Ecological Assessment of the Wangara to Neerabup Terminal 132 kV Transmission Line Project

Western Power

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Document Tracking

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Abbreviations

Abbreviation	Description
ALA	Atlas of Living Australia
BAM Act	State Biosecurity and Agriculture Management Act 2007
BC Act	State Biodiversity Conservation Act 2016
BoM	Bureau of Meteorology
CR	Critically Endangered
DAWE	Department of Agriculture, Water and the Environment
DBCA	Department of Biodiversity, Conservation and Attractions
DBH	Diameter at Breast Height
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DoEE	Department of Environment and Energy
DPIRD	Department of Primary Industries and Regional Development
DPLH	Department of Planning, Lands and Heritage
DWER	Department of Water and Environmental Regulation
ELA	Eco Logical Australia
EN	Endangered
EPA	Environmental Protection Authority
EPBC Act	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
ESA	Environmentally Sensitive Area
FCT	Floristic Community Type
GDE	Groundwater Dependent Ecosystem
GPS	Global Positioning System
ha	hectare
IBRA	Interim Biogeographic Regionalisation for Australia
IBSA	Index of Biodiversity Surveys for Assessments
km	kilometre
m	metre
mm	millimetre
MNES	Matters of National Environmental Significance
NVIS	National Vegetation Information System
P	Priority
PEC	Priority Ecological Community
PMST	Protected Matters Search Tool
PRIMER	Plymouth Routines in Multivariate Ecological Research v7
SWA	Swan Coastal Plain bioregion
SWA02	Perth subregion
TEC	Threatened Ecological Community
TSSC	Threatened Species Scientific Committee
VU	Vulnerable
WAH	Western Australian Herbarium
WAM	Western Australian Museum
WAOL	Western Australian Organism List
WoNS	Weed of National Significance

Executive Summary

Western Power is proposing to build a new overhead 132kV transmission line in Perth's northern suburbs known as the 'Wangara Substation to Neerabup Terminal project' as part of the Clean Energy Link program. Eco Logical Australia was engaged by Western Power to undertake a Detailed flora and vegetation survey, Targeted flora survey, Basic fauna survey and Targeted black cockatoo habitat assessment for the current route option for the transmission line corridor, referred to in this document as the 'survey area'.

A comprehensive desktop assessment was undertaken to assess the potential presence of significant flora and fauna species and ecological communities listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, the State *Biodiversity Conservation Act 2016* and as Priority by the Department of Biodiversity, Conservation and Attractions (DBCA) 2026d.

In total, 81 conservation significant flora species were identified from the desktop assessment. No previous records of conservation significant flora were identified within the survey area. Of the 81 flora species, one was considered likely to occur within the survey area prior to the survey and 27 were considered as having the potential to occur within the survey area. The remaining 53 conservation significant flora species were considered as unlikely to occur or 'does not occur' within the survey area.

One conservation significant ecological community has been previously mapped in the survey area, namely the Banksia Woodlands of the Swan Coastal Plain Threatened Ecological Community (listed as Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and Priority 3 by the Department of Biodiversity, Conservation and Attractions). In addition, six conservation significant ecological communities were considered as having the potential to occur in the survey area prior to the survey. The remaining ten communities identified during the desktop assessment were considered unlikely to occur prior to the survey.

A total of 90 conservation listed fauna species were identified pre-survey as possibly occurring within the survey area. Of these, previous records of four conservation significant fauna species occur within the survey area, namely Carnaby's cockatoo, Red-necked stint, Black-striped snake and Quenda. Following a pre-survey likelihood of occurrence assessment, three conservation significant fauna species were considered as being likely to occur within the survey area prior to the survey, including Carnaby's Black Cockatoo, Forest Red-tailed Black-Cockatoo and Quenda. A further four species were considered as having the potential to occur in the survey area, based on the potential presence of suitable habitat and nearby records.

A Detailed and Targeted flora and vegetation survey and a Basic fauna survey and Targeted black cockatoo habitat assessment was conducted over five days from 3 to 7 November 2025.

Flora species recorded in the survey area were typical of the Perth Swan Coastal Plain Interim Biogeographic Regionalisation for Australia subregion. In total, 289 species (210 native and 79 introduced) from 63 families and 182 genera were recorded across 48 quadrats and 12 relevés established within the survey area and from opportunistic collections.

Three conservation significant flora species were recorded within the survey area. This included *Schoenus griffinianus* (listed as Priority 4), *Jacksonia sericea (*listed as Priority 4) and *Grevillea olivacea* (listed as Priority 4 by the Department of Biodiversity, Conservation and Attractions). Two individuals of *Schoenus griffinianus* and 168 individuals of *Jacksonia sericea* were recorded in the survey area. *Grevillea olivacea* has become widely naturalised across the Perth metropolitan region, where it is commonly cultivated, produced in nurseries, and used extensively in landscaping and revegetation plantings and therefore the recorded individuals do not represent a natural population.

Seven of the conservation significant flora species assessed as having the potential to occur pre-survey were still considered as having the potential to occur following the field survey. This is due to several factors, including presence of suitable habitat, having nearby records, being annual or cryptic species, and known flowering times outside of when the survey was conducted. These seven species include *Caladenia huegelii* (listed as Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, and as Critically Endangered under the State *Biodiversity Conservation Act 2016*), *Drosera patens* (listed as Priority 1), *Poranthera moorokatta* (listed as Priority 2), *Stenanthemum sublineare* (listed as Priority 2), *Styphelia filifolia* (listed as Priority 3), *Anigozanthos humilis* subsp. *chrysanthus* (listed as Priority 4) and *Hypolaena robusta* (listed as Priority 4) by the Department of Biodiversity, Conservation and Attractions (DBCA.

Vegetation within the survey area is highly variable with current and previous pine plantations occurring throughout much of the northern half of the survey area, areas of remnant woodland vegetation occurring in the central portion of the survey area (and in association with Lake Gnangara), and highly modified vegetation occurring along the southern half of the survey area. A total of thirteen vegetation communities were mapped within the survey area. Of these, eight represent intact vegetation communities and five comprise native regrowth amongst ex-pine plantations. The intact remnant vegetation communities were associated with Lake Gnangara and a patch of remnant Banksia Woodland adjacent to Warbrook Rd in the centre of the survey area.

Vegetation condition within the survey area ranged from Excellent to Completely Degraded. Remnant Banksia Woodland comprising communities EmBaBm and MpNfAc adjacent to Warbrook Rd were primarily in Excellent condition. Vegetation in Very Good condition included communities BaBmBi, BsppEtAf, EmBaBm, EPP_ErMpNf and MpAgLs which occurred in remnant vegetation adjacent to Wirrega Rd and several other small, isolated patches of intact vegetation throughout the survey area. Areas in Good condition were mostly associated with intact vegetation around Lake Gnangara and areas of older native regrowth in ex-pine plantation. Areas in Degraded and Completely Degraded condition mostly occur in association with current and previous pine plantations and highly modified planted vegetation.

Several of the key diagnostic characteristics of the Banksia Woodlands Threatened Ecological Community (listed as Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and Priority 3 by the Department of Biodiversity, Conservation and Attractions) were met by four vegetation communities delineated and mapped within the survey area: including location and landform, floristic structure and floristic composition. All four of these communities comprised a woodland structure dominated by a mixture of *Banksia attenuata, B. menziesii* and/or *B. ilicifolia.* Most woodland vegetation mapped as representing the Banksia Woodlands TEC was considered to be in Excellent condition. In total, 36.9 hectares of Banksia Woodlands Threatened Ecological Community was recorded in the survey area.

Given the presence of Tuart trees in the survey area, an assessment against the conservation advice for the Tuart Woodlands Threatened Ecological Community (listed as Critically Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and Priority 3 by the Department of Biodiversity, Conservation and Attractions) was undertaken. Five individual patches of Tuart Woodlands vegetation were delineated in the survey area. Of these five patches, two were considered to be representative of the Tuart Woodlands TEC given their patch size and biotic condition. This included a patch of Tuarts along Ocean Reef Road in the south of the survey area, and a patch of Tuarts adjacent to Tuscan Park along Tuscan Way and Sydney Road. In total, 1.3 hectares of Tuart Woodlands Threatened Ecological Community was recorded in the survey area.

Five conservation significant ecological communities associated with Floristic Community Types defined by Gibson et al. (1994) were considered as having the potential to occur in the survey area including FCT20a, FCT21c, FCT22, FCT23b and FCT24. Determination of these Floristic Community Types is primarily dependent on statistical analysis to compare quadrats established within mapped vegetation communities in the survey area against the Gibson et al. (1994) dataset. This analysis was undertaken for quadrats established within intact native vegetation communities in the survey area.

Quadrats within communities BsppEtAf, BaBmBi and CcBaBi were found to have floristic affiliations with FCT21c 'Low lying *Banksia attenuata* woodlands or shrublands', which is considered to be a subcomponent of the Banksia Woodlands Threatened Ecological Community and is itself listed as a Priority 3 Priority Ecological Community. In addition, parts of the BsppEtAf vegetation community were also considered to have a floristic affiliation with FCT22 '*Banksia ilicifolia* woodlands' Priority Ecological Community listed as Priority 3 by the Department of Biodiversity, Conservation and Attractions (and also considered to be a subcomponent of the Banksia Woodlands Threatened Ecological Community). In total, 6.0 hectares of the FCT21c Priority Ecological Community and 0.6 hectares of the FCT22 Priority Ecological Community were mapped in the survey area.

The Basic fauna survey and black cockatoo habitat assessment were undertaken in accordance with the Environmental Protection Authority *Technical Guidance: Terrestrial vertebrate fauna surveys for environmental impact assessment* (2020) and the Department of Agriculture, Water and the Environment *Referral guideline for 3 WA threatened black cockatoo species: Carnaby's Cockatoo (Zanda latirostris), Baudin's Cockatoo (Zanda baudinii) and the Forest Red-tailed Black Cockatoo* (*Calyptorhynchus banksia naso*; 2022).

A total of 34 vertebrate fauna species (29 native and five introduced) were recorded within the survey area, consisting of 28 birds, four mammals and two reptiles. Of these, three are conservation significant fauna species, namely Carnaby's black cockatoo (listed as EN under the EPBC Act and BC Act), Forest red-tailed black cockatoo (listed as VU under the EPBC Act and BC Act) and Rainbow bee-eater (listed as Marine [M] under the BC Act). Following the field survey, a further four conservation listed fauna species were considered as having the potential to occur within the survey area.

Five introduced fauna species were recorded within the survey area, consisting of two bird species, the Laughing kookaburra and Rainbow lorikeet, and three mammals, the European rabbit, domesticated dog and Horse. The Rainbow lorikeet and European rabbit are listed as Declared Pests s22(2) under the State *Biosecurity and Agriculture Management Act 2007* and have a C3 management control category. The Laughing kookaburra, domesticated dog and Domestic horse are listed as Permitted (s-11) species in the Western Australian Organism List indicating that no specific management of these species are required.

A total of ten fauna habitat types were identified and mapped within the survey area. Fauna habitats comprised a mix of intact woodlands and shrublands, as well as previous disturbed areas including ex-pine plantation, cleared areas, rehabilitation and managed gardens and roadside tree-lines.

A targeted assessment of potential foraging, breeding, and roosting habitat for Carnaby's cockatoo (*Zanda latirostris*), Baudin's cockatoo (*Zanda baudinii*) and Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) was undertaken in the survey area. A range of foraging values for all three species of black cockatoo were recorded within the survey area. In addition, the Department of Agriculture, Water and the Environment (DAWE) 2022 scoring tool was used to determine foraging habitat quality for the three black cockatoo species and a foraging value score was assigned based on Bamford's (2020) Scoring system for the assessment of foraging value of vegetation for Black-Cockatoos. A total of that 37.7 ha of native vegetation within the survey area is considered to be High-quality foraging habitat for Carnaby's cockatoo. A total of 127.7 ha of native vegetation within the survey area

is considered to be Moderate-quality foraging habitat for Baudin's cockatoo. A total of 36.3 ha of native vegetation within the survey area is considered to be Moderate -quality foraging habitat for Forest red-tail black cockatoo.

A total of 39 potentially suitable breeding trees were recorded within the survey area, comprising 17 Flooded Gum (*Eucalyptus rudis*), 10 Marri (*Corymbia calophylla*), eight Jarrah (*Eucalyptus marginata*), three Tuart (*Eucalyptus gomphocephala*) trees and one stag. A total of three trees had a hollow rank of 3 – 'Potentially suitable hollow visible but no chew marks present at entrance', whilst the rest did not contain suitable hollows. A total of 160.2 ha (58.7% of the survey area) was mapped as potential roosting habitat for all three black cockatoo species

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1. Introduction

1.1. Project background

Western Power is proposing to build a new overhead 132kV transmission line in Perth's northern suburbs known as the 'Wangara Substation to Neerabup Terminal project' as part of the Clean Energy Link program. The new line is approximately 24 kilometres (km) in length and is planned to extend from the intersection of Wanneroo Road and Ocean Reef Road, east along Ocean Reef Road, north along Sydney Road, through the suburbs of Gnangara, Jandabup, Maringup and into Pinjar where it will join into Western Power's Neerabup Terminal electrical substation.

Several ecological surveys have been completed in recent years to support the planning stages of the project, with Eco Logical Australia (ELA) engaged by Western Power to undertake an ecological assessment for the current route option for the transmission line corridor, referred to in this document as the 'survey area', shown below in Figure 1-1.

1.2. Scope of Works

ELA has been engaged by Western Power to undertake the following works related to the survey area (273.2 ha):

- Desktop assessment to evaluate the likelihood for conservation significant flora, fauna and ecological communities to occur within the area.
- Field surveys consisting of the following:
    - Detailed flora and vegetation assessment.
    - Targeted flora assessment.
    - Basic fauna assessment.
    - Targeted black cockatoo habitat assessment.
- Production of a technical report detailing the outcomes of the desktop and survey assessments along with:
    - Index of Biodiversity Surveys for Assessments (IBSA) data package.
    - A shapefile package in the Western Power Environment Data Technical Specifications.

Figure 1-1: Location of the survey area

Survey area

N

0 0.5 1 2

Kilometers

Datum/Projection:
GDA 1994 MGA Zone 50

25PER10273-SP Date: 20/03/2026

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2. Environmental Setting

2.1. Bioregion

The Interim Biogeographic Regionalisation for Australia (IBRA) currently classifies 89 bioregions across Australia, based on a range of biotic and abiotic factors such as climate, vegetation, fauna, geology, and landform (Thackway and Cresswell 1995; Department of Agriculture, Water and the Environment [DAWE] 2012). These bioregions are further divided into 419 sub-regions representing more localised and homogenous geomorphological units in each bioregion. IBRA divides Western Australia into 26 biogeographic regions and 53 subregions based on dominant landscape characteristics of climate, lithology, geology, landform, and vegetation.

The survey area is located on the Swan Coastal Plain bioregion (SWA), and more specifically the Perth subregion (SWA02). The Swan Coastal Plain is a low-lying coastal plain, mainly covered with woodlands dominated by Banksia or Tuart on sandy soils, *Casuarina obesa* on outwash plains, and paperbark in swampy areas (Mitchell et al. 2002). The Perth subregion is underlain by colluvial and aeolian sands, alluvial river flats, and coastal limestone, with three phases of marine sand dune development providing relief. Vegetation generally comprises heath and/or Tuart woodlands on limestone, Banksia and Jarrah-Banksia woodlands on Quaternary marine dunes of various ages, and Marri on colluvial and alluvials. The coastal plain includes a complex series of seasonal wetlands.

2.2. Climate

The Perth subregion experiences a warm Mediterranean climate, with rainfall ranging between 600 and 1000 millimetres (mm) annually (Mitchell et al. 2002). This rainfall gradient is a significant factor in determining the vegetation across the subregion. Rainfall data was taken from the Bureau of Meteorology (BoM) Wanneroo weather station (station number 9105; climate data 1905 - current) (BoM 2026). Temperature data was taken from the BoM Perth Metro weather station (station number 9225; climate data 1993 - current) (BoM 2026). Based on this data, the survey area receives an average annual rainfall of 784.5 mm per year, with most of the rainfall occurring during the winter months of June, July and August (BoM 2026; Figure 2-1). Mean maximum air temperatures range from 31.7°C in February to 18.5°C in July and mean minimum air temperatures range from 18.4°C in February to 8.1°C in July (BoM 2026; Figure 2-1).

In the twelve months preceding the field survey (November 2024 to October 2025), Wanneroo weather station received a total of 793.9 mm of rainfall, which is comparable to the average annual rainfall of 784.5 mm. In total, 382.9 mm of rainfall was recorded in the three months preceding the field survey, which is significantly more than the long-term average of 253 mm for these three months.

Mean maximum and minimum air temperatures were slightly higher than average in the 12 months preceding the survey. Mean maximum air temperatures were 0.5°C warmer than average, while mean minimum air temperatures were 0.4°C warmer than average.

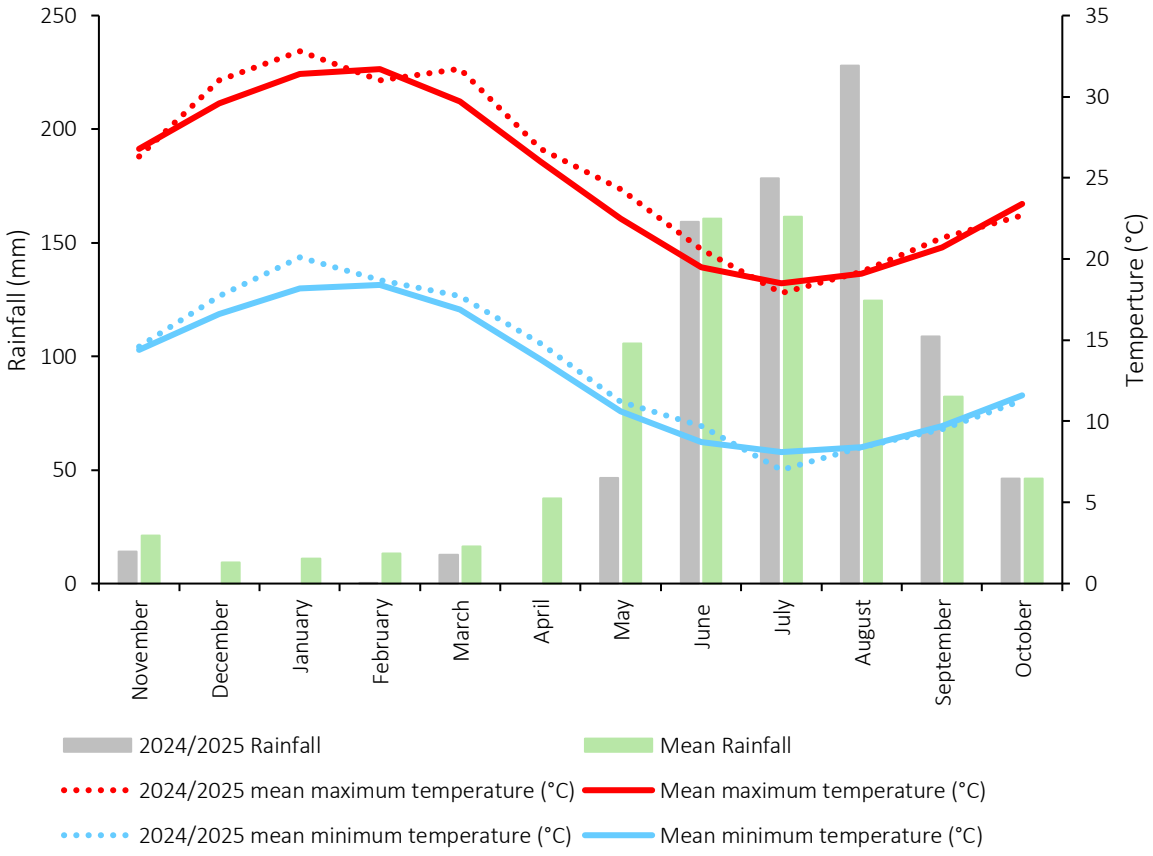

Figure 2-1: Climate data for the survey area.

