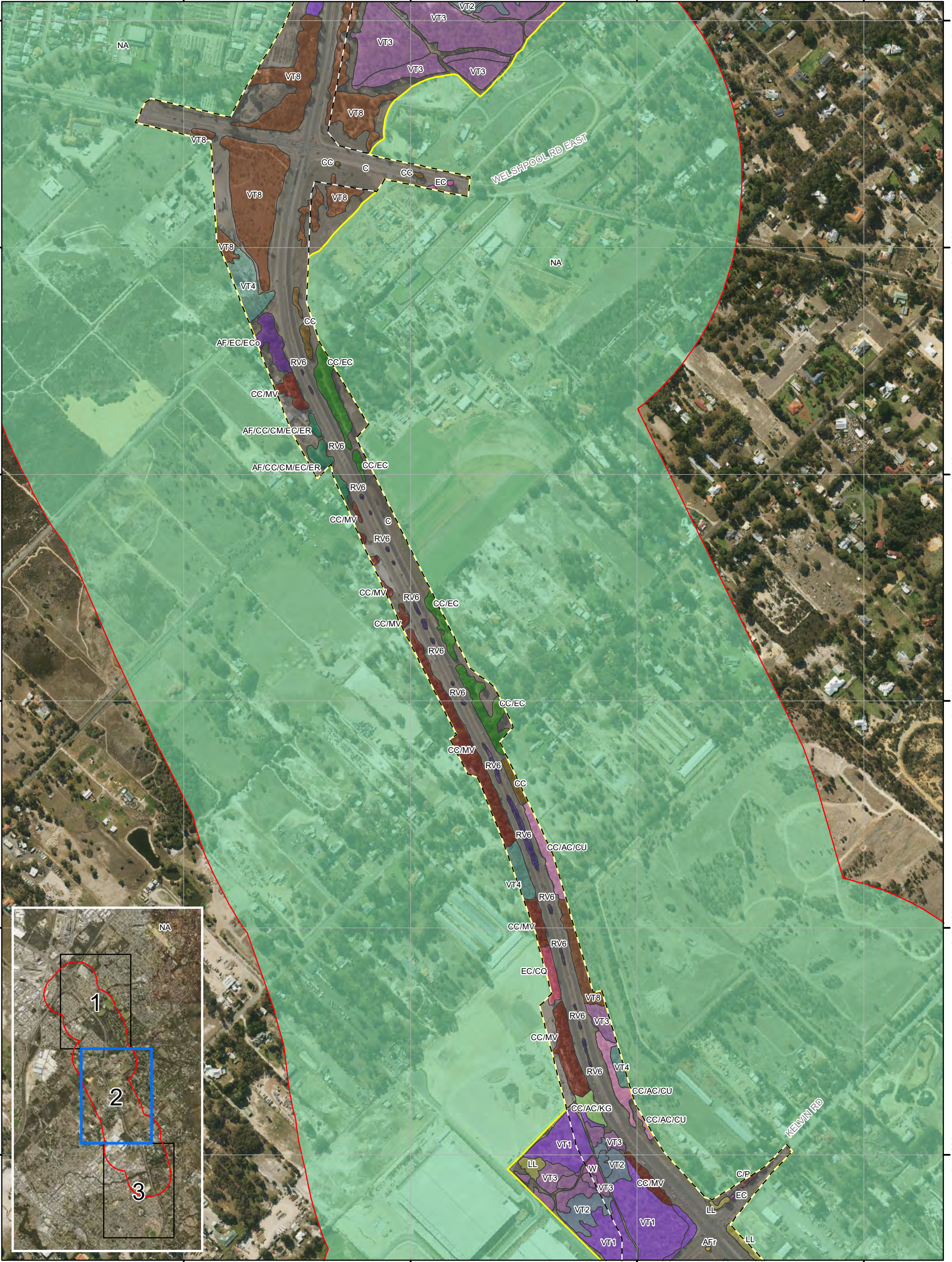
6456000

405000

405500

406000

406500



This map should only be used in conjunction with WEC report MR19-34-01.



**Vegetation Types
of the Assessment Area**

Revision: 0 - 30 July 2020

Scale: 1:7,500 (A3)

Author: Marlee Starcevich

WEC Ref: MR19-34-01

Filename: MR19-34-01-App-V

Projection: GDA 1994 MGA Zone 50

Appendix

V2

405500

406000

406500

407000

6455500

6455500

6455000

6455000

6454500

6454500

6454000

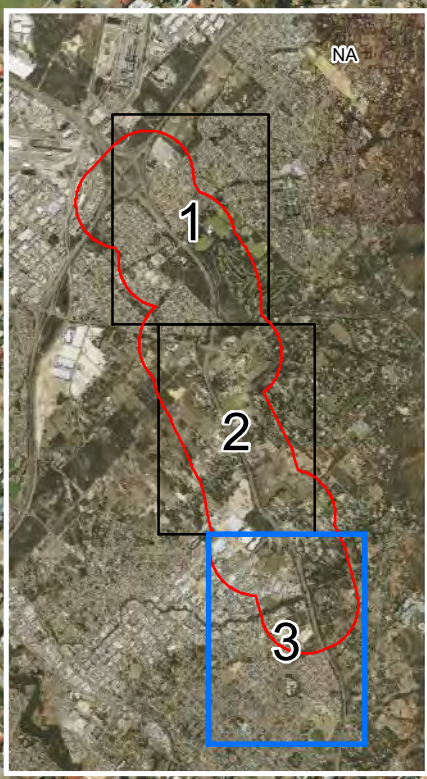
6454000

6453500

6453500

6453000

6453000



This map should only be used in conjunction with WEC report MR19-34-01.



**Vegetation Types
of the Assessment Area**

Revision: 0 - 30 July 2020

Scale: 1:7,500 (A3)

Author: Marlee Starceвич

WEC Ref: MR19-34-01

Filename: MR19-34-01-App-V

Projection: GDA 1994 MGA Zone 50









Appendix

V3

Legend

Development Envelope  Assessed Area  Survey Area







Vegetation Types

	VT1	Low woodland dominated by <i>Eucalyptus marginata</i> subsp. <i>marginata</i> , <i>Banksia menziesii</i> and <i>Allocasuarina fraseriana</i> over tall isolated shrubs dominated by <i>Xanthorrhoea preissii</i> and <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> over mid isolated shrubs dominated by <i>Allocasuarina humilis</i> and <i>Melaleuca trichophylla</i> over low open shrubland dominated by <i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i> and <i>Eremaea pauciflora</i> var. <i>pauciflora</i> over mid sparse sedgeland of <i>Mesomelaena pseudostygia</i> over mid sparse forbland of <i>Paterosonia occidentalis</i> var. <i>occidentalis</i> and <i>Dasyopogon bromeliifolius</i> on grey sand on plains and gentle slopes.
	VT2	Mid sparse to open shrubland of <i>Lambertia multiflora</i> var. <i>darlingensis</i> or <i>Hakea undulata</i> or <i>Hakea trifurcata</i> over low sparse shrubland of <i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i> , <i>Allocasuarina humilis</i> and <i>Eremaea pauciflora</i> var. <i>pauciflora</i> over mid sparse sedgeland of mixed species dominated by <i>Cyathochaeta equitans</i> and <i>Mesomelaena tetragona</i> over mid sparse forbland of mixed species dominated by <i>Haemodorum laxum</i> on grey sand on lower slopes and flats.
	VT3	Low woodland to closed forest of <i>Corymbia calophylla</i> over mid open shrubland of mixed species dominated by <i>Acacia pulchella</i> over low sparse shrubland of mixed species dominated by <i>Gompholobium tomentosum</i> over mid sparse sedgeland of mixed species dominated by <i>Mesomelaena pseudostygia</i> and <i>Mesomelaena tetragona</i> on grey-brown sandy clay loam and light clay on lower slopes and flats.
	VT4	Occasionally with low open woodland of mixed species dominated by <i>Corymbia calophylla</i> , <i>Eucalyptus tottiana</i> and <i>Eucalyptus patens</i> over tall sparse shrubland of mixed species dominated by <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> and <i>Beaufortia squarrosa</i> over mid sparse shrubland of mixed species dominated by <i>Xanthorrhoea preissii</i> over low open shrubland of mixed species dominated by <i>Eremaea pauciflora</i> var. <i>pauciflora</i> , <i>Hypocalymma angustifolium</i> subsp. <i>Swan Coastal Plain</i> (G.J. Keighery 16777), <i>Melaleuca seriata</i> and <i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i> var. <i>dallanneyi</i> over mid sparse sedgeland of mixed species dominated by <i>Mesomelaena tetragona</i> , <i>Cyathochaeta avenacea</i> and <i>Cyathochaeta equitans</i> over low sparse rushland of mixed species dominated by <i>Alexgeorgea nitens</i> over low open forbland of mixed species dominated by <i>Phlebocarya ciliata</i> , <i>Dasyopogon bromeliifolius</i> and <i>Dasyopogon obliquifolius</i> on grey sand and sandy loam on lower slopes and flats.
	VT5	Tall open shrubland of <i>Callitris pyramidalis</i> and <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> over mid sparse shrubland of mixed species dominated by <i>Hakea sulcata</i> , <i>Beaufortia squarrosa</i> , <i>Melaleuca seriata</i> , <i>Kingia australis</i> and <i>Hakea varia</i> over low sparse shrubland dominated by <i>Pericalymma ellipticum</i> var. <i>floridum</i> and <i>Hypocalymma angustifolium</i> subsp. <i>Swan Coastal Plain</i> (G.J. Keighery 16777) over mid sparse sedgeland of <i>Mesomelaena tetragona</i> over mid sparse rushland of <i>Cytogonidium leptocarpoides</i> on brown and grey sand and sandy clay loam on lower slopes and flats.
	VT6	Low open forest of <i>Melaleuca preissiana</i> over tall sparse shrubland of <i>Melaleuca viminea</i> subsp. <i>viminea</i> over mid sparse shrubland of <i>Kingia australis</i> , <i>Xanthorrhoea brunonis</i> , <i>Xanthorrhoea preissii</i> and <i>Regelia ciliata</i> over low sparse rushland of <i>Leptocarpus coangustatus</i> on grey clay loam in drainage lines.
	VT7	Tall open shrubland of <i>Melaleuca viminea</i> subsp. <i>viminea</i> over mid sparse shrubland of mixed species dominated by <i>Verticordia densiflora</i> , <i>Kunzea micrantha</i> subsp. <i>micrantha</i> , <i>Kingia australis</i> and <i>Petrophile rigida</i> over low open shrubland dominated by <i>Hypocalymma angustifolium</i> subsp. <i>Swan Coastal Plain</i> (G.J. Keighery 16777) on grey-brown sandy clay loam on lower slopes and flats.
	VT8	Mid open woodland of <i>Corymbia calophylla</i> over low woodland of mixed species dominated by <i>Eucalyptus rudis</i> , <i>Melaleuca raphiophylla</i> and <i>Melaleuca preissiana</i> over tall sparse shrubland of mixed species dominated by <i>Acacia saligna</i> over mid sparse shrubland of <i>Acacia pulchella</i> over mid tussock grassland of mixed species dominated by <i>Avena barbata</i> , <i>Eragrostis curvula</i> and <i>Ehrharta calycina</i> over mid forbland of <i>Watsonia meriana</i> on grey and brown sandy loam and clay loam on plains, flats and drainage lines.

Highly Modified Areas

	AFr	Individual or stands of <i>Allocasuarina fraseriana</i> on cleared land.
	AFr/CM/EG/PR	Individual or stands of <i>Allocasuarina fraseriana</i> , <i>Corymbia maculata</i> , <i>Eucalyptus globulus</i> and <i>Pinus radiata</i> over <i>Acacia</i> sp. and <i>Melaleuca</i> sp. on cleared land.
	AF/EC/MA	Individual or stands of <i>Agonis flexuosa</i> , <i>Eucalyptus camaldulensis</i> , <i>Eucalyptus</i> sp., <i>Melia azedarach</i> and <i>Pinus radiata</i> over <i>Melaleuca nesophila</i> and <i>Melaleuca viminalis</i> over <i>Chamelaucium uncinatum</i> over introduced species including <i>Avena barbata</i> , <i>Ehrharta calycina</i> and <i>Eragrostis curvula</i> on various soils and topographical positions.
	AF/EC/ECO	Individual or stands of <i>Agonis flexuosa</i> , <i>Eucalyptus camaldulensis</i> and <i>Eucalyptus comuta</i> over <i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i> over <i>Acacia iteaphylla</i> over introduced species including <i>Ehrharta calycina</i> and <i>Ehrharta longiflora</i> on various soils and topographical positions.
	AF/CC/CM/EC/ER	Individual or stands of <i>Agonis flexuosa</i> , <i>Corymbia calophylla</i> , <i>Corymbia maculata</i> , <i>Eucalyptus camaldulensis</i> , <i>Eucalyptus resinifera</i> over <i>Acacia iteaphylla</i> , <i>Schinus terebinthifolia</i> and <i>Chamelaucium uncinatum</i> over introduced species on various soils and topographical positions.
	CC	Individual or stands of <i>Corymbia calophylla</i> over introduced species including <i>Avena barbata</i> , <i>Bromus diandrus</i> and <i>Ehrharta calycina</i> on various soils and topographical positions.
	CC/AC/CU	Individual or stands of <i>Corymbia calophylla</i> over <i>Acacia iteaphylla</i> , <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> , <i>Chamelaucium uncinatum</i> over introduced species including <i>Avena barbata</i> , <i>Bromus diandrus</i> , <i>Ehrharta calycina</i> , <i>Eragrostis curvula</i> , <i>Lagurus ovatus</i> and <i>Leptospermum laevigatum</i> on various soils and topographical positions.
	CC/AC/KG	Individual or stands of <i>Corymbia calophylla</i> over <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> and <i>Kunzea glabrescens</i> over introduced species including <i>Eragrostis curvula</i> , <i>Leptospermum laevigatum</i> and <i>Oxalis glabra</i> on various soils and topographical positions.
	CC/EC	Individual or stands of <i>Corymbia calophylla</i> and <i>Eucalyptus camaldulensis</i> over <i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i> , <i>Melaleuca preissiana</i> , <i>Jacksonia sternbergiana</i> and <i>Schinus terebinthifolia</i> over introduced species on various soils and topographical positions.
	CC/EC/ER	Individual or stands of <i>Corymbia calophylla</i> , <i>Eucalyptus camaldulensis</i> and <i>Eucalyptus rudis</i> over introduced species on various soils and topographical positions.
	CC/EC/ES	Individual or stands of <i>Corymbia calophylla</i> , <i>Eucalyptus camaldulensis</i> and <i>Erythrina xyskiesii</i> over introduced species on cleared land.
	CC/MP	Individual or stands of <i>Corymbia calophylla</i> and <i>Pinus radiata</i> over <i>Melaleuca preissiana</i> over <i>Leptospermum laevigatum</i> , <i>Melaleuca nesophila</i> and <i>Schinus terebinthifolia</i> over introduced species on various soils and topographical positions.
	CM/EM/ER	Individual or stands of <i>Corymbia maculata</i> <i>Eucalyptus marginata</i> , <i>Eucalyptus resinifera</i> on cleared land.
	CC/MV	Individual or stands of <i>Corymbia calophylla</i> over <i>Melaleuca viminalis</i> over <i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i> and <i>Chamelaucium uncinatum</i> over introduced species including <i>Asparagus asparagoides</i> on various soils and topographical positions.
	CC/XP	Individual or stands of <i>Corymbia calophylla</i> over <i>Xanthorrhoea preissii</i> introduced species including <i>Avena barbata</i> , <i>Ehrharta calycina</i> and <i>Eragrostis curvula</i> on various soils and topographical positions.
	CC/EC/PR	Individual or stands of <i>Corymbia calophylla</i> , <i>Eucalyptus camaldulensis</i> and <i>Pinus radiata</i> over <i>Acacia saligna</i> over introduced species on various soils and topographical positions.
	CO/CC/EM/ER/EW	Individual or stands of <i>Casuarina obesa</i> , <i>Corymbia calophylla</i> , <i>Eucalyptus marginata</i> , <i>Eucalyptus rudis</i> , <i>Eucalyptus wandoo</i> over <i>Melaleuca huegelii</i> , <i>Melaleuca preissiana</i> , <i>Melaleuca raphiophylla</i> over <i>Leptospermum laevigatum</i> and <i>Acacia podalyriifolia</i> over introduced species on various soils and topographical positions.
	C/P	Individual or stands of Exotic Palms and <i>Callitris</i> on cleared land.
	EC/CQ	Individual or stands of <i>Eucalyptus camaldulensis</i> over <i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i> , <i>Chamelaucium uncinatum</i> and <i>Grevillea thelemanniana</i> over introduced species including <i>Bromus diandrus</i> , <i>Ehrharta calycina</i> , <i>Eragrostis curvula</i> , <i>Euphorbia terracina</i> and <i>Oxalis pes-caprae</i> on various soils and topographical positions.
	EC	Individual or stands of <i>Eucalyptus camaldulensis</i> on cleared land.
	EC/ES	Individual or stands of <i>Eucalyptus camaldulensis</i> and <i>Erythrina xyskiesii</i> on cleared land.
	EC/PR	Individual or stands of <i>Eucalyptus camaldulensis</i> and <i>Pinus radiata</i> over introduced species on various soils and topographical positions.
	ET	Individual or stands of <i>Eucalyptus tottiana</i> on cleared land.
	LL	Individual or stands of <i>Leptospermum laevigatum</i> over introduced species on various soils and topographical positions.
	LL/AC	Individual or stands of <i>Leptospermum laevigatum</i> over <i>Adenanthos cygnorum</i> subsp. <i>cygnorum</i> and <i>Jacksonia sternbergiana</i> over introduced species on various soils and topographical positions.
	W	Dense <i>Watsonia meriana</i> within isolated native species on brown clay on flats and drainage lines.

Revegetated Areas

	RV1	Recent revegetated road reserve with <i>Corymbia calophylla</i> , <i>Eucalyptus resinifera</i> , <i>Eucalyptus</i> sp., <i>Eucalyptus torquata</i> and <i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i> over <i>Melaleuca huegelii</i> subsp. <i>huegelii</i> and <i>Melaleuca incana</i> subsp. <i>incana</i> over <i>Acacia lasiocarpa</i> , <i>Calothamnus quadrifidus</i> , <i>Grevillea thelemanniana</i> and <i>Hakea prostrata</i> over introduced species including <i>Avena barbata</i> , <i>Bromus diandrus</i> , <i>Ehrharta calycina</i> , <i>Eragrostis curvula</i> , <i>Euphorbia terracina</i> , <i>Fumaria capreolata</i> and <i>Sonchus asper</i> .
	RV2	Recent revegetated road reserve with <i>Kunzea glabrescens</i> , <i>Melaleuca incana</i> subsp. <i>incana</i> and <i>Melaleuca teretifolia</i> over <i>Astartea scoparia</i> over <i>Juncus pallidus</i> , <i>Schoenoplectus tabernaemontani</i> and <i>Typha domingensis</i> (artificial wetland).
	RV3	Historically revegetated road reserve with <i>Jacaranda mimosifolia</i> over introduced species on cleared land.
	RV4	Historically revegetated road reserve with <i>Allocasuarina fraseriana</i> , <i>Nuytsia floribunda</i> , <i>Eucalyptus camaldulensis</i> over <i>Acacia saligna</i> , <i>Chamelaucium uncinatum</i> <i>Adenanthos cygnorum</i> and <i>Leptospermum laevigatum</i> over <i>Xanthorrhoea preissii</i> and <i>Cyathochaeta avenacea</i> over introduced species including <i>Avena barbata</i> , <i>Ehrharta calycina</i> , <i>Ehrharta longiflora</i> and <i>Pelargonium capitatum</i> .
	RV5	Historically revegetated road reserve with <i>Corymbia calophylla</i> , <i>Eucalyptus comuta</i> , <i>Eucalyptus rudis</i> , <i>Eucalyptus</i> sp., over <i>Acacia saligna</i> , <i>Grevillea leucopteris</i> , <i>Melaleuca viminalis</i> over <i>Cyathochaeta avenacea</i> over introduced species including <i>Avena barbata</i> , <i>Eragrostis curvula</i> , and <i>Pelargonium capitatum</i> .
	RV6	Historically revegetated road reserve with <i>Eucalyptus camaldulensis</i> over <i>Acacia saligna</i> , <i>Allocasuarina humilis</i> , <i>Calothamnus quadrifidus</i> , <i>Grevillea leucopteris</i> , <i>Melaleuca huegelii</i> subsp. <i>huegelii</i> , <i>Melaleuca nematophylla</i> over introduced species.

Other

	C	Cleared Land.
	NA	Not Assessed



Vegetation Types of the Survey Area

Author: Marlee Starceвич

WEC Ref: MR19-34-01

Filename: MR19-34-01-App-V-4

Projection: GDA 1994 MGA Zone 50

Appendix

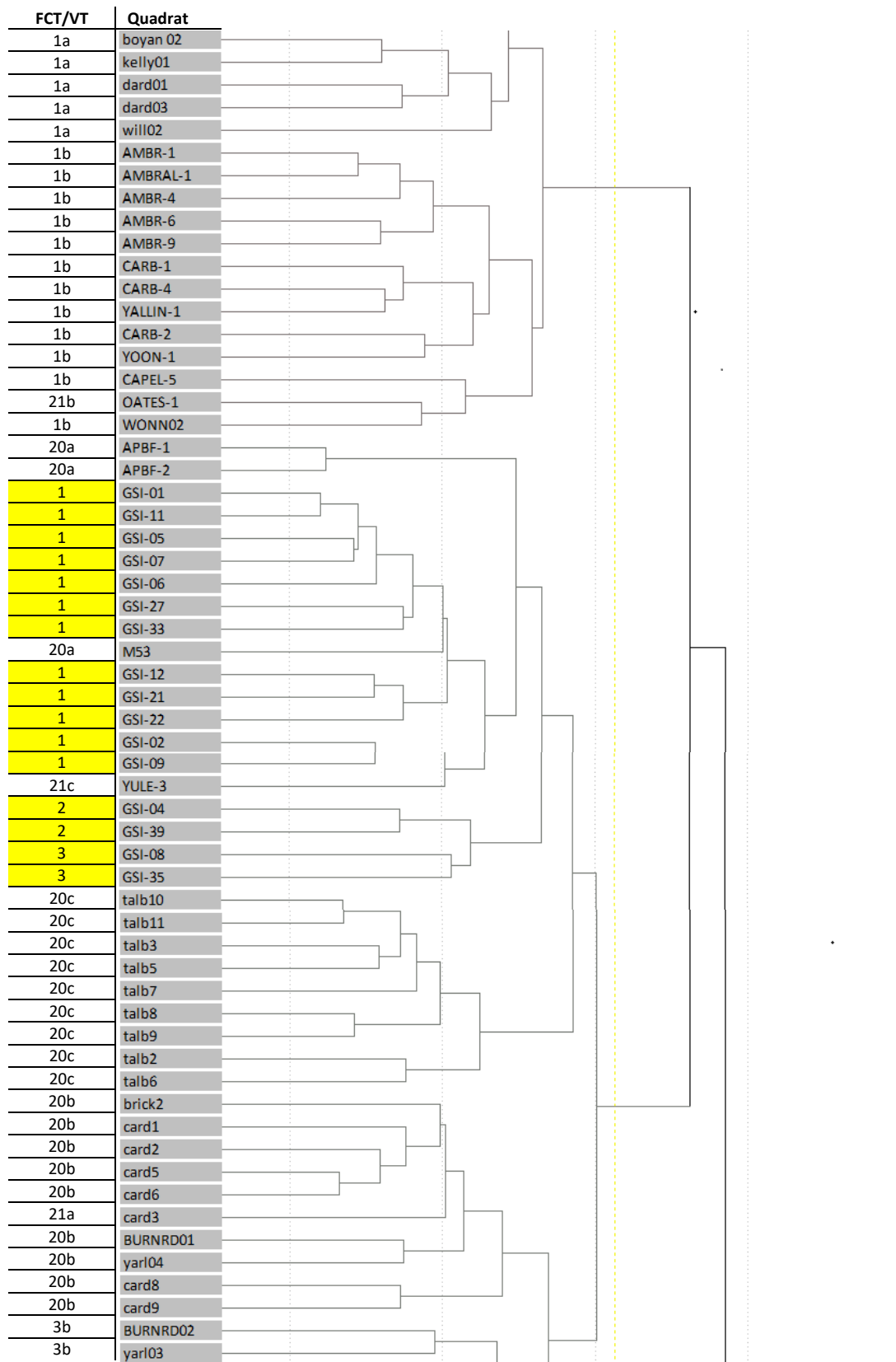
V4

Appendix W: Classification Analysis Dendrogram (Excerpts) of the Woodman Environmental Quadrat Dataset from the Survey Area with the Original SCP Quadrat Dataset (Gibson *et al.* 1994)

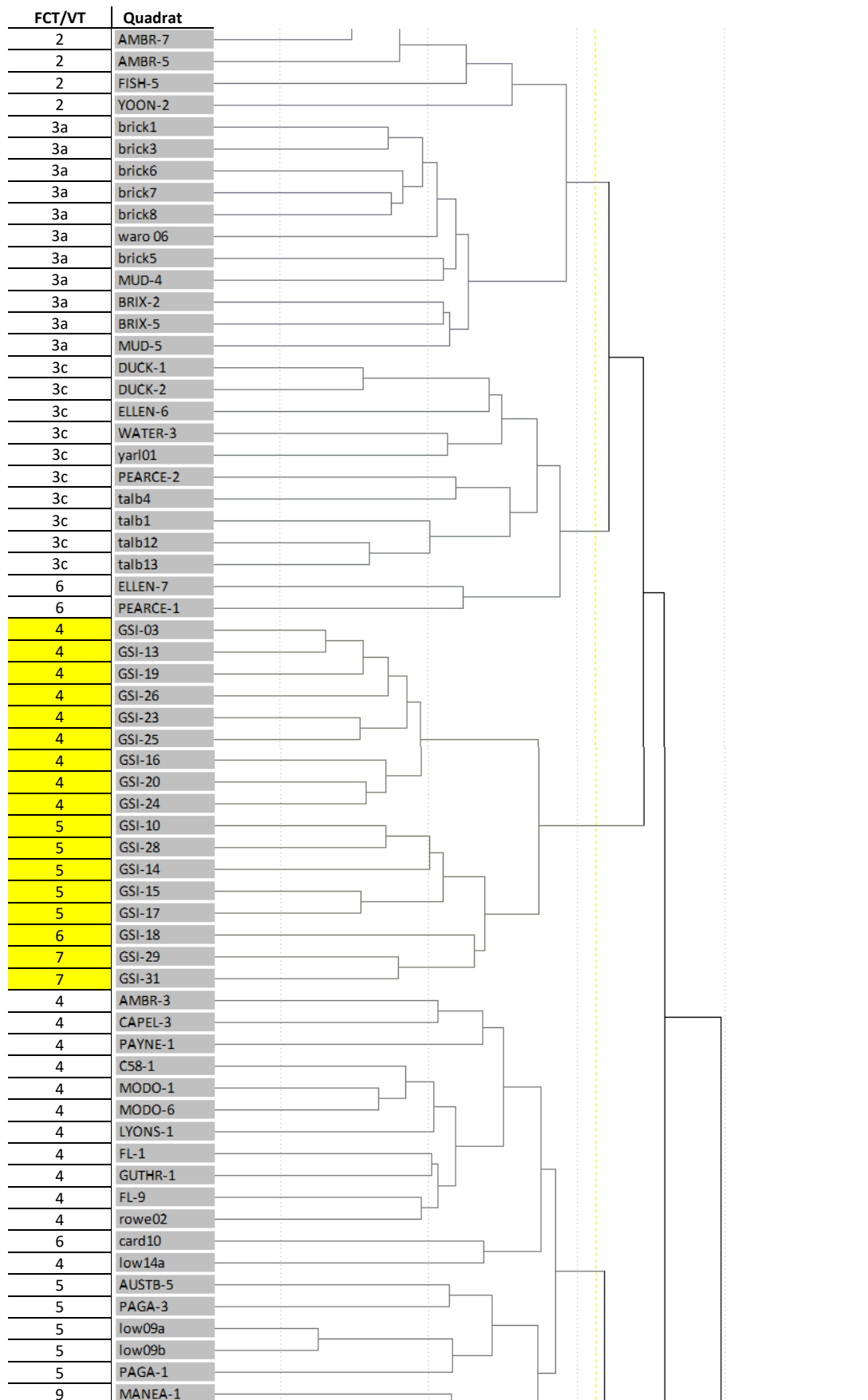
Note:

- SCP quadrats are labelled with their corresponding SCP FCT, as per Gibson *et al.* (1994);
- Woodman Environmental quadrats are labelled with their VT as per the classification analysis of Woodman Environmental quadrats from the Survey Area; and
- Yellow shading denotes Woodman Environmental quadrats from the Survey Area.