*Short term (2024-2025) and long-term (1993-2025) average rainfall and temperature data from Wanneroo weather station (#9105) and Perth Metro weather station (#9225) respectively. Rainfall and temperature data 2024/2025 are from November 2024 to October 2025.

2.3. Geology, Landform and Soils

The Perth Basin, on which the Swan Coastal Plain is located, is filled by Mesozoic to recent sediments. During the Quaternary the coastal plain was formed by deposition of sediments on an underlying eroded embayment, which reaches east to the Darling Scarp (Beard 1990). Three dune systems run parallel to the present coastline and from west to east (youngest to oldest), namely the Quindalup, Spearwood, and Bassendean systems (Figure 2-2). Chains of lakes and wetlands occur in the lows between the dunes.

Soil-landscape mapping prepared by the Department of Primary Industries and Regional Development (DPIRD) provides an inventory and condition survey of lands at a 1:250,000 scale (DPIRD 2025). The survey area is located on the Spearwood Dune System and the Bassendean Dune System. The Spearwood Dune System is comprised of sand overlaying cemented coastal limestone (i.e., Tamala Limestone; Semeniuk & Glassford 1989; Figure 2-2). It is characterised by yellow deep sands, pale deep sands, and yellow/brown shallow sands that lay to the east of the Quindalup dune system (DPIRD 2025). The Bassendean Dune System consists of sand dunes and sandplains with pale deep sand that occurs on the Swan Coastal Plain from Busselton to Jurien Bay (DPIRD 2025). It is associated with Banksia and paperbark woodlands and mixed heaths (DPIRD 2025). The Karrakatta system forms part of the larger Spearwood system and comprises yellow sands and is associated with a series of lakes and swamps (DPIRD, 2025).

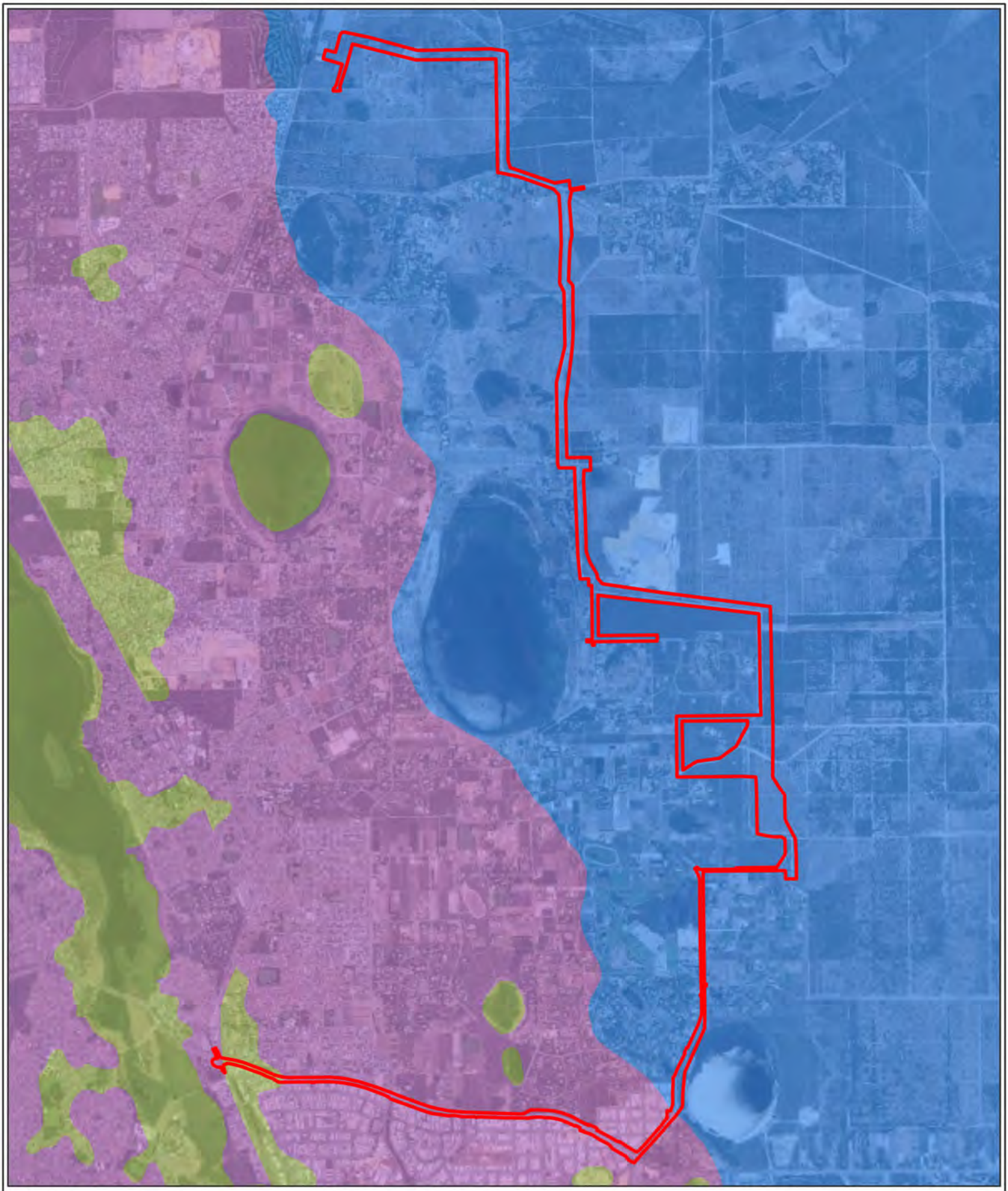

Figure 2-2: Land systems of the survey area

Survey area

Land systems (DPIRD 2025a)

- Bassendean System
- Karrakatta System
- Spearwood System

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Kilometers

Datum/Projection:
GDA 1994 MGA Zone 50

Project: 25PER10273-SP Date: 20/03/2026

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2.4. Regional Vegetation

Vegetation type and extent have been mapped at a regional scale by Beard (1979) who categorised vegetation into broad vegetation associations. Based on this mapping at a scale of 1:250,000, DPIRD has compiled a list of vegetation extent and types across Western Australia (DPIRD 2019; Shepherd et al. 2002). A total of four system vegetation associations occur within the survey area, including the Bassendean 949, Bassendean 126, Spearwood 6 and Spearwood 37 vegetation associations (DPIRD 2019; Table 1). The Bassendean 949 association has 60.83% of its pre-European extent remaining while the Bassendean 126 association has 29.49% remaining in the SWA02 subregion. The Spearwood 6 and Spearwood 37 vegetation associations have 24.41% and 24.01% of their pre-European extent remaining, respectively (Figure 2-3).

Table 1: Beard's (1979) vegetation associations of the survey area

Vegetation association	Vegetation description	Pre-European extent in SWA02 subregion (ha)	Current extent in SWA02 subregion (ha)	% Remaining in SWA02 subregion
Bassendean_949	Low woodland; banksia	114,452.81	69,621.56	60.83
Spearwood_6	Medium woodland; tuart & jarrah	54,427.13	13,287.64	24.41
Bassendean_126	Bare areas; freshwater lakes	1,441.59	425.06	29.49
Spearwood_37	Shrublands; teatree thicket	4,822.72	1,157.91	24.01

Source: Swan Coastal Plain and Region Schemes 2024 Remnant Vegetation Statistics (Department of Water and Environmental Regulation [DWER] 2025a)

Vegetation within the Perth Metropolitan area has been described by Heddle et al. (1980) as System 6 vegetation complexes. A total of five vegetation complexes intersect the survey area including Bassendean Complex – North, Pinjar Complex, Bassendean complex – North transitions, Bassendean Complex- Central and South and the Karrakatta Complex – Central and South (Department of Biodiversity, Conservation and Attractions [DBCA] 2019, Table 2).The Bassendean Complex – North has 71.67% of its Pre-European extent remaining, while the Pinjar Complex and Bassendean Complex – North Transition have 35.47% and 88.95% remaining, respectively. The Bassendean Complex – Central and South has 26.87% of its pre-European extent remaining, while the Karrakatta Complex – Central and South has a total of 23.49% remaining (Figure 2-4).

Table 2: System 6 vegetation complexes within the survey area

Vegetation complex	System 6 code	Description	Pre-European extent in Swan Coastal Plain (ha)	Current extent in Swan Coastal Plain (ha)	% remaining
Bassendean Complex – North	43	Low open forest and low woodland and sedgelands	79,057.35	56,659.67	71.67
Pinjar Complex	54	Woodland to fringing woodland	4,892.64	1,735.34	35.47
Bassendean Complex – North Transition	45	Low open forest and low woodland	20,856.54	18,552.77	88.95
Bassendean Complex-Central and South	44	Woodland to low woodland and sedgelands	87,476.26	23,508.66	26.87
Karrakatta Complex-Central and South	49	Open forest and woodland	53,080.99	12,467.20	23.49

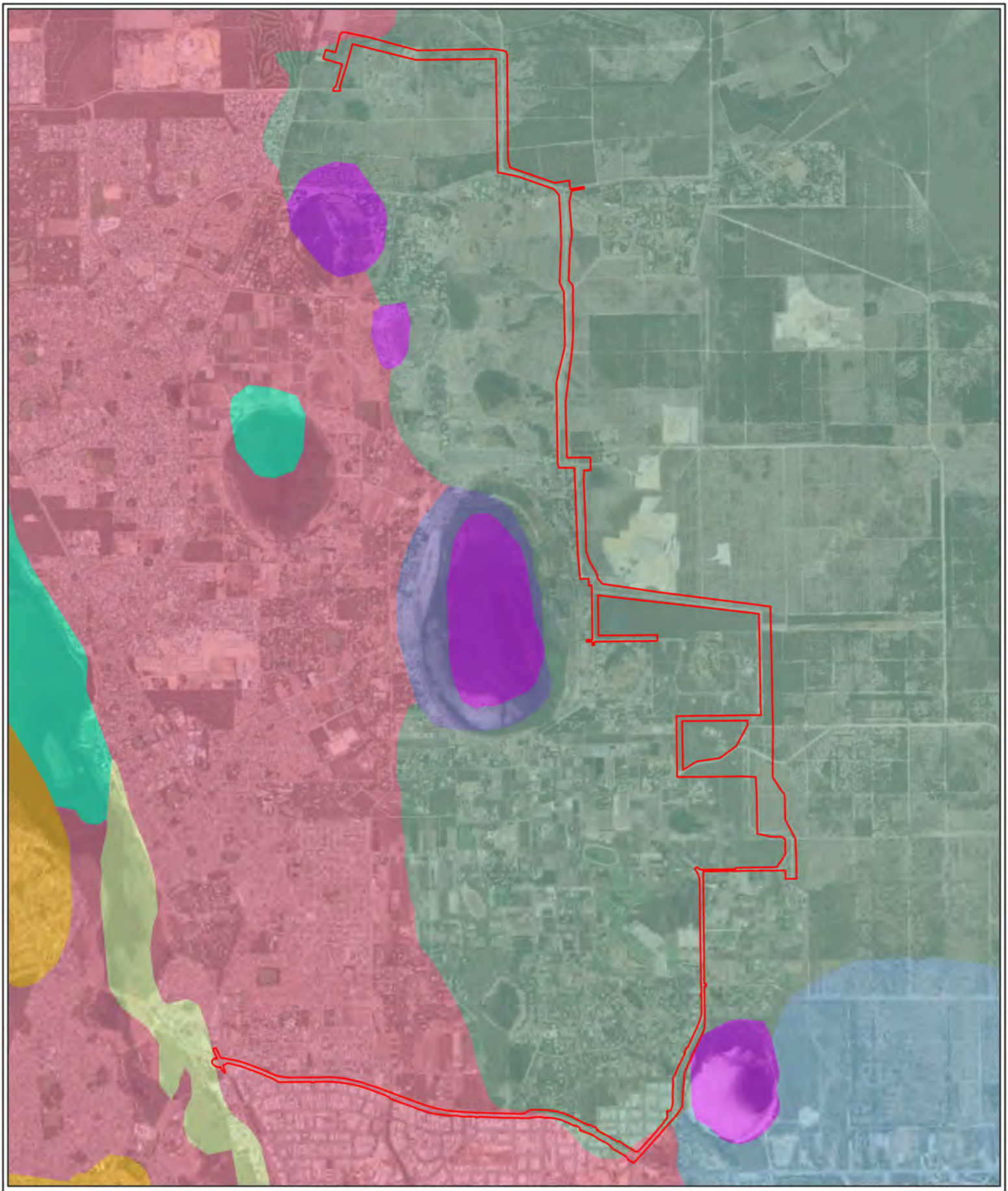

Figure 2-3: Pre-European vegetation associations of the survey area

Survey Area

Pre-European vegetation associations (Beard 1979)

- BASSENDEAN_1001
- BASSENDEAN_126
- BASSENDEAN_37
- BASSENDEAN_949
- SPEARWOOD_126
- SPEARWOOD_37
- SPEARWOOD_6
- SPEARWOOD_998

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Kilometers

Datum/Projection:
GDA 1994 MGA Zone 50

Project: 25PER10273-SP Date: 20/03/2026

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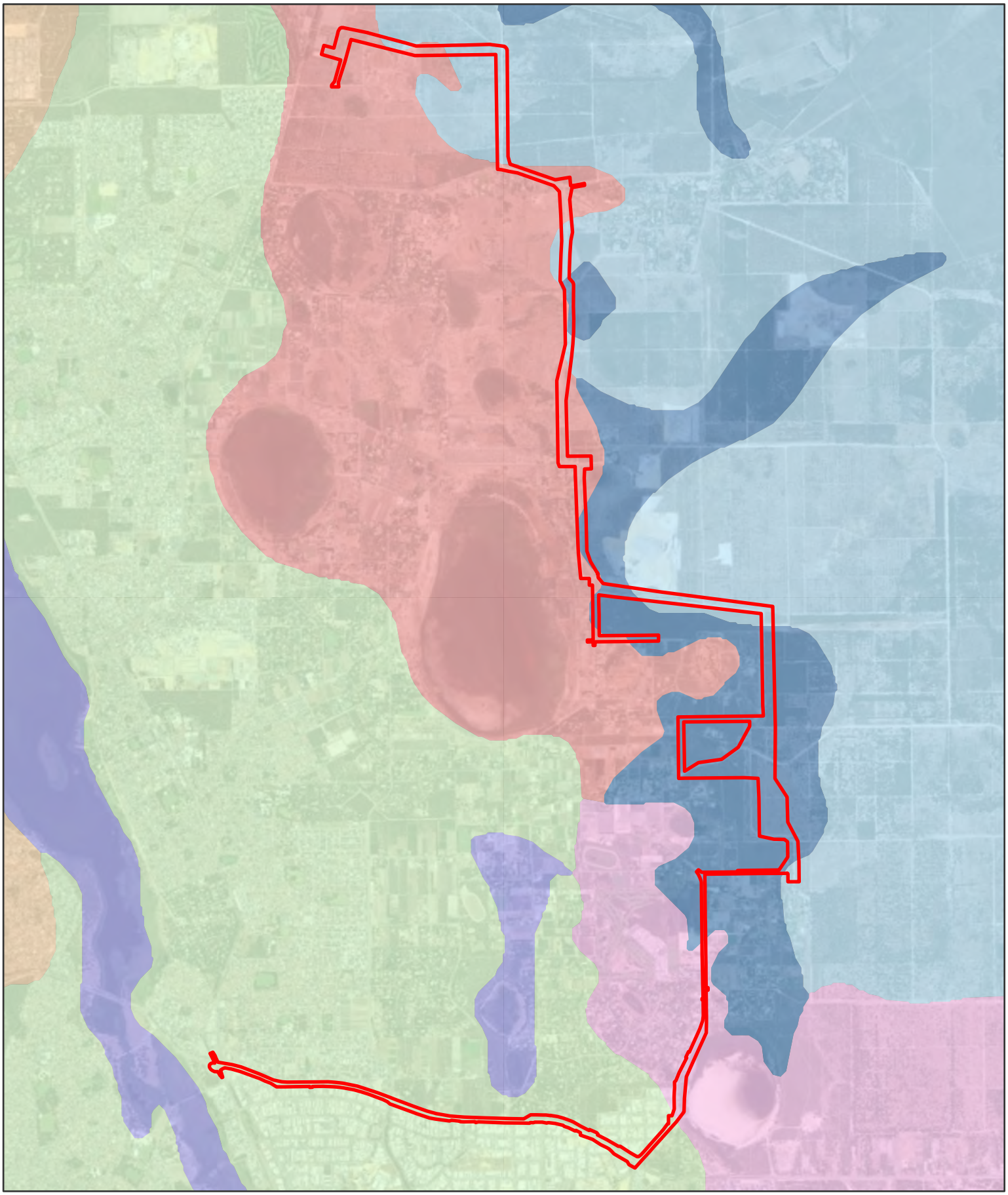

Figure 2-4: System 6 vegetation complexes of the survey area

Survey area

Vegetation complexes (Heddle et al. 1980)

- Bassendean Complex-Central and South
- Bassendean Complex-North
- Bassendean Complex-North Transition
- Cottesloe Complex-Central and South
- Herdsman Complex
- Karrakatta Complex-Central and South
- Pinjar Complex

0 0.5 1 2

Kilometers

Datum/Projection:
GDA 1994 MGA Zone 50

Project: 25PER10273-SP Date: 19/03/2026

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2.5. Hydrology

The survey area is located within the Swan Coastal basin and Swan Avon-Lower Swan catchment (DWER 2018; Figure 2-5). The Swan Coastal Catchment spans 8,464 km^2 and includes the City of Perth, with two major rivers intersecting the catchment, namely the Swan-Avon and the Canning (DWER 2024).

Several low, moderate and high potential Groundwater Dependent Ecosystems (GDEs) intersect the survey area (BoM 2019; Figure 2-5). The Gnangara Lake intersects the survey area and is a known aquatic and terrestrial GDE (BoM 2019; Figure 2-5).

Wetlands have been mapped by DBCA on the Swan Coastal Plain to be used for the purposes of land use, planning, and management. This dataset, namely the Geomorphic Wetlands of the Swan Coastal Plain, assigned a management category for each wetland (DBCA 2025b). These management categories include conservation wetlands that support a high level of attributes and functions, 'Resource Enhancement' wetlands that are partially modified but still support substantial ecological attributes and functions, and 'Multiple-Use' wetlands containing few remaining important attributes and functions.

Two Conservation category wetlands intersect the survey area – Hawkins Road Swamp and Gnangara Lake (DBCA 2025a; Figure 2-5). Two Resource Enhancement and three Multiple Use category wetlands intersect the survey area.

Approximately half of the survey area occurs on the Gnangara Underground Water Pollution Control Area – a Priority 1 Public Drinking Water Protection Area (DWER 2025).

2.6. Areas of conservation significance

Environmentally Sensitive Areas (ESAs) are defined in the Environmental Protection (Environmentally Sensitive Areas) Notice 2005 under s51b of the EP Act. ESAs include areas declared as World Heritage areas, areas included on the Register of the National Estate, defined wetlands, Bush Forever sites, vegetation containing rare (Threatened) flora, and/or Threatened Ecological Communities (TECs).

A total of four mapped ESAs intersect the survey area (DWER 2021; Figure 2-6). Two of these ESAs are associated with the Conservation category wetlands Hawkins Road Swamp and Gnangara Lake. Three Bush Forever sites intersect the survey area including Bush Forever sites 463, 193 and 326 (Department of Planning, Lands and Heritage [DPLH] 2019; Figure 2-6).

The survey area intersects the Gnangara-Moore River State Forest at several locations (DBCA 2025b, Figure 2-6). The survey area does not intersect any existing offset sites (DWER 2026).

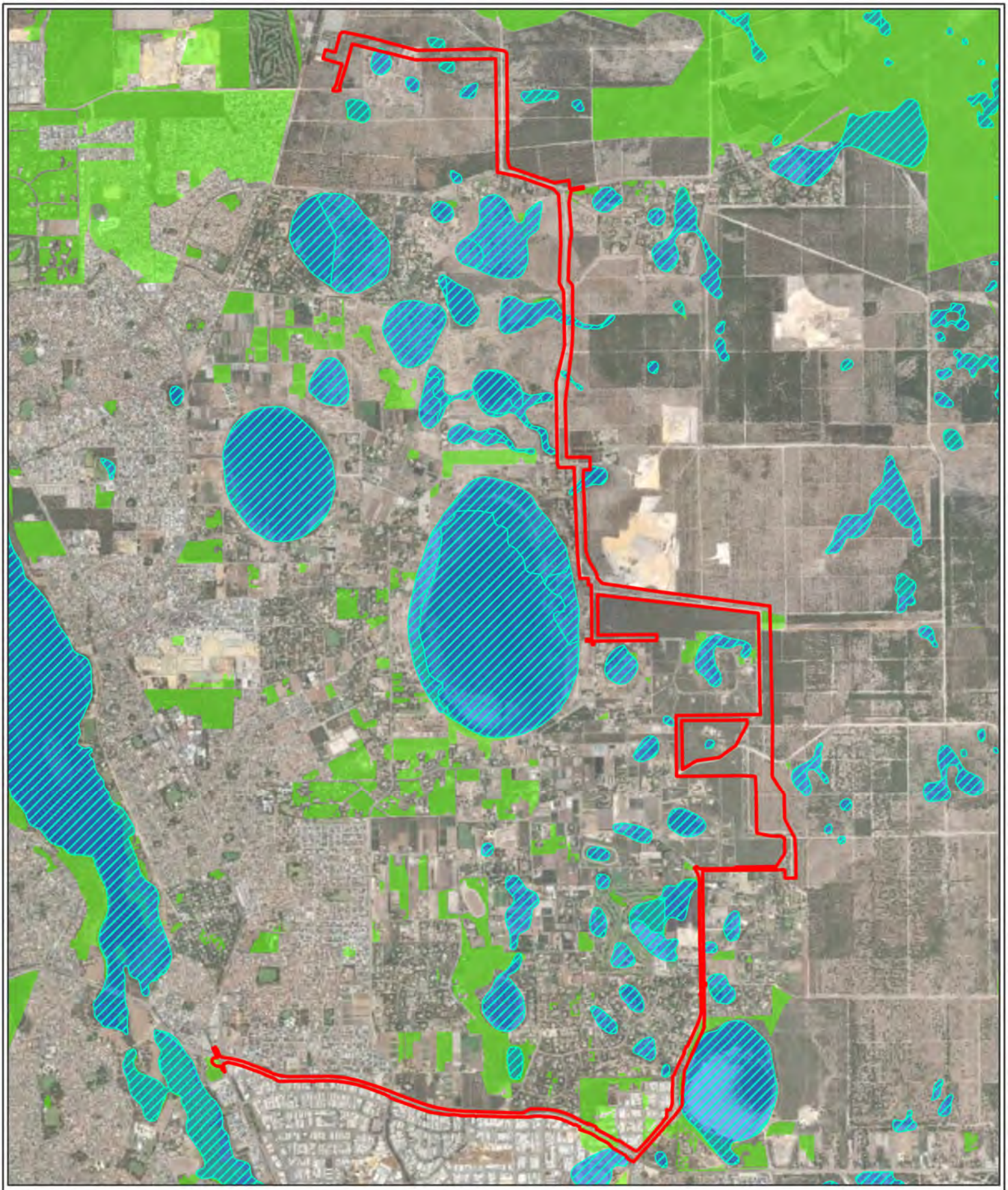

Figure 2-5: Hydrology of the survey area

Survey area

Geomorphic Wetlands of the Swan Coastal Plain

Groundwater Dependant Ecosystems (GDEs) (BoM 2019)

Aquatic GDEs

Terrestrial GDEs

0 0.5 1 2

Kilometers

Datum/Projection:
GDA 1994 MGA Zone 50

Project: 25PER10273-SP Date: 20/03/2026

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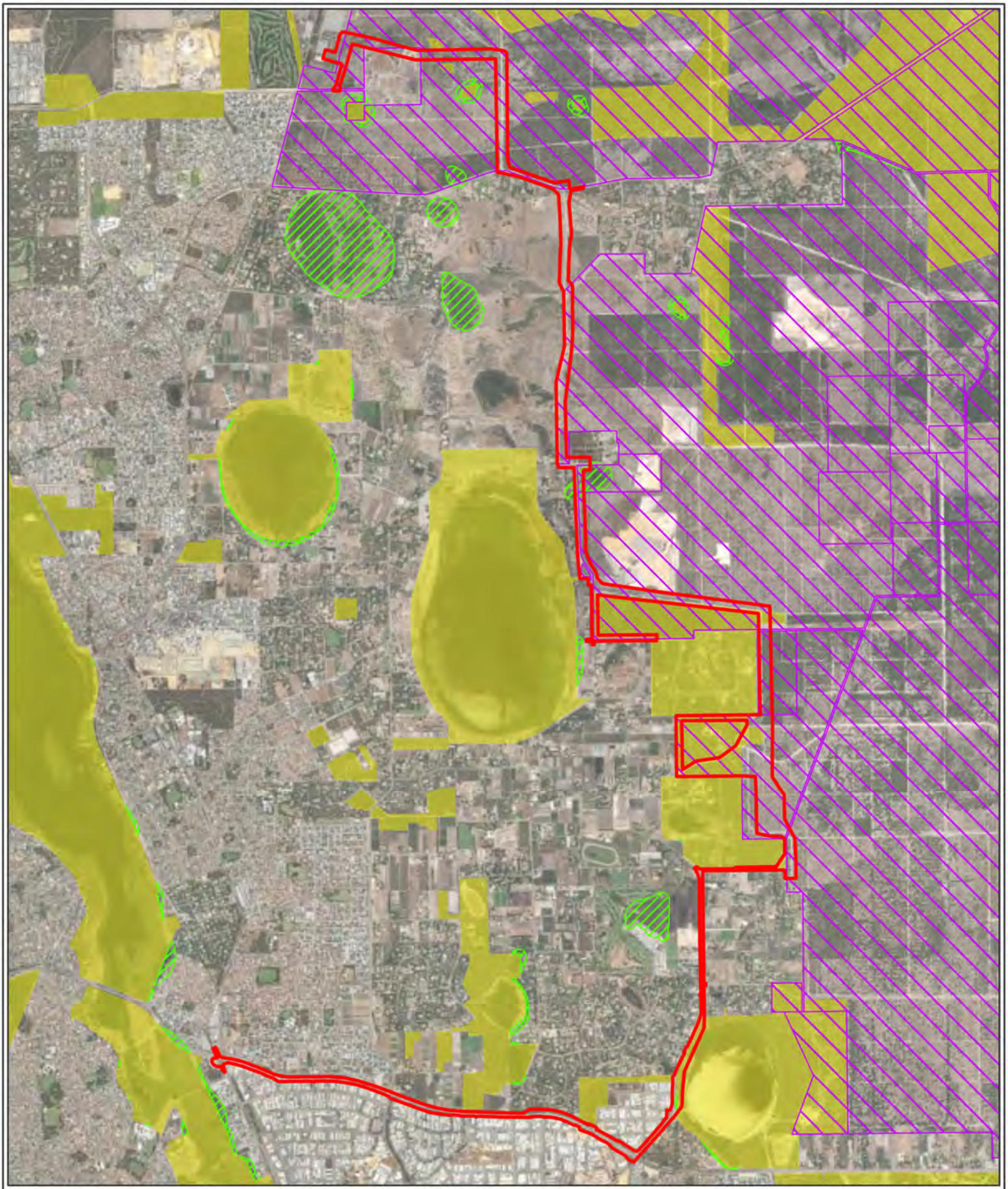

Figure 2-6: Areas of conservation significance in proximity to the survey area

Survey area

Gnangara-Moore River State Forest

Environmentally Sensitive Areas (ESAs)

Conservation Category Wetlands

Bush Forever Sites

0 0.5 1 2

Kilometers

Datum/Projection:
GDA 1994 MGA Zone 50

Project: 25PER10273-SP Date: 20/03/2026

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3. Methodology

3.1. Desktop Assessment

A desktop assessment was undertaken to determine known environmental values and conservation significant flora, vegetation, fauna or other environmental features (such as riparian areas, wetlands) relating to the survey area.

3.1.1. Database searches

The following Commonwealth and State databases were searched for information relating to conservation significant flora, fauna and ecological communities in order to inform the field survey. Applied search buffers used are considered suitable based on flora and fauna assemblages expected to occur within the survey area (Table 3). It should be noted that the buffers for the DBCA database searches are selected by DBCA on a case-by-case basis and are therefore not always consistent with other searches undertaken in the area.

Table 3: Database searches undertaken for the survey area

Database	Reference	Buffer (km)
Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Search Tool (PMST) for Matters of National Environmental Significance (MNES), including any Threated species and communities, listed under the EPBC Act	Department of Climate Change, Energy, the Environment and Water (DCCEEW) 2026	10
Atlas of Living Australia (ALA) online database for Threatened and Priority flora and fauna records and general species lists	ALA 2026	10
DBCA Threatened and Priority flora database searches for Declared Rare Flora listed under the latest WA Biodiversity Conservation (listing of native species) (flora) order and Priority Flora [ref# 30-0226FL].	DBCA 2026a	10
DBCA Threatened and Priority fauna database searches for Scheduled fauna listed under the EPBC Act or latest WA Biodiversity Conservation (listing of native species) (fauna) order and Priority Fauna [ref# 27-0226FA].	DBCA 2026b	10
DBCA Threatened and Priority Ecological Community (TEC and PEC) buffers and boundaries in WA database search [ref# 21-0226EC].	DBCA 2026c	10
Birdlife Australia (Birdlife) Black Cockatoo roosting and nesting database	Birdlife 2026	12

Additionally, Commonwealth and State government spatial datasets for land-system mapping, regional vegetation mapping, hydrology and conservation areas were reviewed, as described in Section 2. Environmental Setting.

3.1.2. Literature review

The following literature and previous survey reports relevant to the survey area were reviewed:

- ELA (2025) – *CS03734 Neerabup Dundebar Rd DN225 GS Stage 1 ecological surveys*.
- SLR Consulting Pty Ltd (SLR) (2025) – *Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys*. Neerabup terminal Transmission Corridor.
- AECOM Australia Pty Ltd (AECOM) (2024) – *Clean Energy Link Swan Coastal Plain Flora, Vegetation and Fauna Assessment*.

3.1.3. Likelihood of occurrence assessment

An assessment of the likelihood of potential conservation significant species (including Threatened and Priority flora species) and ecological communities being present within the survey area (where relevant) was carried out. The assessment is based on specific likelihood of occurrence criteria. The criteria include factors such as location of previous records in relation to the survey area, suitable landforms, soils and habitat that appear to be present based on the desktop review and aerial imagery.

Conservation codes, categories and criteria for flora and fauna protected under the EPBC Act and the State *Biodiversity Conservation Act 2016* (BC Act) are provided in Appendix A. Criteria used for this assessment are presented in Appendix B.

3.2. Field survey

3.2.1. Survey team and timing

The field survey was carried out over five days from 3 to 7 November 2025. Survey timing was consistent with the Environmental Protection Authority (EPA) recommendations for undertaking Detailed and Targeted flora and vegetation survey in the South-West and Interzone botanical province i.e., Spring (September to November; EPA 2016).

The survey team's relevant qualifications, experience and licences are provided in Table 4.

Table 4: Survey team

Personnel	Role	Licences
Jeff Cargill	Principle Ecologist; Project Director, Field Survey	Flora Taking License: FB62000138-2 Threatened Flora License: 48-1920
Daniel Brassington	Senior Botanist; Project Manager, Field Lead, Field Survey	Flora Taking License: FB62000196-3 Threatened Flora License: 2223-033
Jeni Morris	Senior Zoologist; Field Survey	Flora Taking License: FB62000070-2 Threatened Flora License: 178-2122
Maitland Ely	Ecologist; Field Survey	Flora Taking License: FB62000455-2 Threatened Flora License: 2324-0101
Riley Turnbull	Graduate Ecologist; Field Survey	Flora Taking License: FB62000682 Threatened Flora License: 2324-0162
Jessica Hubeck	Graduate Ecologist; Field Survey	Flora Taking License: FB62000878 Threatened Flora License: 2526-0067

3.2.2. Detailed flora and vegetation survey

A single season Detailed flora and vegetation survey was undertaken across the survey area in accordance with the EPA *Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016). Tasks undertaken during the flora and vegetation survey included:

- Compiling a flora species inventory (angiosperm and gymnosperm) of both native and introduced species across the survey area;
- Describing and mapping of vegetation units, including the presence of any TECs/PECs and any other areas of ecological importance (e.g., GDEs, riparian vegetation, EPBC listed Ecological Communities, Bush Forever sites, National Parks, wetlands, Environmental Protection Policy Areas, and Environmentally Sensitive Areas);

- Vegetation condition mapping, adapted from Keighery (1994), including the location of any identified Weeds of National Significance (WoNS) or Declared Pests listed under the State *Biosecurity and Agriculture Management Act 2007* (BAM Act); and
- Targeted searches for conservation-significant flora listed under the EPBC Act, BC Act or by DBCA

The survey involved the use of 10 x 10 metre (m) quadrats, as recommended for the Swan Coastal Plain bioregion (EPA 2016). Quadrats were not permanently marked. Dominant vegetation communities were described, with respect to dominant species, structure, and overall condition. Photos were taken from the north-western corner of each quadrat. Where relevant, opportunistic sampling of species not recorded within the quadrats were undertaken to supplement the existing list of species recorded from within the survey area. Any encountered WoNS or Declared Pest plants listed under the BAM Act were recorded and mapped.

A total of 48 quadrats were established within the survey area (Figure 3-1). The following data were recorded within each quadrat:

- Relevant quadrat site data, including northwest corner coordinates, a site photograph, landform, soil, geology, drainage, slope etc. and any other applicable observational data.
- Comprehensive flora species inventory.
- Vegetation structure classes, cover for all species observed in each quadrat and dominant species lists for each vegetation unit, in accordance with the National Vegetation Information System (NVIS) Level V structure and floristic.
- Vegetation condition adapted from Keighery (1994) as per the EPA Technical Guidance (2016) and aligned with previously mapped categories.
- Presence of any identified WoNS or Declared Pests listed under the BAM Act and a description of disturbances.
- Presence of conservation significant flora and vegetation listed under the EPBC Act, the State BC Act or by the DBCA.

Additionally, 21 relevés were assessed within the survey area in areas of highly modified vegetation (e.g. managed gardens, plantations; Figure 3-1). Dominant vegetation types were described, with respect to dominant species, structure, and overall condition. The following data were recorded within each relevé:

- Site details (site name, number, observer/s, date and location).
- A photograph from the centre of each relevé.
- Broad vegetation type survey based on an assessment of the dominant flora species for the three traditional strata (upper, mid and ground) and mapping extent.
- Vegetation condition in accordance with the Keighery (1994) vegetation condition scale, as provided in the EPA Technical Guidance (EPA 2016).

3.2.3. Targeted flora survey

A Targeted survey was undertaken to assess the presence of conservation significant flora and ecological communities within areas considered to be suitable habitat. Potentially occurring species, communities, and associated suitable habitat were determined during the desktop likelihood assessment. The Targeted flora survey involved personnel walking systematic transects, with spacing dependent on the

presence of suitable habitat for targeted species and communities. All encountered conservation significant flora and vegetation were recorded by taking the co-ordinates of each individual and/or centroid coordinate location for a group of individuals (>100) within a 20 m radial circumference, using a GPS. Track logs as shown in Figure 3-1 attest to the time and effort expended.

Flora species able to be identified in the field were recorded, and voucher specimens of unfamiliar species were collected for later identification. All collections were assigned a unique collecting number. For conservation-significant flora identified in the field, the following was recorded:

- A colour photograph
- GPS location
- Population size estimate
- Location of population boundaries
- Associated habitat/landscape element
- Time and date observed
- Observer details
- A voucher specimen suitable for use as a reference specimen (if appropriate to do so for conservation significant flora).

3.2.4. Flora identification and nomenclature

Flora specimen identification following the field survey was undertaken by taxonomic specialists at the Western Australian Herbarium (WAH). Suitable material that meets WAH specimen lodgement requirements, such as flowering material and range extensions, was submitted along with Threatened and Priority Report forms to DBCA, as required by conditions of collection licences issued under the BC Act. Nomenclature used for the flora species within this report follows the WA Plant Census as available on FloraBase (WAH 1998-).

3.2.5. Flora and vegetation data analysis

3.2.5.1. Flora species accumulation curve

A flora species accumulation curve was undertaken to indicate adequacy of the survey effort (Clarke & Gorley 2015). As the number of survey sites increases, and correspondingly the size of the area surveyed increases, there should be a diminishing number of new species recorded. At some point, the number of new species recorded becomes essentially asymptotic. The asymptotic value was determined using Michaelis-Menten modelling and provided an incidence-based coverage estimator of species richness. When the number of new species being recorded for survey effort expended approaches this asymptotic value, the survey effort can be considered adequate.

3.2.5.2. Vegetation communities

Plymouth Routines in Multivariate Ecological Research v7 (PRIMER) statistical analysis software was used to analyse species-by-site data and discriminate survey sites based on their species composition (Clarke & Gorley 2015). To down-weight the relative contributions of quantitatively dominant species, a square-root transformation was applied to the species percentage cover dataset. Specimens not identified to species level, singletons (species not recorded at a single quadrat and not forming a dominant structural component) and weeds were excluded from the dataset prior to analysis.

Computation of similarity matrices was based on the Bray-Curtis measure (Bray & Curtis 1957). Data were analysed using a series of multivariate analysis routines including Similarity Profile, Hierarchical Clustering, and Similarity Percentages. Results were used to inform and support interpretation of aerial photography and delineation of individual plant communities.

3.2.5.3. Floristic Community Type (FCT) analysis

Species within the Gibson et al. (1994) dataset were updated to align with current names as specified by FloraBase (WAH 1998-). Using current records, several species in the Gibson et al. (1994) dataset were shown to be significant range extensions from the Swan Coastal Plain, where appropriate such cases were removed. In addition, excluded and misapplied names were removed from the dataset and infra-specific names were reduced. Data from individual quadrats in the current survey were merged with the updated Gibson et al. (1994) dataset. Each merged dataset was analysed using a combination of pre-treatments such as the removal of taxa not identified to species level and singletons. Transformed data were analysed using a combination of multivariate analysis routines including Bray- Curtis Similarity Matrices and Cluster Analysis (single site insertion Flexible Beta.