Dendrogram Excerpt – VTs 1, 2 and 3



Dendrogram Excerpt – VTs 4, 5, 6 and 7

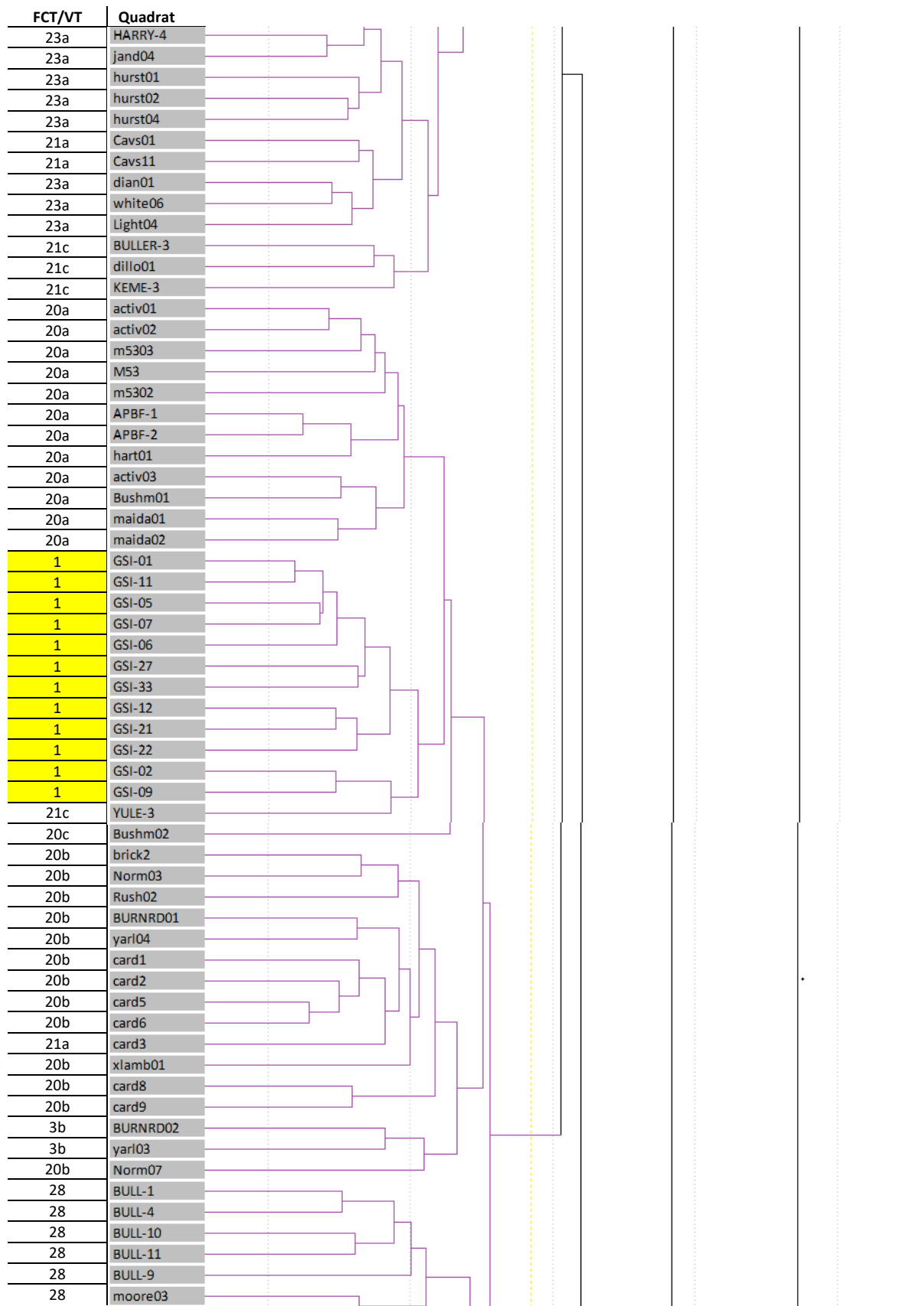


Appendix X: Classification Analysis Dendrogram (Excerpts) of the Woodman Environmental Quadrat Dataset from the Survey Area with the Amended SCP Quadrat Dataset (Keighery *et al.* 2012)

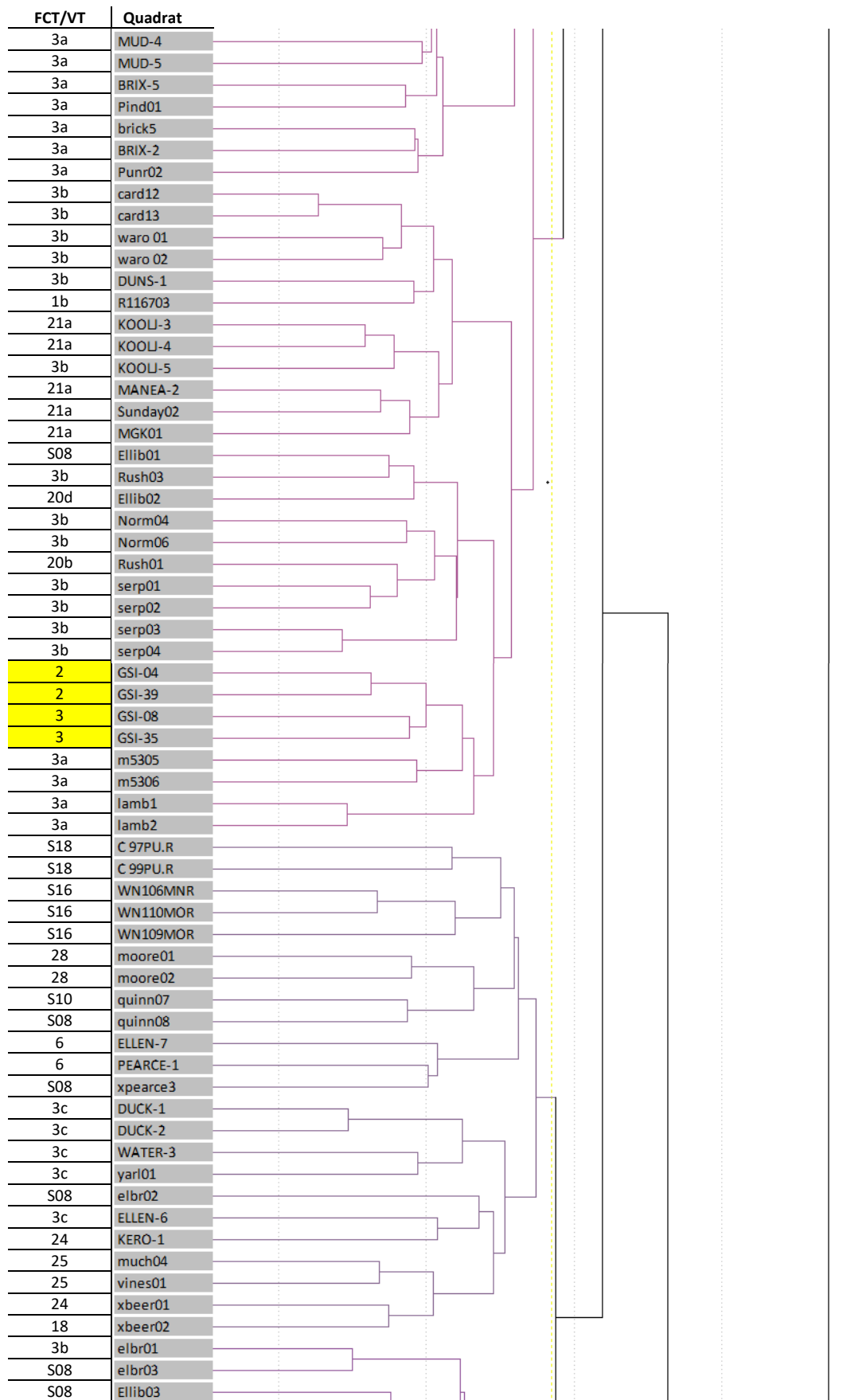
Note:

- SCP quadrats are labelled with their corresponding SCP FCT, as per Gibson *et al.* (2012);
- Woodman Environmental quadrats are labelled with their VT as per the classification analysis of Woodman Environmental quadrats from the Survey Area; and
- Yellow shading denotes Woodman Environmental quadrats from the Survey Area.

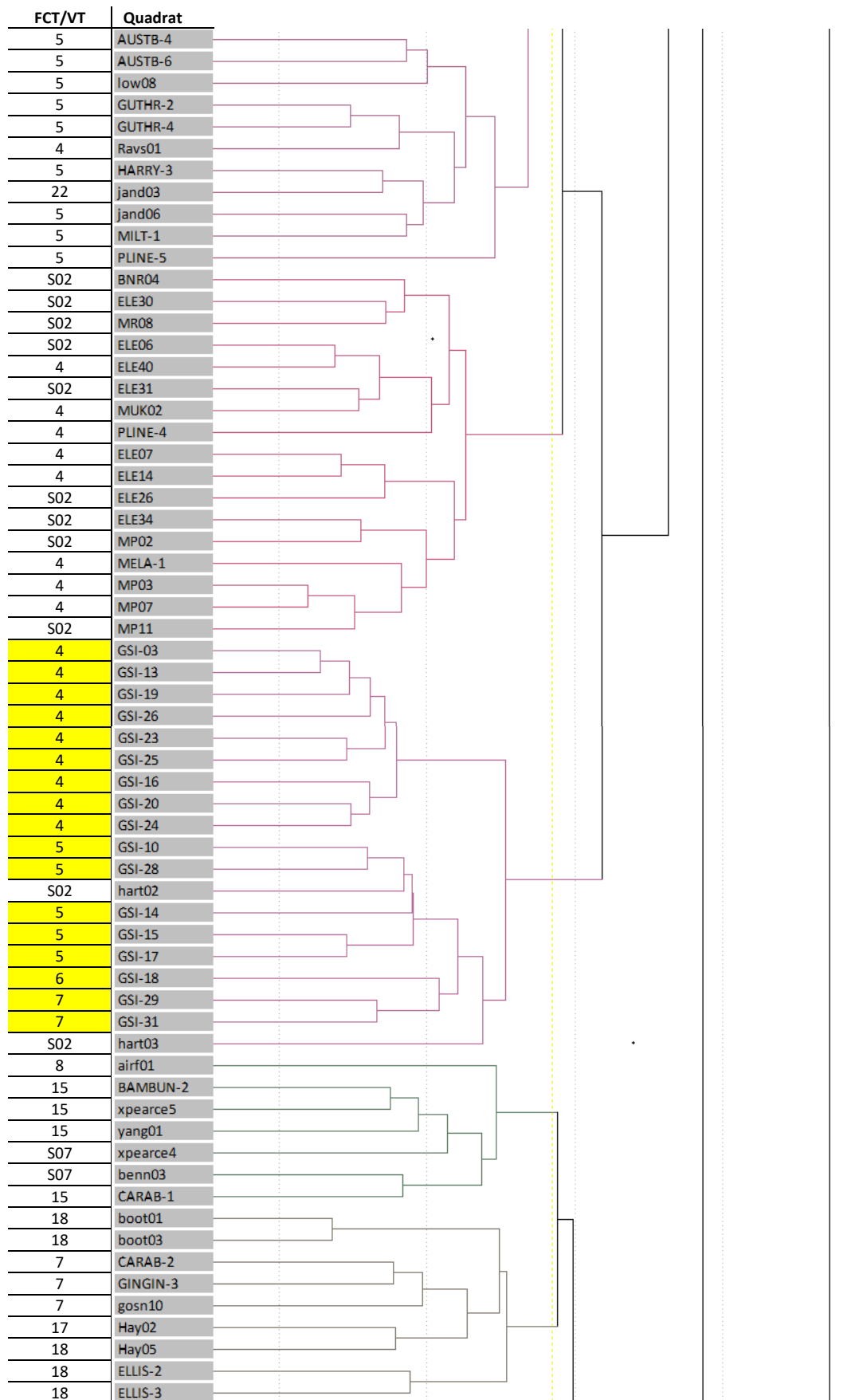
Dendrogram Excerpt – VT 1



Dendrogram Excerpt – VTs 2 and 3



Dendrogram Excerpt – VTs 4, 5, 6 and 7

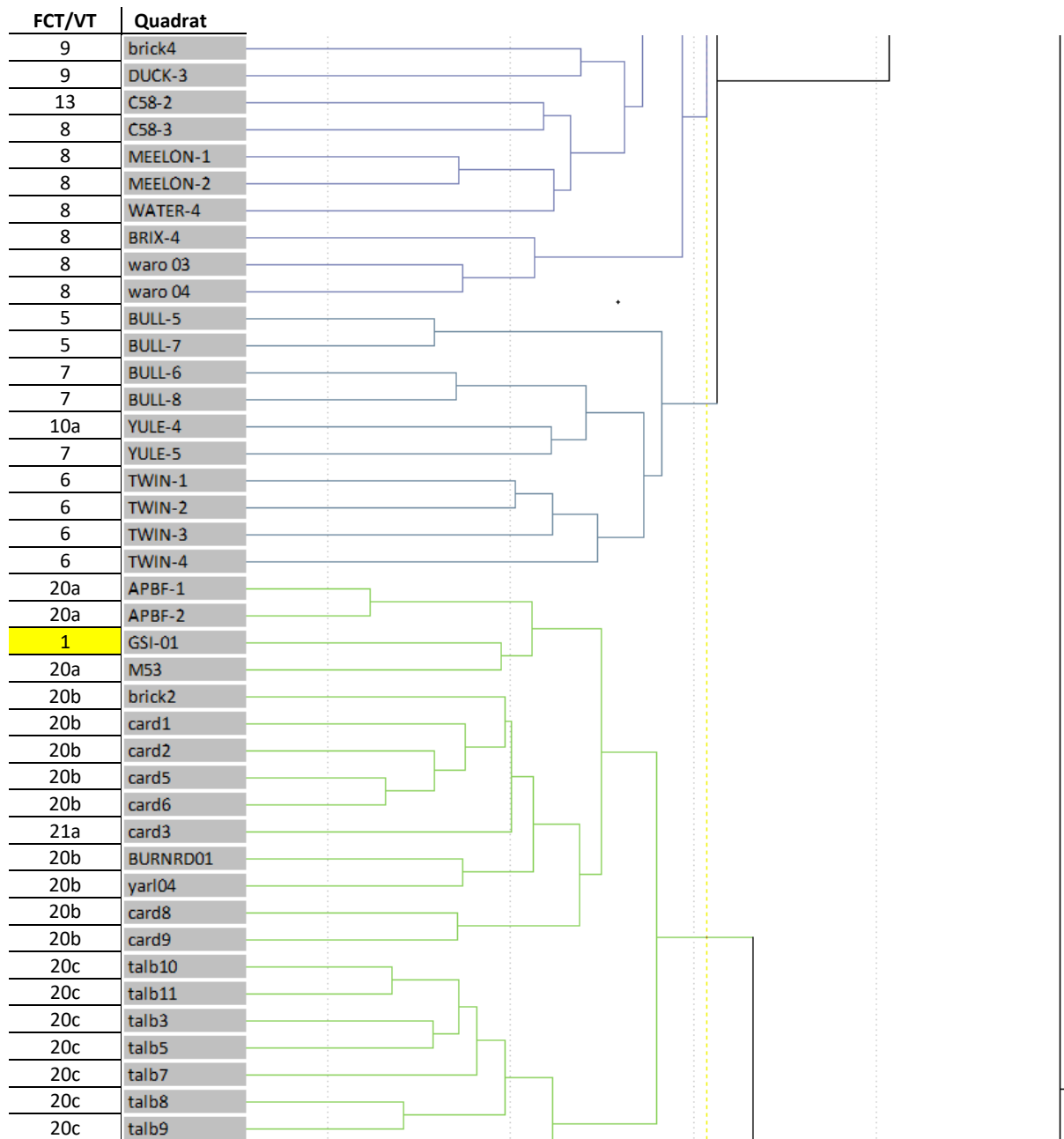


Appendix Y: Single Site Insertion Classification Analysis Dendrograms (Excerpts) of Woodman Environmental Quadrats from the Survey Area with the Original SCP Quadrat Dataset (Gibson *et al.* 1994)

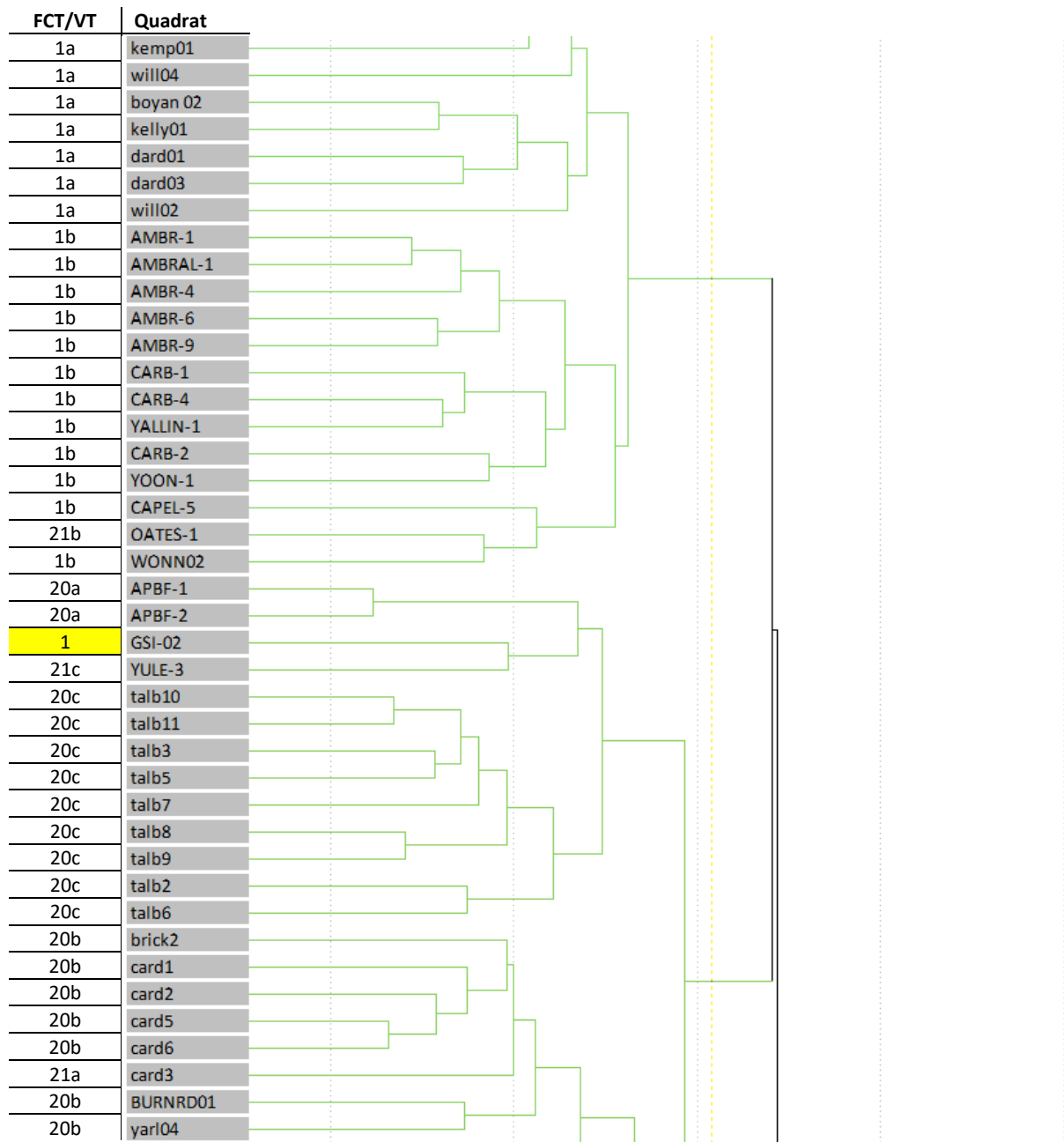
Note:

- SCP quadrats are labelled with their corresponding SCP FCT, as per Gibson *et al.* (1994);
- Woodman Environmental quadrats are labelled with their VT as per the classification analysis of Woodman Environmental quadrats from the Survey Area; and
- Yellow shading denotes Woodman Environmental quadrats from the Survey Area.

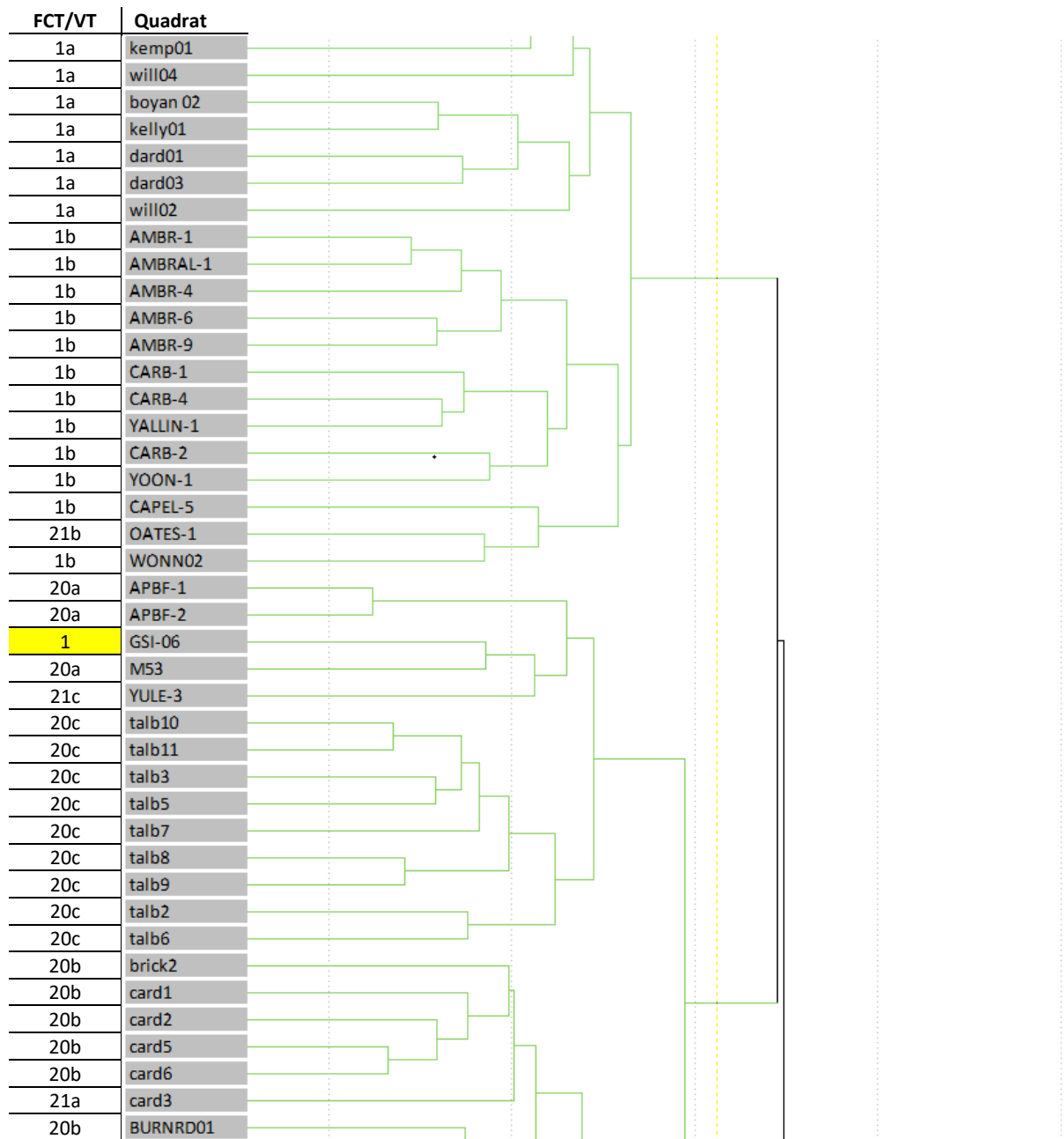
Dendrogram Excerpt – VT 1: Quadrat GSI-01



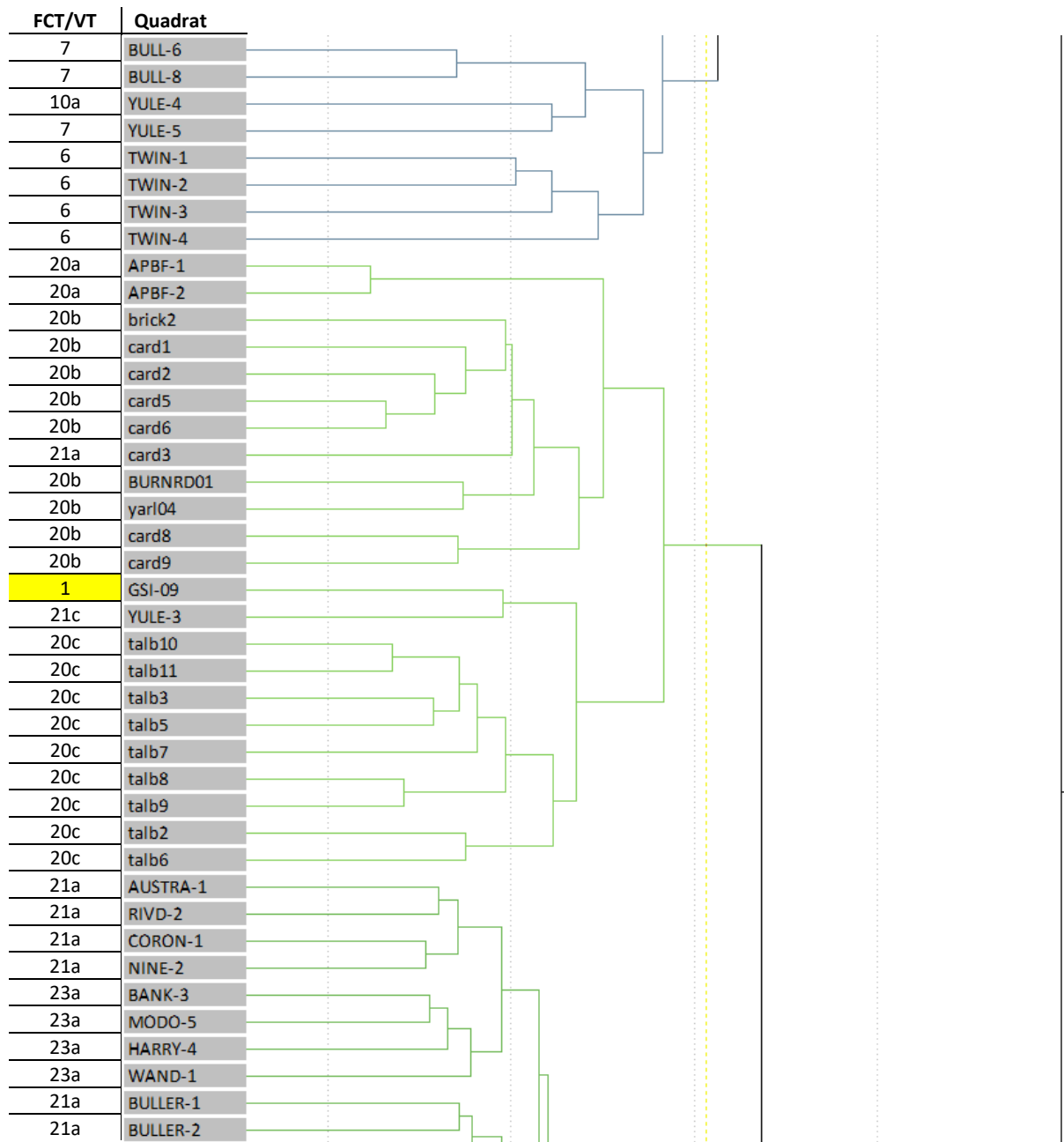
Dendrogram Excerpt – VT 1: Quadrat GSI-02



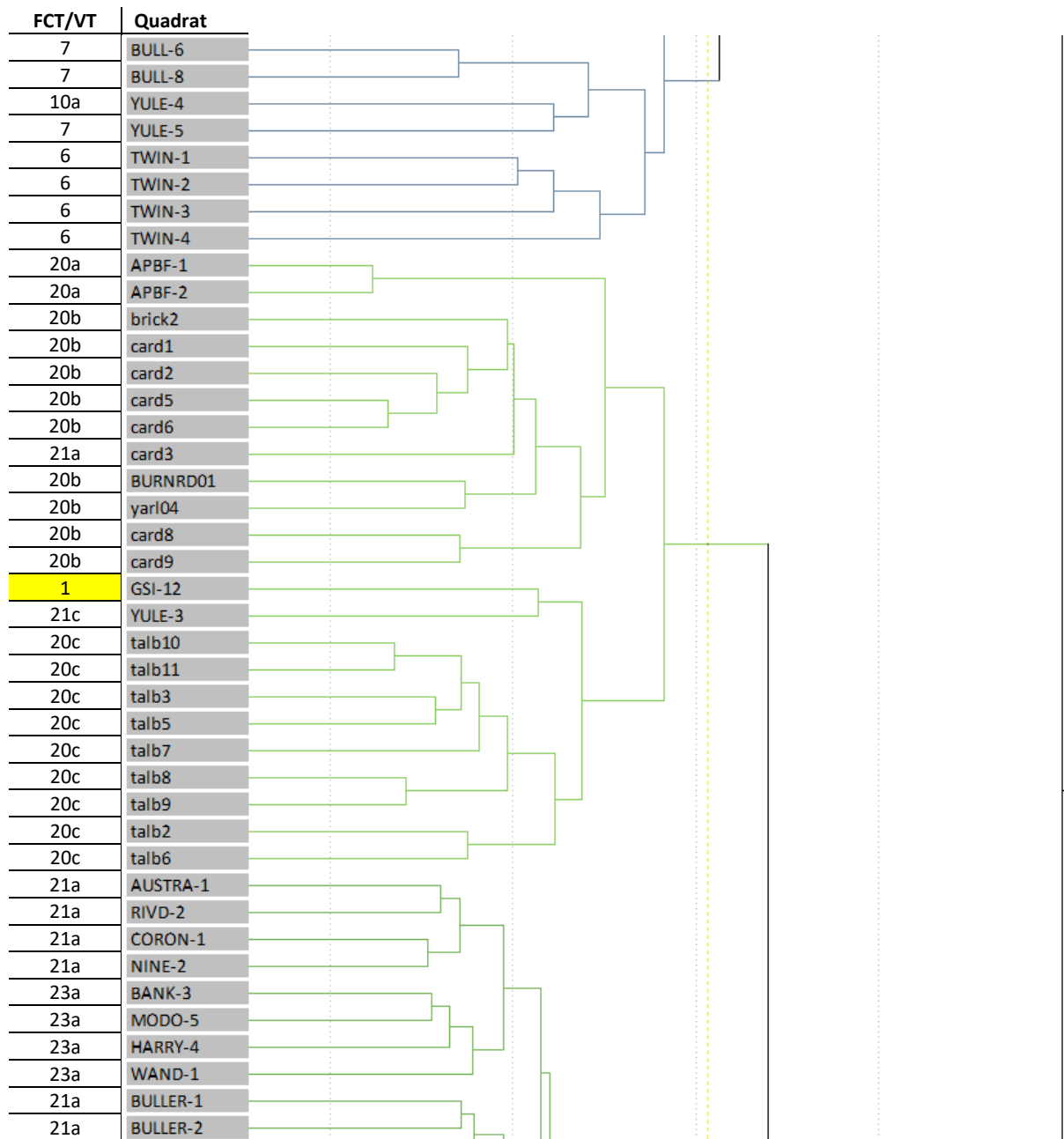
Dendrogram Excerpt – VT 1: Quadrat GSI-06



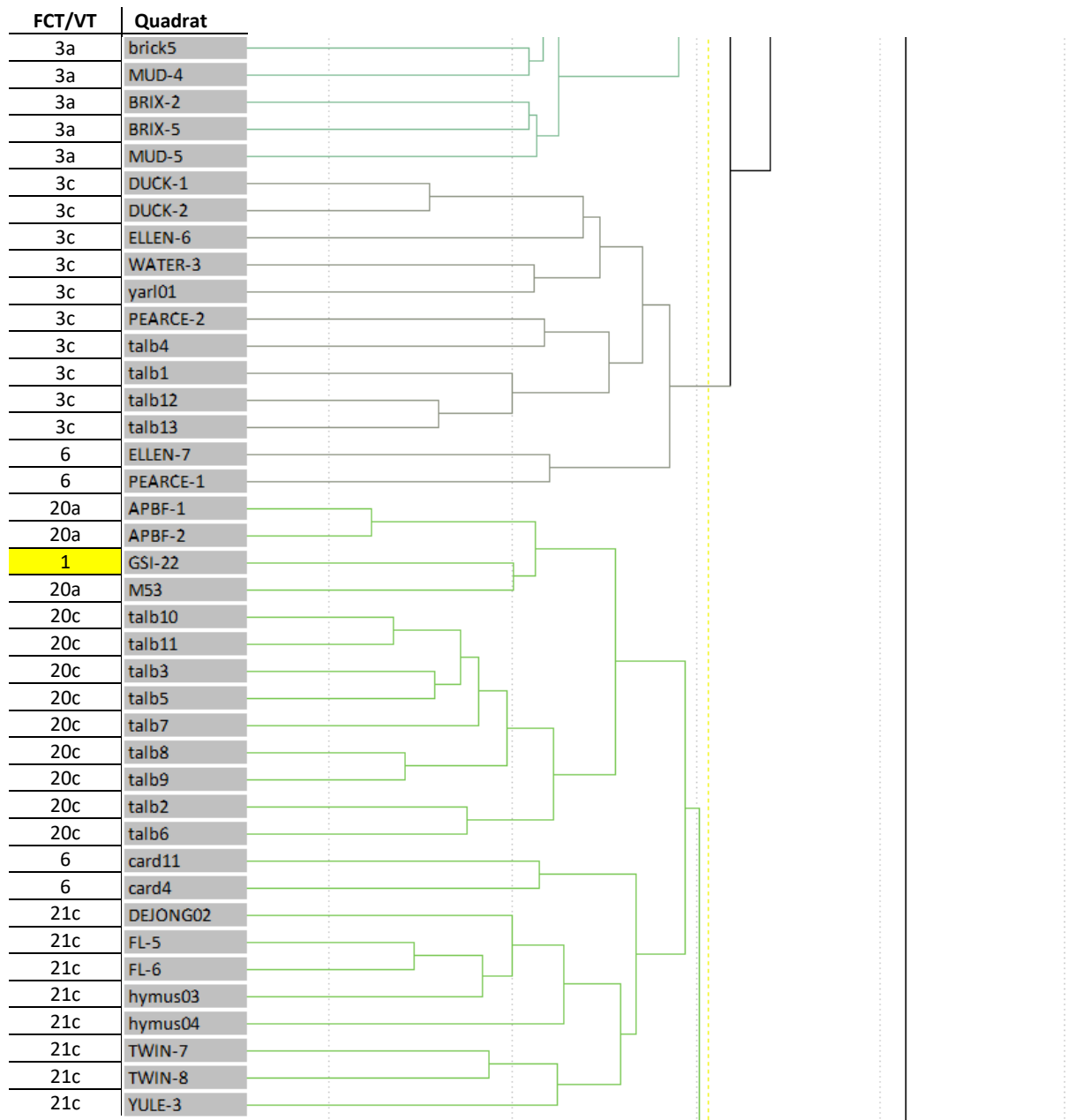
Dendrogram Excerpt – VT 1: Quadrat GSI-09



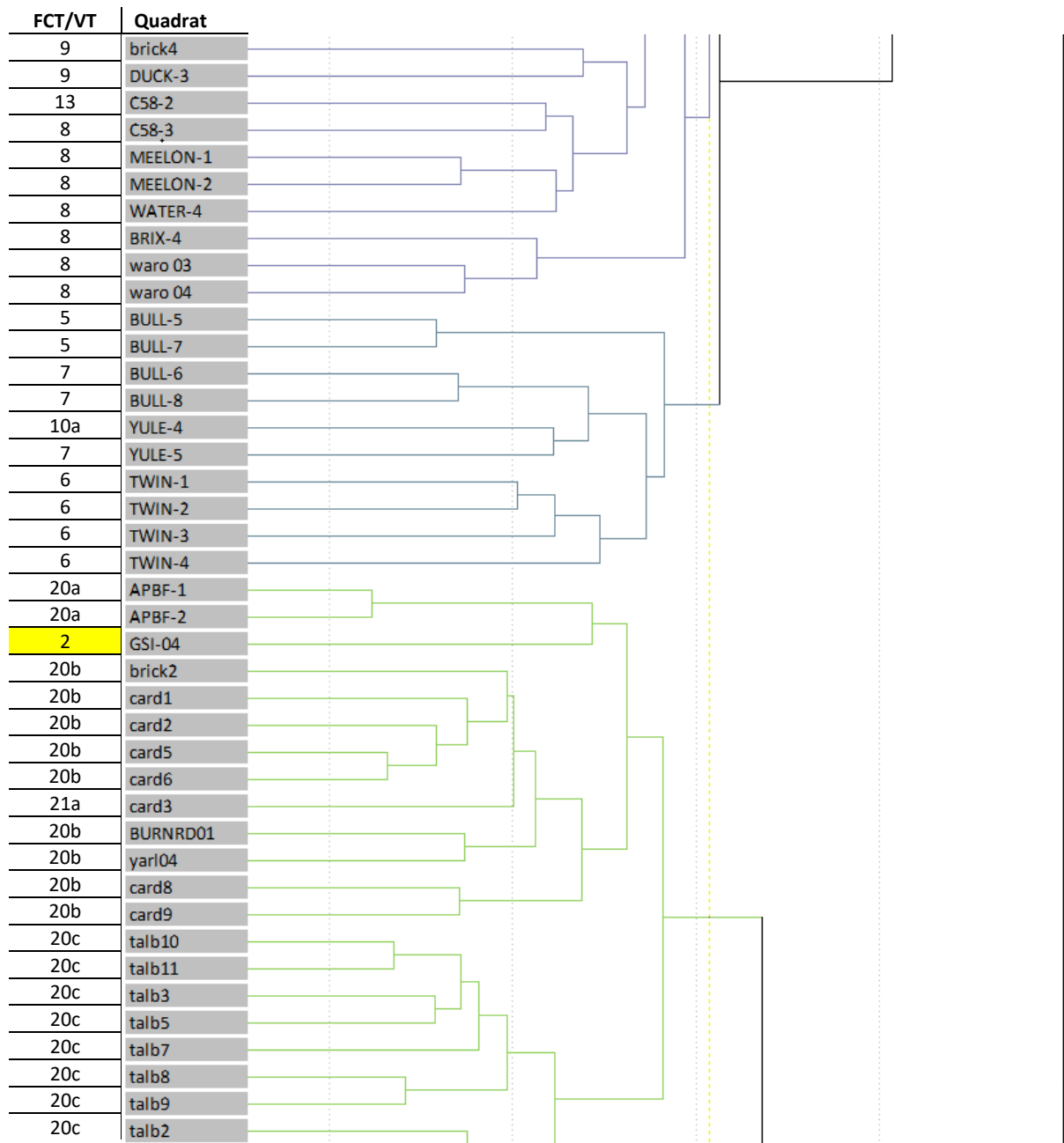
Dendrogram Excerpt – VT 1: Quadrat GSI-12



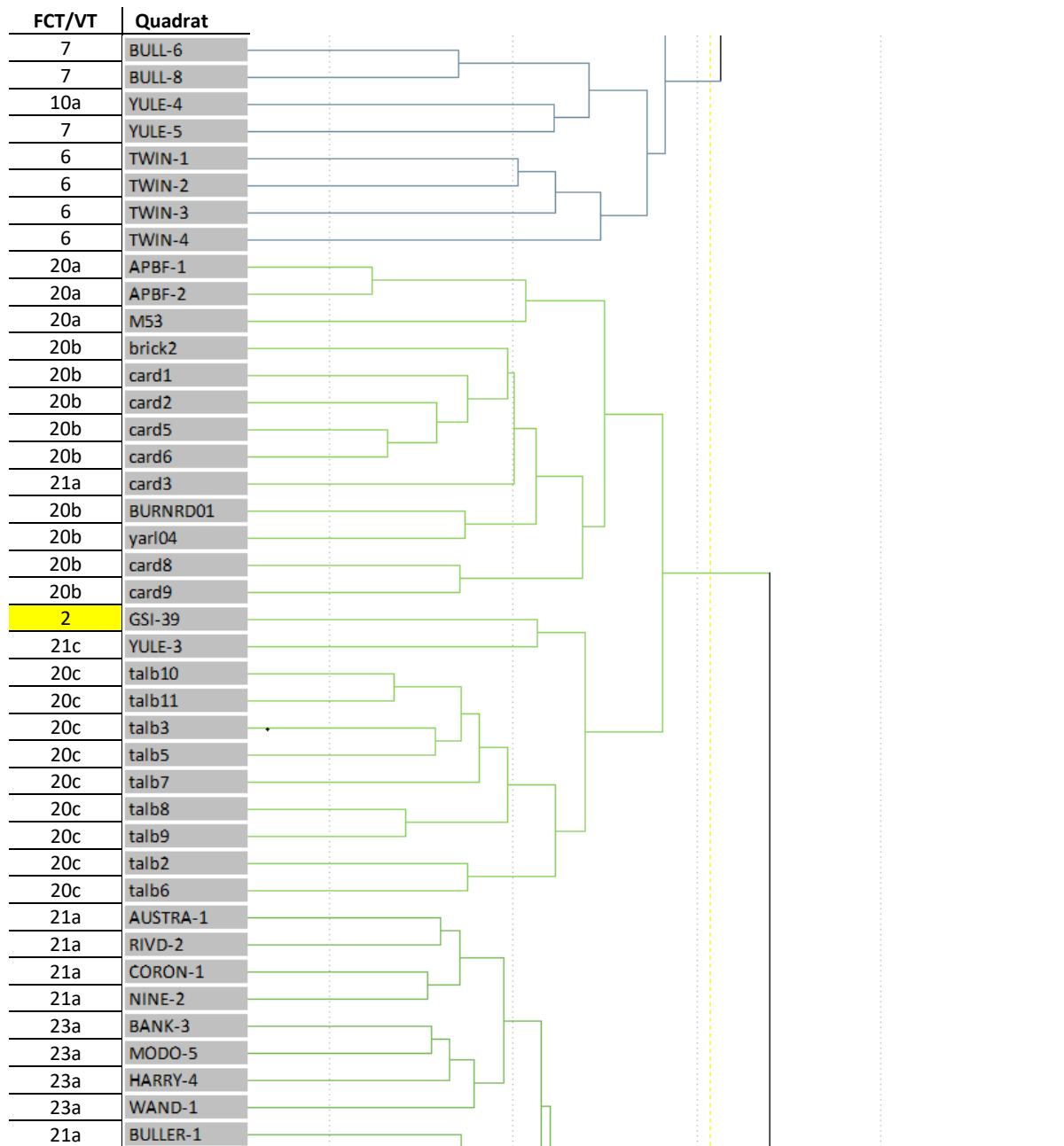
Dendrogram Excerpt – VT 1: Quadrat GSI-22



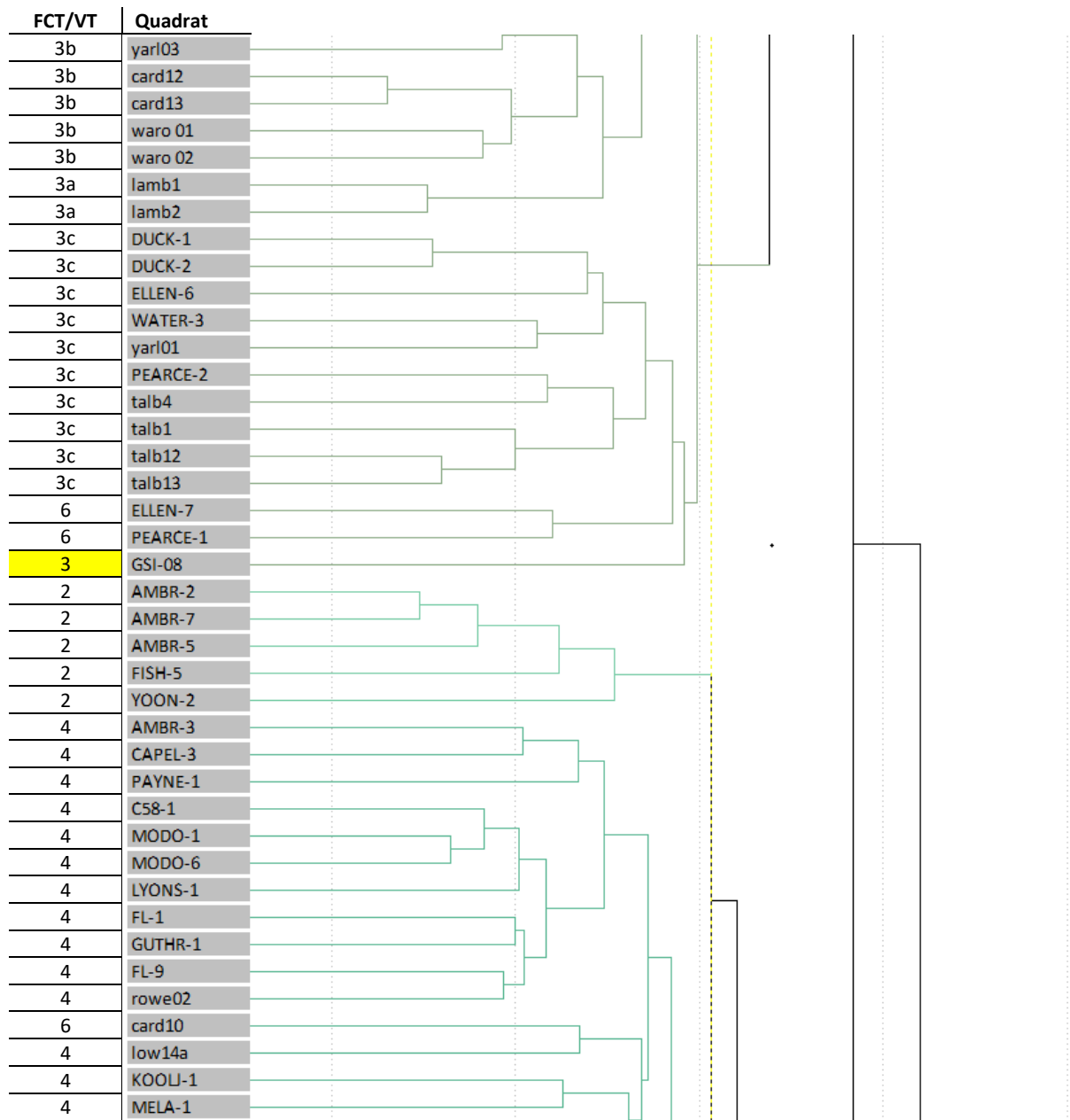
Dendrogram Excerpt – VT 2: Quadrat GSI-04



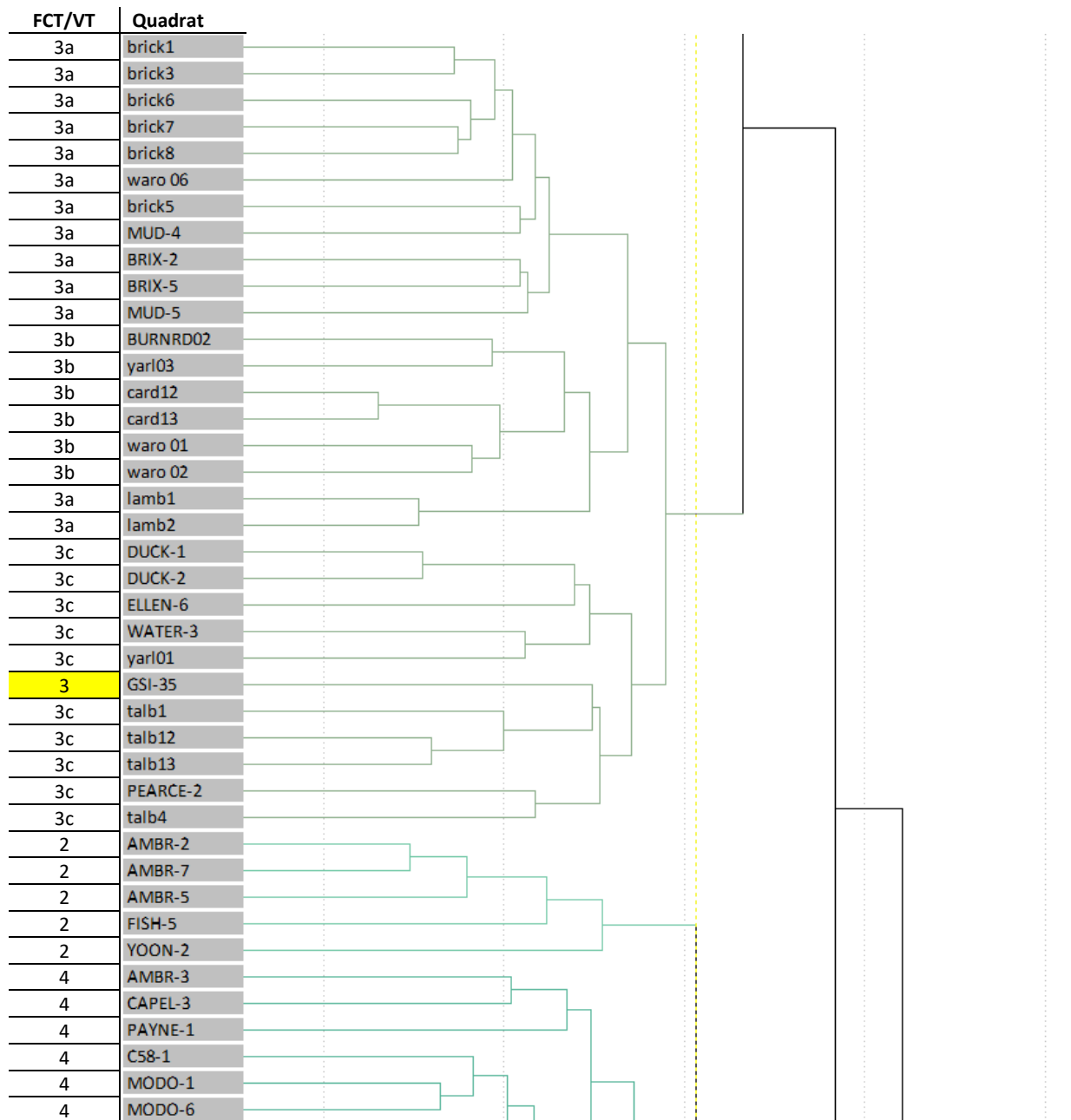
Dendrogram Excerpt – VT 2: Quadrat GSI-39



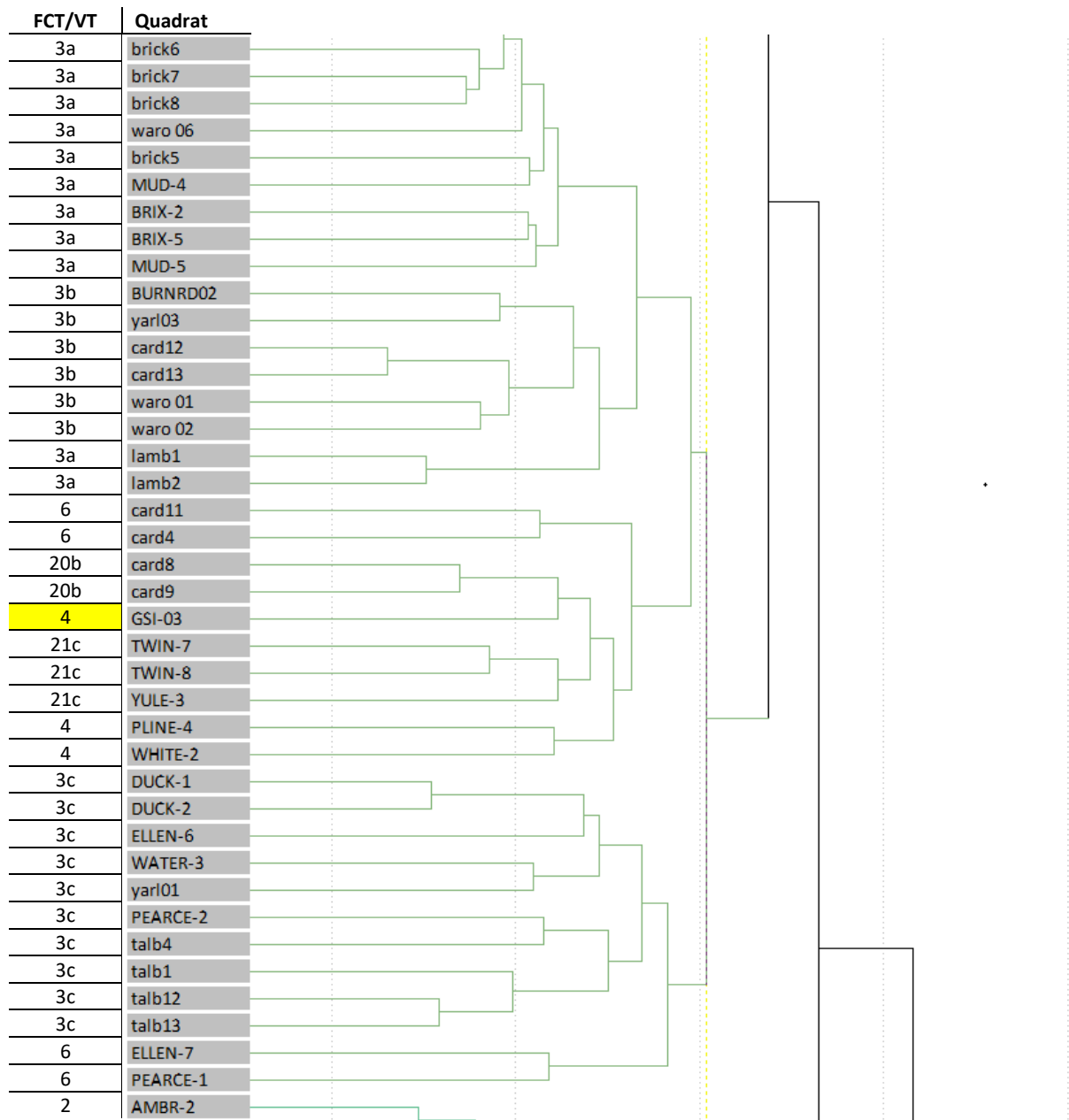
Dendrogram Excerpt – VT 3: Quadrat GSI-08



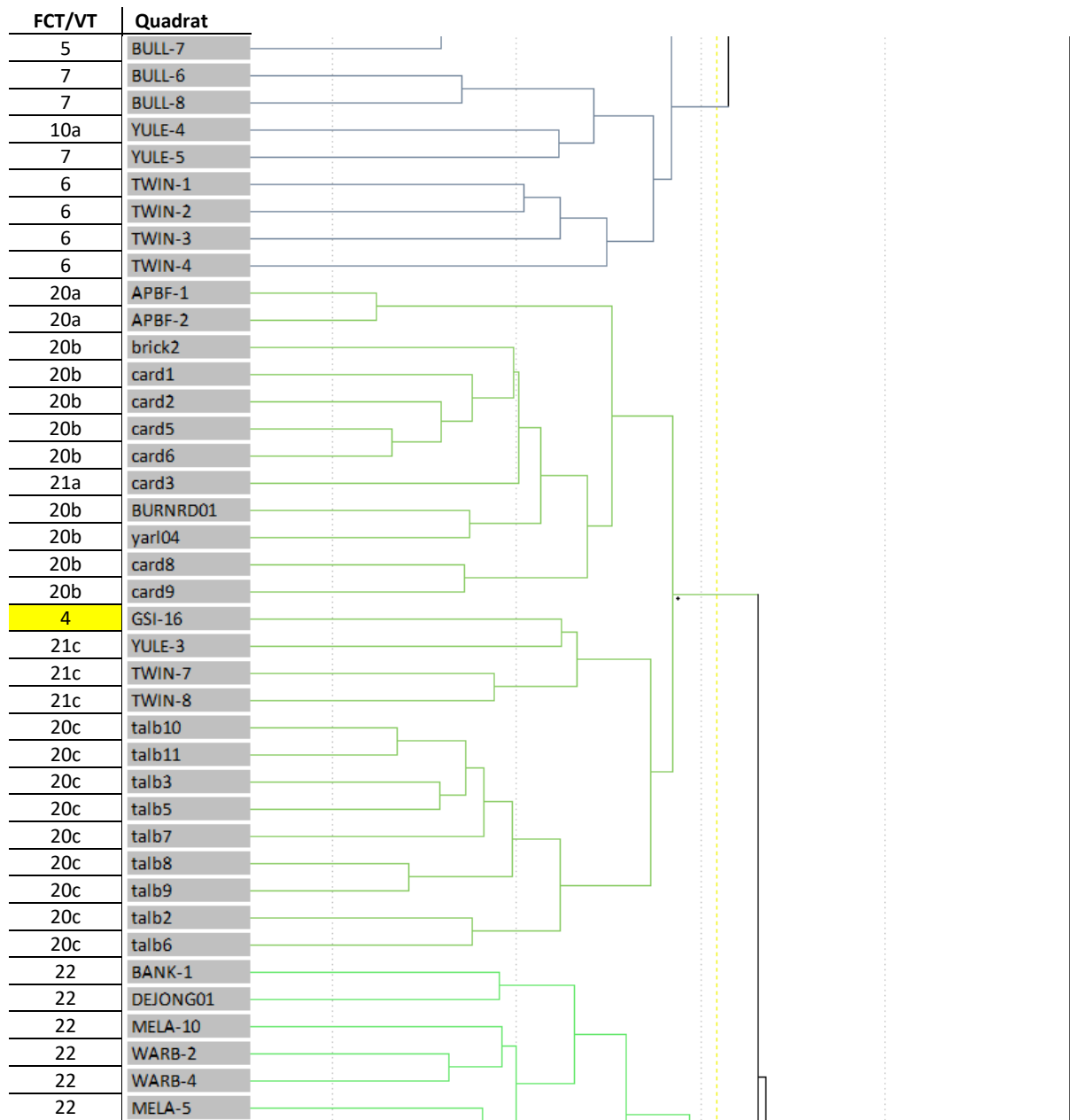
Dendrogram Excerpt – VT 3: Quadrat GSI-35



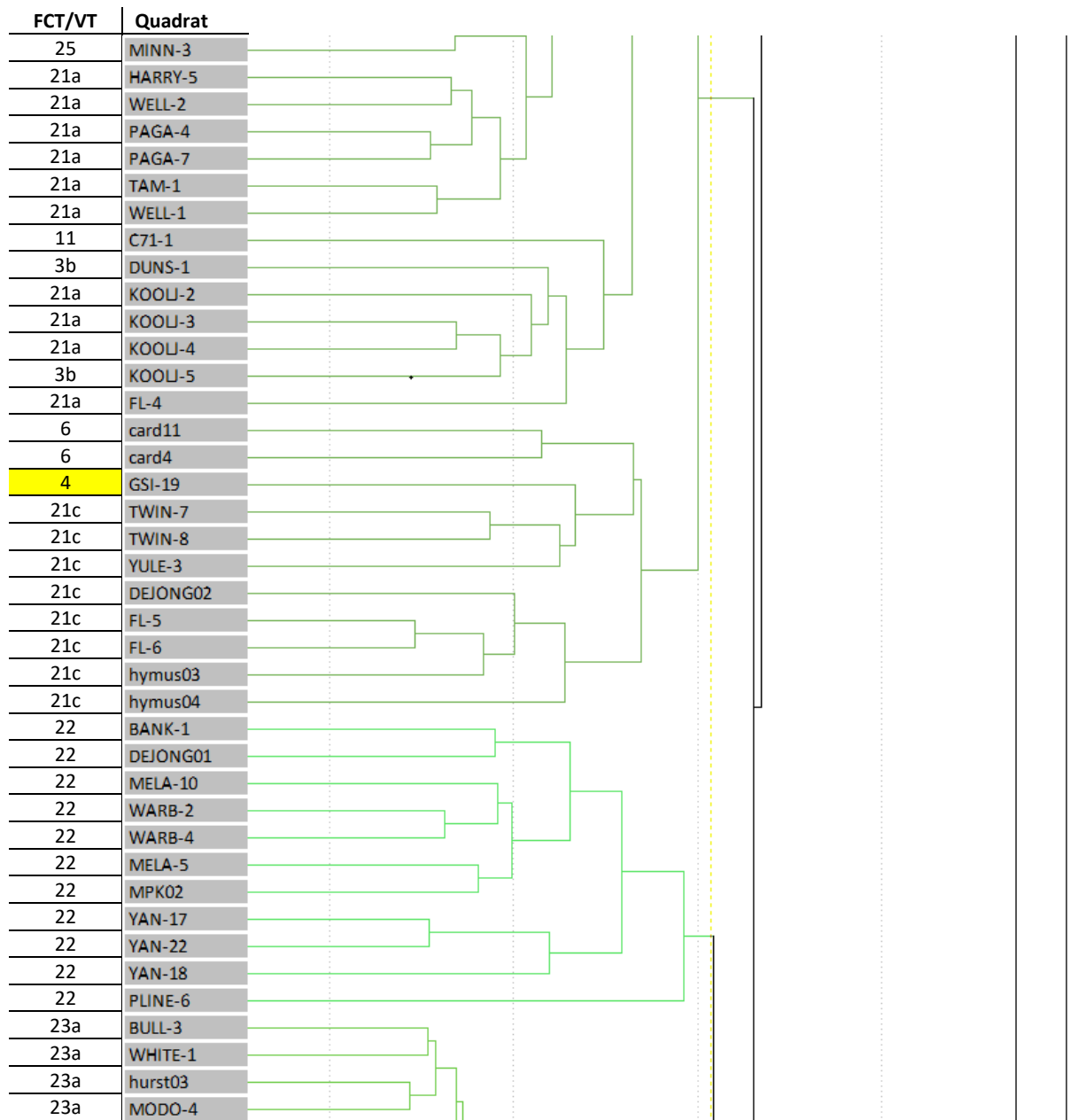
Dendrogram Excerpt – VT 4: Quadrat GSI-03



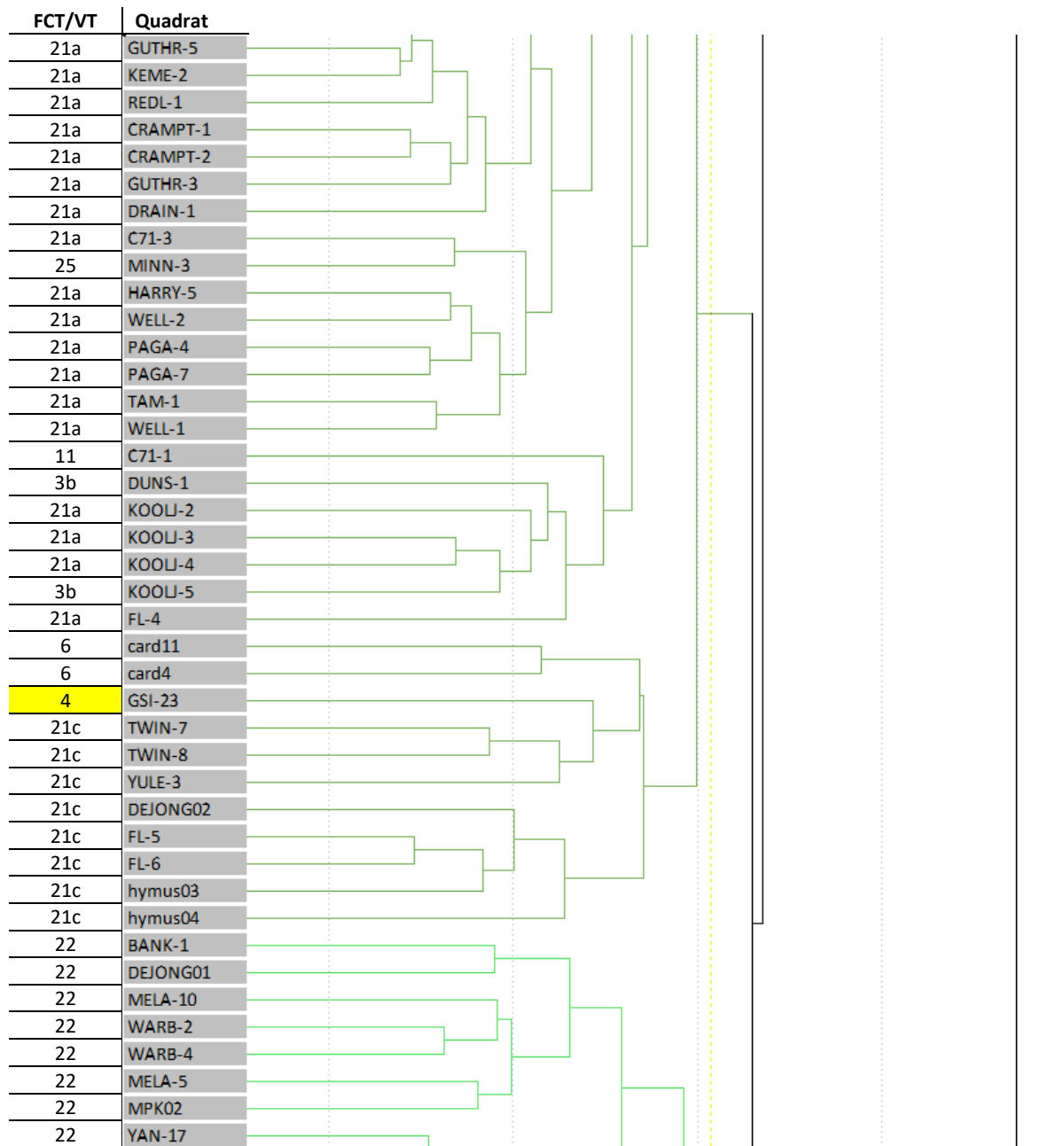
Dendrogram Excerpt – VT 4: Quadrat GSI-16



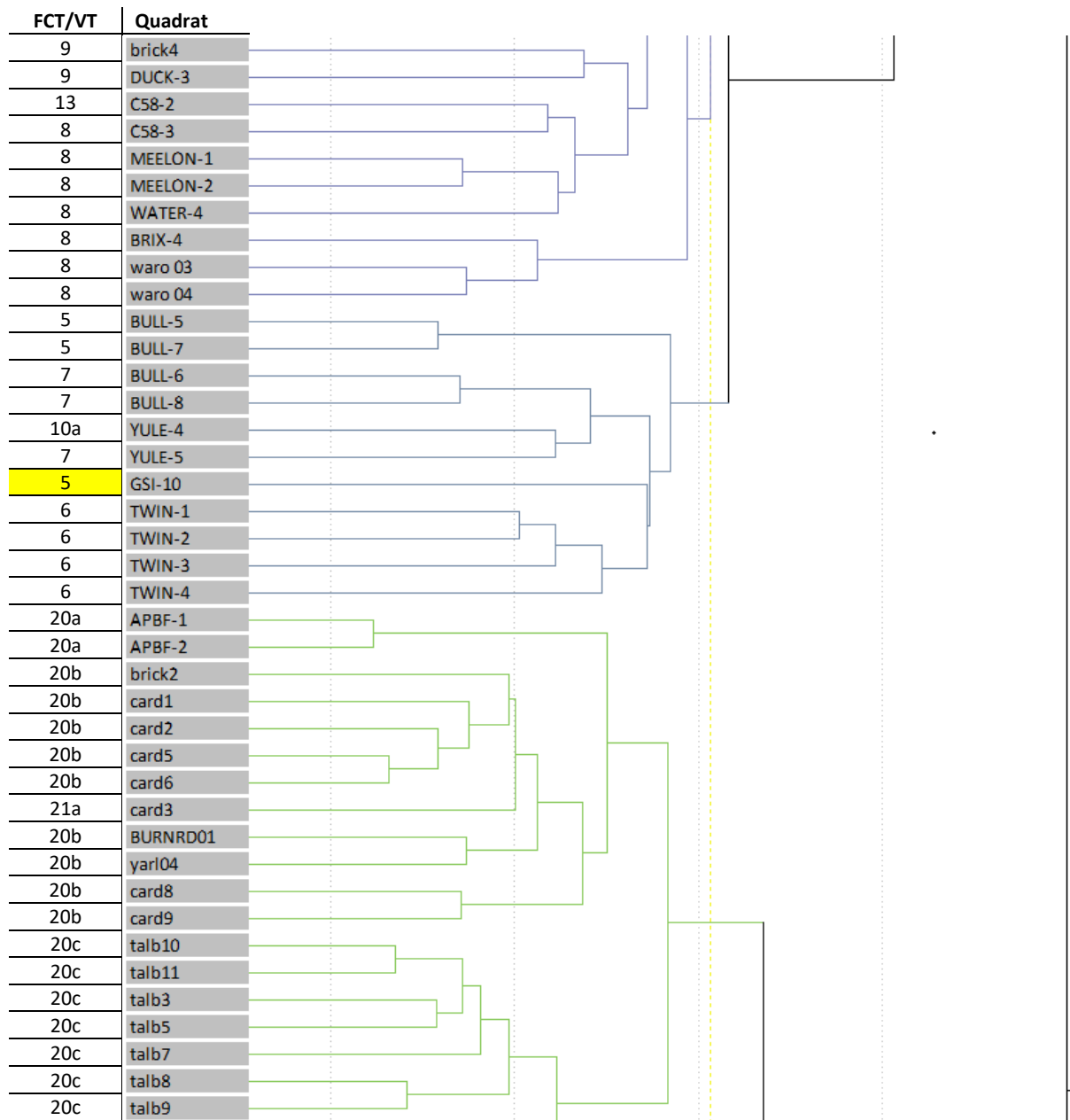
Dendrogram Excerpt – VT 4: Quadrat GSI-19