To identify potential TECs and PECs in the survey area, ELA quadrats and vegetation communities were compared to Floristic Community Types (FCTs) defined by Gibson et al. (1994). To identify the presence of FCTs appropriate multivariate analyses comparing current data to that of Gibson et al. (1994) species by quadrat data, and inferences based on dominant species and geomorphology were used. Given the nature of the data (e.g., spatial and temporal differences), results, and subsequent extrapolations, assigned FCTs within the survey area were inferred and not absolute, i.e., a vegetation code assigned to an FCT was inferred to comprise, to varying degrees, floristic aspects of that FCT as defined by Gibson et al. (1994). These FCTs were subsequently compared with vegetation communities delineated by ELA.

3.2.5.4. Assessment of diagnostics to assess the presence of Threatened and Priority Ecological Communities

The Banksia Woodlands of the Swan Coastal Plain TEC (listed as Endangered [EN] under the EPBC Act and P3 by DBCA; herein referred to as the Banksia Woodlands TEC) has been previously mapped within the survey area based on the results of database searches (DBCA 2025e). For information to assist in referral, environmental assessment and compliance issues, it has been recommended to refer to the Listing Advice and/or Conservation Advice and Recovery Plan on the DCCEEW Species Profile and Threats Database (TSSC 2016). The Listing Advice and/or Conservation Advice defines the national ecological community and includes key diagnostic characteristics, condition thresholds and additional considerations (TSSC 2016). To determine whether the Banksia Woodlands TEC is present in the survey area key diagnostic characteristics must be met under Section 2 of the Conservation Advice (TSSC 2016). The assessment identified by Department of Environment and Energy (DoEE) to ascertain the presence of the Banksia Woodlands TEC within the site was undertaken by ELA following the field survey.

In addition to the Banksia Woodlands TEC, the Tuart (*Eucalyptus gomphocephala*) Woodlands and Forests of the Swan Coastal Plain (Tuart Woodlands TEC; listed as CR under the EPBC Act and Priority (P) 3 by DBCA) was identified as having the potential to occur in the survey area. To determine whether the Tuart Woodlands TEC is present in the survey area, key diagnostic characteristics must be met under Section 3.2 of the Conservation Advice (DoEE 2019). The assessment identified by DoEE to ascertain the presence of the Tuart Woodlands TEC within the site was undertaken by ELA following the field survey.

An analysis against FCTs defined by Gibson et al. (1994), as well as other factors such as location, vegetation structure, landform and soils were used to determine the presence of conservation

significant ecological communities defined by FCTs. Including the following five communities identified as having the potential to occur in the survey area based on the pre-survey likelihood of occurrence assessment:

- *Banksia attenuata* woodlands over species rich dense shrublands (floristic community type 20a as originally described in Gibson et al. 1994; FCT20a TEC; EN under EPBC Act and Critically Endangered [CR] under BC Act)
- SCP21c - Low lying *Banksia attenuata* woodlands or shrublands (FCT21c PEC; P3 by DBCA)
- SCP22 - *Banksia ilicifolia* woodlands (FCT22 PEC; P3 by DBCA)
- SCP23b - Swan Coastal Plain *Banksia attenuata* - *Banksia menziesii* woodlands (FCT23b PEC; P3 by DBCA)
- SCP24 - Northern Spearwood shrublands and woodlands (FCT24 PEC; P3 by DBCA)

Determination of the presence of the FCT20a TEC and FCT21c, FCT22, FCT23b and FCT24 PECs is primarily dependent on statistical analysis to compare quadrats established within mapped vegetation communities against floristic community types listed in Gibson et al. (1994). Statistical analysis was undertaken by ELA post-survey to determine the presence of any of these communities (further detail in 3.2.5.3). In addition to statistical analysis, community floristic descriptions, common taxa present within communities, and landform descriptions detailed in the *Methods for survey and identification of Western Australia Threatened Ecological Communities* was reviewed (DBCA 2023). Furthermore, each community has a listed fact sheet to provide information on community structure, extent, and association with landforms. These fact sheets were also reviewed when determining the presence of these communities in the survey area.

3.2.6. Basic fauna survey

A Basic fauna survey was conducted in accordance with the EPA *Technical Guidance: Terrestrial vertebrate fauna surveys for environmental impact assessment* (EPA 2020). The survey involved personnel walking transects through the survey area, delineating and mapping fauna habitats, and recording opportunistic sightings of fauna (Figure 3-1).

Fauna habitats were assessed for their ability to support and sustain populations of fauna, along with an assessment of the likelihood of occurrence of conservation significant fauna species. The habitat characteristics and fauna database records used in assessing likelihood of occurrence for fauna included:

- Vegetation community, structure, and condition.
- Soil and landform type.
- Extent and connectivity of bushland.
- Fauna species habitat preferences.
- Proximity of conservation significant fauna records.
- Signs of species presence.

Opportunistic records of fauna species were made at all times during the field survey. These included visual sightings of active fauna, records of bird calls, and secondary evidence of species presence such as tracks, diggings, burrows, scats, and other signs of fauna activity.

Nomenclature used for the vertebrate fauna species within this report follows the Western Australian Museum (WAM) Checklist of the Vertebrates of Western Australia (WAM 2025).

3.2.7. Targeted black cockatoo habitat assessment

A Targeted black cockatoo habitat assessment was conducted in accordance with the *Referral guideline for 3 WA threatened black cockatoo species: Carnaby's Cockatoo, Baudin's Cockatoo, and the Forest Red-tailed Black cockatoo* (DAWE 2022). Consideration was also given to the *Survey guidelines for Australia's threatened birds* (DEWHA 2010) when designing the survey methodology.

Three species of black cockatoo occur in the south-west of Western Australia:

- Baudin's Cockatoo (*Zanda baudinii*; listed as EN under the EPBC Act and BC Act).
- Carnaby's Cockatoo (*Zanda latirostris*; listed as EN under the EPBC Act and BC Act).
- Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*; listed as Vulnerable [VU] under the EPBC Act and BC Act).

Broad scale maps are available for the modelled distribution of all three species of black cockatoo (DAWE 2022). The survey area occurs within the non-breeding range of Carnaby's cockatoo, within the 'likely to occur' range of the Forest red-tailed black cockatoo and is outside of the predicted range of the Baudin's cockatoo. Previous records of all three black cockatoo species occur within 12 km of the survey area. As such, a Targeted black cockatoo habitat assessment was undertaken for all three species. Any individuals of black cockatoo species observed in the survey area were recorded, including the number of individuals.

The Targeted survey involved personnel walking transects across the survey area and mapping black cockatoo habitat. Black Cockatoo habitat is conventionally separated into foraging, potential breeding, and potential night roosting categories, as defined in Appendix C**.** Foraging, potential breeding and potential roosting habitat was assessed within the survey area. The field methodology for each of these is defined below.

3.2.7.1. Foraging habitat

Foraging habitat is defined for each species of black cockatoo in Appendix C. The foraging value (i.e., quality) of vegetation to black cockatoos depends upon several factors including the foraging plant species present, the extent and density (including projected foliage cover) of those foraging species, and the overall structure and condition of foraging species present. In addition, connectivity, proximity to known breeding and roosting sites, and the presence of weeds and/or tree deaths (i.e. disease or drought) is also to be considered.

Fauna habitat delineated and mapped within the survey area was assigned a foraging quality (i.e. negligible to low, low to moderate, moderate, moderate to high, or high) based on the criteria outlined in Appendix D. In addition, a foraging value score was assigned based on Bamford's (2020) Scoring system for the assessment of foraging value of vegetation for Black-Cockatoos. The foraging value score provides a numerical value that reflects the significance of vegetation as foraging habitat for Black-Cockatoos and is based on a number of factors including site condition, site context and species stocking rate. The DAWE (2022) foraging quality scoring tool will also be used to calculate a foraging score for the survey area.

Evidence of black cockatoo foraging (i.e. branch clippings and/or chewed fruit) was also searched for to identify if the vegetation within the survey area has previously been or is currently being used by black cockatoos for feeding.

3.2.7.2. Potential breeding habitat

Potential breeding habitat is defined in Appendix C. The Diameter at Breast Height (DBH) were recorded in the following ranges:

- Small; approximately 500-600 mm (or 300-600 mm in the case of Wandoo [Eucalyptus wandoo])
- Medium; between 600 and 1000 mm
- Large; over 1000 mm.

All potential nesting trees encountered within the survey area were recorded with a differential GPS (<1 m accuracy). Each potential nesting tree was also visually assessed from the ground (i.e., with binoculars) for the presence of suitable nest hollows (defined in Appendix C) and allocated a nesting and/or hollow rank (Table 5). Where appropriate, suitable hollows were assessed using a pole-mounted camera to gain further information on hollow dimensions and occupancy.

Table 5: Potential breeding tree nest and/or hollow ranking

Rank	Description of tree nests and/or hollows
1	Activity at hollow observed; adult (or immature) bird seen entering or emerging from hollow. Can also be used for a known nest tree active in the previous 12 months (although this should be noted in the description). Note that activity at a hollow does not absolutely mean that breeding is occurring unless a young bird in hollow is observed.
2	Hollow of suitable size[1] visible with chew marks around entrance. Record if chew-marks are recent or old.
3	Potentially suitable hollow visible but no chew marks present at entrance; or potentially suitable hollow suspected to be present - as suggested by structure of tree, such as large, vertical trunk broken off at a height of >8m; but note that hollow height is contextual. Carnaby's Black-Cockatoo will nest in hollows
4	Tree with large hollows or broken branches that might contain large hollows, but hollows or potential hollows (nest chamber) 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. Trees with low but otherwise suitable hollows can also be assigned a rank or 4, depending on the species of black cockatoo likely to be present.
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.

[1]ELA takes a precautionary approach and identifies potentially suitable hollows as those with an entrance diameter over 10 centimetres (cm) that could potentially accommodate black cockatoos, which requires a diameter opening range of 12-41 cm.

3.2.7.3. Potential roosting habitat

Potential night roosting habitat is defined in Appendix C. Potential night roosting habitat was delineated by mapping tall trees within close proximity to water (i.e., within 12 km). Due to the nature of vegetation and the large number of tall trees, roosting habitat was mapped as a polygon within the survey area.

3.3. Limitations

The EPA Technical Guidance documents (EPA 2016; EPA 2020) recommend including a discussion of the constraints and limitations of the survey methods used. An assessment of potential constraints and limitations of this survey are summarised in Table 6. No potential constraints were identified.

Table 6: Survey limitations

Constraint	Limitations
Sources of information and availability of contextual information (i.e., pre-existing background versus new material).	**Not a limitation**. The Swan Coastal Plain has been very well surveyed, with increasing survey work occurring due to the ongoing urban development of the Perth metropolitan area. Several flora and fauna surveys have been undertaken in the survey area which have been utilised for the purpose of

Constraint	Limitations
	this survey. Previous recent surveys that overlap the survey area includes surveys completed by AECOM (2024) and SLR (2025). Gibson *et al*. (1994) was a primary source for determination of methods, analysis, and results for assessing FCTS. Broad-scale vegetation mapping at scales of 1:1,000,000 and 1:250,000 was available. Land-system mapping at a scale of 1:2,000,000 and soil and landform mapping was available. The information which was available was sufficient and, as such, sources of information were not considered to be a limitation.
Scope (i.e., what life forms, etc., were sampled).	**Not a limitation**. The survey requirement of a Detailed and Targeted flora and vegetation survey, a Basic fauna survey and Targeted black cockatoo survey in accordance with relevant State and Commonwealth legislation and EPA guidance was adequately met.
Proportion of flora collected and identified (based on sampling, timing and intensity).	**Not a limitation**. Adequacy of sampling effort was tested via a species accumulation curve; approximately 89.5% of the flora potentially present within the quadrats in the survey area was recorded. The urban location and stochastic occurrence of weeds (singletons) within quadrats likely had an influence on the number of taxa recorded. This fact, as well as the 32 additional taxa recorded via relevés, and opportunistic collections indicates that the majority of flora species potentially present within the survey area were recorded. As such, sample effort was considered acceptable.
Completeness and further work which might be needed (i.e., was the relevant survey area fully surveyed).	**Not a limitation**. The survey area was fully covered to meet requirements outlined in the scope of works. Site selection and replication was considered adequate to accurately analyse and discriminate sites based on species composition and subsequently delineate vegetation community boundaries.
Mapping reliability.	**Not a limitation**. Coverage of the survey area was considered to be very good. High quality aerial images were used for both the survey and subsequent vegetation mapping.
Timing, weather, season, cycle.	**Not a limitation**. The survey was undertaken in the appropriate season, i.e., Spring, as specified by the EPA Technical Guidance (EPA 2016; 2020).
Disturbances (fire, flood, accidental human intervention, etc.).	**Not a limitation**. Disturbances within the survey area included weeds, tracks, nearby housing, and roadsides. These disturbances did not negatively impact the ability to meet objectives outlined in the scope of works.
Intensity (in retrospect, was the intensity adequate).	**Not a limitation**. The survey effort was adequately met. The area was searched for conservation significant flora and fauna species by field staff undertaking transects spaced adequately apart across the survey area. This method provides an accurate assessment of habitat characteristics and likelihood of conservation significant species. The number of quadrats and relevés established was sufficient to determine the vegetation communities and types present (including their structurally and compositionally dominant species), and to identify any vegetation of conservation significance.
Resources (i.e., were there adequate resources to complete the survey to the required standard).	**Not a limitation**. The number of personnel conducting this field survey in the given time was adequate to undertake the required level of survey. Additional resources, including equipment available, additional support, and personnel were adequate.
Access problems (i.e., ability to access survey area).	**Potential limitation**. Majority of the survey area was able to be accessed. However, a very small section of the survey area was inaccessible due to a private fenceline. This small area was ex. pine plantation and therefore was not considered to be a limitation for the survey.
Experience levels (e.g., degree of expertise in plant identification to taxon level).	**Not a limitation**. All personnel conducting this field survey were suitably qualified to identify specimens, having previously undertaken flora and fauna surveys in the South West of Western Australia.

The black cockatoo habitat assessment was undertaken in accordance with the Referral guidelines (DAWE 2022). The requirements of DAWE (2022) and detail regarding how the survey meets these requirements is summarised in .

Table 7. All requirements are considered to have been met.

Table 7: Summary of survey compliance with black cockatoo referral guidelines

Referral guideline recommendation	Compliant	Justification
Surveys should be done by a suitably qualified person with experience in vegetation or cockatoo surveys, depending on the type of survey being undertaken.	Yes	The zoologist undertaking the Black Cockatoo habitat assessment, Jeni Morris, has over nine years' experience conducting habitat assessments for black cockatoos.
Survey should maximise the chance of detecting the species habitat and/or signs of use.	Yes	The survey was undertaken in Spring (i.e., November) which aligns with the DCCEEW recommendations for undertaking surveys for black cockatoos on the Swan Coastal Plain (i.e., foraging habitat and night-roosts – any time of the year; DAWE 2022).
Survey should determine the context of the site within the broader landscape – for example, the amount and quality of habitat nearby and in the local region (i.e., within 10 km).	Yes	The content of the habitat available within the survey area has been considered at a broader level and is discussed further below.
Survey should account for uncertainty and error (false presence and absences).	N/A	This recommendation refers to individual bird counts where presence/absence data is collected and is not applicable to this type of habitat assessment.
Survey should include collation of existing data on known locations of breeding and feeding birds and night roost locations.	Yes	Data have been obtained from DBCA Threatened fauna database search (DBCA 2026b).
Survey should assess the extent, type, and quality of vegetation present including the presence and extent of plants known to be used by black cockatoos.	Yes	Foraging habitat was delineated and mapped in the field and a list of vegetation present has been complied (refer to Section 4.2).
In potential breeding habitat, measurements of the diameter at breast height of trees in the patch of woodland/forest must be made to determine whether the habitat meets the definition of 'breeding habitat'.	Yes	Potential breeding trees are defined as trees of suitable species with a DBH over 50 cm. Trees were measured for DBH in the field, and where the DBH was over 50 cm, these trees were recorded, and signs of use/hollows were observed (refer to Sections below).
Search for signs of use by black cockatoos (e.g. suitable nest hollows, feeding signs or feeding debris, and sighting records).	Yes	The field survey involved walking transects through areas searching for feeding signs. In addition, where hollows were observed, chew marks and other signs of use were searched for using binoculars.

Figure 3-1: Survey effort (part 1 of 2)

Survey area
GPS Tracks
Quadrat
Releve

0 0.25 0.5 1
Kilometers

Datum/Projection:
GDA 1994 MGA Zone 50

Project: 25PER10273-SP Date: 20/03/2026

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Figure 3-1: Survey effort (part 2 of 2)

Survey area
GPS Tracks
Quadrat
Releve

0 0.25 0.5 1
Kilometers

Datum/Projection:
GDA 1994 MGA Zone 50
Project: 25PER10273-SP Date: 20/03/2026

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4. Results

4.1. Desktop Assessment

A PMST search was undertaken to identify conservation-significant flora, fauna and ecological communities recorded within or in proximity to the survey area (DCCEEW 2026; Appendix E). Furthermore, a review of DBCA databases for Threatened and Priority listed flora, fauna, and ecological communities was also completed (DBCA 2026c, DBCA 2026d, DBCA 2026e). The locations of conservation significant flora, fauna, and ecological communities within and in proximity to the survey area are presented in Figure 4-1, Figure 4-2, and Figure 4-3 respectively. In addition, two recently completed surveys by SLR (SLR 2025) and AECOM (AECOM 2024) that overlap with the survey area were also reviewed to identify potential threatened and priority flora, fauna, and ecological communities (Table 8).

Table 8: Threatened and Priority species recorded from previous recent surveys completed that overlap with the survey area

Survey completed	Year the survey was completed	Threatened and Priority fauna recorded	Threatened and Priority flora recorded	Threatened and Priority ecological communities recorded
Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys. Neerabup Terminal Transmission Corridor. Prepared by SLR.	2025	Three species recorded: Namely: ○ Quenda (*Isoodon fusciventer*), Priority 4 ○ Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*), Vulnerable under EPBC Act and BC Act ○ Carnaby's Cockatoo (*Calyptorhynchus latirostris*), Endangered under EPBC Act and BC Act	One opportunistic species was recorded adjacent to survey area. Namely: ○ *Grevillea olivacea* (Priority 4)	Two vegetation types were assessed as having the potential to represent TEC/PEC's including: ○ Banksia woodlands of the Swan Coastal Plain TEC ○ Low lying *Banksia attenuata* woodlands or shrublands ('floristic community type 21c') (Endangered *Banksia* Woodlands of the Swan Coastal Plain EPBC listed TEC).
Clean Energy Link Swan Coastal Plain Flora, Vegetation and Fauna. Prepared by AECOM	2024	Three species recorded: Namely: ○ Quenda (*Isoodon fusciventer*), Priority 4 ○ Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*), Vulnerable under EPBC Act and BC Act ○ Carnaby's Cockatoo (*Calyptorhynchus latirostris*), Endangered under EPBC Act and BC Act	One confirmed species recorded. Namely: ○ *Jacksonia sericea* (Priority 4) It was noted that one specimen had similarities to. *Calectasia elegans* (Critically Endangered under EPBC Act and BC Act) but could not be positively confirmed/identified.	Two TECs were recorded. Namely: ○ *Banksia* Woodlands of the Swan Coastal Plain ○ Tuart (*Eucalyptus gomphocephala*) Woodlands and Forests of the Swan Coastal Plain Two PECs were recorded. Namely: ○ Priority 3 *Banksia* Dominated Woodlands of the Swan Coastal Plain ○ -FCT 21c Low-lying *Banksia attenuata* Woodland or Shrublands

4.1.1. Conservation significant flora

Conservation significant flora species previously recorded within and in proximity to the survey area are presented in Figure 4-1 (DBCA 2025c, DCCEEW 2025a). The pre-survey flora likelihood of occurrence assessment is provided in Appendix F. In total, 81 conservation significant flora species were identified from the desktop assessment. No previous records of conservation significant flora were identified within the survey area. Of the 81 flora species, one was considered likely to occur within the survey area prior to the survey and 27 were considered as having the potential to occur within the survey area (Figure 4-1; Table 9). These species are detailed in Appendix F.

The remaining 53 conservation significant flora species were considered as unlikely to occur or 'does not occur' within the survey area.

Table 9. Conservation significant flora considered to have the potential to occur in the survey area prior to the survey

Taxon	EPBC	WA Status	Pre-survey
Calectasia elegans	CR	CR	Potential
Caladenia huegelii	EN	CR	Potential
Drakaea elastica	EN	CR	Potential
Macarthuria keigheryi	EN	EN	Potential
Drakaea micrantha	VU	EN	Potential
Baeckea sp. *Limestone (N. Gibson & M.N. Lyons 1425)*		1	Potential
Drosera patens		1	Potential
Drosera x *sidjamesii*		1	Potential
Stachystemon exilis		1	Potential
Millotia tenuifolia var. *laevis*		2	Potential
Netrostylis sp. *Chandala (G.J. Keighery 17055)*		2	Potential
Poranthera moorokatta		2	Potential
Stenanthemum sublineare		2	Potential
Cyathochaeta teretifolia		3	Potential
Dampiera triloba		3	Potential
Phlebocarya pilosissima subsp. *pilosissima*		3	Potential
Sarcozona bicarinata		3	Potential
Stylidium maritimum		3	Potential
Stylidium paludicola		3	Potential
Styphelia filifolia		3	Potential
Anigozanthos humilis subsp. *chrysanthus*		4	Potential
Eucalyptus foecunda subsp. *foecunda*		4	Potential
Hypolaena robusta		4	Potential
Jacksonia sericea		4	Likely
Schoenus griffinianus		4	Potential
Stylidium longitubum		4	Potential
Stylidium striatum		4	Potential
Verticordia lindleyi subsp. *lindleyi*		4	Potential

4.1.2. Conservation significant fauna

Conservation significant fauna species previously recorded within and in proximity to the survey area are presented in Figure 4-2 (DBCA 2026b, DCCEEW 2026). The pre-survey fauna likelihood of occurrence is provided in Appendix G. Marine mammals and reptiles (e.g., whales) were not considered in the likelihood of occurrence assessment as the survey area does not contain core habitat that these species solely rely on for survival.

A total of 90 conservation significant fauna species were identified from the desktop assessment. Previous records of four conservation significant fauna species occur within the survey area, namely Carnaby's cockatoo (*Zanda latirostris*; listed as EN under EPBC and BC Act), Red-necked stint (*Calidris ruficollis*; listed as MI under EPBC and BC Act), Black-striped snake (*Neelaps calonotos*; listed as P3 by DBCA) and Quenda (*Isoodon fusciventer*; listed as P4 by DBCA; DBCA 2026b).

Of the 90 conservation significant fauna species identified, three were considered as being likely to occur within the survey area prior to the survey, including:

- *Zanda latirostris* (Carnaby's Black Cockatoo; listed as EN under EPBC and BC Act)
- *Calyptorhynchus banksii naso* (Forest Red-tailed Black-Cockatoo; listed as VU under EPBC and BC Act)
- *Isoodon fusciventer* (Quenda, listed as P4 by DBCA).

This assessment was based on the likely presence of suitable habitat within the survey area and the close proximity of previous records. The records of Black-striped snake within the survey area are historical (from 1976) and as such was downgraded as having the Potential to occur. Based on aerial imagery, habitat for the Red-necked stint is unlikely to be available, as such this species was considered as being unlikely to occur. An additional four species were considered as having potential to occur in the survey area, based on the potential presence of suitable habitat and nearby records. The remaining 83 species were considered unlikely to occur or 'does not occur' within the survey area. These are detailed further in Appendix G.

4.1.2.1. Black Cockatoo nesting and records

A total of 1,496 records of Black Cockatoos were identified within 12 km of the survey area as part of the desktop assessment. This included 1,431 records of Carnaby's cockatoo, 11 records of Baudin's cockatoo, 12 records of white-tailed black cockatoo (not differentiated between Carnaby's and Baudin's cockatoo), and 42 records of Forest red-tailed black cockatoo (DBCA 2026b). A total of 16 confirmed white-tailed (Carnaby's and/or Baudin's) roosts, four Forest Red-tailed roosts, and ten joint (white-tailed and forest red-tailed) roost occur within 12 km of the survey area (Birdlife 2026; Figure 4-4). An additional 16 unconfirmed roosts and four cleared roosts also occur within 12 km of the survey area. The closest known roost occurs approximately 30 m west of the survey area (confirmed white-tail roost; WANGNAR003; Figure 4-4). There is one instance of confirmed breeding of a Carnaby's cockatoo in a natural hollow and 12 instances of Carnaby's cockatoo in artificial hollows within 12 km of the survey area, with the last recorded use of these hollows being in 2019 and 2024, respectively (Birdlife 2026).

4.1.3. Conservation significant ecological communities

Conservation significant ecological communities previously recorded within and in proximity to the survey area are presented in Figure 4-3 (DBCA 2025e, DCCEEW 2025a). The pre-survey ecological communities likelihood of occurrence assessment is provided in Appendix H. A total of 17 conservation significant ecological communities were identified during the desktop assessment (Figure 4-3).

One conservation significant ecological community has previously been mapped within the survey area by DBCA, namely:

- Banksia Woodlands of the Swan Coastal Plain ecological community (listed as EN under the EPBC Act and as P3 by DBCA) (DBCA 2025e).

A further six communities were considered as having the potential to occur within the survey area, including:

- Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain (listed as CR under the EPBC Act and P3 by DBCA)
- *Banksia attenuata* woodlands over species rich dense shrublands (floristic community type 20a as originally described in Gibson et al. 1994) (listed as CR under the EPBC Act and BC Act)
- SCP21c - Low lying *Banksia attenuata* woodlands or shrublands (listed as P3 by DBCA)
- SCP22 - *Banksia ilicifolia* woodlands (listed as P3 by DBCA)
- SCP23b - Swan Coastal Plain *Banksia attenuata* - *Banksia menziesii* woodlands (listed as P3 by DBCA)
- SCP24 - Northern Spearwood shrublands and woodlands (listed as P3 by DBCA)

The ten remaining communities identified during the desktop assessment were considered unlikely to occur within the survey area prior to the survey.

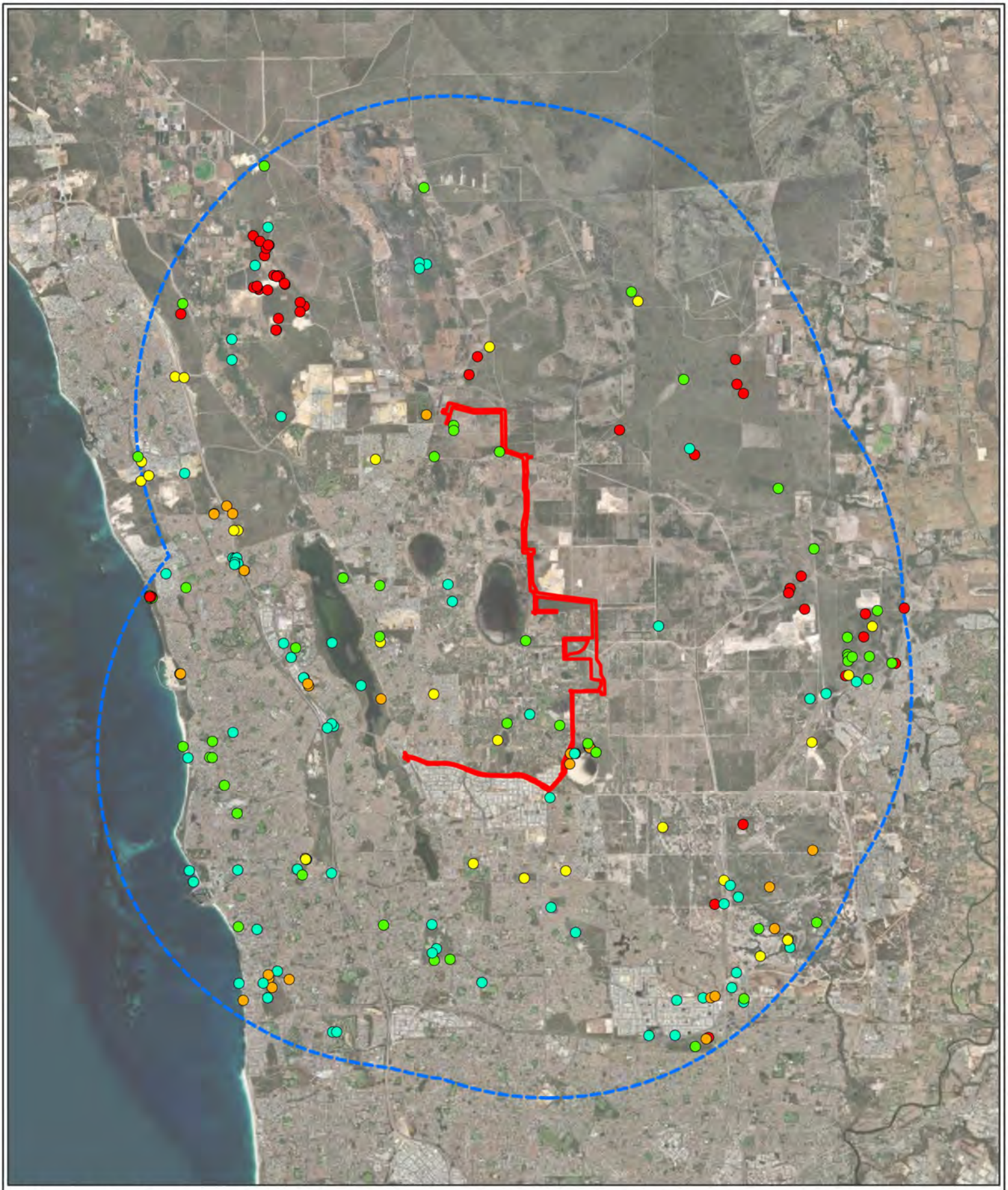

Figure 4-1: Conservation significant flora previously recorded in the vicinity of the survey area

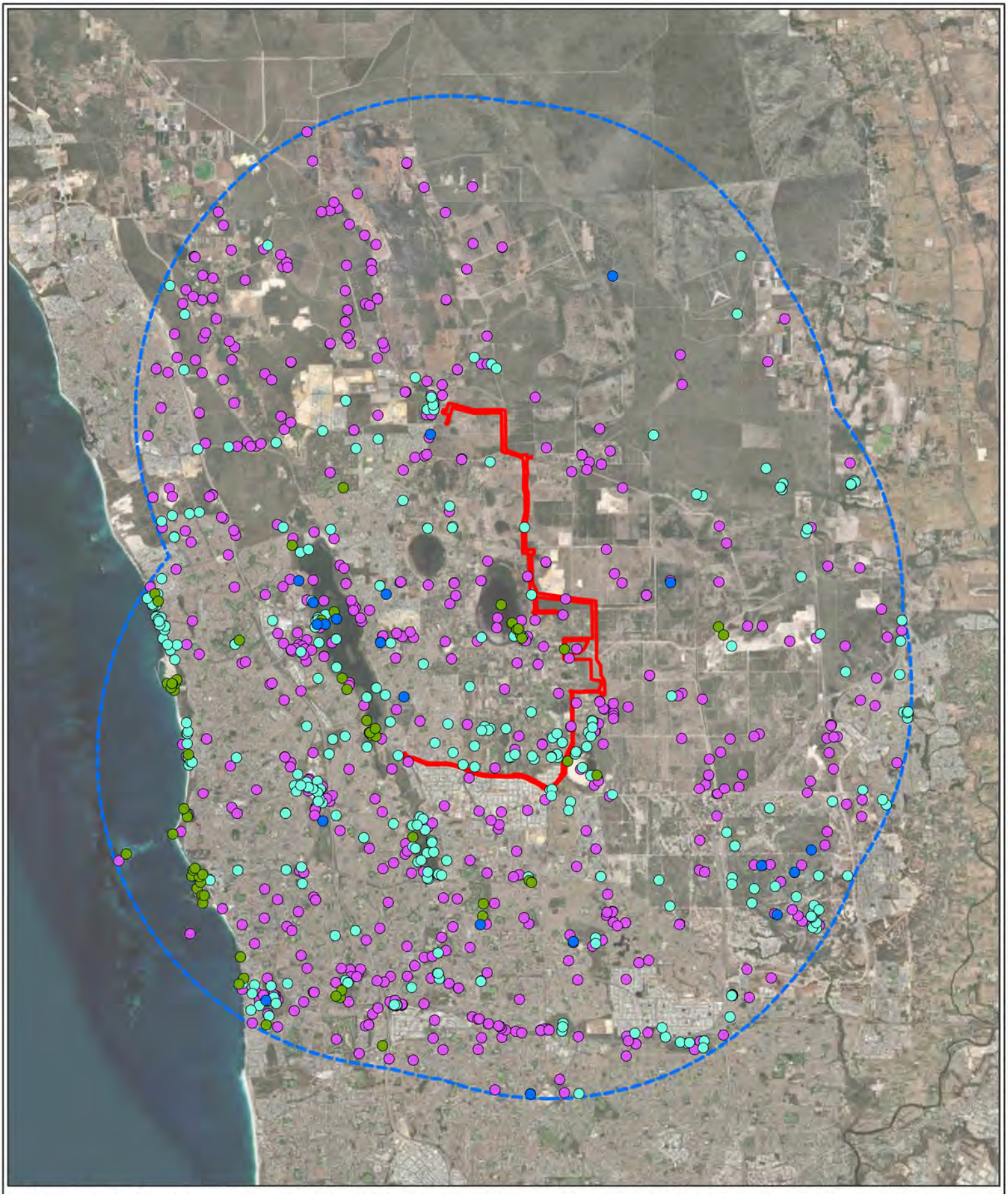

Figure 4-2: Conservation significant fauna previously recorded in the vicinity of the survey area

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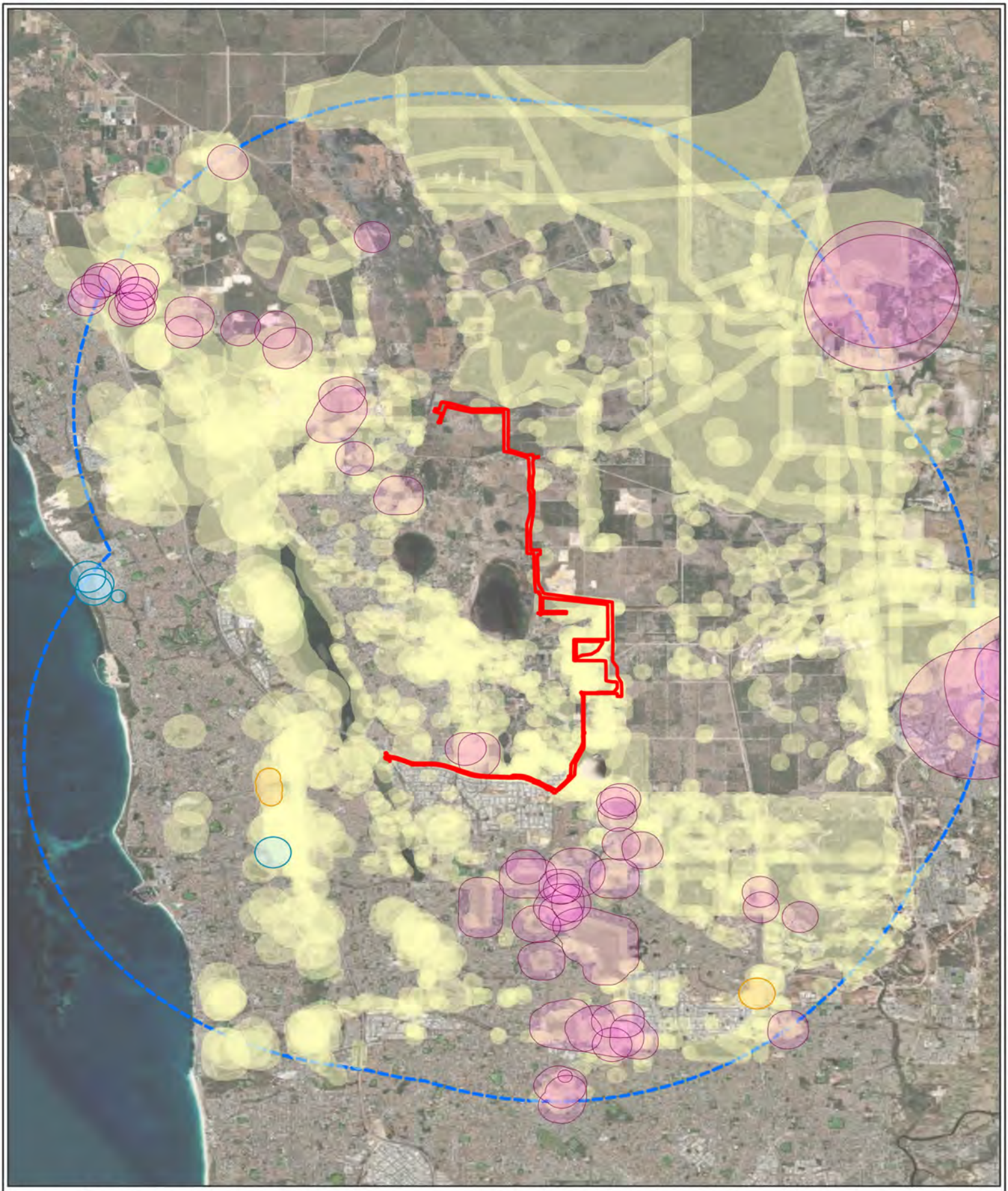

Figure 4-3: Conservation significant ecological communities previously recorded in the vicinity of the survey area

Survey Area

Survey Area - 10km Buffer

Conservation significant ecological communities (DBCA 2025e)