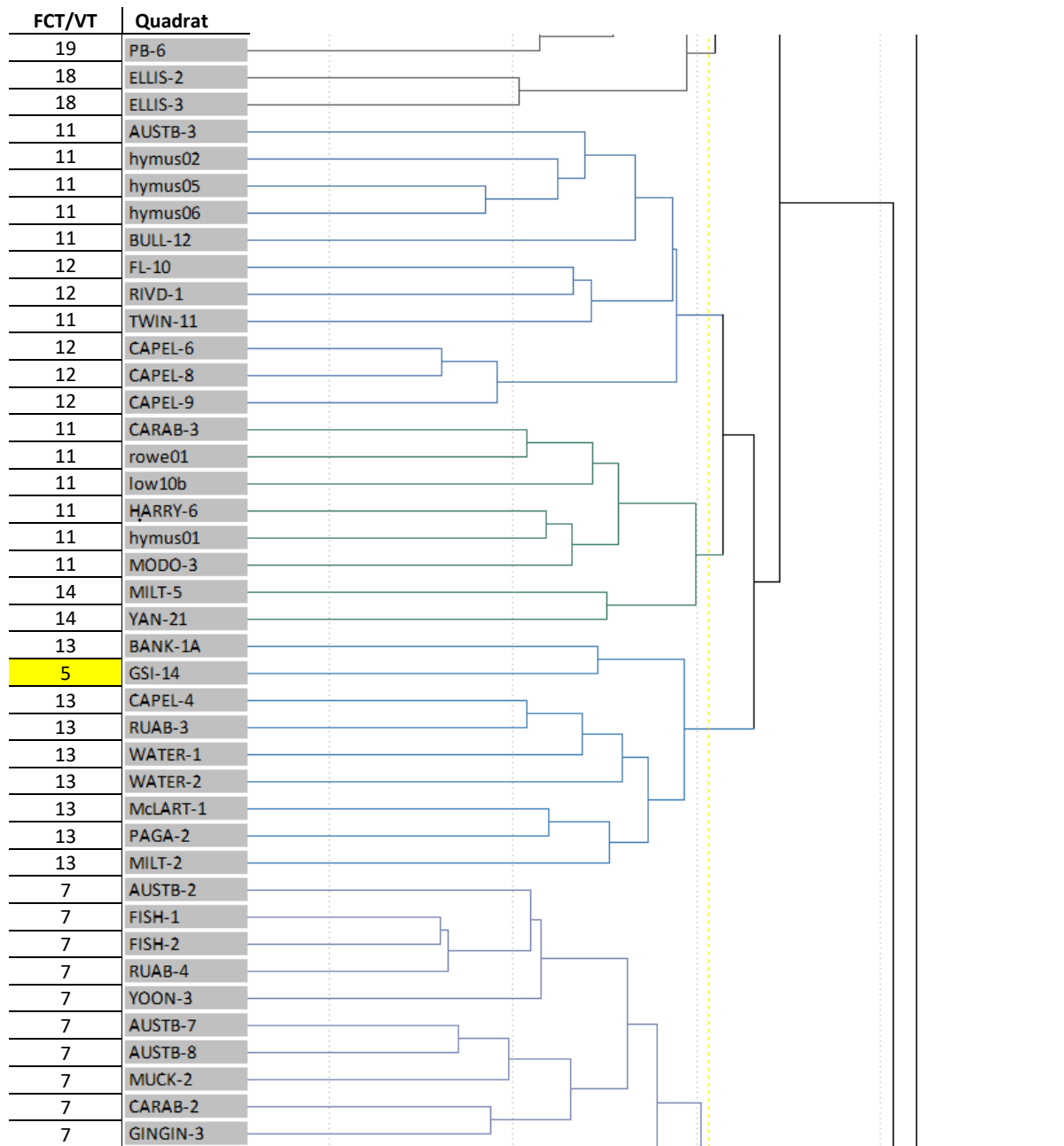
Dendrogram Excerpt – VT 4: Quadrat GSI-23



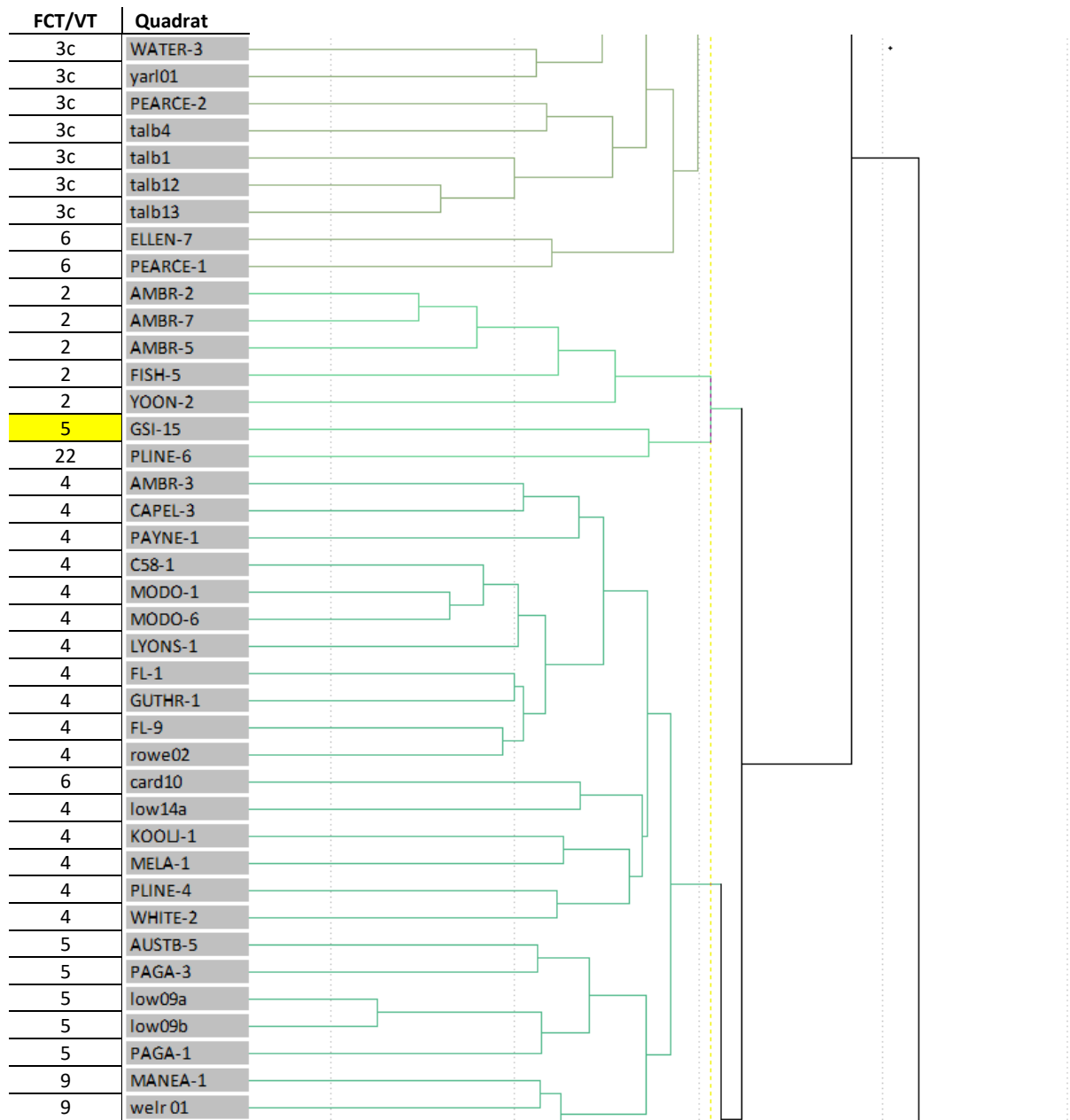
Dendrogram Excerpt – VT 5: Quadrat GSI-10



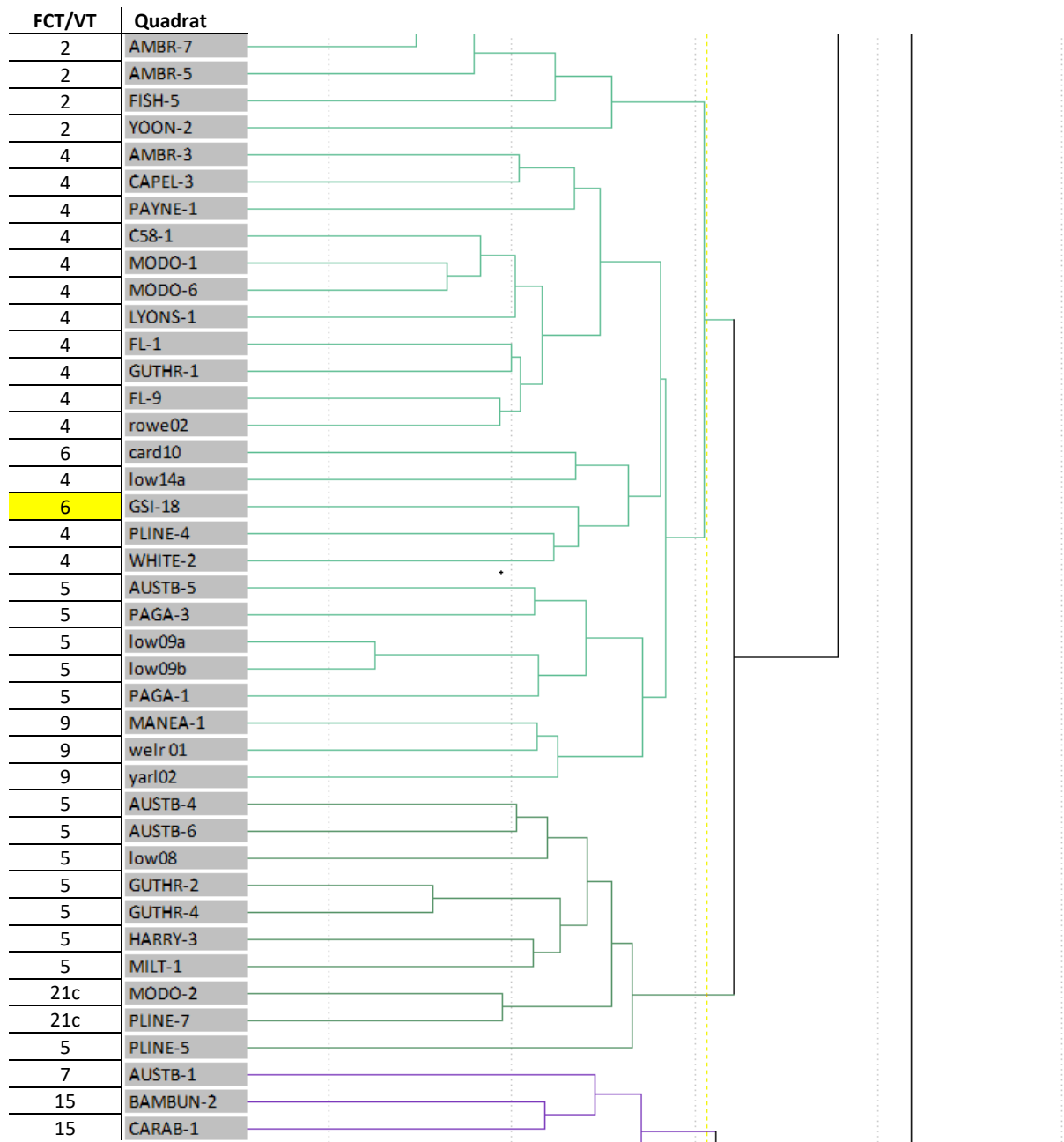
Dendrogram Excerpt – VT 5: Quadrat GSI-14



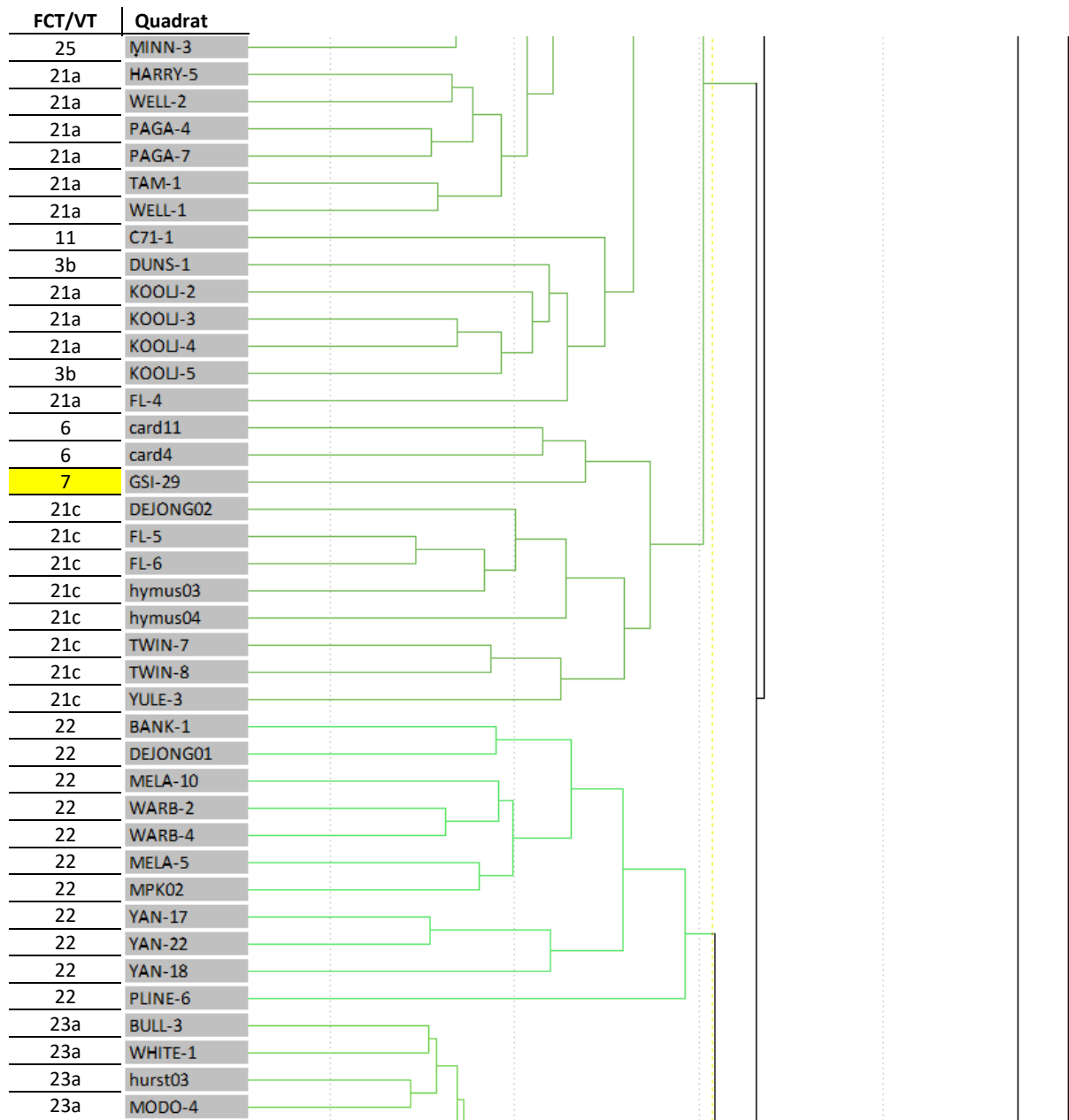
Dendrogram Excerpt – VT 5: Quadrat GSI-15



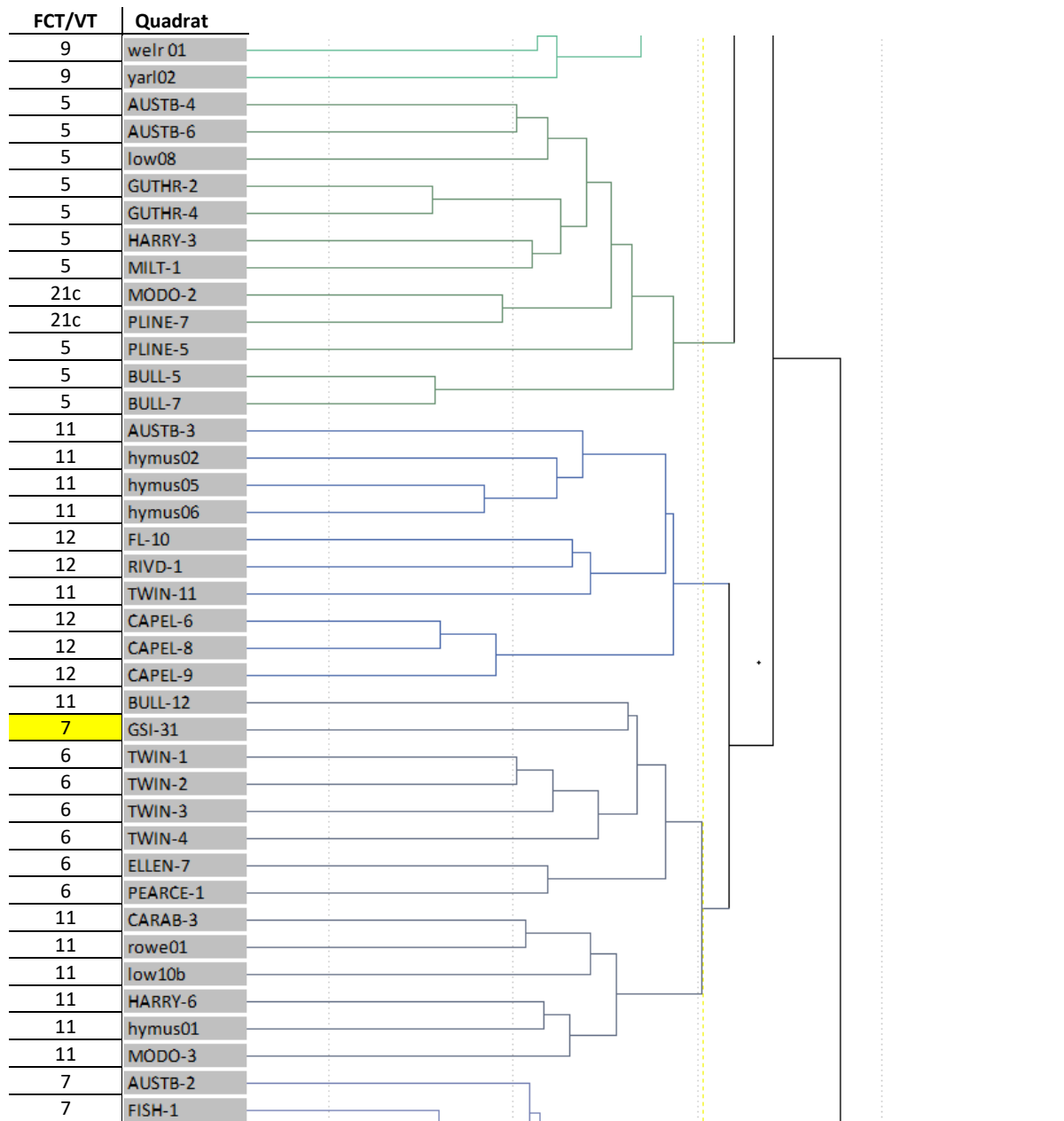
Dendrogram Excerpt – VT 6: Quadrat GSI-18



Dendrogram Excerpt – VT 7: Quadrat GSI-29



Dendrogram Excerpt – VT 7: Quadrat GSI-31

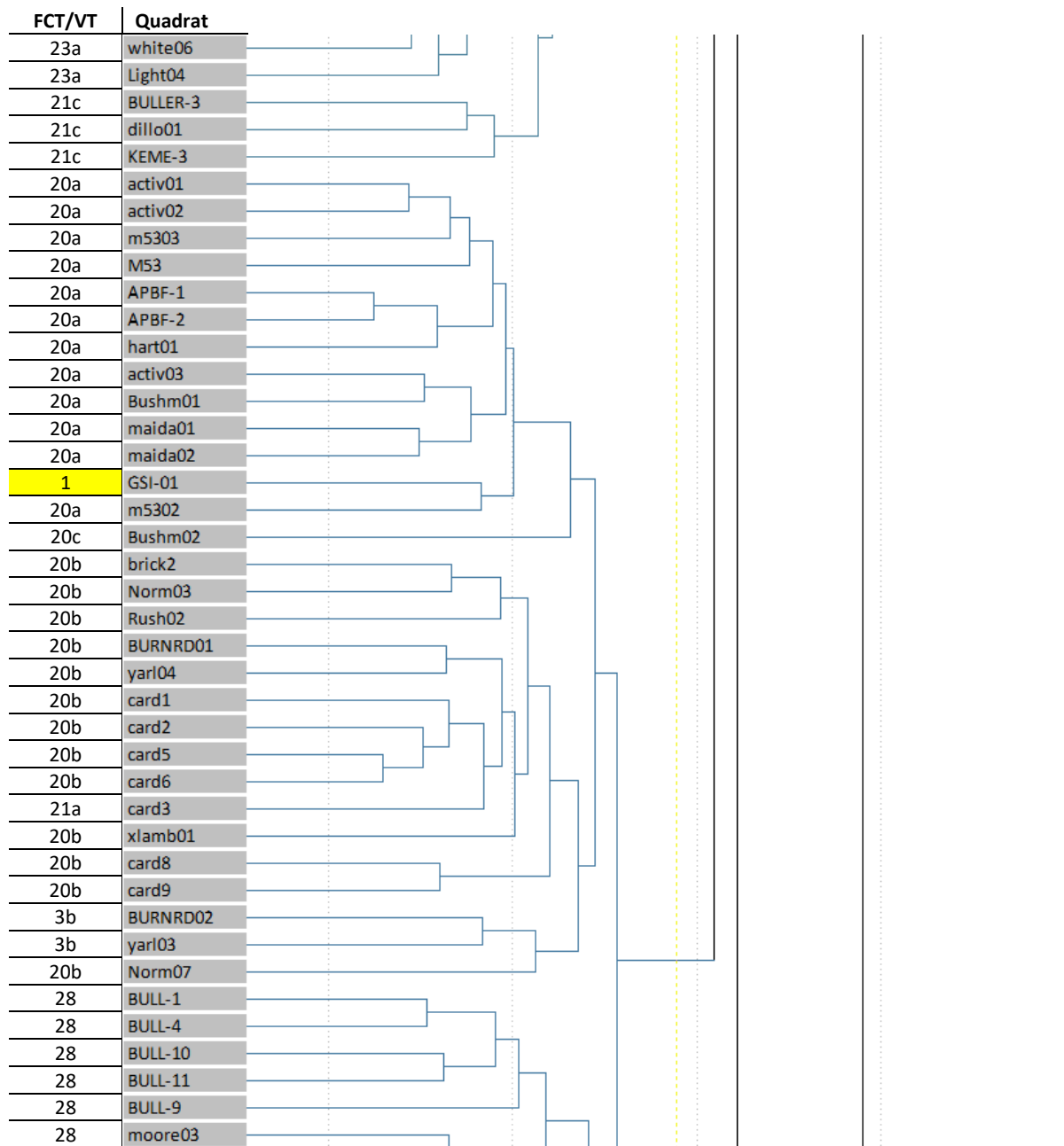


Appendix Z: Single Site Insertion Classification Analysis Dendrograms (Excerpts) of Woodman Environmental Quadrats from the Survey Area with the Amended SCP Quadrat Dataset (Keighery *et al.* 2012)

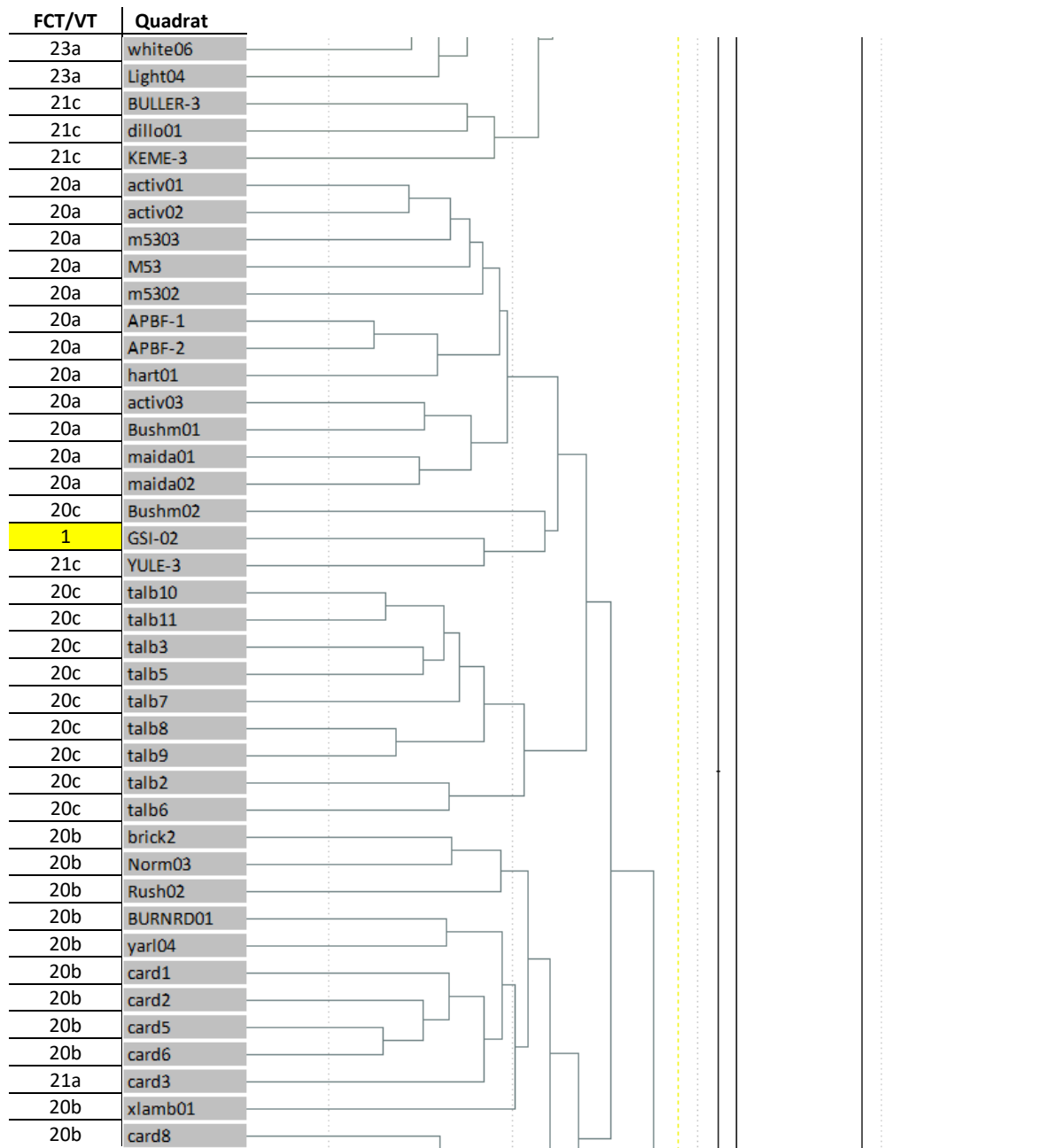
Note:

- SCP quadrats are labelled with their corresponding SCP FCT, as per Gibson *et al.* (1994);
- Woodman Environmental quadrats are labelled with their VT as per the classification analysis of Woodman Environmental quadrats from the Survey Area; and
- Yellow shading denotes Woodman Environmental quadrats from the Survey Area.