Listed as T under EPBC Act and BC Act

Listed as T under BC Act and Priority by DBCA

Listed as T under BC Act

Listed as Priority by DBCA

0 1.25 2.5 5

Kilometers

Datum/Projection:
GCS GDA 1994

Project: 25PER10273-SP Date: 20/03/2026

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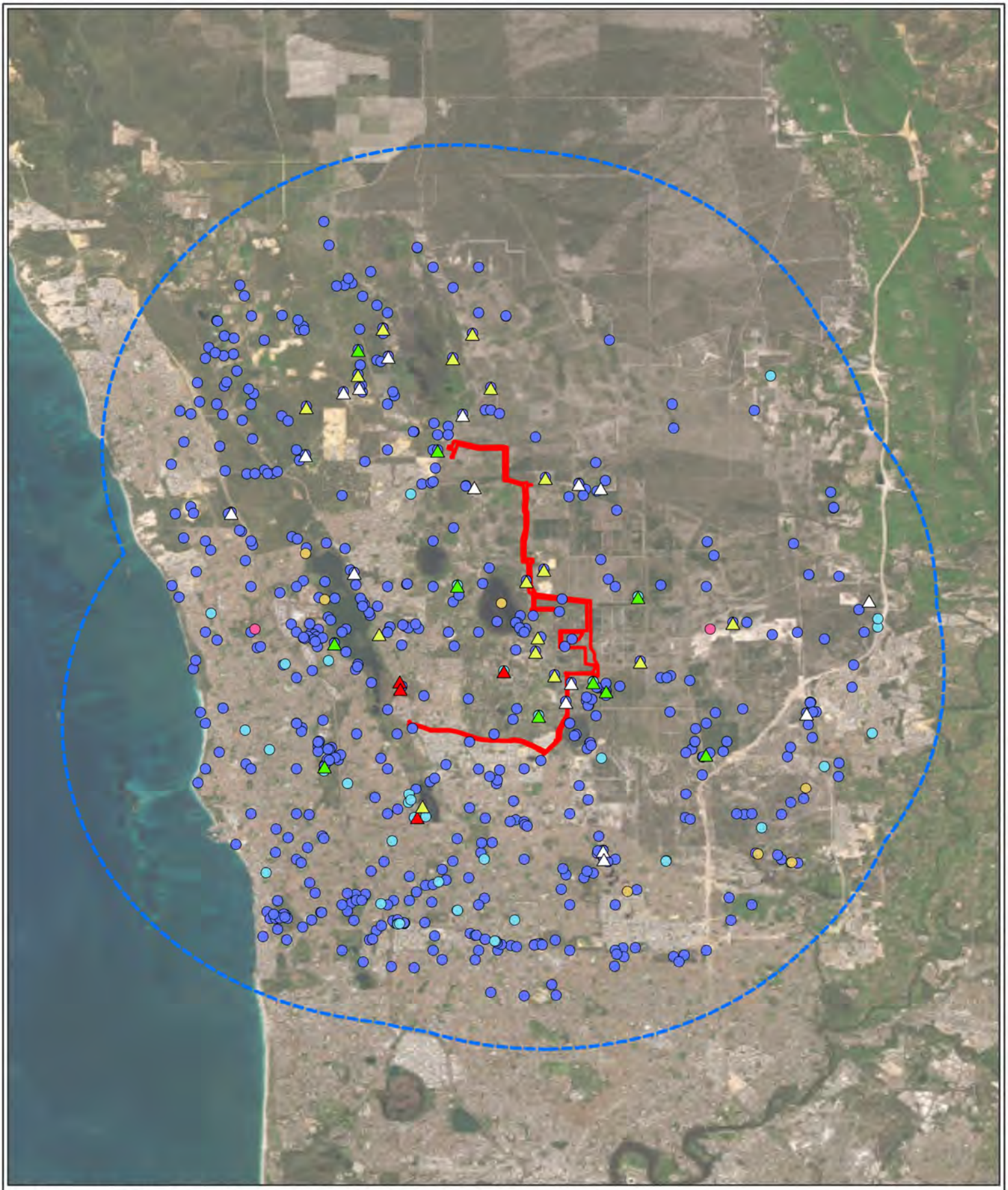

Figure 4 4: Black cockatoo habitat in the vicinity of the survey area

Survey area

Survey area - 12km Buffer

Black cockatoo roost location (Birdlife Australia 2026)

- Confirmed red-tailed roost
- Confirmed white-tailed roost
- Joint roost
- Unconfirmed roost

DBCA record (DBCA 2026b)

- Baudin's Cockatoo
- Carnaby's Cockatoo
- Forest Red-tailed Black Cockatoo
- White-tailed Black Cockatoo

0 1.25 2.5 5

Kilometers

Datum/Projection:
GCS GDA 1994

Project: 25PER10273-SP Date: 20/03/2026

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4.2. Flora

4.2.1. Flora overview

A total of 289 species (210 native and 79 introduced) from 63 families were recorded across 48 quadrats (257 species) and 12 relevés (21 additional taxa) established within the survey area and from opportunistic collections (11 additional taxa). Average species richness per quadrat was 30.5 species, ranging from 6 species at ELA36 to 53 species at ELA18. Families with the greatest number of species were Fabaceae (36 species), Myrtaceae (33 species), Poaceae (27 species) and Proteaceae (21 species). A full flora list is provided in Appendix I and a species by quadrat matrix is provided in Appendix J. ELA quadrat site data is provided in Appendix L.

4.2.2. Species accumulation

A species accumulation curve (Figure 4-5) was used to evaluate the adequacy of sampling (Clarke & Gorley 2015). Only species data recorded from defined quadrats were used; no relevé or opportunistic flora collections were included. The asymptotic value was determined using Michaelis Menten modelling. Using this analysis, the incidence-based coverage estimator of species richness was calculated to be 287. Based on this value and the 257 species recorded in quadrats, approximately 89.5% of the flora species potentially present within the survey area were recorded. This fact, as well as the additional 32 species recorded via relevés and opportunistic collections (i.e., a total of 289 taxa), indicates that the majority of flora species potentially present within the survey area were recorded and the survey effort was therefore sufficient.

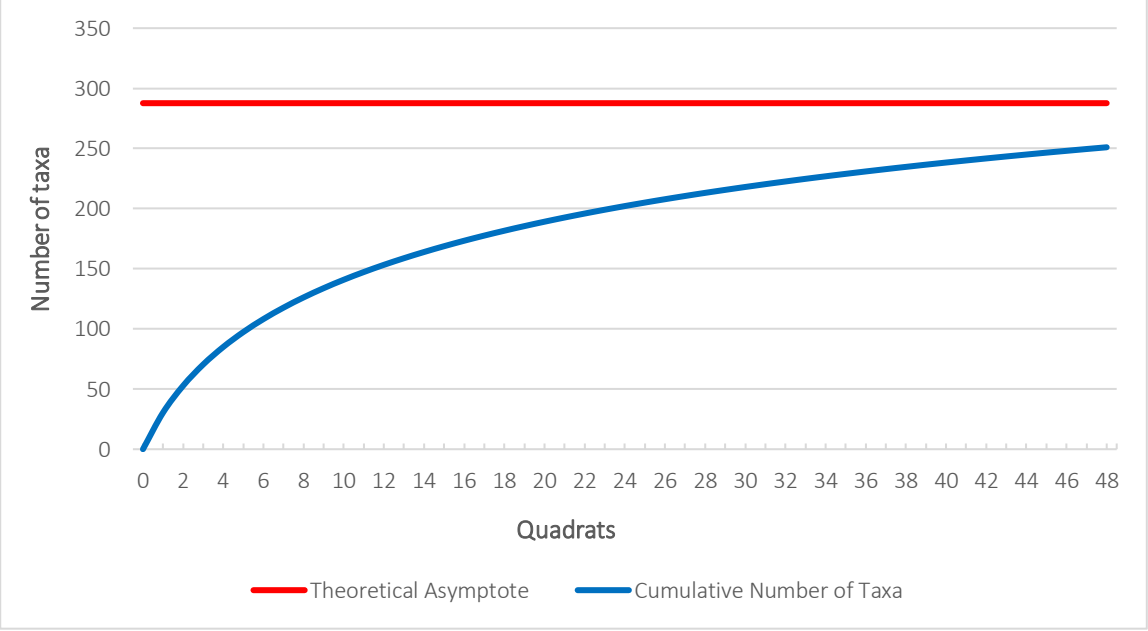

Figure 4-5: Average randomised species accumulation curve

4.2.3. Conservation significant flora

Three conservation significant flora species were recorded within the survey area: *Schoenus griffinianus* (listed as P4 by DBCA), *Jacksonia sericea (*listed as P4 by DBCA) and *Grevillea olivacea* (listed as P4 by DBCA). Two individual *Schoenus griffinianus* plants were recorded in ELA_Q23 and 168 individual *Jacksonia sericea* plants were recorded within the patch of remnant vegetation adjacent to Warbrook Rd. The locations for all records are displayed in Figure 4-6 and individual point data is listed in Appendix K.

Grevillea olivacea was also recorded at three sites including ELA_Q01, ELA_R05 and ELA_R06 and further observed through the Rehabilitation/Regrowth and MG vegetation types, with all individuals considered planted cultivars and not native to the area. The species has therefore not been included in Figure 4-6.

Seven of the conservation significant flora species assessed as having the potential to occur prior to the survey were still considered as having the potential to occur following the field survey. This is due to several factors including the presence of suitable habitat for the species, the presence of nearby records, annual or cryptic nature of the species, and the survey being conducted outside of the species known flowering time. These seven species include *Caladenia huegelii* (listed as EN under the EPBC Act, and as CR under the BC Act), *Drosera patens* (listed as P1 by DBCA), *Poranthera moorokatta* (listed as P2 by DBCA), *Stenanthemum sublineare* (listed as P2 by DBCA), *Styphelia filifolia* (listed as P3 by DBCA), *Anigozanthos humilis* subsp. *chrysanthus* (listed as P4 by DBCA) and *Hypolaena robusta* (listed as P4 by DBCA).Further details of potential habitat within the survey area is provided in Appendix F

The remaining 19 conservation significant flora species identified as having the potential to occur in the survey area prior to the survey were considered unlikely to occur following the survey. The complete flora likelihood of occurrence assessment is presented in Appendix F.

Plate 1: Conservation significant flora recorded in the survey area including *Schoenus griffinianus* (P4, top left, top right) and *Jacksonia sericea* (P4, bottom left, bottom right).

4.2.4. Introduced flora

A total of 79 introduced (weed) species were recorded within the survey area, representing 27.3% of the total flora species recorded. One species, **Asparagus asparagoides* is listed as an s22(2) (Exempt) Declared Pest on the Western Australian Organism List (WAOL) under the BAM Act and is a WoNS. The species was recorded at several locations within the survey area. The recorded locations of **A. asparagoides* within the survey area is shown in Figure 4-6 and the individual point locations are listed in Appendix K.

The remaining 78 weed species recorded during the assessment are listed on the WAOL database as Permitted (s11) species, indicating that no specific management of these species is required (DPIRD 2026).

Figure 4-6: Conservation significant flora and Declared Pest weeds recorded in the survey area

Survey area

Priority Flora

- *Jacksonia sericea* (Priority 4)
- *Schoenus griffinianus* (Priority 4)

Introduced flora

- **Asparagus asparagoides* (WoNS, Declared Pest)

0 0.5 1 2
Kilometers

Datum/Projection:
GDA 1994 MGA Zone 50

Project: 25PER10273-SP Date: 20/03/2026

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4.3. Vegetation

4.3.1. Vegetation communities

A total of thirteen vegetation communities were delineated and mapped within the survey area. This included eight intact vegetation communities, collectively covering 41.8 hectares (ha; 15.3% of the survey area), and five communities comprising native regrowth amongst ex-pine plantations, accounting for a total of 87.5 ha (32% of the survey area; Table 10). Vegetation communities occurring within areas of previous pine plantation are distinguished from the intact remnant vegetation communities by the prefix 'EPP' (Table 10). A hierarchical clustering dendrogram of these communities is depicted in Appendix M.

The eight intact vegetation communities represent remnant Banksia and Melaleuca woodlands, collectively covering 41.8 ha (15.3% of the survey area; Table 10). Of these eight communities, five were associated with lowland areas surrounding wetlands, including four communities surrounding Lake Gnangara, namely MpAgLs (1.4 ha; 0.5% of the survey area), MpAsHa (1.3 ha; 0.5% of the survey area), XpAcMf (0.9 ha; 0.3% of the survey area) and CcBaBi (0.8 ha; 0.3% of the survey area); and one community, MpNfAc, (0.9 ha; 0.3% of the survey area) associated with a wetland on Hawkins Rd (Appendix N). The remaining three communities occurred primarily in association with remnant vegetation located in the centre of the survey area associated with Banksia woodlands surrounding Warbrook and Wirrega roads, including communities BaBmBi (1.4 ha; 0.5% of the survey area), EmBaBm (24.9 ha, 9.1% of the survey area) and BsppEtAf (10.2.

In addition to the eight intact native vegetation communities, five vegetation communities comprising native regrowth amongst older ex-pine plantations were mapped, accounting for a total of 87.5 ha (32% of the survey area). The most widespread of these communities was EPP_PpEmNf, covering 75.3 ha (27.5% of the survey area). The four others include EPP_ErMpNf (2.7 ha; 1.0% of the survey area), EPP_ErEtBspp (0.4 ha; 0.1% of the survey area), EPP_Ec (0.4 ha; 0.1% of the survey area) and EPP_CLPp (8.7 ha; 3.2% of the survey area).

In addition to intact and modified vegetation (ex. pine plantation) communities, five highly modified or actively managed vegetation types were recorded, covering a total of 54.3 ha (19.9% of the total survey area; Appendix N). The most commonly recorded vegetation type was Pine Plantations (PP) comprising a monoculture of actively managed **Pinus pinaster* plantation. This vegetation type covered 19.6 ha (7.2%) of the survey area. The next most common vegetation type was the MG type, comprising managed gardens with roadside tree lines which covered 15.3 ha (5.6%) of the survey area. Other highly modified vegetation types included Mixed Native Tree Plantations (MXP) covering 10 ha (3.7% of the survey area), Scattered *Xanthorrhoea preissii* in cleared areas (CLXp) accounting for 4 ha (1.5% of the survey area) and rehabilitation/regrowth covering 5.4 ha (2% of the total survey area).

Intact vegetation or native regrowth among ex-pine plantation accounts for 120 ha (44.1%) of the survey area and non-native or highly modified vegetation accounts for 62.8 ha (23%) of the survey area (Table 10).The remaining parts of the survey area were comprised of cleared areas which accounted for 89.9 ha (32.9% of the survey area; Appendix N).

Table 10: Vegetation communities within the survey area

Representative Photograph	Code	Vegetation community and vegetation type description	Quadrats / Releves	Area (ha)	Proportion of survey area (%)
Intact vegetation or native regrowth among ex pine plantation					
	BaBmBi	**Description:** *Banksia attenuata*, *Banksia menziesii*, *Banksia ilicifolia* low open woodland over *Xanthorrhoea preissi* tall sparse shrubland and *Eremaea asterocarpa*, *Melaleuca seriata* mid sparse shrubland over *Dasypogon bromeliifolius*, *Patersonia occidentalis*, *Alexgeorgea nitens* low open forbland. **Associated species:** *Acacia pulchella*, **Avena barbata*, *Bossiaea eriocarpa*, **Briza maxima*, *Chaetospora curvifolia*, **Ehrharta calycina*, **Gladiolus caryophyllaceus*, *Gompholobium tomentosum*, *Hemiandra pungens*, *Hypocalymma robustum*, *Hypolaena exsulca*, *Jacksonia furcellata*, *Macrozamia fraseri*, *Nuytsia floribunda*, *Petrophile linearis*, *Styphelia propinqua*, **Ursinia anthemoides*.	ELA_Q03 ELA_Q25 ELA_Q26	1.4	0.5
	MpAgLs	**Description:** *Melaleuca preissiana*, *Agonis flexuosa* low open forest over *Jacksonia furcellata*, **Acacia iteaphylla*, *Spyridium globulosum* tall sparse shrubland over *Leptocarpus scariosus* low sedgeland and *Tricoryne elatior*, *Dianella revoluta* low sparse forbland. **Associated species:** **Acacia longifolia*, **Allocasuarina verticillata*, **Asparagus asparagoides*, *Astartea scoparia*, *Daucus glochidiatus*, **Eucalyptus camaldulensis*, **Gladiolus caryophyllaceus*, *Gompholobium tomentosum*, *Hovea trisperma*, *Jacksonia sternbergiana*, *Microlaena stipoides*, *Microtis media*, **Sonchus oleraceus*, *Thysanotus manglesianus*, *Trachymene pilosa*, **Urospermum picroides*.	ELA_Q04 ELA_Q05 ELA_Q06	1.4	0.5

Representative Photograph	Code	Vegetation community and vegetation type description	Quadrats / Releves	Area (ha)	Proportion of survey area (%)
	MpAsHa	**Description:** *Melaleuca preissiana* low open woodland over *Astartea scoparia*, *Hypocalymma angustifolium*, **Acacia longifolia* tall shrubland over *Dampiera linearis* low sparse shrubland and *Patersonia occidentalis*, *Dianella revoluta* low sparse forbland. **Associated species:** **Briza maxima*, *Cassytha flava*, **Ehrharta calycina*, **Ehrharta longiflora*, **Gladiolus caryophyllaceus*, **Hypochaeris glabra*, *Hypolaena exsulca*, *Leptocarpus scariosus*, **Sonchus oleraceus*, *Trachymene pilosa*, **Urospermum picroides*, **Ursinia anthemoides*.	ELA_Q07 ELA_Q08 ELA_Q09	1.3	0.5
	XpAcMf	**Description:** *Xanthorrhoea preissii*, *Adenanthos cygnorum*, *Macrozamia fraseri* mid open shrubland over **Ehrharta calycina* low sparse grassland and *Corynotheca micrantha*, *Alexgeorgea nitens* low sparse forbland. **Associated species:** **Avena barbata*, **Briza maxima*, **Carpobrotus edulis*, *Cartonema philydroides*, *Dasypogon bromeliifolius*, **Gladiolus caryophyllaceus*, *Haemodorum spicatum*, *Hardenbergia comptoniana*, *Lechenaultia biloba*, **Pentameris airoides*, **Petrorhagia dubia*, *Podotheca gnaphalioides*, **Sonchus oleraceus*, **Ursinia anthemoides*, **Urospermum picroides*.	ELA_Q10 ELA_Q11 ELA_Q12	0.9	0.3
	CcBaBi	**Description:** *Corymbia calophylla* mid open woodland and *Banksia attenuata*, *Banksia ilicifolia* low woodland over *Xanthorrhoea preissii* tall sparse shrubland and *Calytrix fraseri*, *Acacia pulchella* mid sparse shrubland over *Phlebocarya ciliata*, *Dasypogon bromeliifolius*, *Opercularia vaginata* low sparse forbland. **Associated species:** **Briza maxima*, *Calytrix fraseri*, **Ehrharta calycina*, *Dianella revoluta*, **Freesia leichtlinii*, **Gladiolus caryophyllaceus*, *Gompholobium tomentosum*, *Jacksonia sternbergiana*, *Leptocarpus scariosus*, *Lomandra caespitosa*, *Patersonia occidentalis*, **Pelargonium capitatum*.	ELA_Q13	0.8	0.3