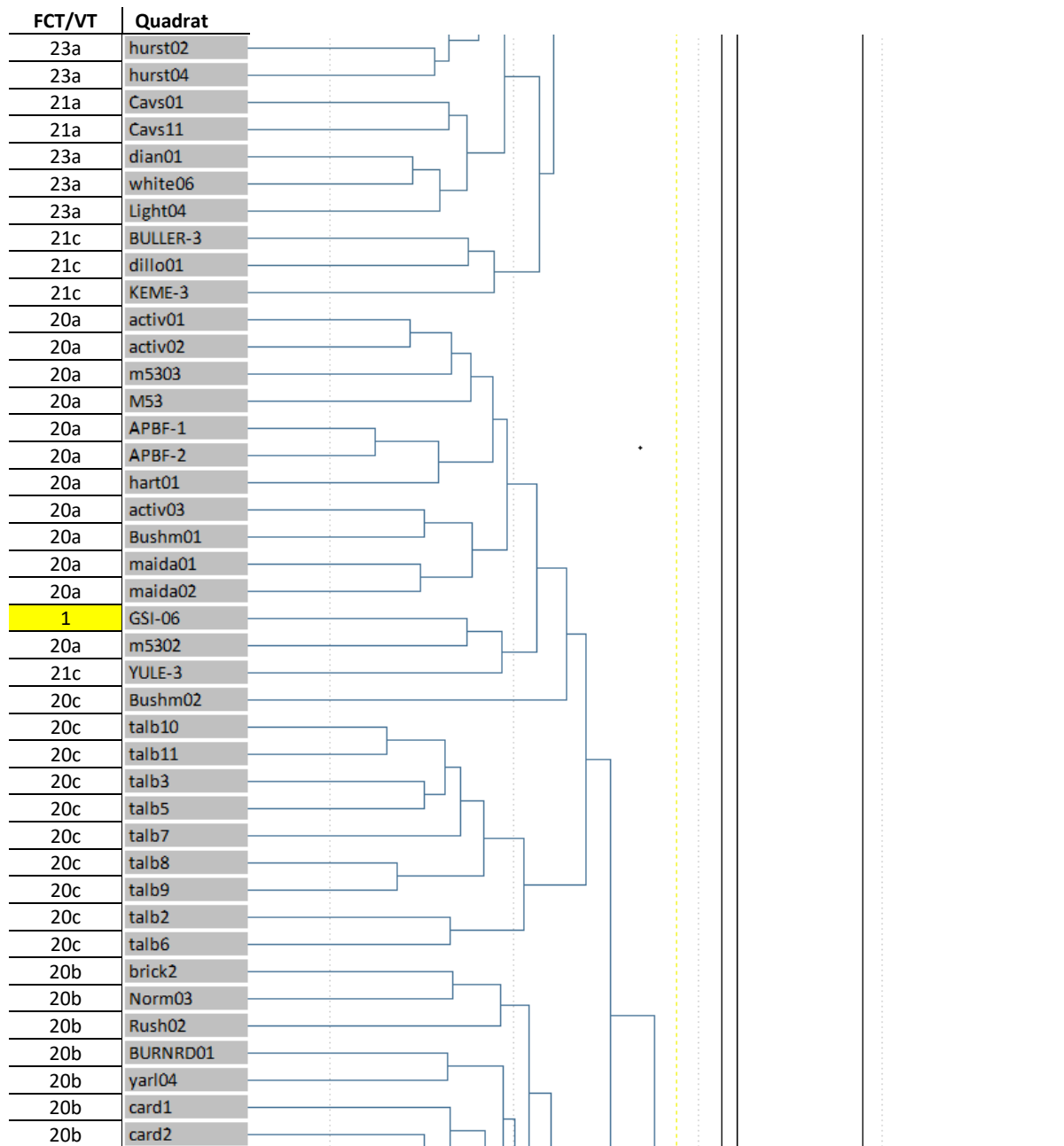
Dendrogram Excerpt – VT 1: Quadrat GSI-01



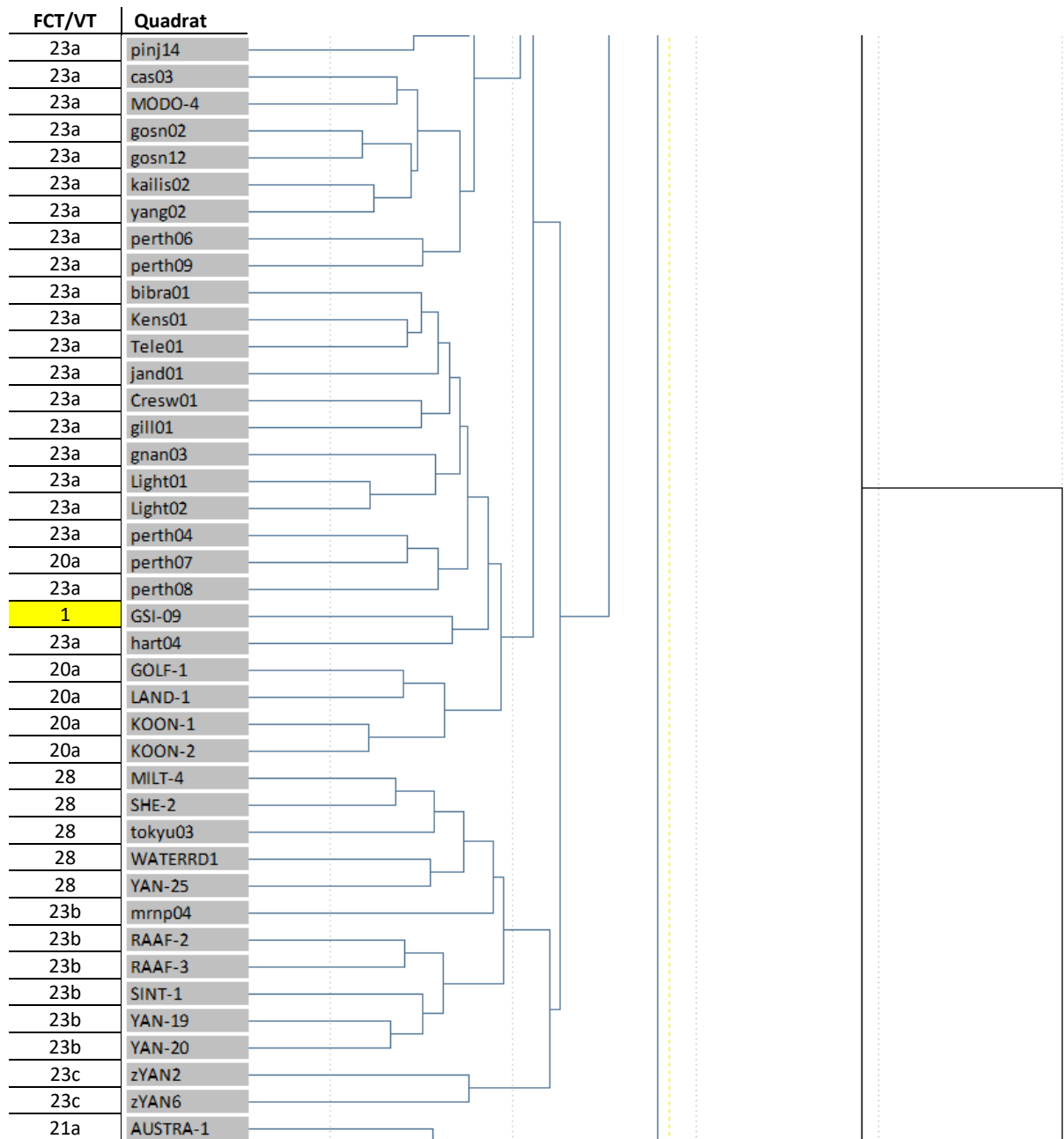
Dendrogram Excerpt – VT 1: Quadrat GSI-02



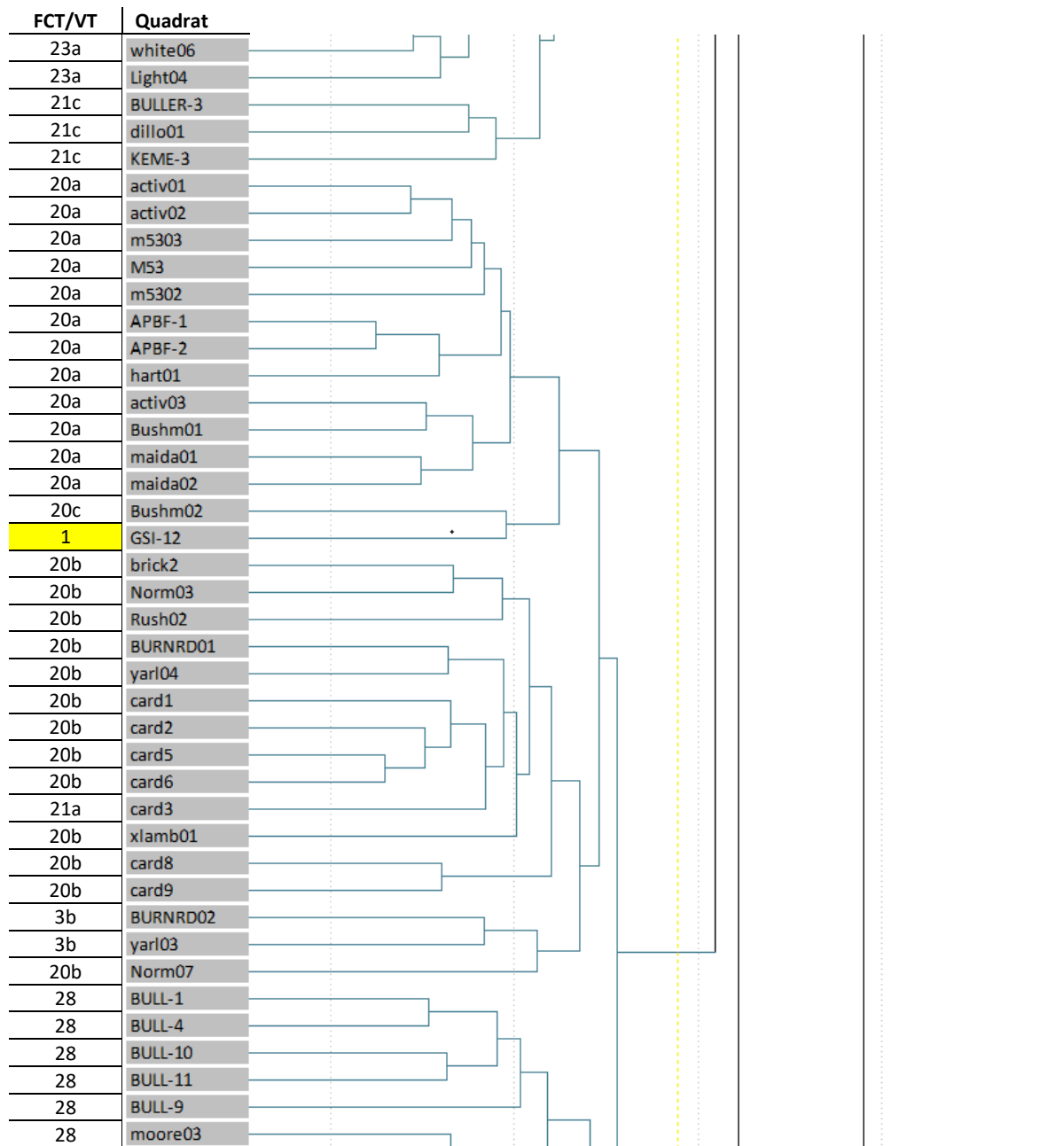
Dendrogram Excerpt – VT 1: Quadrat GSI-06



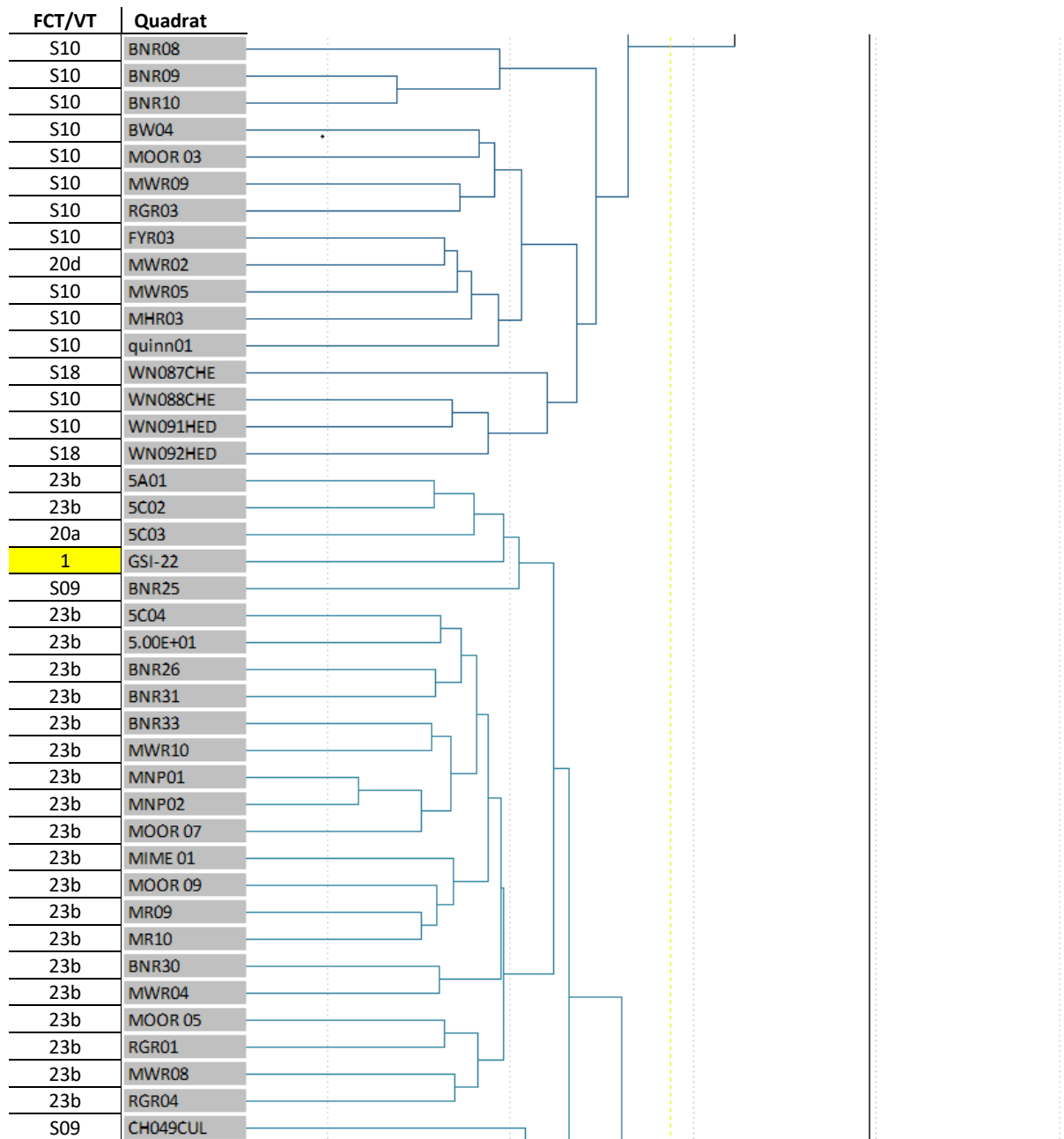
Dendrogram Excerpt – VT 1: Quadrat GSI-09



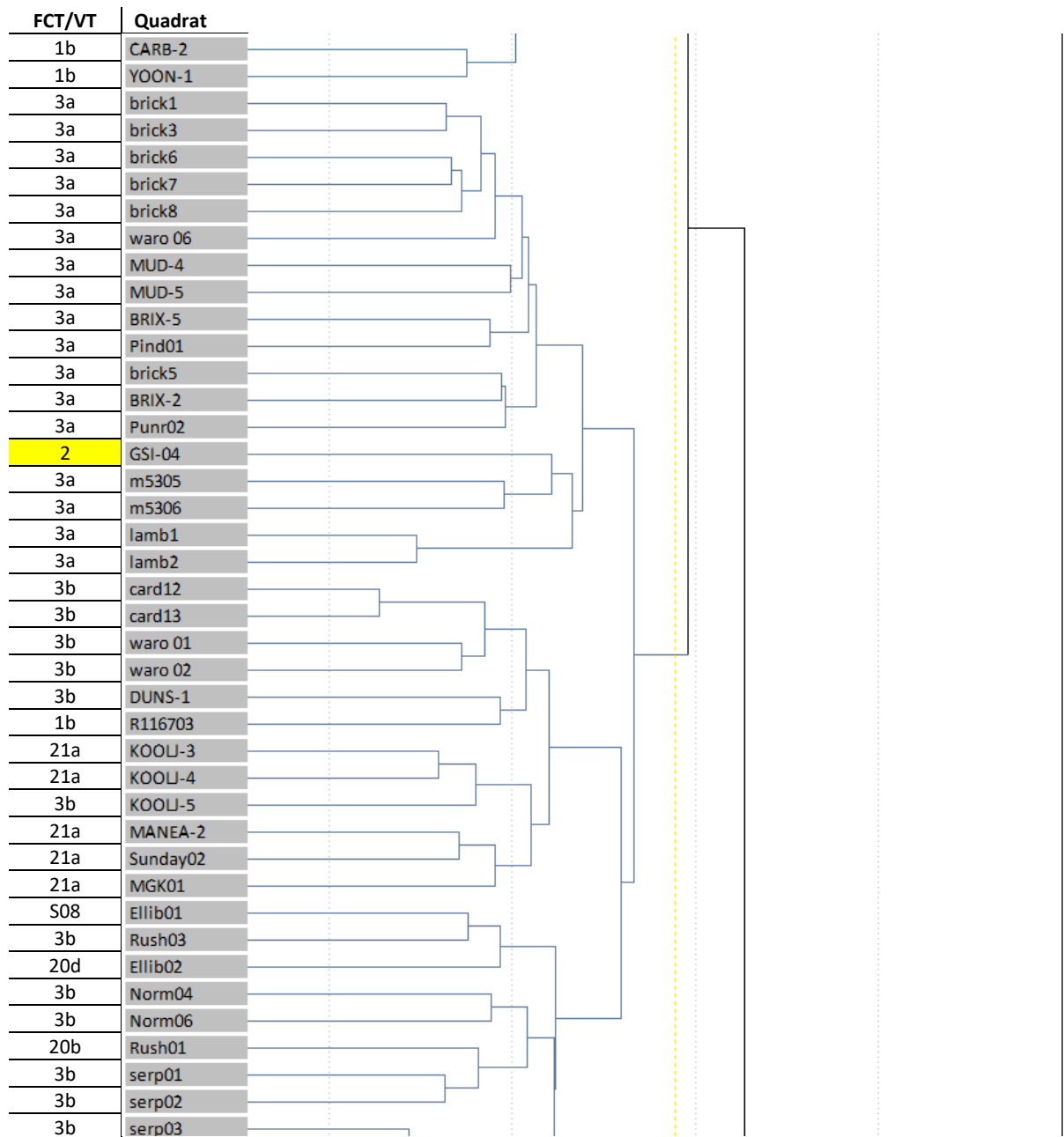
Dendrogram Excerpt – VT 1: Quadrat GSI-12



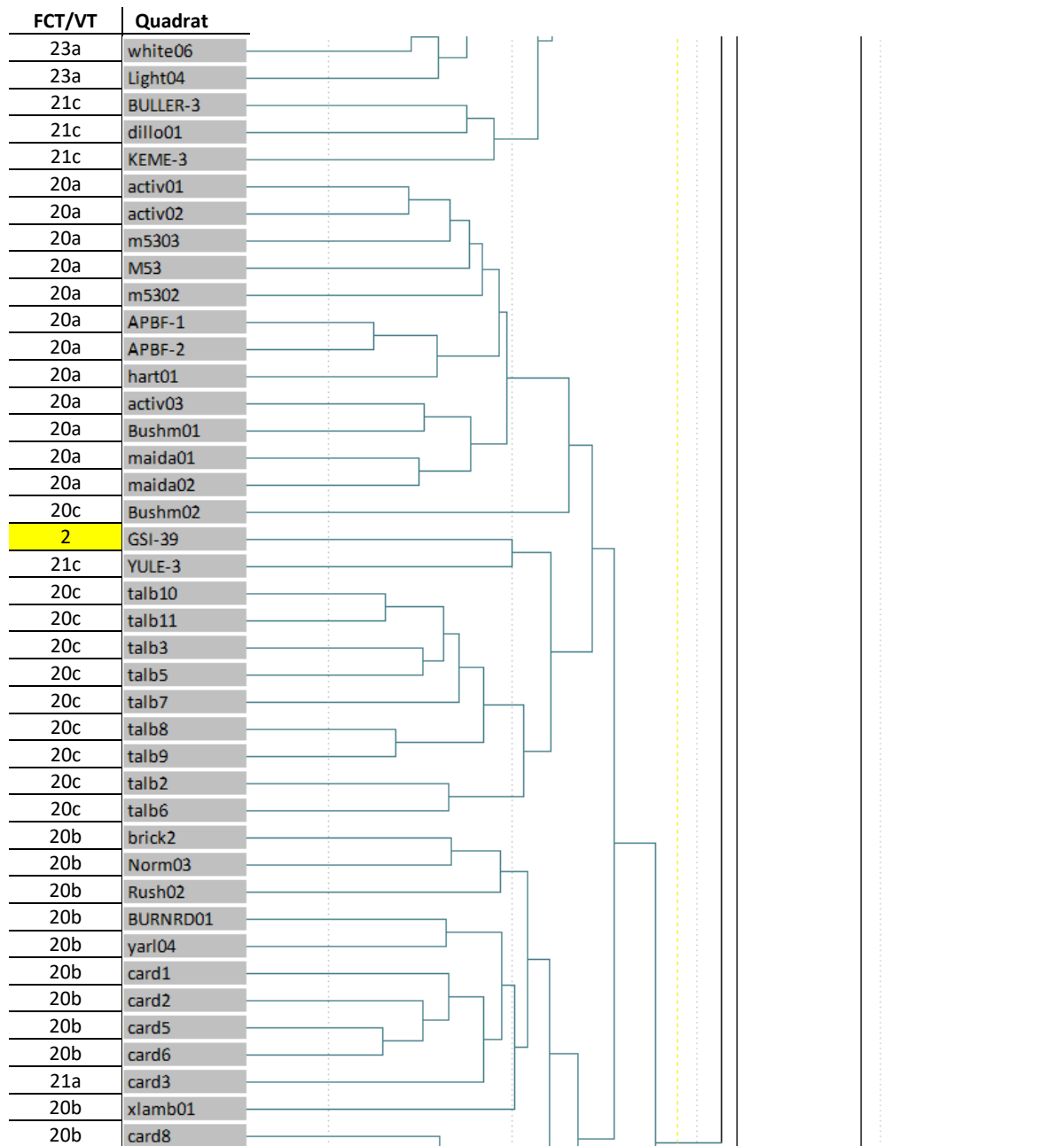
Dendrogram Excerpt – VT 1: Quadrat GSI-22



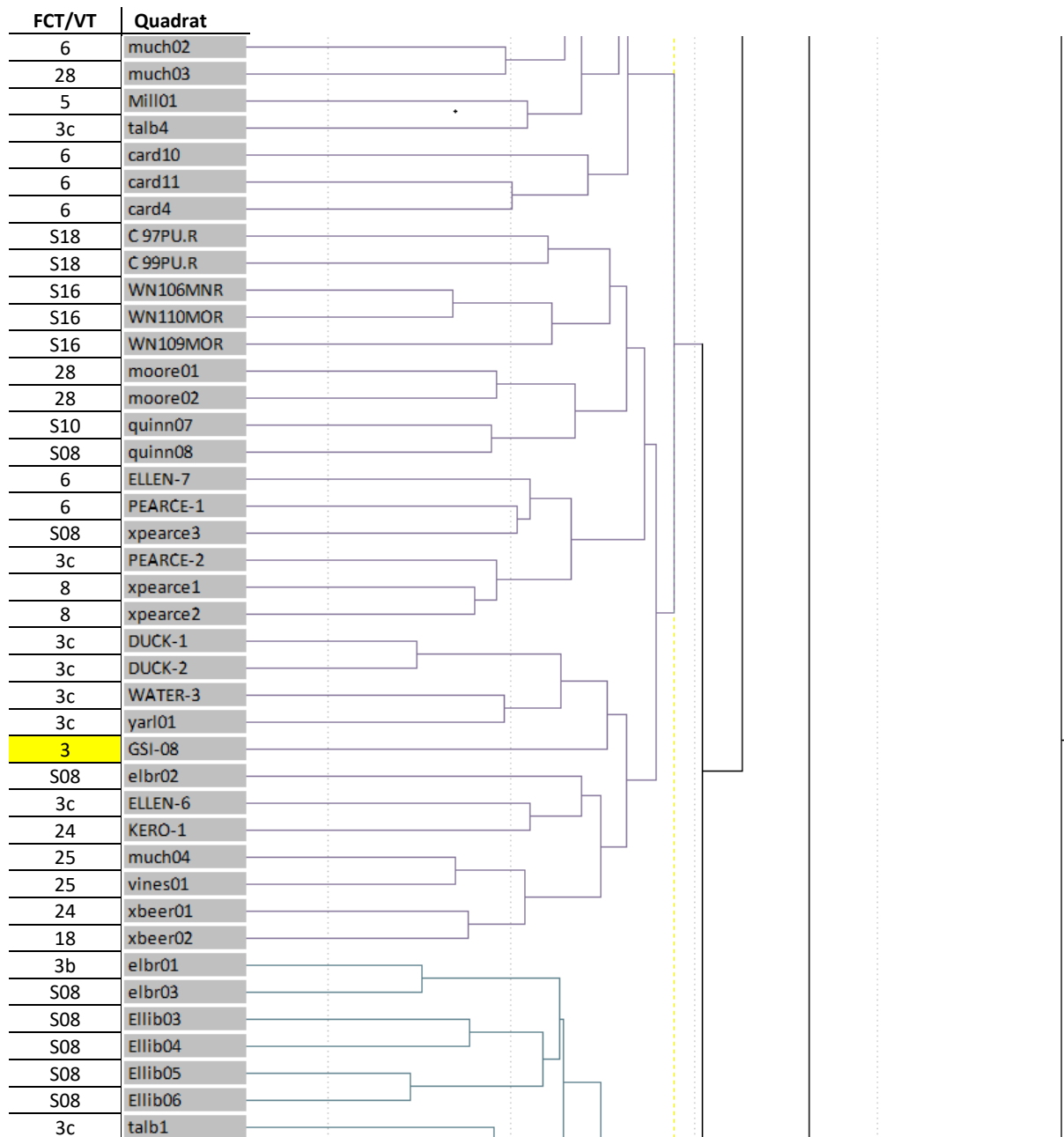
Dendrogram Excerpt – VT 2: Quadrat GSI-04



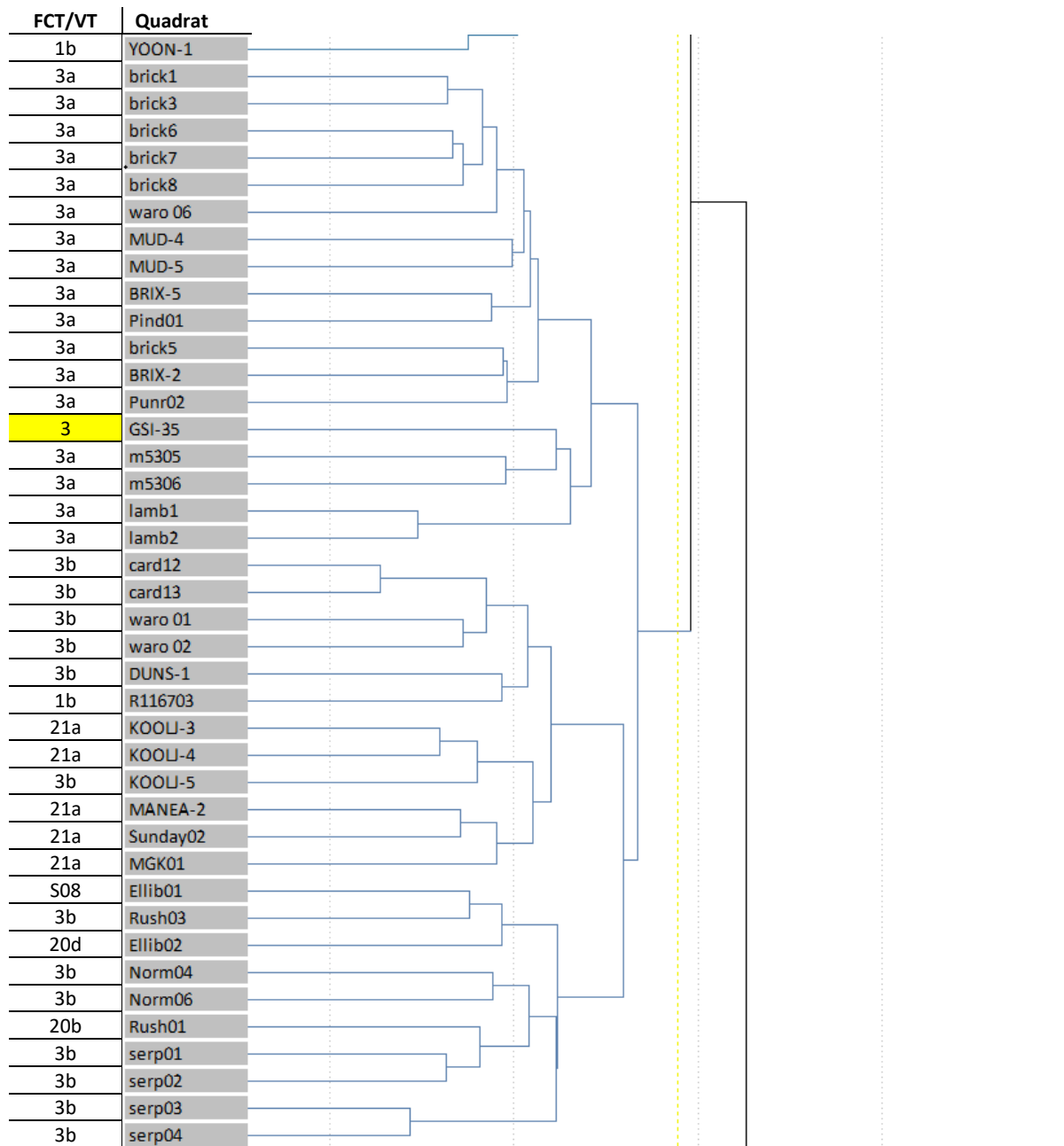
Dendrogram Excerpt – VT 2: Quadrat GSI-39



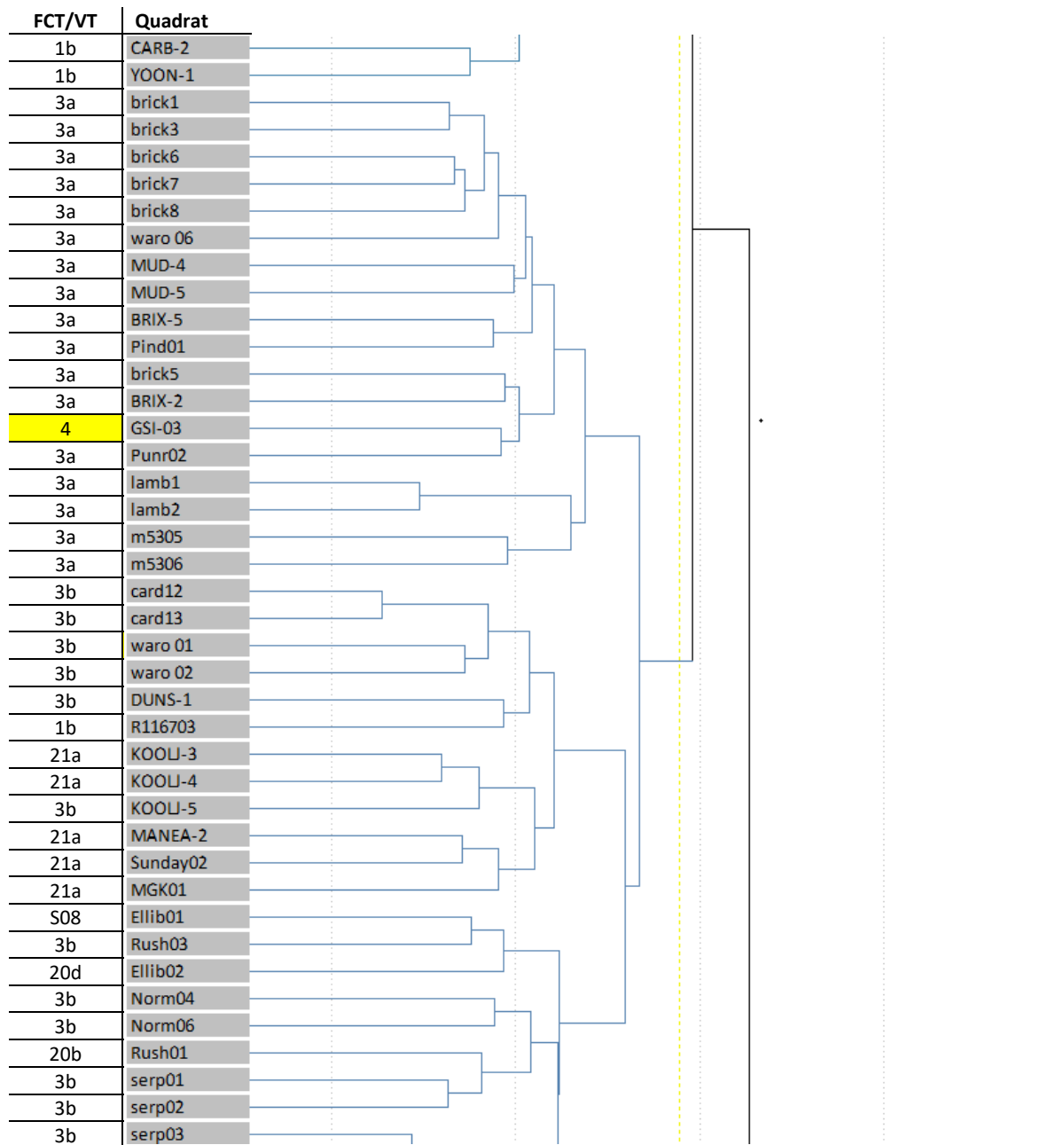
Dendrogram Excerpt – VT 3: Quadrat GSI-08