Representative Photograph	Code	Vegetation community and vegetation type description	Quadrats / Releves	Area (ha)	Proportion of survey area (%)
	EmBaBm	**Description:** *Eucalyptus marginata* mid open woodland and *Banksia attenuata*, *Banksia menziesii* low open woodland over *Xanthorrhoea preissii* tall sparse shrubland and *Daviesia divaricata*, *Hypocalymma robustum* mid open shrubland over *Hibbertia hypericoides* low open shrubland, *Mesomelaena pseudostygia* low sparse sedgeland and *Corynotheca micrantha* low sparse forbland. **Associated species:** *Adenanthos cygnorum*, *Alexgeorgea nitens*, *Amphipogon turbinatus*, *Bossiaea eriocarpa*, *Calectasia narragara*, *Calytrix flavescens*, *Conospermum stoechadis*, *Conostylis aculeata*, *Desmocladus flexuosus*, *Eremaea pauciflora*, *Gompholobium tomentosum*, *Jacksonia floribunda*, *Lyginia imberbis*, *Patersonia occidentalis*, *Petrophile linearis*, *Scaevola repens*.	ELA_Q14 ELA_Q15 ELA_Q16 ELA_Q17 ELA_Q18 ELA_Q19 ELA_Q21 ELA_R12	24.9	9.1
	MpNfAc	**Description:** *Melaleuca preissiana*, *Nuytsia floribunda* low open woodland over *Adenanthos cygnorum*, *Kunzea glabrescens* tall sparse shrubland and *Regelia ciliata* mid sparse shrubland over *Hibbertia subvaginata* low sparse shrubland and *Dasypogon bromeliifolius*, *Lomandra caespitosa* low sparse forbland. **Associated species:** *Acacia pulchella*, *Burchardia congesta*, **Ehrharta calycina*, *Euchilopsis linearis*, **Gladiolus caryophyllaceus*, *Gonocarpus pithyoides*, *Hypocalymma angustifolium*, **Hypochaeris glabra*, *Levenhookia stipitata*, *Patersonia occidentalis*, *Siloxerus humifusus*, *Stylidium brunonianum*, *Stylidium repens*, *Styphelia xerophylla*, *Trachymene pilosa*, **Ursinia anthemoides*.	ELA_Q20 ELA_Q23	0.9	0.3
	BsppEtAf	**Description:** *Banksia* spp., *Eucalyptus todtiana*, *Allocasuarina fraseriana*, *Nuytsia floribunda* low open woodland over *Xanthorrhoea preissii* tall sparse shrubland and *Eremaea pauciflora*, *Hypocalymma robustum* mid sparse shrubland over *Hibbertia hypericoides* low open shrubland and *Lyginia imberbis* low open sedgeland and *Alexgeorgea nitens* low open forbland. **Associated species:** *Acacia pulchella*, *Allocasuarina humilis*, *Banksia attenuata*, *Banksia menziesii*, *Beaufortia elegans*, *Bossiaea eriocarpa*, **Briza maxima*, *Calytrix flavescens*, *Daviesia triflora*, *Desmocladus flexuosus*, **Ehrharta calycina*, *Gompholobium tomentosum*, *Haemodorum spicatum*, *Hibbertia subvaginata*, *Jacksonia floribunda*, *Macrozamia fraseri*, *Melaleuca seriata*, *Patersonia occidentalis*, *Petrophile linearis*.	ELA_Q27 ELA_Q28 ELA_Q29 ELA_Q30 ELA_Q31 ELA_Q32 ELA_Q35	10.2	3.7

Representative Photograph	Code	Vegetation community and vegetation type description	Quadrats / Releves	Area (ha)	Proportion of survey area (%)
	EPP_ErMpNf	**Description:** Ex Pine Plantation - *Eucalyptus rudis* mid open woodland and *Melaleuca preissiana*, *Nuytsia floribunda* low woodland over *Kunzea glabrescens* tall open shrubland and *Hypocalymma angustifolium*, *Astartea scoparia* mid sparse shrubland over **Ehrharta calycina*, **Briza maxima*, **Bromus diandrus* low open grassland. **Associated species:** *Acacia pulchella*, **Aira cupaniana*, **Avena barbata*, **Brachypodium distachyon*, **Carpobrotus edulis*, *Dianella revoluta*, *Hypocalymma robustum*, *Hypolaena exsulca*, *Jacksonia furcellata*, **Lysimachia arvensis*, **Sonchus oleraceus*, **Ursinia anthemoides*.	ELA_Q22 ELA_Q33 ELA_Q34 ELA_Q39	2.7	1
	EPP_PpEmNf	**Description:** Ex Pine Plantation - **Pinus pinaster* mid sparse woodland and *Eucalyptus marginata*, *Nuytsia floribunda* low sparse woodland over *Adenanthos cygnorum* tall sparse shrubland and *Xanthorrhoea preissii*, *Macrozamia fraseri* mid sparse shrubland over **Ehrharta calycina*, **Bromus diandrus* low open grassland and **Carpobrotus edulis* low sparse forbland. **Associated species:** **Aira cupaniana*, **Avena barbata*, **Briza maxima*, *Dasypogon bromeliifolius*, *Eucalyptus todtiana*, *Gompholobium tomentosum*, *Hardenbergia comptoniana*, *Hibbertia subvaginata*, *Hypocalymma robustum*, **Ornithopus compressus*, **Pelargonium capitatum*, *Scholtzia involucrata*, **Trifolium arvense*, **Trifolium campestre*, **Vulpia myuros*	ELA_Q38 ELA_Q40 ELA_Q41 ELA_Q43 ELA_Q44 ELA_Q46 ELA_Q48 ELA_R15 ELA_R16 ELA_R17 ELA_R18 ELA_R19 ELA_R20	75.3	27.5

Representative Photograph	Code	Vegetation community and vegetation type description	Quadrats / Releves	Area (ha)	Proportion of survey area (%)
	EPP_ErEtBspp	**Description**: *Eucalyptus rudis*, *Eucalyptus todtiana*, *Banksia* spp. low sparse woodland over *Kunzea glabrescens* tall open shrubland and *Regelia ciliata*, *Calothamnus quadrifidus* mid sparse shrubland over **Eragrostis curvula*, **Ehrharta calycina* low open grassland and **Carpobrotus edulis* low sparse forbland. **Associated species:** *Acacia pulchella*, *Banksia attenuata*, *Banksia grandis*, *Banksia menziesii*, *Bossiaea eriocarpa*, *Eremaea pauciflora*, *Gastrolobium capitatum*, *Jacksonia furcellata*, *Kennedia prostrata*, **Pelargonium capitatum*, **Tolpis barbata*.	ELA_Q42 ELA_Q45 ELA_Q47	0.4	0.1
	EPP_Ec	**Description:** *Eucalyptus camaldulensis* low open woodland over *Acacia saligna*, *Adenanthos cygnorum*, *Jacksonia furcellata* and **Bambusa vulgaris* tall sparse shrubland over **Ehrharta calycina* and **Eragrostis curvula* open grassland.	ELA_R14	0.4	0.1
Non native or highly modified vegetation					
	EPP_CLPp	Scattered **Pinus pinaster* in cleared areas. **Description:** Isolated to scattered **Pinus pinaster* trees in cleared areas. Understorey consists of weedy herbaceous or grassy species with native species limited to isolated shrubs in some areas.	N/A	8.7	3.2

Representative Photograph	Code	Vegetation community and vegetation type description	Quadrats / Releves	Area (ha)	Proportion of survey area (%)
	PP	Pine plantations **Description:** **Pinus pinaster* mid open forest.	ELA_Q24 ELA_Q36 ELA_Q37	19.6	7.2
	Rehabilitation /regrowth	Rehabilitated areas **Description:** Urban areas rehabilitated by Main Roads WA with a variety of species.	ELA_Q01 ELA_Q02 ELA_R03 ELA_R04 ELA_R08 ELA_R09 ELA_R11	5.4	2
	MXP	Mixed native tree plantations **Description:** Planted lines of various native tree species forming tall sparse shrublands to low open woodlands over weedy ground storey species. Tree species recorded include *Corymbia calophylla*, *Eucalyptus camaldulensis*, *E. gomphocephala*, *E. marginata* and/or *E. rudis*.	ELA_R01 ELA_R13 ELA_R21	10	3.7

Representative Photograph	Code	Vegetation community and vegetation type description	Quadrats / Releves	Area (ha)	Proportion of survey area (%)
	MG	Managed gardens and roadside treelines **Description:** A variety of planted species as decorative roadside trees, park areas, garden areas and private property with planted species.	ELA_R02 ELA_R05 ELA_R06 ELA_R07 ELA_R10	15.3	5.6
	CLXp	Scattered *Xanthorrhoea preissii* in cleared areas. **Description:** Scattered to isolated remnant *Xanthorrhoea preissii* shrubs in cleared areas, typically agricultural paddocks or road corridors where the soil surface is bare or covered by weed species.	N/A	4	1.5
Intact vegetation or native regrowth among ex pine plantation				120.5	44.1
Total Non native or highly modified vegetation				62.8	23.0
Total cleared				89.9	32.9
Total				273.2	100

4.3.2. Vegetation condition

The condition of vegetation in the survey area ranged from Excellent to Completely Degraded based on the Keighery (1994) vegetation scale provided in the *Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment* for the South West Botanical Province (EPA 2016; Table 11; Appendix O). Most of the intact remnant vegetation was in Good, Very Good or Excellent condition. Most of the vegetation types mapped in survey area were found to be in Completely Degraded condition (89.3 ha, 32.7% of the survey area) or Degraded condition (51.4 ha, 18.8% of the survey area). Disturbances in the survey area included residential properties and urban infrastructure, roads, tracks, weeds, clearing, exotic species plantations, grazing and rubbish. Cleared areas accounted for 89.9 ha (32.9% of the survey area).

Table 11: Vegetation condition recorded in the survey area

Vegetation Condition	Community Types	Extent in the survey area (ha)	Proportion of the survey area (%)
Excellent	EmBaBm, MpNfAc	18.2	6.7
Very Good	BaBmBi, BsppEtAf, EmBaBm, EPP_ErMpNf, MpAgLs	10.9	4.0
Good	BsppEtAf, CcBaBi, EmBaBm, EPP_ErEtBspp, EPP_ErMpNf, EPP_PpEmNf, MpAgLs, MpAsHa, MpNfAc	13.4	4.9
Degraded	BaBmBi, BsppEtAf, EmBaBm, EPP_Ec, EPP_ErEtBspp, EPP_ErMpNf, MpNfAc, XpAcMf	51.4	18.8
Completely Degraded	CLXp, EPP_CLPp, EPP_ErMpNf, EPP_PpEmNf, MG, MXP, PP, Rehab	89.3	32.7
Cleared		89.9	32.9
Total		**273.2**	**100**

4.3.3. Conservation significant vegetation communities

An analysis of vegetation floristics, structure and composition was undertaken to identify conservation-significant ecological communities within the survey area. This involved FCT analysis (Section 4.3.3.1) and an assessment against DBCA methods for determining the presence of TECs, approved conservation advice, and fact sheet documentation for ecological communities identified previously as occurring in the survey area, or as having the Potential to occur in the survey area.

4.3.3.1. Floristic community type (FCT) analysis

To identify potential TECs and PECs in the survey area, ELA communities and quadrats were compared to FCTs defined by Gibson et al. (1994). Results of the analysis are shown in Table 12.

Vegetation communities XpAcMf, MpAgLs, MpAsHa and MpNfAc were associated with lowland/wetland FCTs including FCT 4 '*Melaleuca preissiana* damplands', FCT5 'Mixed Shrub damplands', FCT6 'Weed dominated wetlands on heavy soils' and FCT11 'Wet forests and woodlands' (Gibson et al. 1994). Quadrats within community XpAcMf were found to have a low to moderate floristic affinity with both FCT6 and FCT10b 'Shrublands on southern ironstones' (listed as CR under the EPBC Act and BC Act), however no vegetation mapped as XpAcMf is considered to be representative of FCT10b given that this community is limited by location to south of Perth, and no vegetation occurs on ironstones in the survey area. Quadrats within communities MpAgLs and MpAsHa were found to have moderate floristic affiliations with FCT11. Quadrats within community MpNfAc were found to have floristic affinities with both FCT4 and FCT5.

Quadrats within communities BaBmBi and CcBaBi were found to have floristic affiliations with FCT21c 'Low lying *Banksia attenuata* woodlands or shrublands', which is considered to be a component of the 'Banksia Woodlands of the Swan Coastal Plain' TEC (Banksia Woodlands TEC) and is itself listed as a Priority 3 PEC. A full assessment of the BaBmBi and CcBaBi vegetation communities against the conservation advice for the Banksia Woodlands TEC is detailed below in Section 4.3.3.2. Quadrat ELA_Q26 within BaBmBi was also found to have a floristic affiliation with FCT22 '*Banksia ilicifolia* woodlands, southern Swan Coastal Plain', however following further interrogation of the data no BaBmBi vegetation in the survey area was considered to be representative of this floristic community type.

Quadrats within vegetation communities EmBaBm and BsppEtAf were found to have affiliations with several floristic community types associated with Banksia Woodlands, including FCT20a '*Banksia attenuata* woodlands over species rich dense shrublands', FCT21a 'Central *Banksia attenuata* – *Eucalyptus marginata* woodlands', FCT21c 'Low lying *Banksia attenuata* woodlands or shrublands', FCT22 '*Banksia ilicifolia* woodlands', and FCT28 'Spearwood *Banksia attenuata* or *Banksia attenuata* – *Eucalyptus* woodlands' (Gibson et al. 1994). All these floristic community types are common components of the Banksia Woodlands TEC and as such an assessment against the Banksia Woodlands TEC conservation advice was undertaken for all communities (Section 4.3.3.2.). In addition, FCT20a is listed as CR under the EPBC Act and BC Act and an assessment against the listed conservation advice for this TEC was undertaken (see Section 4.3.3.4. below).

Vegetation community EmBaBm was found to be broadly representative of FCT28 and FCT21a. Several quadrats in this community had floristic affiliations with FCT20a and FCT22, however further interrogation of the data showed that EmBaBm vegetation was not considered to be representative of these floristic community types due to differences in floristic structure, assemblage, and/or landforms. Vegetation community BsppEtAf was found to be representative of FCT21c, FCT22 and FCT28. Similarly, several quadrats in this community had floristic affiliations with FCT20a, but BsppEtAf vegetation in the

survey area was not considered to be representative of FCT20a due to differences in landform and floristic structure. A full assessment against the diagnostic descriptions for FCT20a is detailed below in Section 4.3.3.4.

Two conservation significant communities defined by FCTs defined by Gibson et al. (1994) were mapped within the survey area, including FCT21c 'Low lying *Banksia attenuata* woodlands or shrubland' and FCT22 '*Banksia ilicifolia* woodlands' (both listed as P3 PECs by DBCA). In total, 6.0 ha of the FCT21c and 0.6 ha of the FCT22 PECs were mapped in the survey area (Figure 4-9).

Table 12: Relationships between ELA vegetation communities and FCTs defined by Gibson et al. (1994).

ELA vegetation community	ELA quadrat number	Closest affiliated sites (FCT Gibson et al. (1994) Bray-Curtis similarity %	Inferred FCT(s)
BaBmBi	ELA_Q03	n/a	FCT21c
	ELA_Q25	DEJONG-C (FCT21c; 37%), HYMUS03 (FCT21c; 31.4%), FL-5 (FCT21c; 41.9%), FL-6 (FCT21c; 38.5%)	
	ELA_Q26	MELA-5 (FCT22; 39.5%), MPK02 (FCT22; 35.9%), MELA-10 (FCT22; 33.8%), WARB-2 (FCT22; 37.9%), WARB-4 (FCT22; 37.4%)	
MpAgLs	ELA_Q04	C71-1 (FCT11; 17.7%), HARRY-6 (FCT11; 27.9%)	FCT11
	ELA_Q05	CARAB-3 (FCT11; 34.6%), ROWE01 (FCT11; 21%), HARRY-6 (FCT11; 29.2%), C71-1 (FCT11; 19.2%)	
	ELA_Q06	n/a	
MpAsHa	ELA_Q07	C71-1 (FCT11; 25%), HARRY-6 (FCT11; 29.8%)	FCT11
	ELA_Q08	C71-1 (FCT11; 23.2%), HARRY-6 (FCT11; 27.3%)	
	ELA_Q09	C71-1 (FCT11; 20%), HARRY-6 (FCT11; 31.1%)	
XpAcMf	ELA_Q10	PTWALT-1 (FCT10b; 27.8%)	FCT6
	ELA_Q11	CARD10 (FCT6; 17.2%), CARD11 (FCT6; 18.5%), CARD4 (FCT6; 21.4%), ELLEN-7 (FCT6; 15.1%), PEARCE-1 (FCT6; 15.4%), TWIN-1 (FCT6; 20.8%), TWIN-2 (FCT6; 10.7%), TWIN-3 (FCT6; 21.9%), TWIN-4 (FCT6; 15.7%)	
	ELA_Q12	CARD10 (FCT6; 12.7%), CARD11 (FCT6; 20.3%), CARD4 (FCT6; 22.9%), ELLEN-7 (FCT6; 13.8%), PEARCE-1 (FCT6; 10.5%), TWIN-1 (FCT6; 15.1%), TWIN-2 (FCT6; 9.8%), TWIN-3 (FCT6; 20.5%), TWIN-4 (FCT6; 10.7%)	
CcBaBi	ELA_Q13	MODO-2 (FCT21c; 34.2%), PLINE-7 (FCT21c; 25%)	FCT21c
EmBaBm	ELA_Q14	TRIG-4 (FCT28; 43.9%), WARI-1 (FCT28; 38.4%), TRIG-3 (FCT28; 42.1%), SHENT-1 (FCT28; 39.2%), WARI-2 (FCT28; 40%), KING-1 (FCT28; 33.3%), KING-2 (FCT28; 43.1%)	FCT28, FCT21a
	ELA_Q15	TRIG-4 (FCT28; 43.5%), WARI-1 (FCT28; 41.3%), TRIG-3 (FCT28; 41.7%), SHENT-1 (FCT28; 42.9%), WARI-2 (FCT28; 48.6%), KING-1 (FCT28; 31.3%), KING-2 (FCT28; 40.8%)	
	ELA_Q16	FL-4 (FCT21a; 35.8%)	
	ELA_Q17	PLINE-6 (FCT22; 16%)	
	ELA_Q18	GOLF-1 (FCT20a; 43.6%), LAND-1 (FCT20a; 45%), KOON-1 (FCT20a; 56.1%), KOON-2 (FCT20a; 40.7%), M53 (FCT20a; 40%), APBF-1 (FCT20a; 27.2%), APBF-2 (FCT20a; 30.2%)	

ELA vegetation community	ELA quadrat number	Closest affiliated sites (FCT Gibson et al. (1994) Bray-Curtis similarity %	Inferred FCT(s)
	ELA_Q19	TRIG-4 (FCT28; 39.4%), KING-1 (FCT28; 27.5%), KING-2 (FCT28; 41.2%), WARI-2 (FCT28; 32.4%), SHENT-1 (FCT28; 34.8%), TRIG-3 (FCT28; 34.9%), WARI-1 (FCT28; 31.7%)	
	ELA_Q21	GOLF-1 (FCT20a; 40%), LAND-1 (FCT20a; 41.7%), KOON-1 (FCT20a; 56.9%), KOON-2 (FCT20a; 35.2%)	
MpNfAc	ELA_Q20	MILT-1 (FCT5; 36.4%), HARRY-3 (FCT5; 40.7%), GUTHR-2 (FCT5; 32.5%), GUTHR-4 (FCT5; 24.6%), LOW08 (FCT5; 26.9%), AUSTB-4 (FCT5; 31.6%), AUSTB-6 (FCT5; 16.7%)	FCT4, FCT5
	ELA_Q23	PLINE-4 (FCT4; 23.3%), WHITE-2 (FCT4; 31.6%), BULL-5 (FCT5; 30.8%), BULL-7 (FCT5; 17.5%)	
	ELA_Q27	DEJONG-C (FCT21c; 40%), HYMUS03 (FCT21c; 28.1%), FL-5 (FCT21c; 40%), FL-6 (FCT21c; 41.7%)	
	ELA_Q28	GOLF-1 (FCT20a; 40%), LAND-1 (FCT20a; 36.5%), KOON-1 (FCT20a; 42.2%), KOON-2 (FCT20a; 31.5%), M53 (FCT20a; 36.4%), APBF-1 (FCT20a; 21.7%), APBF-2 (FCT20a; 28.1%),	
	ELA_Q29	HYMUS03 (FCT21c; 23.2%)	
	ELA_Q30	n/a	
BsppEtAf	ELA_Q31	TRIG-4 (FCT28; 29.5%), KING-1 (FCT28; 32.4%), KING-2 (FCT28; 38.4%), WARI-2 (FCT28; 33.6%), SHENT-1 (FCT28; 38.3%), TRIG-3 (FCT28; 28.8%), WARI-1 (FCT28; 32.8%)	FCT21c, FCT22, FCT28
	ELA_Q32	TRIG-4 (FCT28; 35.9%), KING-1 (FCT28; 30.4%), KING-2 (FCT28; 42%), WARI-2 (FCT28; 35.2%), SHENT-1 (FCT28; 42.1%), TRIG-3 (FCT28; 33.9%), WARI-1 (FCT28; 34.1%)	
	ELA_Q35	MELA-5 (FCT22; 36.9%), MPK02 (FCT22; 32.3%), MELA-10 (FCT22; 32.8%), WARB-2 (FCT22; 28.6%), WARB-4 (FCT22; 26.7%), YAN-22 (FCT22; 34.5%), YAN-17 (FCT22; 21.8%), YAN-18 (FCT22; 15.4%)	

4.3.3.2. Banksia Woodlands of the Swan Coastal Plain Ecological Community

Vegetation within the survey area was assessed against key diagnostic characteristics outlined in the Banksia Woodlands of the Swan Coastal Plain TEC approved conservation advice (TSSC 2016), to determine the presence of this TEC within the survey area. Several of the diagnostic characteristics were met by vegetation communities BaBmBi, CcBaBi, EmBaBm and BsppEtAf, including:

- Location/landform: the survey area is located on the Swan Coastal Plain and occurs on the Bassendean, Karrakatta and Spearwood land systems.
- Structure and composition: vegetation communities BaBmBi, CcBaBi, EmBaBm and BsppEtAf were dominated or co-dominated by the indicative taxa *Banksia attenuata, B. ilicifolia* and/or *B. menziesii* with emergent or co-dominant canopies of *Corymbia calophylla, Eucalyptus marginata* and/or *E. todtiana.*
- Condition thresholds: BaBmBi and BsppEtAf vegetation was primarily mapped as being in Very Good condition with some areas of Good or Degraded condition vegetation. EmBaBm was primarily mapped as being in Excellent condition, with some Very Good, Good, and limited Degraded condition vegetation. Areas of Degraded vegetation mapped as the Banksia

Woodlands TEC are considered extensions of the same patch of vegetation mapped as being in Good or better condition. The survey was undertaken in Spring and the vegetation was sampled in the highest condition representation available.