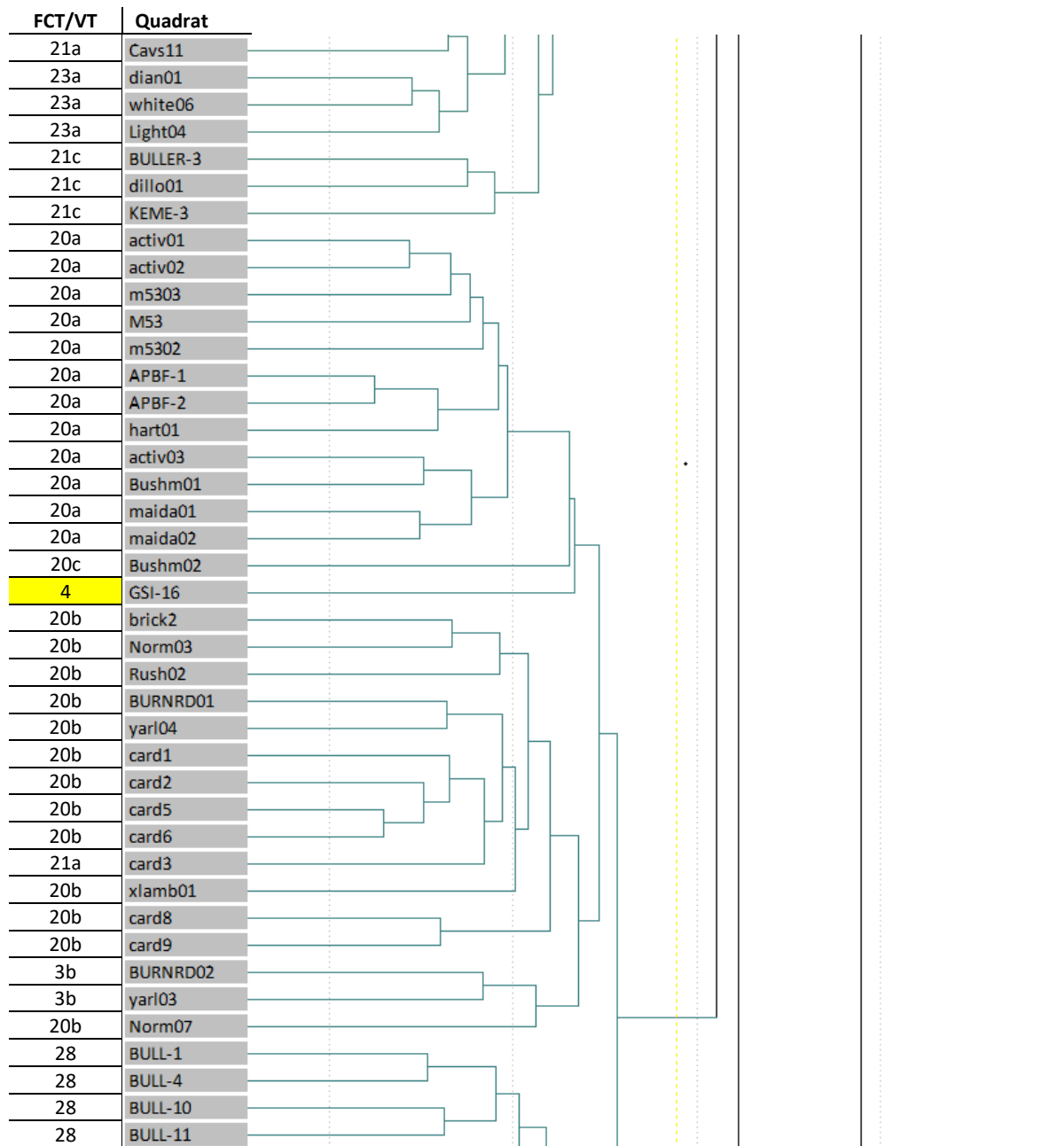
Dendrogram Excerpt – VT 3: Quadrat GSI-35



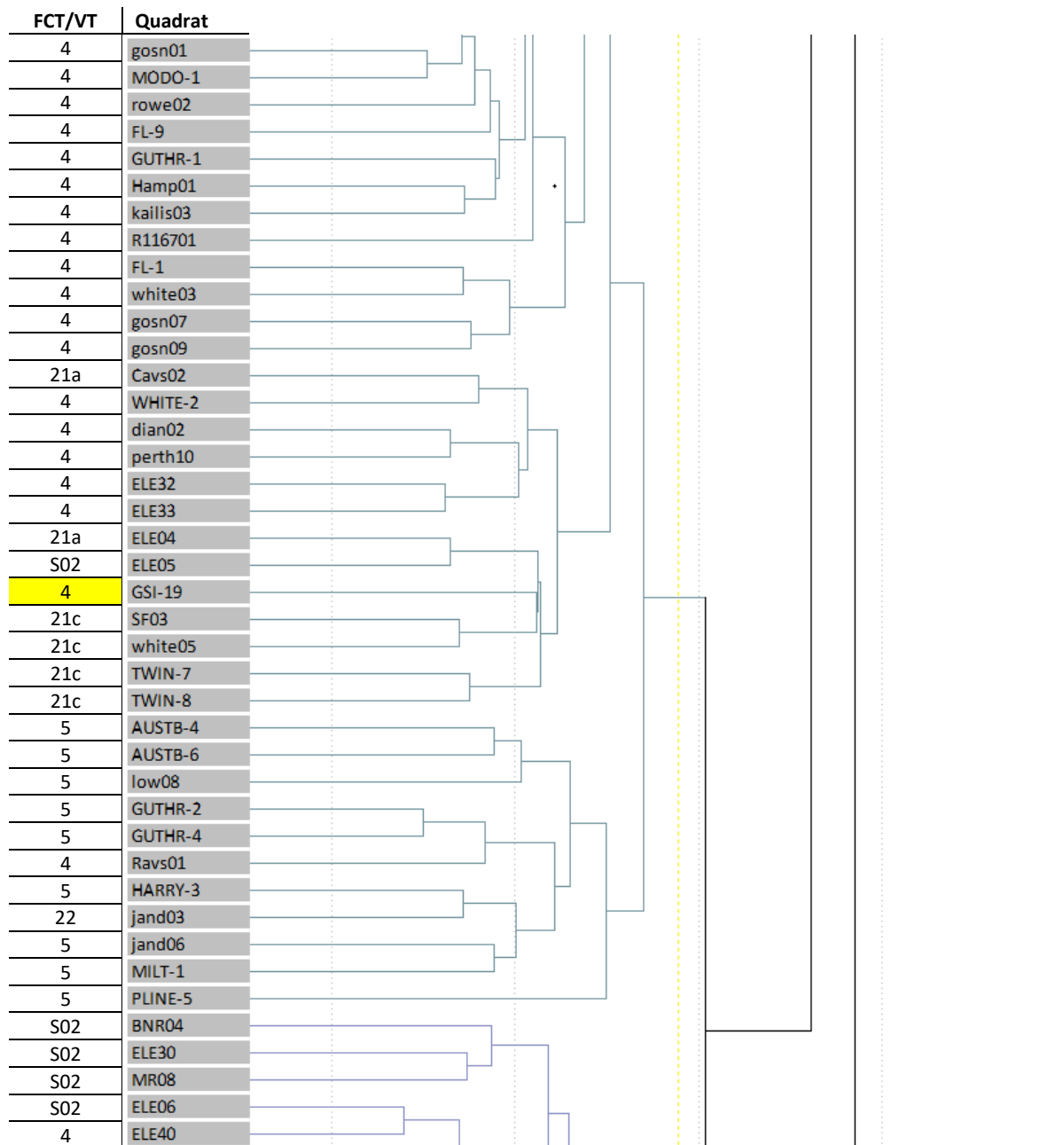
Dendrogram Excerpt – VT 4: Quadrat GSI-03



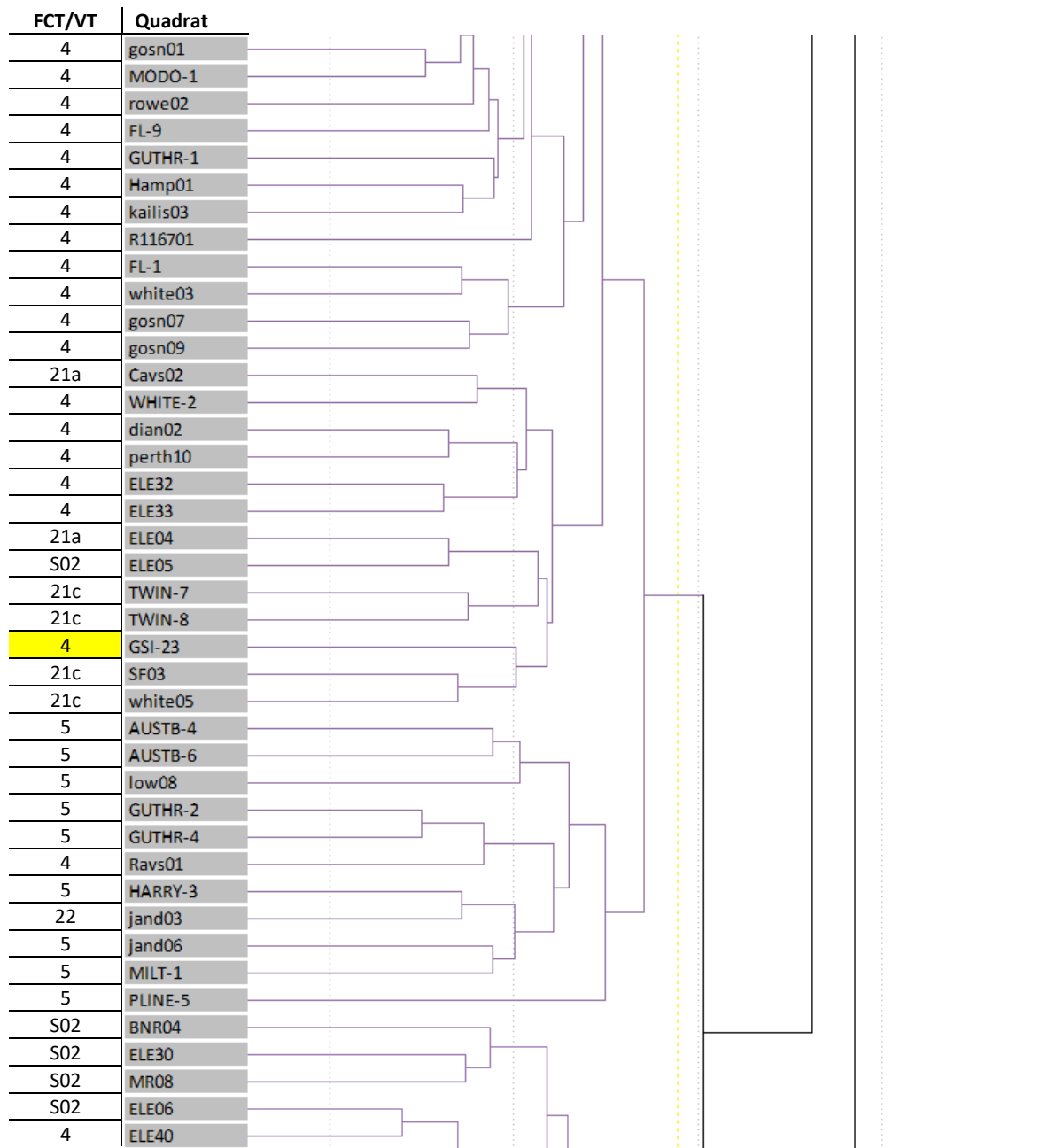
Dendrogram Excerpt – VT 4: Quadrat GSI-16



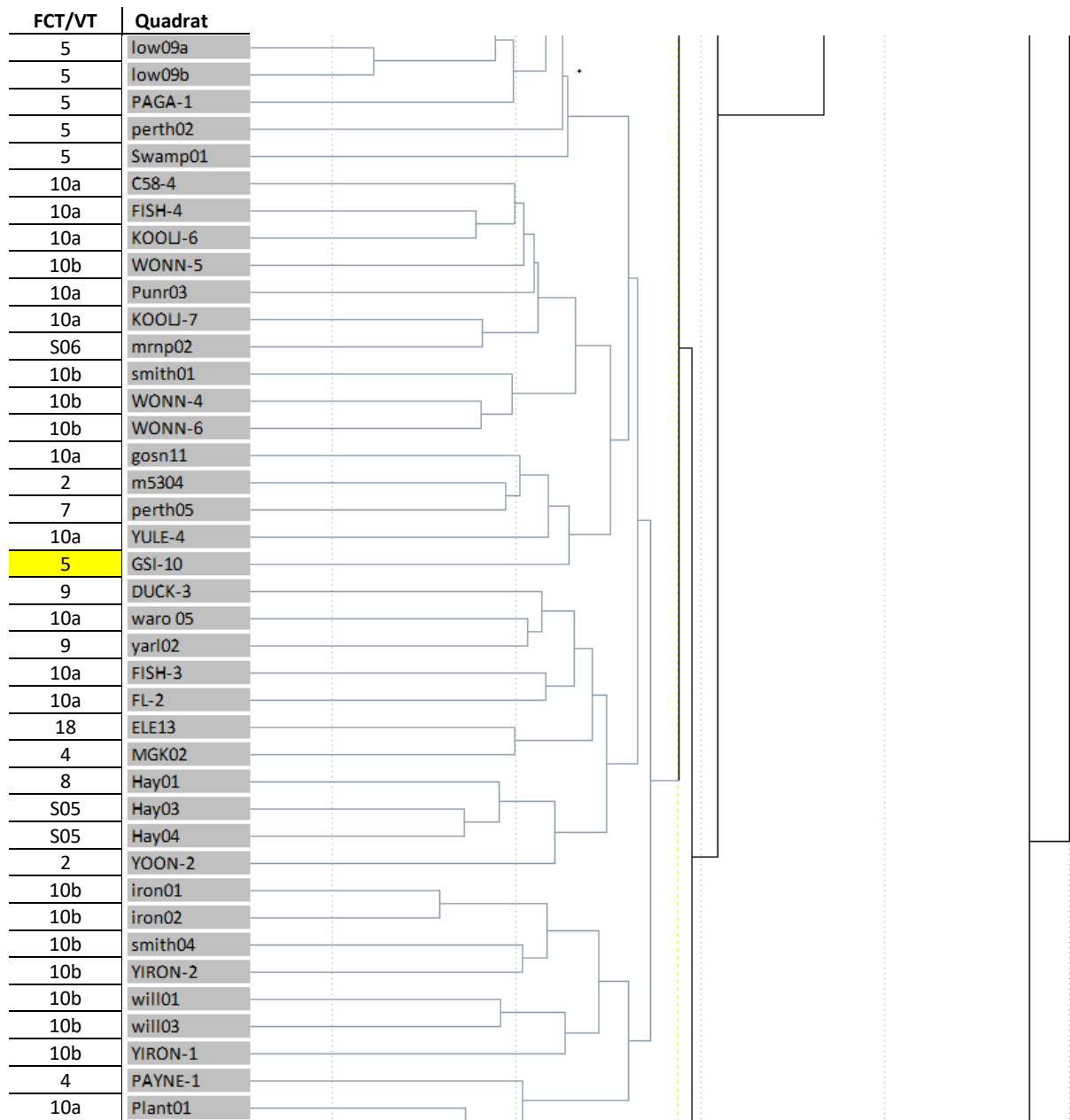
Dendrogram Excerpt – VT 4: Quadrat GSI-19



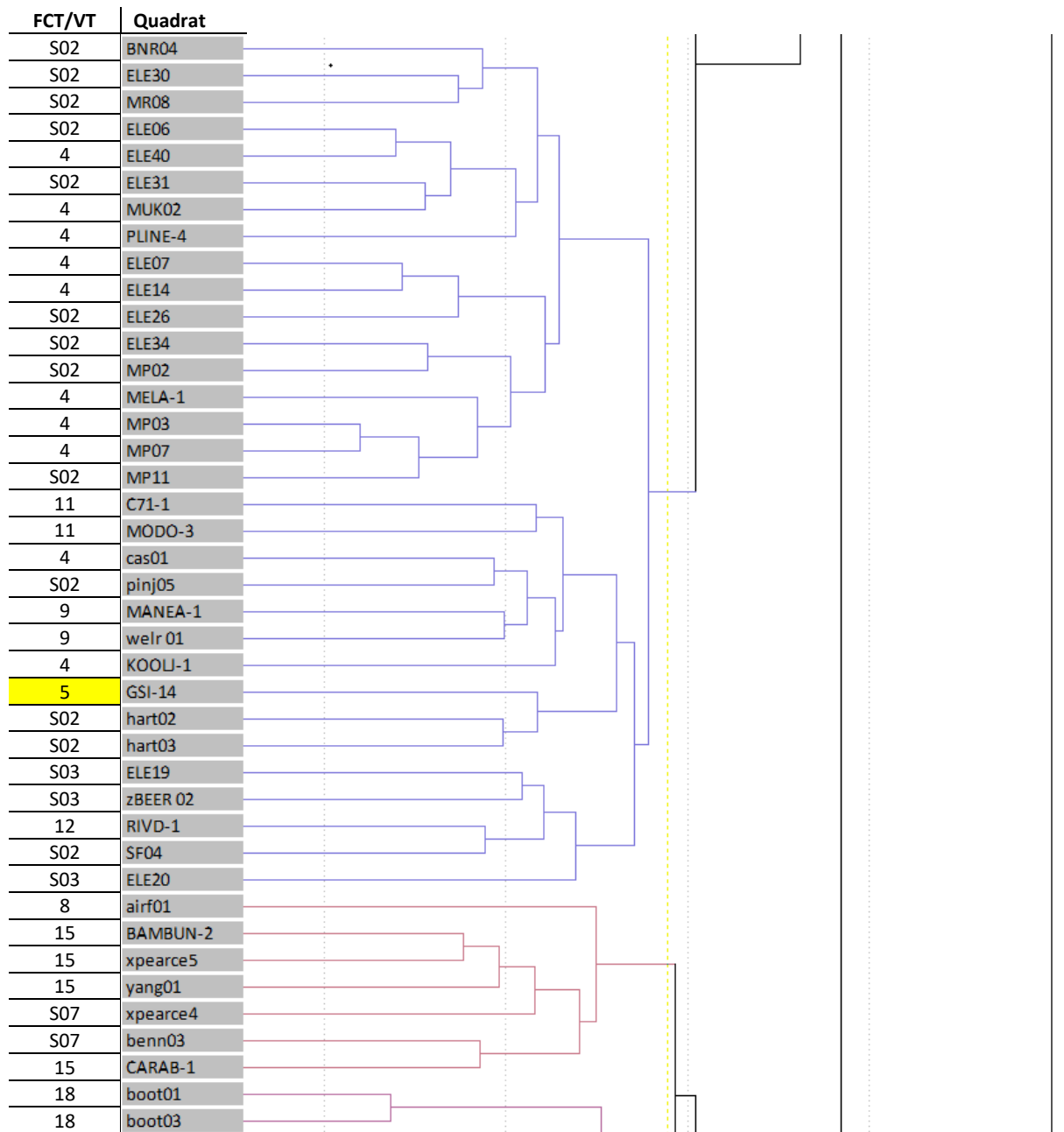
Dendrogram Excerpt – VT 4: Quadrat GSI-23



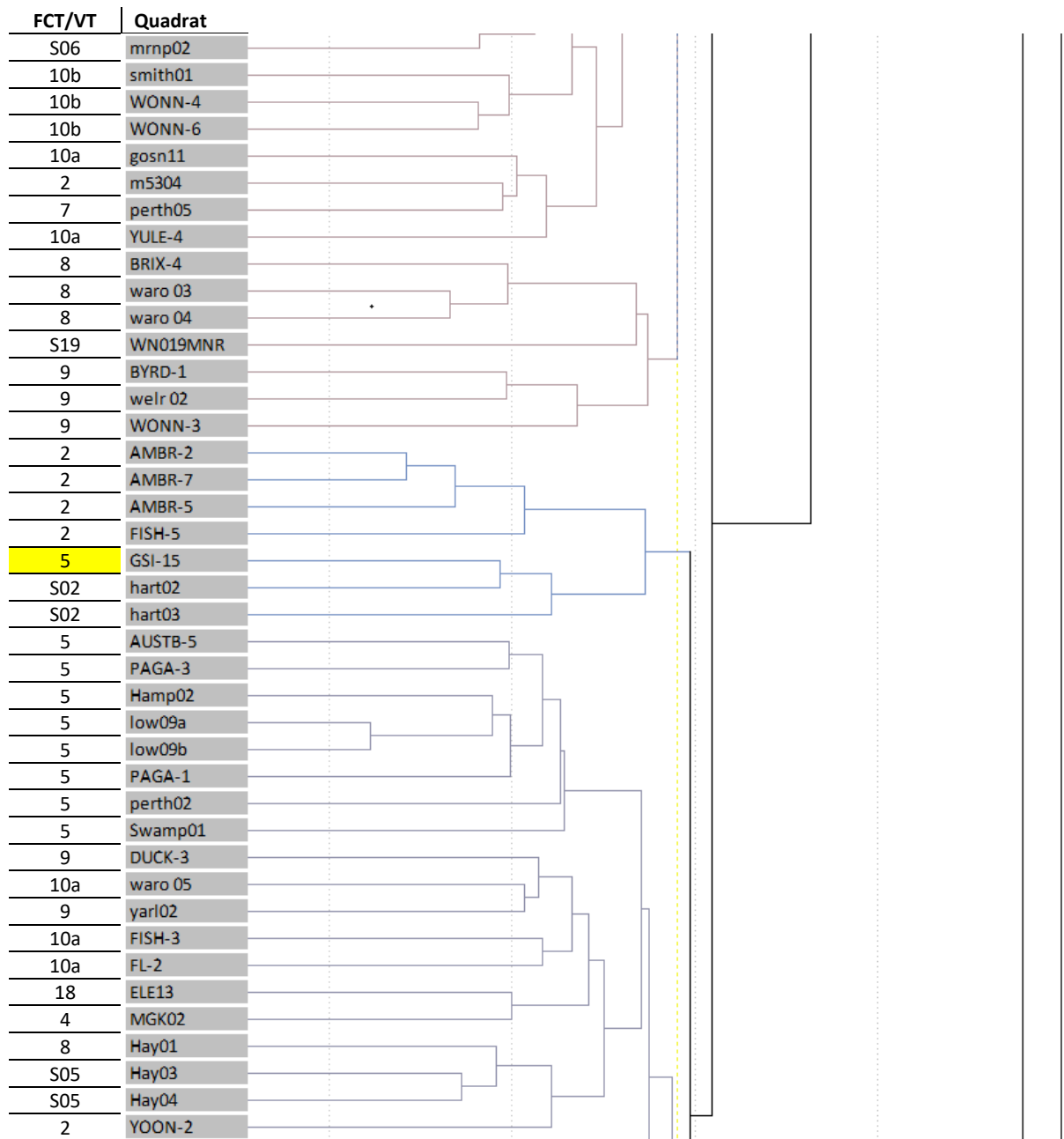
Dendrogram Excerpt – VT 5: Quadrat GSI-10



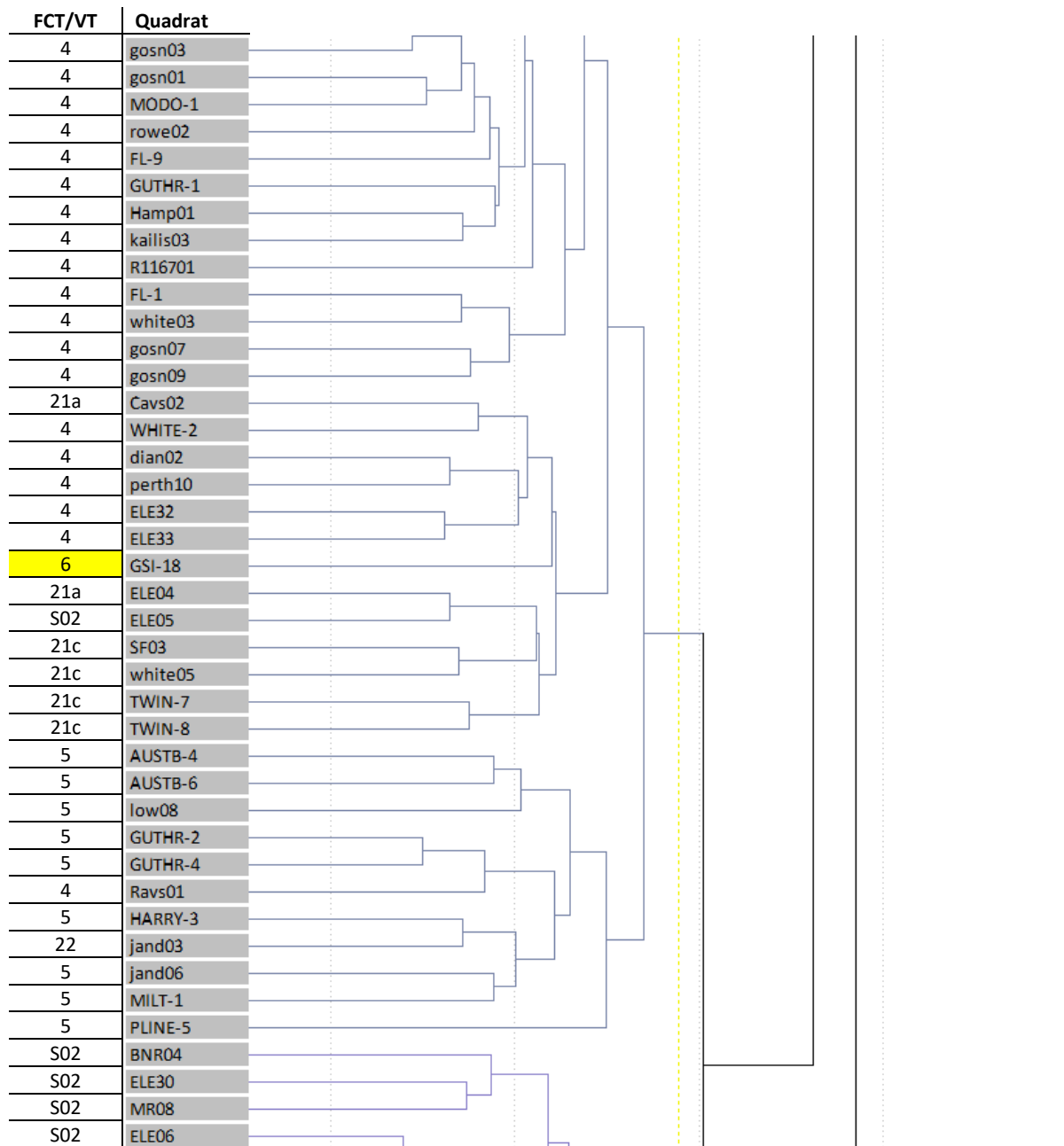
Dendrogram Excerpt – VT 5: Quadrat GSI-14



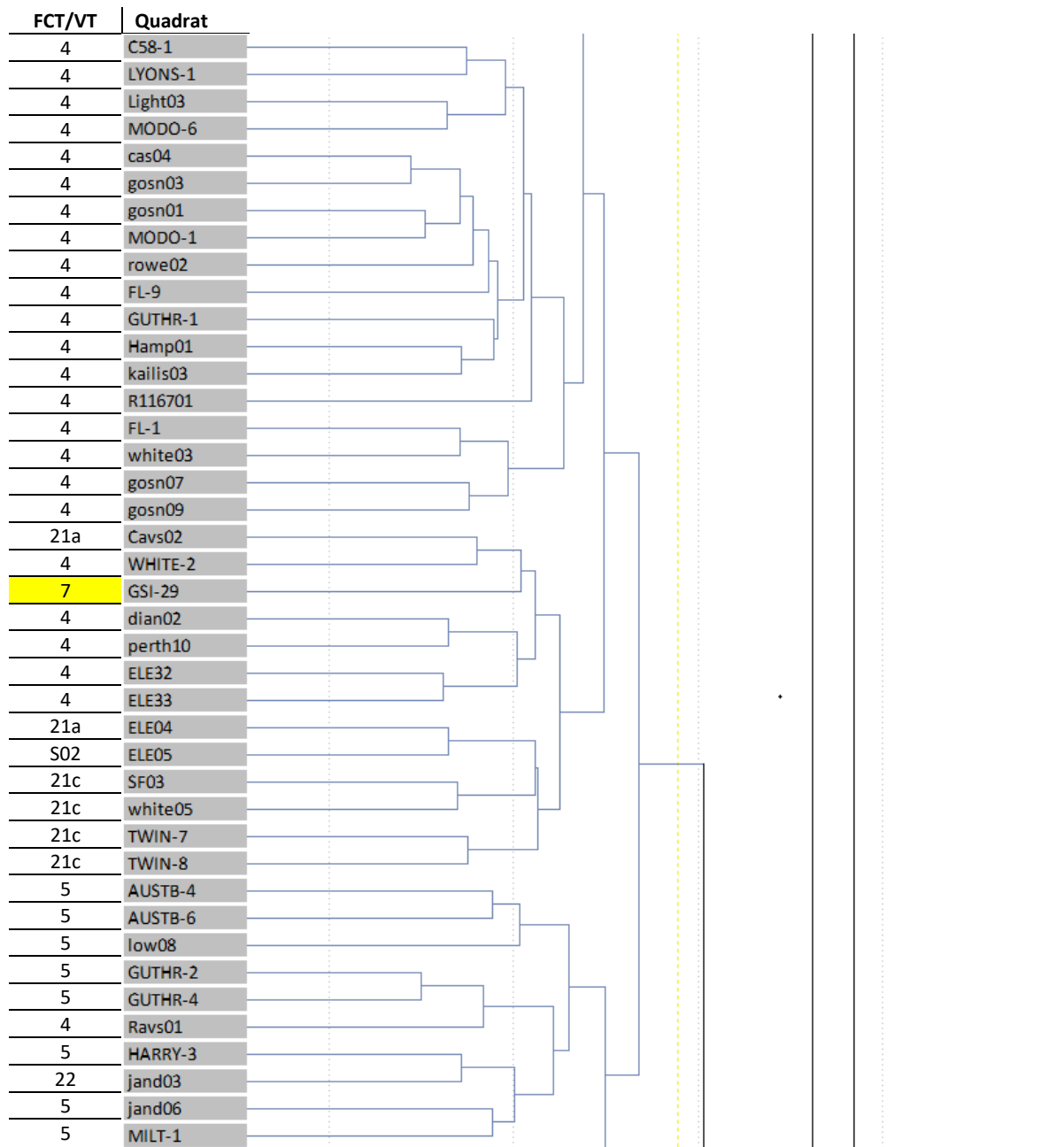
Dendrogram Excerpt – VT 5: Quadrat GSI-15



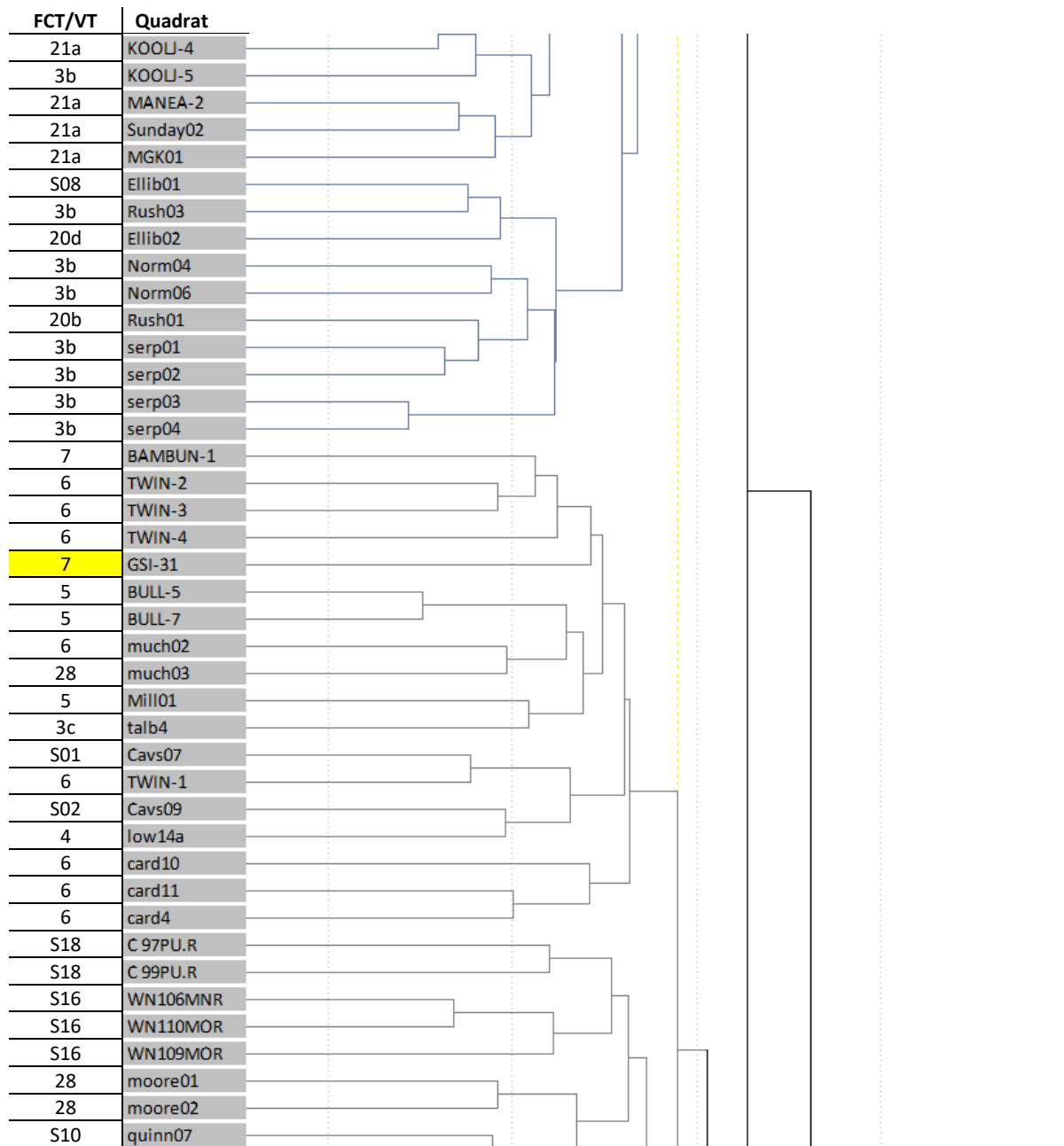
Dendrogram Excerpt – VT 6: Quadrat GSI-18







Dendrogram Excerpt – VT 7: Quadrat GSI-29



Dendrogram Excerpt – VT 7: Quadrat GSI-31



Appendix AA: Photographs of Significant Vegetation in the Study Area

VT	SCP FCT	WA TEC NAME	WA TEC Status	EPBC TEC NAME	EPBC TEC Status
1	20a	<i>Banksia attenuata</i> woodland over species rich dense shrubland	Endangered	Banksia woodlands of the Swan Coastal Plain (forms part of this TEC)	Endangered
		 <p>Photo 1: Quadrat GSI-01 (SE)</p>		 <p>Photo 2: Quadrat GSI-11 (W)</p>	
		 <p>Photo 3: Quadrat GSI-22 (SE)</p>		 <p>Photo 4: Quadrat GSI-33 (NW)</p>	

VT	SCP FCT	WA TEC NAME	WA Status	EPBC TEC NAME	EPBC Status
2	Potentially represents 3a	<i>Corymbia calophylla</i> - <i>Kingia australis</i> woodlands on heavy soils, Swan Coastal Plain	Critically Endangered	<i>Corymbia calophylla</i> - <i>Kingia australis</i> woodlands on heavy soils of the Swan Coastal Plain	Endangered

Note: as VT2 presents affinities to both SCP FCT 3a and 20c. Quadrat GSI-04 potentially represents SCP 3a. Additional sampling is required to clarify the relationships of this VT to the SCP FCTs.



Photo 1: Quadrat GSI-04 (SE)

VT	SCP FCT	WA TEC NAME	WA Status	EPBC TEC NAME	EPBC Status
2	Potentially represents 20c	Shrublands and woodlands of the eastern side of the Swan Coastal Plain	Critically Endangered	Shrublands and woodlands of the eastern side of the Swan Coastal Plain	Endangered

Note: as VT2 presents affinities to both SCP FCT 3a and 20c. Quadrat GSI-39 potentially represents SCP 20c. Additional sampling is required to clarify the relationships of this VT to the SCP FCTs.



Photo 1: Quadrat GSI-39 (SE)



Photo 2: Quadrat GSI-39 (NE)



Photo 3: Quadrat GSI-39 (NW)



Photo 4: Quadrat GSI-39 (SW)

VT	SCP FCT	WA TEC NAME	WA Status	EPBC TEC NAME	EPBC Status
3	Potentially represents 3a	<i>Corymbia calophylla</i> - <i>Kingia australis</i> woodlands on heavy soils, Swan Coastal Plain	Critically Endangered	<i>Corymbia calophylla</i> - <i>Kingia australis</i> woodlands on heavy soils of the Swan Coastal Plain	Endangered

Note: as VT3 presents affinities to both SCP FCT 3a and 3c. Quadrat GSI-35 potentially represents SCP 3a. Additional sampling is required to clarify the relationships of this VT to the SCP FCTs.



Photo 1: Quadrat GSI-35 (S)



Photo 1: Quadrat GSI-35 (N)



Photo 3 Quadrat GSI-35 (W)



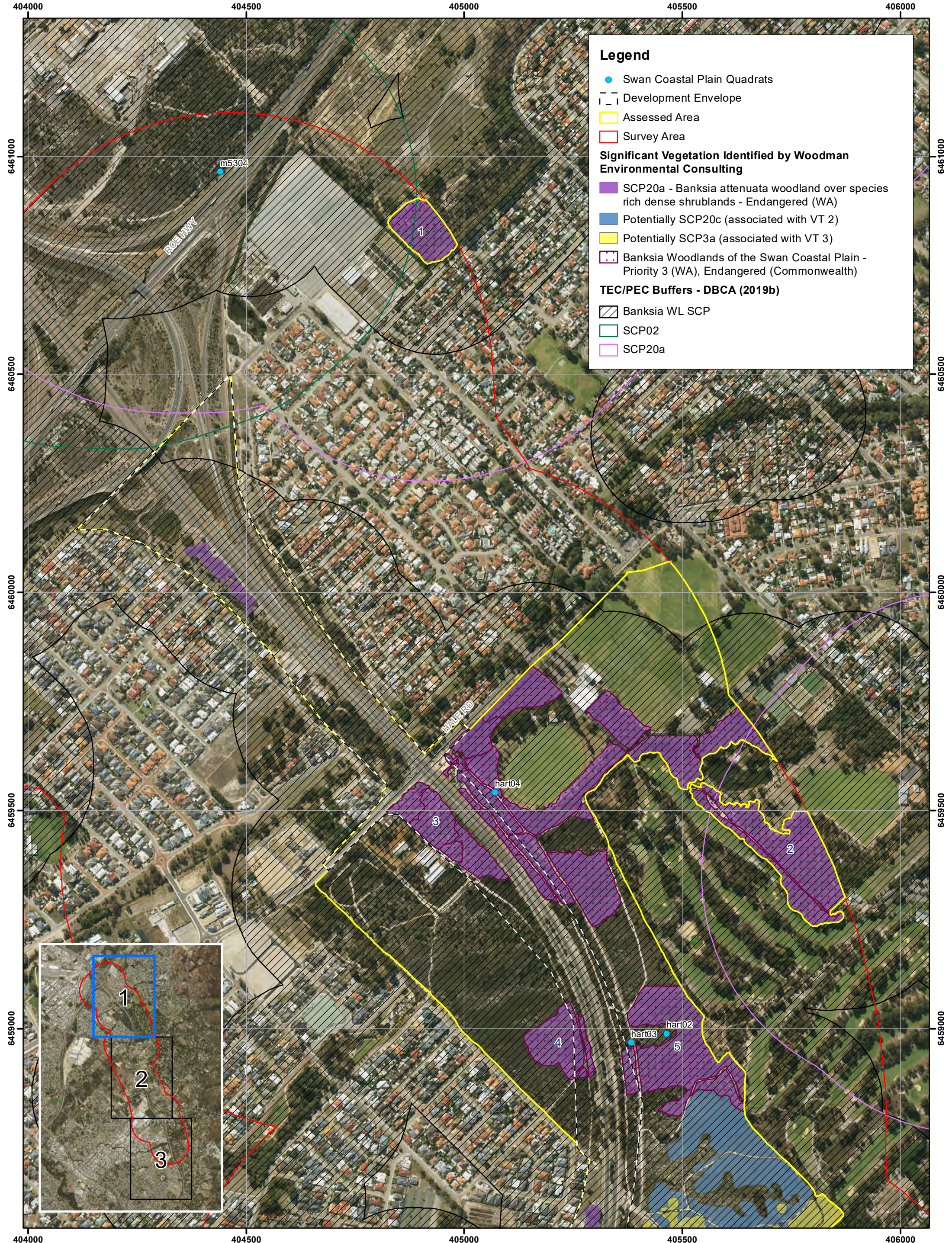
Photo 4: Quadrat GSI-35 (E)

VT	SCP FCT	WA TEC NAME	WA Status	EPBC TEC NAME	EPBC Status
3	Potentially represents 3c	<i>Corymbia calophylla - Xanthorrhoea preissii</i> woodlands and shrublands, Swan Coastal Plain	Critically Endangered	<i>Corymbia calophylla - Xanthorrhoea preissii</i> woodlands and shrublands, Swan Coastal Plain	Endangered
<p>Note: as VT3 presents affinities to both SCP FCT 3a and 3c. Quadrat GSI-08 potentially represents SCP 3c. Additional sampling is required to clarify the relationships of this VT to the SCP FCTs.</p>					



Photo 1: Quadrat GSI-08 (SE)

Appendix AB: Occurrences of Significant Vegetation within the Survey Area



Legend

- Swan Coastal Plain Quadrats
- - - Development Envelope
- ▭ Assessed Area
- ▭ Survey Area

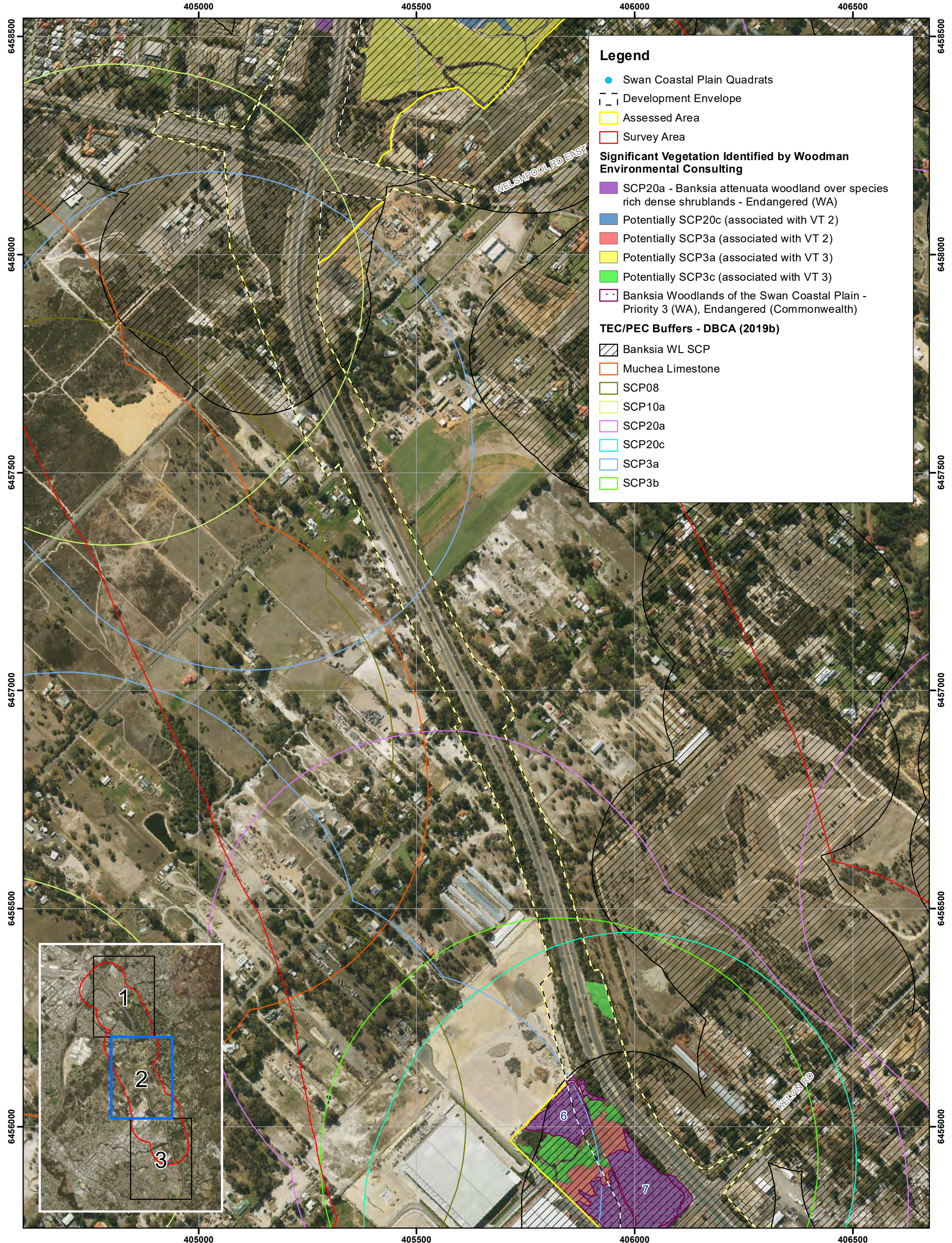
Significant Vegetation Identified by Woodman Environmental Consulting

- ▭ SCP20a - *Banksia attenuata* woodland over species rich dense shrublands - Endangered (WA)
- ▭ Potentially SCP20c (associated with VT 2)
- ▭ Potentially SCP3a (associated with VT 3)
- ▭ Banksia Woodlands of the Swan Coastal Plain - Priority 3 (WA), Endangered (Commonwealth)

TEC/PEC Buffers - DBCA (2019b)

- ▨ Banksia WL SCP
- ▭ SCP02
- ▭ SCP20a





Legend

- Swan Coastal Plain Quadrats
- - - Development Envelope
- ▭ Assessed Area
- ▭ Survey Area

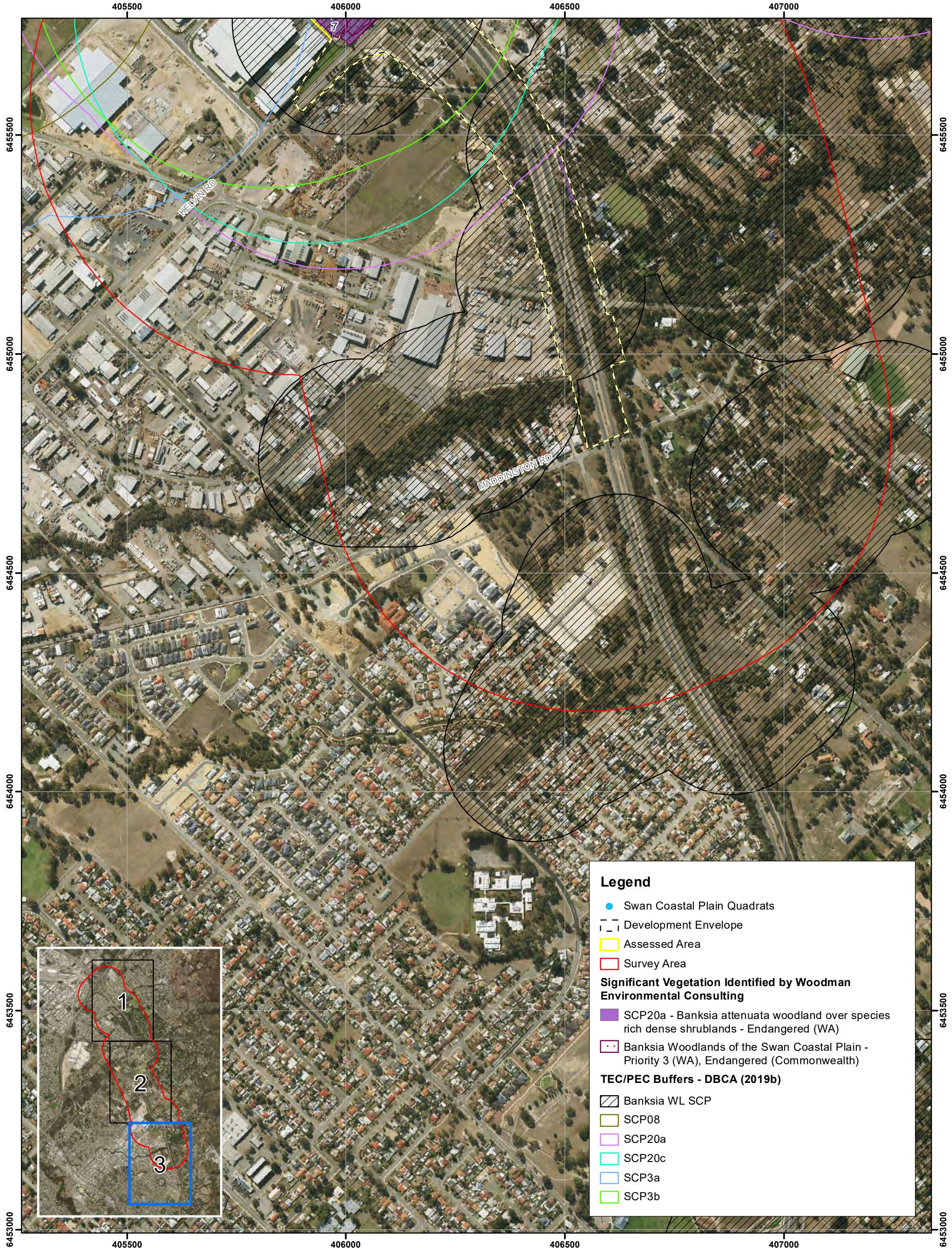
Significant Vegetation Identified by Woodman Environmental Consulting

- ▭ SCP20a - Banksia attenuata woodland over species rich dense shrublands - Endangered (WA)
- ▭ Potentially SCP20c (associated with VT 2)
- ▭ Potentially SCP3a (associated with VT 2)
- ▭ Potentially SCP3a (associated with VT 3)
- ▭ Potentially SCP3c (associated with VT 3)
- ▭ Banksia Woodlands of the Swan Coastal Plain - Priority 3 (WA), Endangered (Commonwealth)

TEC/PEC Buffers - DBCA (2019b)

- ▨ Banksia WL SCP
- ▭ Muehea Limestone
- ▭ SCP08
- ▭ SCP10a
- ▭ SCP20a
- ▭ SCP20c
- ▭ SCP3a
- ▭ SCP3b





Legend

- Swan Coastal Plain Quadrats
- ▭ Development Envelope
- ▭ Assessed Area
- ▭ Survey Area

Significant Vegetation Identified by Woodman Environmental Consulting

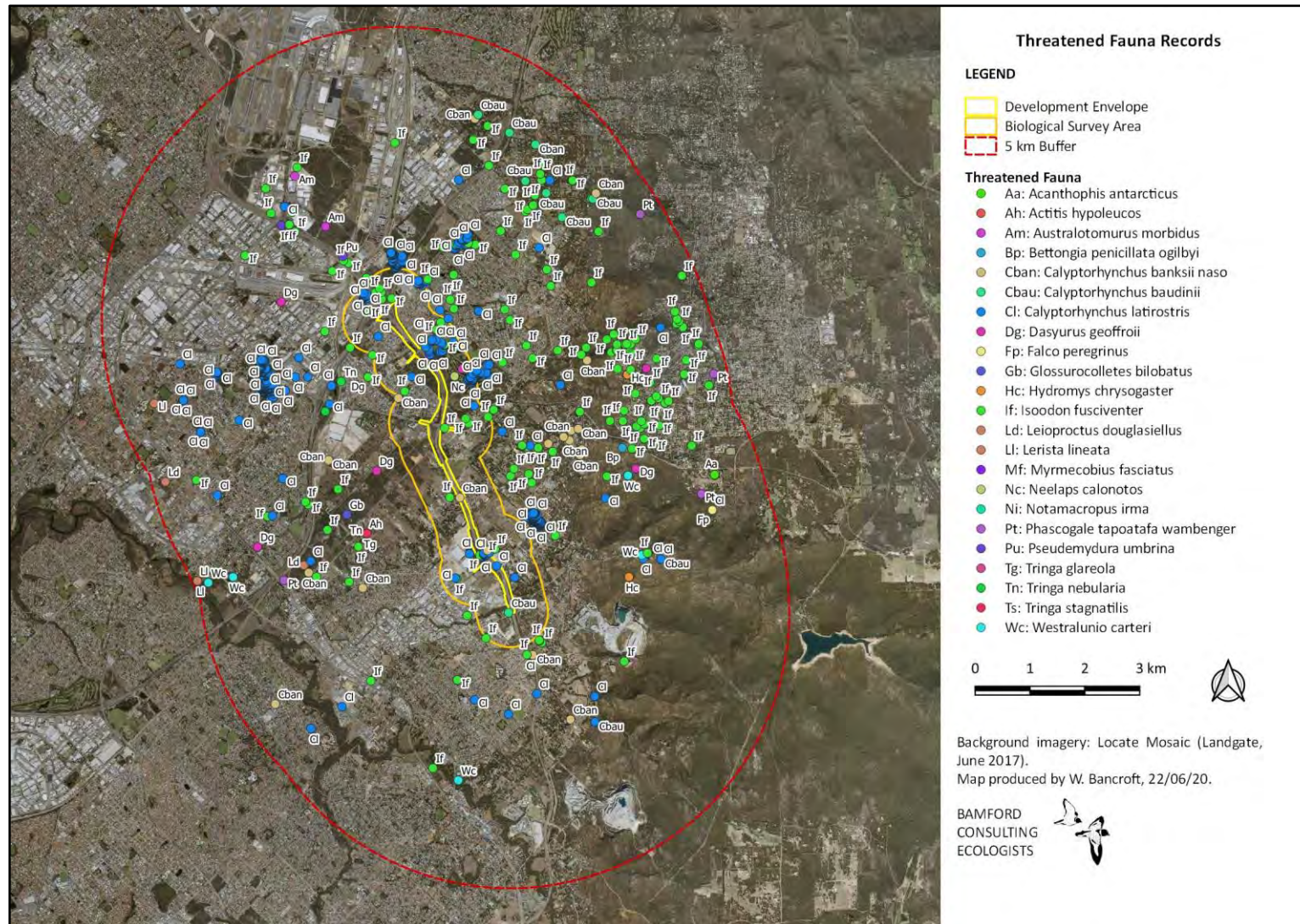
- ▭ SCP20a - Banksia attenuata woodland over species rich dense shrublands - Endangered (WA)
- ▭ Banksia Woodlands of the Swan Coastal Plain - Priority 3 (WA), Endangered (Commonwealth)

TEC/PEC Buffers - DBCA (2019b)

- ▨ Banksia WL SCP
- ▭ SCP08
- ▭ SCP20a
- ▭ SCP20c
- ▭ SCP3a
- ▭ SCP3b



Appendix AC: DBCA Threatened Fauna Species Records within 5 km of the Development Envelope



Appendix AD: Fauna Expected to Occur in the Survey Area

These lists are derived from an interpretation of the results of database and literature searches conducted in the desktop study area.

Status = conservation status codes: CS1, CS2, CS3. See Appendix F1 for full explanation.

- EPBC Act listings: E = Endangered, V = Vulnerable, Mig = Migratory, Mar = Marine (see Appendix F9).
- Biodiversity Conservation Act listings: for all CS1 species S1 to S7 = Schedules 1 to 7 respectively, (see Appendix F9).
- DBCA Priority species: P1 to P5 = Priority 1 to 5 (see Appendix F9).
- CS3 species: are considered to be of local significance by Bamford Consulting Ecologists. HS = habitat specialists on the Swan Coastal Plain, WR = wide ranging species on the Swan Coastal Plain.
- Int. Introduced species.

DB Records = records from database searches. + indicates species was returned from:

- DBCA Protected Fauna Database search, provided by DBCA in September 2019
- NatureMap database (DBCA), searched November 2019
- BirdLife Australia Atlas database, searched November 2019
- Atlas of Living Australia, searched November 2019
- EPBC Protected Matters Search Tool, searched November 2019.

Expected Occurrence = expected occurrence within the development envelope (DE) or the biological survey area (BSA).

- R = Resident; M = Migrant; RV = Regular Visitor; IV = Irregular Visitor; Va = Vagrant; LE = locally extinct.
- X indicates species recorded by BCE during various visits between 13 Sept and 19 Nov 2019.

CONSERVATION SIGNIFICANT INVERTEBRATES

Latin Name	English Name	Status	DB Records	Expected Occurrence	
				DE	BSA
ARACHNIDA					
<i>Idiosoma sigillatum</i>	Swan Coastal Plain Trapdoor Spider	CS2 (P3)	+	?	?
MOLLUSCA					
<i>Westralunio carteri</i>	Carter's Freshwater Mussel	CS1 (V)	+	?	?
INSECTA					
<i>Australotomurus morbidus</i>	Cemetery Springtail	CS2 (P3)	+	?	?
<i>Glossurocolletes bilobatus</i>	a short-tongue bee	CS2 (P2)	+	?	?
<i>Leioproctus douglasiellus</i>	a short-tongued bee	CS1 (CE)	+	?	?

FROGS

Latin Name	English Name	Status	DB Records	Expected Occurrence	
				DE	BSA
HYLIDAE (Tree frogs)					
<i>Litoria adelaidensis</i>	Slender Tree Frog		+	R	R (X)
<i>Litoria moorei</i>	Motorbike Frog		+	R	R
LIMNODYNASTIDAE (Burrowing Frogs)					
<i>Heleioporus barycragus</i>	Hooting Frog		+	R	R (X)
<i>Heleioporus eyrei</i>	Moaning Frog		+	R	R (X)
<i>Limnodynastes dorsalis</i>	Western Banjo Frog		+	R	R
MYOBATRACHIDAE (Ground frogs)					
<i>Crinia georgiana</i>	Quacking Frog	CS3	+	R	R
<i>Crinia glauerti</i>	Clicking Frog			R	R
<i>Crinia insignifera</i>	Squelching Frog		+	R	R
<i>Crinia pseudinsignifera</i>	Bleating Froglet		+	R	R
<i>Myobatrachus gouldii</i>	Turtle Frog	CS3		R	R
<i>Pseudophryne guentheri</i>	Crawling Toadlet		+	R	R

REPTILES

Latin Name	English Name	Status	DB Records	Expected Occurrence	
				DE	BSA
CHELUIDAE					
<i>Chelodina colliei</i>	South-western Long-necked Tortoise		+	RV	R
DIPLODACTYLIDAE					
<i>Strophurus spinigerus</i>	Western Spiny-tailed Gecko		+	R	R
<i>Diplodactylus polyopthalmus</i>			+	IV	IV
GEKKONIDAE					
<i>Christinus marmoratus</i>	Marbled Gecko		+	R (X)	R

Latin Name	English Name	Status	DB Records	Expected Occurrence	
				DE	BSA
PYGOPODIDAE					
<i>Pygopus lepidopus</i>	Common Scaly Foot		+	IV	IV
<i>Lialis burtonis</i>	Burton's Legless Lizard		+	R (X)	R
<i>Pletholax gracilis</i>	Keeled Legless Lizard		+	R	R
<i>Delma grayii</i>	Side-barred Delma		+	R	R
<i>Delma fraseri</i>	Fraser's Legless Lizard		+	R	R
<i>Aprasia repens</i>	Sand-plain Worm-lizard			R (X)	R
AGAMIDAE					
<i>Pogona minor</i>	Dwarf Bearded Dragon		+	R	R
<i>Ctenophorus adelaidensis</i>	Heath Dragon		+	LE	LE
SCINCIDAE					
<i>Acritoscincus trilineatus</i>	Western Three-lined Skink		+	R	R
<i>Cryptoblepharus buchananii</i>	Fence Skink		+	R (X)	R (X)
<i>Ctenotus australis</i>	Long-tailed Ctenotus		+	R	R (X)
<i>Ctenotus fallens</i>	West Coast Ctenotus		+	R	R
<i>Ctenotus impar</i>	Odd-striped Ctenotus		+	IV	IV
<i>Egernia kingii</i>	King's Skink		+	RV	R
<i>Hemiergus quadrilineata</i>	Two-toed Mulch Skink		+	R (X)	R (X)
<i>Lerista distinguenda</i>	Southwestern Four-toed Lerista		+	R	R
<i>Lerista elegans</i>	West Coast Four-toed Lerista		+	R	R
<i>Lerista lineata</i>	Perth Lined Lerista	CS2 (P3)	+	R	R
<i>Menetia greyii</i>	Dwarf Skink		+	R	R (X)
<i>Morethia lineocellata</i>	West Coast Pale-flecked Morethia			R	R
<i>Morethia obscura</i>	Shrubland Pale-flecked Morethia		+	R	R

Latin Name	English Name	Status	DB Records	Expected Occurrence	
				DE	BSA
<i>Tiliqua occipitalis</i>	Western Bluetongue		+	IV	IV
<i>Tiliqua rugosa</i>	Bobtail		+	R (X)	R (X)
VARANIDAE					
<i>Varanus tristis</i>	Tree Goanna		+	RV	R
<i>Varanus gouldii</i>	Bungarra or Sand Goanna		+	RV	R (X)
TYPHLOPIDAE					
<i>Anilius australis</i>	Southern Blind Snake			R	R
PYTHONIDAE					
<i>Morelia spilota imbricata</i>	Carpet Python (southwest)			LE	LE
ELAPIDAE					
<i>Brachyuropis semifasciatus</i>	Southern Shovel-nosed Snake		+	R	R
<i>Demansia psammophis</i>	Yellow-faced Whipsnake		+	R	R
<i>Echiopsis curta</i>	Bardick		+	R	R
<i>Elapognathus coronatus</i>	Crowned Snake		+	IV	IV
<i>Neelaps bimaculatus</i>	Black-naped Snake		+	R	R
<i>Neelaps calonotos</i>	Black-striped Snake	CS2 (P3)	+	IV	IV
<i>Notechis scutatus</i>	Tiger Snake		+	R	R
<i>Parasuta gouldii</i>	Gould's Snake		+	R	R
<i>Pseudonaja affinis</i>	Dugite		+	R	R (X)
<i>Pseudonaja nuchalis</i>	Gwardar		+	IV	IV
<i>Simoselaps bertholdi</i>	Jan's Banded Snake		C	R	R

BIRDS

Because some birds are highly mobile, this list excludes waterbirds that might only fly over the Survey Area, but does include waterbirds that can be expected to use the seasonal wetlands or might nest in trees within the site.

Latin Name	English Name	Status	DB Records	Expected Occurrence	
				DE	BSA
PHASIANIDAE (Pheasants and allies)					
<i>Coturnix ypsilophora</i>	Brown Quail		+	IV	IV
<i>Coturnix pectoralis</i>	Stubble Quail		+	IV	IV
ANATIDAE (Ducks and allies)					
<i>Anas castanea</i>	Chestnut Teal		+	IV	RV
<i>Anas gracilis</i>	Grey Teal		+	IV	RV
<i>Anas platyrhynchos</i>	Domestic Mallard	Int	+	IV	RV
<i>Anas rynchotis</i>	Australasian Shoveler		+	IV	RV
<i>Anas superciliosa</i>	Pacific Black Duck		+	IV	R (X)
<i>Aythya australis</i>	Hardhead		+	IV	RV (X)
<i>Bizura lobata</i>	Musk Duck		+	IV	RV (X)
<i>Chenonetta jubata</i>	Australian Wood Duck		+	R	R (X)
<i>Cygnus atratus</i>	Black Swan		+	Va	RV
<i>Malacorhynchus membranaceus</i>	Pink-eared Duck		+	Va	IV
<i>Oxyura australis</i>	Blue-billed Duck		+	IV	IV
<i>Stictonetta naevosa</i>	Freckled Duck		+	IV	IV
<i>Tadorna tadornoides</i>	Australian Shelduck		+	RV	R (X)
COLUMBIDAE (Pigeons and doves)					
<i>Columba livia</i>	Rock Dove	Int	+	R (X)	R (X)
<i>Streptopelia chinesensis</i>	Spotted Dove	Int	+	R (X)	R (X)
<i>Streptopelia senegalensis</i>	Laughing Dove	Int	+	R (X)	R (X)
<i>Phaps chalcoptera</i>	Common Bronzewing	CS3 (HS)	+	R (X)	R (X)
<i>Phaps elegans</i>	Brush Bronzewing	CS3 (HS)	+	IV	IV
<i>Ocyphaps lophotes</i>	Crested Pigeon		+	R (X)	R (X)
BURHINIDAE (Stone-curlews)					
<i>Burhinus grallarius</i>	Bush Stone-curlew		+	LE	LE
PODARGIDAE (Australian frogmouths)					
<i>Podargus strigoides</i>	Tawny Frogmouth		+	RV	R
AEGOTHELIDAE (Owlet-nightjars)					
<i>Aegotheles cristatus</i>	Australian Owlet-nightjar			Va	Va
APODIDAE (Typical swifts)					

Latin Name	English Name	Status	DB Records	Expected Occurrence	
				DE	BSA
<i>Apus pacificus</i>	Fork-tailed Swift	CS1 (M, S5)	+	IV	IV
PODICIPEDIDAE (Grebes)					
<i>Poliiocephalus poliocephalus</i>	Hoary-headed Grebe		+	IV	RV
<i>Podiceps cristatus</i>	Great Crested Grebe		+	Va	IV
<i>Tachybaptus novaehollandiae</i>	Australasian Grebe		+	IV	RV (X)
PELICANIDAE (Pelicans)					
<i>Pelecanus conspicillatus</i>	Australian Pelican		+	Va	Va
ARDEIDAE (Hérons, bitterns and egrets)					
<i>Threskiornis molucca</i>	Australian White Ibis		+	RV	RV (X)
<i>Theskiornis spinicollis</i>	Straw-necked Ibis		+	RV	RV
<i>Plegadis falcinellus</i>	Glossy Ibis	CS1 (M, S5)	+	IV	IV
<i>Platalea flavipes</i>	Yellow-billed Spoonbill		+	IV	RV (X)
<i>Platalea regia</i>	Royal Spoonbill		+	Va	Va
<i>Nycticorax caledonicus</i>	Nankeen Night-Heron		+	IV	RV
<i>Ardea pacifica</i>	White-necked Heron		+	IV	RV (X)
<i>Ardea modesta</i>	Eastern Great Egret	CS1 (M, S5)	+	IV	IV
<i>Egretta novaehollandiae</i>	White-faced Heron		+	RV (X)	R (X)
PHALACROCORACIDAE (Cormorants and shags)					
<i>Phalacrocorax carbo</i>	Great Cormorant		+	Va	IV
<i>Phalacrocorax melanoleucos</i>	Little Pied Cormorant		+	Va (X)	IV
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant		+	Va	IV (X)
<i>Phalacrocorax varius</i>	Pied Cormorant		+	Va	IV
ANHINGIDAE (Darters)					
<i>Anhinga novaehollandiae</i>	Australasian Darter			Va	Va
ACCIPITRIDAE (Osprey, hawks and eagles)					
<i>Elanus caeruleus (axillaris)</i>	Black-shouldered Kite		+	R	R (X)
<i>Lophoictinia isura</i>	Square-tailed Kite	CS3 (WR)	+	IV	IV
<i>Haliastur sphenurus</i>	Whistling Kite	CS3 (WR)	+	RV	RV (X)
<i>Accipiter fasciatus</i>	Brown Goshawk	CS3 (WR)	+	R (X)	R
<i>Accipiter cirrocephalus</i>	Collared Sparrowhawk	CS3 (WR)	+	R (X)	R (X)
<i>Circus assimilis</i>	Spotted Harrier		+	Va	Va
<i>Circus approximans</i>	Swamp Harrier		+	IV	RV
<i>Aquila audax</i>	Wedge-tailed Eagle	CS3 (WR)	+	IV	RV
<i>Hieraetus morphnoides</i>	Little Eagle	CS3 (WR)	+	RV	RV

Latin Name	English Name	Status	DB Records	Expected Occurrence	
				DE	BSA
<i>Pandion haliaetus</i>	Osprey		+	Va	Va
FALCONIDAE (Falcons)					
<i>Falco cenchroides</i>	Nankeen Kestrel		+	R (X)	R (X)
<i>Falco berigora</i>	Brown Falcon	CS3 (WR)	+	Va	Va
<i>Falco longipennis</i>	Australian Hobby		+	R	R (X)
<i>Falco peregrinus</i>	Peregrine Falcon	CS3 (S7)	+	RV	RV
TURNICIDAE (Button-quails)					
<i>Turnix varia</i>	Little Button-quail		+	Va	Va
<i>Turnix varius</i>	Painted Button-quail	CS3 (WR)	+	Va	IV
RALLIDAE (Crakes and rails)					
<i>Hypotaenidia phillipensis</i>	Buff-banded Rail		+	Va	Va
<i>Porzana fluminea</i>	Australian Spotted Crake		+	Va	Va
<i>Zapornia pusilla</i>	Baillon's Crake		+	Va	Va
<i>Zapornia tabuensis</i>	Spotless Crake		+	Va	Va
<i>Porphyrio porphyrio</i>	Purple Swampphen		+	IV	RV
<i>Gallinula tenebrosa</i>	Dusky Moorhen		+	IV	RV
<i>Fulica atra</i>	Eurasian Coot		+	IV	R (X)
<i>Tribonyx ventralis</i>	Black-tailed Native-hen		+	Va	IV
RECURVIROSTRIDAE (Stilts and avocets)					
<i>Himantopus leucocephalus</i>	Pied Stilt		+	Va	Va
CHARADRIIDAE (Plovers and lapwings)					
<i>Charadrius ruficapillus</i>	Red-capped Plover		+	Va	Va
<i>Charadrius melanops</i>	Black-fronted Dotterel		+	IV	IV
<i>Vanellus tricolor</i>	Banded Lapwing		+	Va	Va
<i>Erythronyx cinctus</i>	Red-kneed Dotterel		+	IV	IV
SCOLOPACIDAE (Sandpipers)					
<i>Tringa glareola</i>	Wood Sandpiper	CS1 (M, S5)	+	Va	Va
<i>Tringa nebularia</i>	Common Greenshank	CS1 (M, S5)	+	Va	Va
<i>Tringa stagnatilis</i>	Marsh Sandpiper	CS1 (M, S5)	+	Va	Va
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	CS1 (M, S5)	+	Va	Va
CACATUIDAE (Cockatoos)					
<i>Calyptorhynchus banksii naso</i>	Forest Red-tailed Black-Cockatoo	CS1 (V, S3)	+	R (X)	R (X)
<i>Calyptorhynchus latirostris</i>	Carnaby's Black-Cockatoo	CS1 (E, S2)	+	RV (X)	RV (X)

Latin Name	English Name	Status	DB Records	Expected Occurrence	
				DE	BSA
<i>Calyptorhynchus baudinii</i>	Baudin's Black-Cockatoo	CS1 (V, S2)	+	RV (X)	RV (X)
<i>Eolophus roseicapillus</i>	Galah		+	R (X)	R (X)
<i>Cacatua pastinator</i>	Western Corella		+	R (X)	R (X)
<i>Cacatua sanguinea</i>	Little Corella	Int	+	RV	RV
<i>Cacatua tenuirostris</i>	Eastern Long-billed Corella	Int	+	R (X)	R (X)
PSITTACIDAE (Parrots)					
<i>Barnardius zonarius</i>	Australian Ringneck		+	R (X)	R (X)
<i>Glossopsitta porphyrocephala</i>	Purple-crowned Lorikeet		+	Va	Va
<i>Platycercus icterotis</i>	Western Rosella	CS3 (WR)	+	Va	Va
<i>Purpureicephalus spurius</i>	Red-capped Parrot		+	R (X)	R (X)
<i>Neophema elegans</i>	Elegant Parrot		+	Va	Va
<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	Int	+	R (X)	R (X)
CUCULIDAE (Old world cuckoos)					
<i>Chalcites basalis</i>	Horsfield's Bronze-Cuckoo		+	M	M (X)
<i>Chalcites lucidus</i>	Shining Bronze-Cuckoo		+	M (X)	M (X)
<i>Cacomantis pallidus</i>	Pallid Cuckoo		+	M	M
<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo		+	M	M
STRIGIDAE (Hawk owls)					
<i>Ninox connivens connivens</i>	Barking Owl	CS2 (P2)	+	Va	Va
<i>Ninox boobook</i>	Southern Boobook		+	RV	R
TYTONIDAE (Barn owls)					
<i>Tyto alba</i>	Barn Owl		+	Va	Va
<i>Tyto novaehollandiae novaehollandiae</i>	Masked Owl	CS2 (P3, WR)	+	LE	LE
HALCYONIDAE (Tree kingfishers)					
<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Int	+	R	R (X)
<i>Todiramphus sanctus</i>	Sacred Kingfisher		+	M (X)	M (X)
MEROPIIDAE (Bee-eaters)					
<i>Merops ornatus</i>	Rainbow Bee-eater		+	M (X)	M (X)
MALURIDAE (Fairy-wrens, emu-wrens, grasswrens)					
<i>Malurus splendens</i>	Splendid Fairy-wren	CS3 (HS)	+	R	R (X)
<i>Stipiturus malachurus</i>	Southern Emu-wren	CS3 (HS)	+	LE	Va
ACANTHIZIDAE (Australasian warblers)					
<i>Sericornis frontalis</i>	White-browed Scrubwren	CS3 (HS)	+	R	R (X)

Latin Name	English Name	Status	DB Records	Expected Occurrence	
				DE	BSA
<i>Smicronis brevirostris</i>	Weebill	CS3 (HS)	+	R (X)	R (X)
<i>Gerygone fusca</i>	Western Gerygone		+	R (X)	R (X)
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	CS3 (HS)	+	R (X)	R (X)
<i>Acanthiza inornata</i>	Western Thornbill	CS3 (HS)	+	RV	R
<i>Acanthiza apicalis</i>	Inland Thornbill	CS3 (HS)	+	RV	RV
PARDALOTIDAE (Pardalotes)					
<i>Pardalotus punctatus</i>	Spotted Pardalote		+	RV	RV
<i>Pardalotus striatus</i>	Striated Pardalote		+	R (X)	R (X)
MELIPHAGIDAE (Honeyeaters)					
<i>Acanthorhynchus superciliosus</i>	Western Spinebill		+	RV	RV
<i>Sugomel niger</i>	Black Honeyeater		+	Va	Va
<i>Anthochaera lunulata</i>	Western Wattlebird	CS3 (WR)	+	R	R (X)
<i>Anthochaera carunculata</i>	Red Wattlebird		+	R (X)	R (X)
<i>Epthianura albifrons</i>	White-fronted Chat		+	Va	Va
<i>Glyciphila melanops</i>	Tawny-crowned Honeyeater	CS3 (WR)	+	Va	RV
<i>Lichmera indistincta</i>	Brown Honeyeater		+	R (X)	R (X)
<i>Lichenostomus virescens</i>	Singing Honeyeater		+	R (X)	R (X)
<i>Manorina flavigula</i>	Yellow-throated Miner		+	Va	Va
<i>Melithreptus brevirostris</i>	Brown-headed Honeyeater		+	IV	IV
<i>Melithreptus chloropsis</i>	Gilbert's Honeyeater	CS3 (WR)	+	IV	RV
<i>Phylidonyris niger</i>	White-cheeked Honeyeater	CS3 (WR)	+	R (X)	R (X)
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater	CS3 (WR)	+	R (X)	R (X)
<i>Ptilotula ornata</i>	Yellow-plumed Honeyeater		+	Va	Va
NEOSITTIDAE (Sitellas)					
<i>Daphoenositta chrysoptera</i>	Varied Sittella	CS3 (HS)	+	IV	IV
CLIMACTERIDAE (Australian Treecreepers)					
<i>Climacteris rufus</i>	Rufous Treecreeper		+	LE	LE
CAMPEPHAGIDAE (Cuckoo-shrikes and trillers)					
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike		+	R (X)	R (X)
<i>Lalage sueurii</i>	White-winged Triller		+	RV (X)	RV
PACHYCEPHALIDAE (Whistlers and allies)					
<i>Pachycephala occidentalis</i>	Western Whistler	CS3 (HS)	+	IV	RV
<i>Pachycephala rufiventris</i>	Rufous Whistler		+	R (X)	R (X)
<i>Colluricincla harmonica</i>	Grey Shrike-thrush	CS3 (HS)	+	IV	RV (X)

Latin Name	English Name	Status	DB Records	Expected Occurrence	
				DE	BSA
ARTAMIDAE (Woodswallows, butcherbirds and currawongs)					
<i>Artamus cinereus</i>	Black-faced Woodswallow	CS3 (WR)	+	Va	RV
<i>Artamus cyanopterus</i>	Dusky Woodswallow	CS3 (WR)	+	Va	Va
<i>Artamus personatus</i>	Masked Woodswallow	CS3 (WR)	+	Va	Va
<i>Cracticus torquatus</i>	Grey Butcherbird		+	R	R (X)
<i>Cracticus tibicen</i>	Australian Magpie		+	R (X)	R (X)
<i>Strepera versicolor</i>	Grey Currawong	CS3 (WR)	+	LE	Va
RHIPIDURA (Fantails)					
<i>Rhipidura albiscapa</i>	Grey Fantail		+	R (X)	R (X)
<i>Rhipidura leucophrys</i>	Willie Wagtail		+	R (X)	R (X)
CORVIDAE (Crows and allies)					
<i>Corvus bennetti</i>	Little Crow		+	Va	Va
<i>Corvus coronoides</i>	Australian Raven		+	R (X)	R (X)
MONARCHIDAE (Flycatchers and magpie-lark)					
<i>Grallina cyanoleuca</i>	Magpie-lark		+	R (X)	R (X)
PETROICIDAE (Robins)					
<i>Eopsaltria australis</i>	Western Yellow Robin		+	Va	Va
<i>Eopsaltria georgiana</i>	White-breasted Robin	CS3	+	Va	Va
<i>Melanodryas cucullata</i>	Hooded Robin	CS3	+	Va	Va
<i>Petroica boodang</i>	Scarlet Robin	CS3 (HS)	+	IV	IV (X)
<i>Petroica goodenovii</i>	Red-capped Robin	CS3 (HS)	+	Va	Va
<i>Microeca fascinans</i>	Jacky Winter	CS3 (HS)	+	Va	Va
MEGALURIDAE (Grassbirds)					
<i>Cincloramphus cruralis</i>	Brown Songlark		+	IV	IV
<i>Cincloramphus mathewsi</i>	Rufous Songlark		+	IV	IV
<i>Megalurus gramineus</i>	Little Grassbird		+	Va	Va
TIMALIIDAE (White-eyes)					
<i>Zosterops lateralis</i>	Silvereye		+	R (X)	R (X)
HIRUNDINIDAE (Swallows and martins)					
<i>Cheramoeca leucosterna</i>	White-backed Swallow		+	IV	IV
<i>Hirundo neoxena</i>	Welcome Swallow		+	RV (X)	R (X)
<i>Petrochelidon ariel</i>	Fairy Martin		+	IV	IV
<i>Petrochelidon nigricans</i>	Tree Martin		+	RV (X)	RV (X)
NECTARINIIDAE (Sunbirds and allies)					

Latin Name	English Name	Status	DB Records	Expected Occurrence	
				DE	BSA
<i>Dicaeum hirundinaceum</i>	Mistletoebird		+	RV (X)	RV (X)
MOTACILLIDAE (Old world wagtails and pipits)					
<i>Anthus novaeseelandiae</i>	Australasian Pipit		+	R	R
ACROCEPHALIDAE (Reed Warblers)					
<i>Acrocephalus australis</i>	Australian Reed Warbler		+	IV	RV
ESTRILDIDAE (Waxbills and allies)					
<i>Stagonopleura oculata</i>	Red-eared Firetail		+	Va	Va
<i>Taeniopygia guttata</i>	Zebra Finch		+	Va	Va

MAMMALS

Latin Name	English Name	Status	DB Records	Expected Occurrence	
				DE	BSA
TACHYGLOSSIDAE					
<i>Tachyglossus aculeatus</i>	Short-beaked Echidna	CS3		R (X)	R (X)
POTORIDAE					
<i>Bettongia penicillata ogilbyi</i>	Woylie	CS1 (En)	+	LE	LE
DASYURIDAE					
<i>Dasyurus geoffroii</i>	Chuditch	CS1 (V)	+	Va	Va
<i>Phascogale tapoatafa subsp. wambenger</i>	Brush-tailed Phascogale		+	Va	Va
PERAMELIDAE					
<i>Isodon fusciventer</i>	Quenda, Southern Brown Bandicoot	CS2 (P4)	+	R (X)	R (X)
TARSIPEDIDAE					
<i>Tarsipes rostratus</i>	Honey Possum	CS3	+	LE	LE
PHALANGERIDAE					
<i>Trichosurus vulpecula</i>	Common Brushtail Possum	CS3		RV	RV
MACROPODIDAE					
<i>Macropus fuliginosus</i>	Western Grey Kangaroo		+	R (X)	R (X)

Latin Name	English Name	Status	DB Records	Expected Occurrence	
				DE	BSA
<i>Notamacropus irma</i>	Brush Wallaby	CS2 (P4)	+	LE	LE
<i>Setonix brachyurus</i>	Quokka	CS1 (V)	+	LE	LE
MURIDAE					
<i>Hydromys chrysogaster</i>	Water-rat, Rakali	CS2 (P4)	+	IV	RV
<i>Mus musculus</i>	House Mouse	Int	+	R	R
<i>Rattus rattus</i>	Black Rat	Int	+	R	R
LEPORIDAE					
<i>Oryctolagus cuniculus</i>	Rabbit	Int	+	R (X)	R (X)
MOLOSSIDAE					
<i>Austronomus australis</i>	White-striped Freetail Bat		+	M	M
<i>Ozimops (Mormopterus) kitcheneri</i>	Western Freetail Bat	CS3		RV	RV
VESPERTILIONIDAE					
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat		+	R	R
<i>Chalinolobus morio</i>	Chocolate Wattled Bat		+	RV	RV
<i>Nyctophilus geoffroyi</i>	Lesser Long-eared Bat	CS3	+	RV	RV
<i>Nyctophilus gouldii</i>				RV	RV
<i>Nyctophilus major</i>	Western Long-eared Bat			RV	RV
<i>Vespadelus regulus</i>	Southern Forest Bat		+	RV	RV
CANIDAE					
<i>Vulpes vulpes</i>	Red Fox	Int		R (X)	R (X)
FELIDAE					
<i>Felis catus</i>	Cat	Int		R	R (X)

Appendix AE: Species Returned from Database Searches that are Considered Unlikely to be present in the Survey Area

Species unlikely to occur due to absence of preferred habitat and/or clearly out of range. Some could be very rare vagrants.

Species	Status	
FROGS		
<i>Heleioporus psammophilus</i>	Sand Frog	
REPTILES		
<i>Pseudemydura umbrina</i>	Western Swamp Tortoise	CS1
<i>Gehyra variegata</i>	Variegated Dtella	
<i>Heteronotia binoei</i>	Bynoe's Gecko	
<i>Underwoodisaurus milii</i>	Barking Gecko	
<i>Cryptobletharus plagioccephalus</i>	Peron's Snake-eyed Skink	
<i>Hemiergus initialis subsp. initialis</i>	Western Earless Skink	
<i>Lampropholis delicata</i>	Dark-Flecked Garden Sunskink	Int
<i>Ctenophorus ornatus</i>	Ornate Crevice-Dragon	
<i>Antaresia stimsoni subsp. stimsoni</i>	Stimson's Python	
<i>Acanthopis antarcticus</i>	Southern Death Adder	
BIRDS		
<i>Dromaius novaehollandiae</i>	Emu	
<i>Chroicocephalus novaehollandiae</i>	Silver Gull	
<i>Larus pacificus</i>	Pacific Gull	
<i>Pterodroma macroptera</i>	Great-winged Petrel	
<i>Sterna fusca subsp. nubilosa</i>	Sooty Tern	
<i>Thalasseus bergii</i>	Crested Tern	
<i>Anser anser</i>	Greylag Goose	
<i>Cairina moschata</i>	Muskovy Duck	
<i>Numida meleagris</i>	Helmeted Guineafowl	
<i>Phasianus colchicus</i>	Common Pheasant	
<i>Ixobrychus dubius</i>	Australian Little Bittern	
<i>Ixobrychus flavicollis</i>	Black Bittern	
<i>Euseyornis melanops</i>	Black-Fronted Dotterel	
<i>Haematopus longirostris</i>	Pied Oystercatcher	

Species		Status
<i>Ardeotis australis</i>	Australian Bustard	
<i>Hamirostra melanosternon</i>	Black-Breasted Buzzard	
<i>Falco (Hierofalco) subniger</i>	Black Falcon	
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	
<i>Neophema petrophila</i>	Rock Parrot	
<i>Nymphicus hollandicus</i>	Cockatiel	
<i>Platycercus (Platycercus) elegans</i>	Crimson Rosella	
<i>Geopelia cuneata</i>	Diamond Dove	
<i>Tyto alba subsp. deliculata</i>	Barn Owl	
<i>Chalcites osculans</i>	Black-Eared Cuckoo	
<i>Acantahgenys rufogularis</i>	Spiny-cheeked Honeyeater	
<i>Purnella albifrons</i>	White-fronted Honeyeater	
<i>Climacteris (Climacteris) melanura</i>	Black-Tailed Treecreeper	
<i>Eopsaltria (Eopsaltria) australis</i>	Eastern Yellow Robin	
<i>Falcunculus frontatus</i>	Crested Shrike-Tit	
<i>Cracticus nigrogularis</i>	Pied Butcherbird	
<i>Neochmia temporalis</i>	Red-browed Finch	Int
MAMMALS		
<i>Funambulus pennati</i>	Indian Palm Squirrel	Int
<i>Pseudomys delicatulus</i>	Delicate Mouse	
<i>Pteropus scapulatus</i>	Little Red Flying Fox	
<i>Rattus fuscipes</i>	Western Bush Rat	
<i>Sminthopsis fuliginosus</i>	Dusky Dunnart	
<i>Sminthopsis murina</i>	Common Dunnart	
<i>Bos taurus</i>	European Cattle	Int



Appendix AF: Annotated List of Species Observed from Survey Area and Surrounds During Site Visits in October 2019

Frogs

- Squelching Froglet - *Crinia insignifera* - heard
- Slender Tree Frog - *Litoria adelaidensis* - heard when near water bodies

Reptiles

- Southwestern Sandplain Worm lizard - *Aprasia repens* - one found under corrugated sheet in reserve south of Welshpool Road East.
- Burton's Legless Lizard - *Lialis burtonis* - one seen in sedges in reserve north of Kelvin Road
- Fence Skink - *Cryptoblepharus buchananii* - several seen on dead wood and fences.
- West Coast Long-tailed Ctenotus - *Ctenotus australus* - one found under log near golf course
- Two-toed Mulch Skink - *Hemiergus quadrilineatus* - several seen under debris.
- Common Dwarf Skink - *Menetia greyii* - several seen basking in disturbed areas
- Western Bobtail - *Tiliqua rugosa* - several seen in sandy areas.
- Monitor species - several diggings seen in bush areas and several tracks across paths

Birds

- Pacific Black Duck - *Anas superciliosa* - several seen grazing on grassland and yards adjacent ponds
- Hardhead - *Aythya australis* - two seen on the ponds adjacent golf course
- Musk Duck - *Bizura lobata* - male heard calling, presumed to be on ponds next to golf course
- Australian Wood Duck - *Chenonetta jubata* - several seen adjacent ponds in gardens and parks
- Australian Shelduck - - Several seen flying overhead
- Rock Dove (Int.) - *Columba livia* - seen occasionally throughout
- Laughing Dove (Int.) - *Streptopelia senegalensis* - a couple seen in urban areas
- Spotted Dove (Int.) - *Streptopelia chinesensis* - several seen and heard throughout but developed areas in particular
- Common Bronzewing - *Phaps chalcoptera* - several seen and heard especially in bush and adjacent paddocks
- Crested Pigeon - *Ocyphaps lophotes* - seen in pairs adjacent paddocks
- Australian Grebe - *Tachybaptus novaehollandiae* - pair on pond in park adjacent golf course and one on pond in small park adjacent Magma Road in north.
- Australian White Ibis - *Threskiornis molucca* - several seen throughout and in flocks flying over
- Yellow-billed Spoonbill - *Platalea flavipes* - One disturbed from small pond towards southern end of site.
- White-necked Heron - *Ardea pacifica* - Flying over

- White-faced Heron - *Egretta novaehollandiae* - several seen near or over water bodies and damplands
- Little Black Cormorant - *Phalacrocorax sulcirostris* - one seen flying over
- Little Pied Cormorant - *Phalacrocorax melanoleucos* - one seen flying over
- Black-shouldered Kite - *Elanus caeruleus (axillaris)* - One seen near Highway on several occasions
- Whistling Kite - *Haliastur sphenurus* - one seen overhead towards southern end of highway
- Sparrowhawk - *Accipiter cirrocephalus* - One seen on several occasions
- Brown Goshawk - *Accipiter fasciatus* - One seen darting through ornamental eucalypt trees
- Nankeen Kestrel - *Falco cenchroides* - One seen on several occasions
- Australina Hobby - *Falco longipennis* - One seen hawking over scrub
- Eurasian Coot - *Fulica atra* - several on or adjacent to pond adjacent golfcourse
- Forest Red-tailed Black-Cockatoo - *Calyptorhynchus banksii naso* - one heard on 3rd September and several family groups seen and heard in November especially around golf course. Many Marri nuts found throughout with chew marks from FRTBC.
- Baudin's Black-Cockatoo - *Calyptorhynchus baudinii* - many Marri nuts with chew marks typical of Baudin's especially in high numbers adjacent Highway. None seen or heard.
- Carnaby's Black-Cockatoo - *Calyptorhynchus latirostris* - Several Marri nuts with chew marks consistent with this species found along road reserve. Several pine cones torn apart in area too.
- Galah - *Eolophus roseicapillus* - Several seen throughout including in small flocks
- Western Corella - *Cacatua pastinator* - Several flocks (probably mixed) seen throughout
- Eastern Long-billed Corella - *Cacatua tenuirostris* - Seen flying in area throughout.
- Australian Ringneck - *Barnardius zonarius* - Heard and seen throughout.
- Red-capped Parrot - *Purpureicephalus spurius* - heard and seen throughout as pairs or singles. Several Marri nuts with chew marks from RCP.
- Rainbow Lorikeet - *Trichoglossus haematodus* - several pairs and small flocks flying through and foraging
- Horsefield's Bronze Cuckoo - *Chalcites basalis* - one heard singing near golf course
- Shining Bronze Cuckoo - *Chalcites lucidus* - Heard in two reserves
- Laughing Kookabura (Int.) - *Dacelo novaeguineae* - Heard and seen occasionally throughout
- Sacred Kingfisher - *Todiramphus sanctus* - Single bird heard in parkland near golf course and another near junction of Welshpool Road and highway.
- Rainbow Bee-eater - *Merops ornatus* - Several individuals heard calling across survey area.
- Splendid Fairy-wren - *Malurus splendens* - heard calling in bush block south end of project area.
- White-browed Scrub-wren - *Sericornis frontalis* - Two or three observed in denser vegetation in Biological Survey Area
- Weebill - *Smicronis brevirostris* - several heard in eucalypt woodlands and individual trees
- Western Gerygone - *Gerygone fusca* - several heard calling from wooded areas


- Yellow-rumped Thornbill - *Acanthiza chrysorrhoa* - small group seen foraging on utility grassland from woodland
- Striated Pardalote - *Pardalotus striatus* - several heard calling in wooded areas
- Western Wattlebird - *Anthochaera lunulata* - Heard and seen individual in Woollybush habitat
- Red Wattlebird - *Anthochaera carunculata* - seen and heard throughout
- Brown Honeyeater - *Lichmera indistincta* - heard throughout very common in Woollybush
- Singing Honeyeater - *Lichenostomus virescens* - Single birds seen and heard throughout.
- New Holland Honeyeater - *Phylidonyris novaehollandiae* - heard and seen in banksia woodlands in particular
- White-cheeked Honeyeater - *Phylidonyris niger* - heard and seen in denser bush especially in Wattle and Woollybush
- Black-faced Cuckoo-Shrike - *Coracina novaehollandiae* - heard and seen in small numbers throughout.
- White-winged Triller - *Lalage sueurii* - Pair seen and heard in eucs adjacent highway but near an adjacent reserve
- Grey Shrike-thrush - *Colluricincla harmonica* - one bird heard in bush adjacent golf course and to north of Roe Highway
- Rufous Whistler - *Pachycephala rufiventris* - Single birds heard occasionally in denser bushland.
- Grey Butcherbird - *Cracticus torquatus* - Couple seen in woodland north of golf course
- Australian Magpie - *Cracticus tibicen* - birds seen and heard throughout
- Grey Fantail - *Rhipidura albiscapa* - Several individuals heard in wooded areas
- Willie Wagtail - *Rhipidura leucophrys* - individuals and pairs seen and heard throughout.
- Australian Raven - *Corvus coronoides* - pairs and mobs seen throughout.
- Magpie Lark - *Grallina cyanoleuca* - individuals and pairs seen and heard in sports areas in particular.
- Scarlet Robin (?) - *Petroica boodang* - Female seen in Woollybush habitat near golf course
- Silvereye - *Zosterops lateralis* - Heard and seen in small flocks.
- Welcome Swallow - *Hirundo neoxena* - Several flying over at end of survey
- Tree Martin - *Petrochelidon nigricans* - Seen overhead in Oct/Nov
- Mistletoebird - *Dicaeum hirundinaceum* - Heard calling in woodland along Bickley Creek.



Mammals

- Short-beaked Echidna - *Tachyglossus aculeatus* - tracks and diggings in reserve between Hale Road and Maamba Road.
- Quenda - *Isoodon fusciventer* - diggings seen throughout and tracks observed in soft sand throughout.
- Western Grey Kangaroo - *Macropus fuliginosus* - several pairs and small mobs seen throughout, many scats and tracks.
- Rat species (Int.) - *Rattus* spp. - numerous diggings for small bulbs throughout and tracks in muds adjacent ponds.
- European Rabbit (Int.) - *Oryctolagus cuniculus* - Tracks and scat heaps and two warrens

- Cat (Int.) - *Felis catus* - tracks throughout and one skull in reserve between Hale Road and Maamba Road.
- Fox (Int.) - *Vulpes vulpes* - tracks and scats throughout and one earth.
- Domestic Dog (Int.) - *Canis lupus familiaris* - tracks and scats throughout reserves


Appendix AG: Raw Results from the Camera-pole Assessment of Potential Black-Cockatoo Nest-trees

Tree Ref:	182	Spp:	Jarrah
Photo Ref:	GOPR5902	DBH	1300
East	405878.709	Status	Alive
North	6456050.511	Initial Cat.:	3
Initial Notes	1 Spout hollow		
			
Inspection Notes: No suitable hollow. Active bee hive in base of tree.			
Concluding Category: 4 no suitable hollow for nesting B-C			

Tree Ref No:	184	Spp:	Stag
Photo Ref:	GOPR5905, 5920	DBH:	1400
East:	405842.745	Status:	Dead
North:	6456059.577	Initial Cat.:	2
Initial Notes:	1 large opening, some chew marks		
 			
Inspection Notes:	No suitable hollow.		
Concluding Category:	4 - no suitable hollow for nesting B-C		

Tree Ref No:	199	Spp:	Stag
Photo Ref:	NA	DBH:	900
East:	405784.177	Status:	Dead
North:	6456488.572	Initial Cat.:	3
Initial Notes:	2 possible hollows		
			
Inspection Notes:			
Two hollows were inspected - hollows appear too shallow for Black-Cockatoo. Note active bee hive in base of tree so no photos recorded.			
Concluding Category: 5 – no suitable hollows for B-C.			

Tree Ref No:	204	Spp:	Dwutta
Photo Ref:	Photo 19-11-19, 16 00 53	DBH:	900
East:	405715.41	Status:	Alive
North:	6456657.584	Initial Cat.:	2
Initial Notes:	1 hollow on side of upright with chew marks. 2 smaller openings		
			
Inspection Notes:	Tree appears to be on private property. Not inspected		
Concluding Category:	Not Inspected		



Tree Ref No:	279	Spp:	Dwutta
Photo Ref:	548, Photo 19-11-19, 14 30 02	DBH:	800
East:	405274.277	Status:	Alive
North:	6458902.341	Initial Cat.:	3
Initial Notes:	1 Possible hollow in end of dead upright branch.		
			
Inspection Notes:	Not a hollow		
Concluding Category:	5 – no hollow present for B-C		

Tree Ref No:	281	Spp:	Stag
Photo Ref:	Photo 19-11-19, 14 59 41	DBH:	1400
East:	405267.418	Status:	Dead
North:	6458969.229	Initial Cat.:	3
Initial Notes:	2 potential hollows; 1 on side trunk, 1 on end upright branch.		

**Inspection Notes:**

Hollow at end of upright branch appears too shallow for Black-Cockatoos. Other hollows inaccessible due to other trees blocking access.

Concluding Category: Inconclusive – one of the two hollows could not be inspected due to restricted access by pole cam.

Tree Ref No:	304	Spp:	Flooded Gum
Photo Ref:	Photo 19-11-19, 13 56 58, Photo 19-11-19, 13 56 34	DBH:	600
East:	404831.141	Status:	Dead
North:	6459583.291	Initial Cat.:	2
Initial Notes:	1 hollow on side of upright wi chew marks.		
			
			
Inspection Notes:			
Hollows appear too small or shallow for Black-Cockatoo. Note active bee hive in base of tree.			
Concluding Category: 4 – no suitable hollow present for B-C			