In total, seven patches of discrete Banksia woodland vegetation were recorded in the survey area, with five of these meeting the criterion for the Banksia Woodlands TEC (Figure 4-8). Two of the seven patches were not considered to meet the patch size/condition thresholds for the Banksia Woodlands TEC given that they were in Good or Degraded condition and the patch was less than 1 ha in size. Full detail on the patch size and condition assessment of Banksia Woodlands vegetation in the survey area is included in Appendix P.

A total of 36.9 ha of Banksia Woodlands TEC vegetation was recorded in the survey area. The locations of the Banksia Woodlands TEC are shown in Figure 4-9. The full four-stage assessment against the key diagnostic characteristics of the Banksia Woodlands TEC is presented in Appendix P.

4.3.3.3. Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain Ecological Community

Given the presence of Tuart trees in the survey area, vegetation was assessed against the key diagnostic characteristics outlined in the Tuart Woodlands TEC approved conservation advice (DoEE 2019) to determine the presence of the TEC in the survey area. The primary defining feature is the presence of at least two living established Tuart (*Eucalyptus gomphocephala*) trees in the uppermost canopy layer.

The conservation advice for the Tuart Woodlands TEC states three primary patch size-condition thresholds that define the presence of the TEC, including:

- Patches of less than 0.5 ha are not considered to be part of the Tuart Woodlands TEC;
- Patches between 0.5 ha and 5 ha in size may be considered to be part of the Tuart Woodlands TEC if they meet the key diagnostic characteristics and are in 'High' condition (for patches greater than 0.5 ha or 'Moderate' condition (for patches greater than 2 ha); and
- Patches greater than 5 ha that meet the key diagnostic characteristics are considered to be part of the Tuart Woodlands TEC.

Five individual patches of Tuart Woodland vegetation were delineated within the survey area (Figure 4-7). This included a patch of rehabilitated/planted vegetation on the corner of Townsend Road and Boundary Road (Patch 1), one patch along Hawkins Road (Patch 2), one patch associated with Tuscan Park on the corner of Tuscan Way and Sydney Road (Patch 3), and two patches along Ocean Reef Road (Patches 4 and 5).

Patches 3 and 4 were considered to be representative of the Tuart Woodlands TEC based on patch size and biotic condition. Patch 3 had no associated site and was 1.0 ha in size (with 0.1 ha occurring within the survey area), including trees associated with Tuscan Park. It is inferred from aerial imagery that this patch extends further than has been mapped as part of this assessment and is likely to be at least 2.0 ha in size. Field observations found that this patch is likely to be in 'Moderate' condition. Patch 4 was associated with site ELA_Q02 and was 1.3 ha in size (with 1.2 ha occurring within the survey area). A diverse mix of understorey species was recorded within this patch and would be considered to be in 'High' or 'Very High' condition. Patches 1, 2, and 5 were not considered to be representative of the Tuart Woodlands TEC based on biotic condition thresholds, with all three patches considered to be in 'Poor' biotic condition.

In total, 1.3 ha of vegetation representing the Tuart Woodlands TEC was recorded within the survey area. Locations of Tuart Woodlands TEC are shown in Figure 4-9. The full four-stage assessment against key diagnostic characteristics for the Tuart Woodlands TEC is presented in Appendix Q.

Banksia attenuata woodlands over species rich dense shrublands (floristic community type 20a as originally described in Gibson et al. 1994).

Three quadrats within vegetation communities EmBaBm and BsppEtAf were found to have floristic affiliations with FCT 20a '*Banksia attenuata* woodlands over species rich dense shrublands' (listed as CR under the EPBC Act and BC Act). As such, further investigation was undertaken to determine the presence of this community, including comparison of affiliated sites with floristic descriptions, common taxa and landform descriptions detailed in the *Methods for survey and identification of Western Australia Threatened Ecological Communities* (DBCA 2023).

An analysis against this advice found that no vegetation within the survey area was representative of the FCT20a TEC. EmBaBm and BsppEtAf vegetation was not found to have the floristic diversity of FCT20a, did not match the known land systems associated with FCT20a, and lacked key floristic indicators. A full assessment against the FCT20a description is detailed in Table 13.

Table 13: Comparison of FCT20a description against vegetation and landform information recorded within affiliated vegetation communities recorded in the survey area.

FCT20a description (Gibson et al. 1994; DBCA 2023)	Survey area observations
Community occurs on sands at the base of the Darling Scarp between Chittering and Orange Grove and has been located on the Bassendean, Forrestfield, Southern River and Karrakatta soil and landform units, and on the southern Dandaragan Plateau subregion of the Swan Coastal Plain IBRA region.	The survey area is located in the central-east region of the Swan Coastal Plain through the suburbs of Gnangara, Jandabup, Maringup and Pinjar The survey area is located primarily on the Bassendean, Karrakatta and Spearwood land systems. Three quadrats were found to have a floristic affiliation with FCT20a, including ELA_Q18, ELA_Q21 and ELA_Q28. All three sites are located on the Bassendean land system.
Mean species richness is 67 species.	Mean species richness of the three quadrats found to have a floristic affiliation with FCT20a was 49 species. 53 species were recorded in quadrat ELA_Q18, while 47 species were recorded in quadrats ELA_Q21 and ELA_Q28.
The community is usually dominated by *Banksia attenuata* occasionally with *Eucalyptus marginata,* with *Bossiaea eriocarpa, Conostephium pendulum, Hibbertia huegelii, Hibbertia hypericoides, Petrophile linearis, Scaevola repens, Stirlingia latifolia, Mesomelaena pseudostygia,* and *Alexgeorgea nitens.* Lists of taxa that are 'typical' or 'common' to particular FCTs are listed in Gibson et al. (1994). Taxa listed as 'typical' would be expected to be present in at least 75% of FCT20a sites, and those listed as 'common expected in at least 50% of FCT20a sites. Appendix 2 of DBCA (2023) contains a full list of taxa that assist in distinguishing FCT20a.	Quadrats ELA_Q18 and ELA_Q21 were part of the EmBaBm community, described as *Eucalyptus marginata* mid open woodland and *Banksia attenuata*, *Banksia menziesii* low open woodland over *Xanthorrhoea preissii* tall sparse shrubland and *Daviesia divaricata*, *Hypocalymma robustum* mid open shrubland over *Hibbertia hypericoides* low open shrubland, *Mesomelaena pseudostygia* low sparse sedgeland and *Corynotheca micrantha* low sparse forbland. ELA_Q18 and ELA_Q21 contained twelve of the 19 taxa listed as 'typical' of the FCT20a community by Gibson et al. (1994). ELA_Q18 and ELA_Q21 had eight and nine of the 29 taxa listed as 'common' of the FCT20a community, respectively. Quadrat ELA_Q28 was part of the BsppEtAf community, described as *Banksia* spp., *Eucalyptus todtiana*, *Allocasuarina fraseriana*, *Nuytsia floribunda* low open woodland over *Xanthorrhoea preissii* tall sparse shrubland and *Eremaea pauciflora*, *Hypocalymma robustum* mid sparse shrubland over *Hibbertia hypericoides* low open shrubland and *Lyginia imberbis* low open sedgeland and *Alexgeorgea nitens* low open forbland. ELA_Q28 contained 11 of the 19 taxa listed as 'typical' and 7 of the 29 taxa listed as 'common' of the FCT20a community by Gibson et al. (1994).
FCT20a sites were differentiated by other subtypes of FCT20 vegetation by the occurrence of species such as *Alexgeorgia nitens, Daviesia nudiflora, Synaphea spinulosa, Hibbertia racemosa* and *Stylidium calcaratum.*	ELA_Q18 and ELA_Q21 contained indicator species such as *Alexgeorgia nitens* and *Stylidium calcaratum,* however the indicator species *Daviesia nudiflora, Synaphea spinulosa* and *Hibbertia racemosa* were not recorded. ELA_Q28 contained the indicator species *Alexgeorgia nitens,* but the indicator species *Daviesia nudiflora, Synaphea spinulosa, Hibbertia racemosa* and *Stylidium calcaratum* were not recorded.
Landforms on which the FCT20a group has been recorded include the Bassendean complex – central and south, Cullula complex, Forrestfield complex, Guildford complex, Karrakatta complex – central and south, Mogumber complex – south, Reagan complex, and Southern River complex.	Vegetation found to have a floristic affiliation with FCT20a within the survey area occurred on the landforms Bassendean complex – North Transition and Bassendean complex – North.

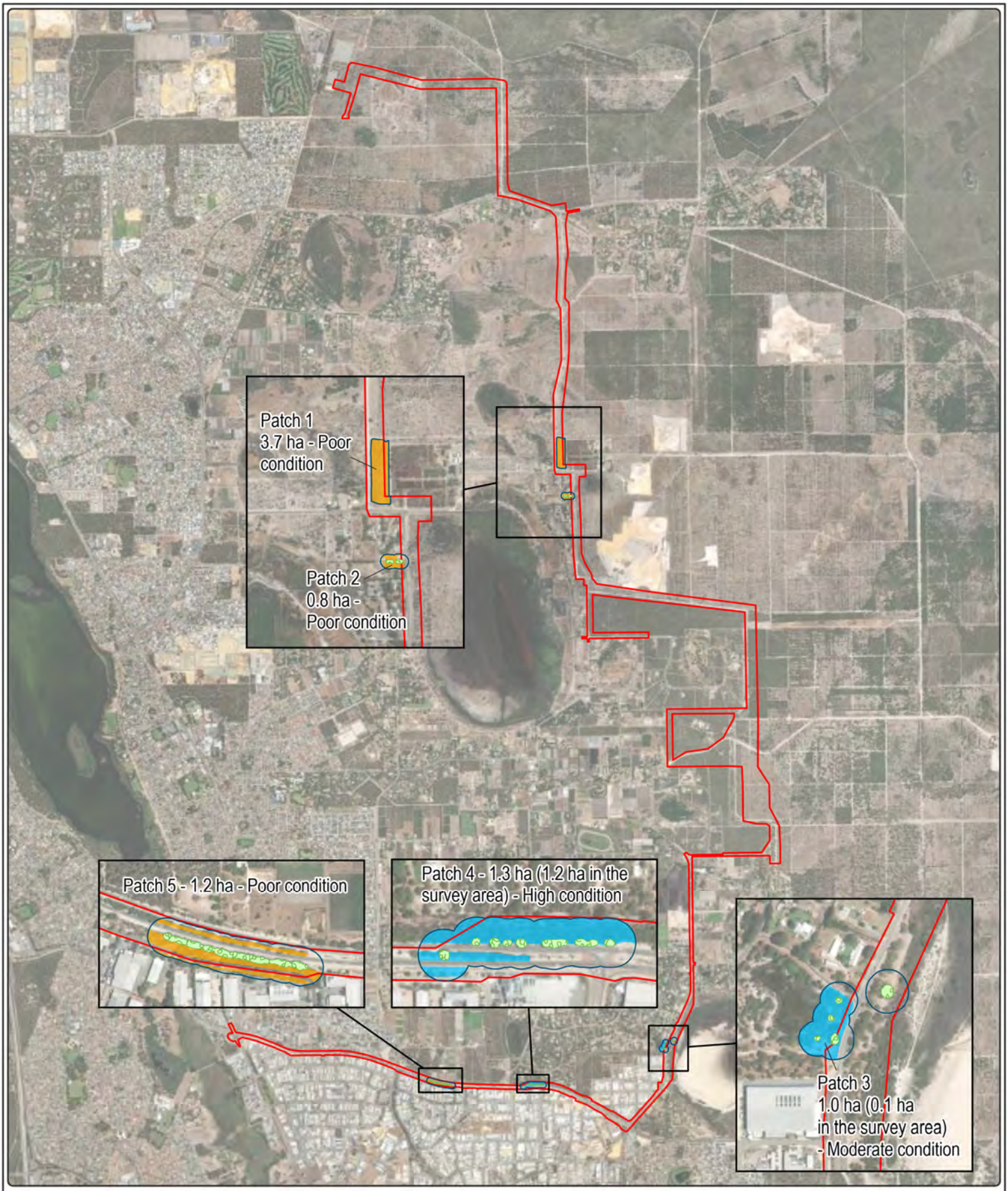

Figure 4-7: Patches of Tuart Woodland recorded in the survey area

Survey area
Tuart 30m buffer
Tuart canopy

Tuart Woodlands TEC outcome

Tuart Woodlands TEC
Not Tuart Woodlands TEC

0 0.5 1 2
Kilometers

Datum/Projection:
GDA 1994 MGA Zone 50

25PER10273-GHM Date: 20/03/2026

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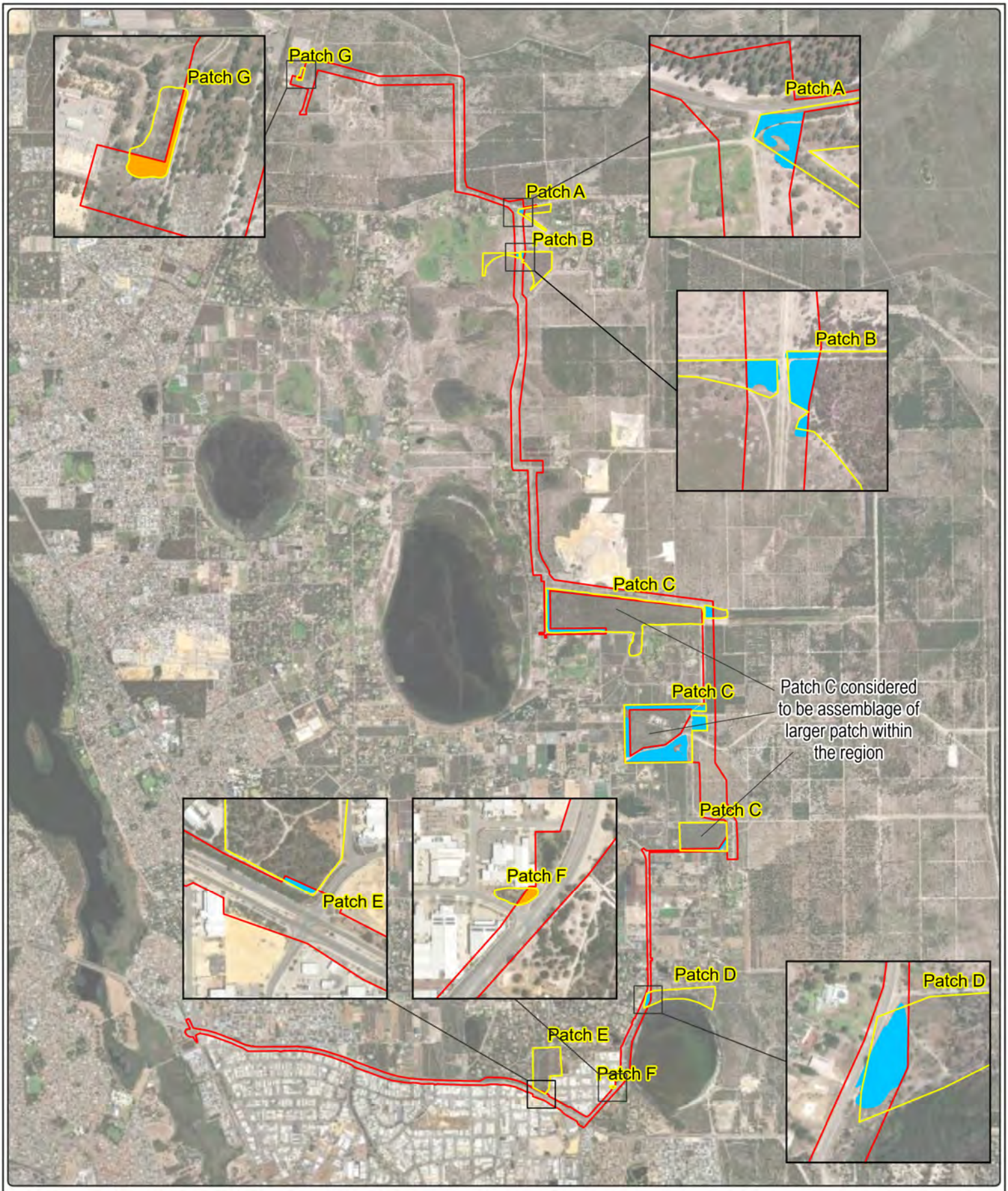

Figure 4-8: Patches of Banksia woodland vegetation recorded in the survey area

Survey area

Banksia woodland vegetation patch (inferred via aerial imagery)

Banksia Woodlands TEC assessment outcome

Banksia Woodlands TEC

Not Banksia Woodlands TEC

0 0.5 1 2

Kilometers

Datum/Projection:
GDA 1994 MGA Zone 50

25PER10273-GHM Date: 9/04/2026

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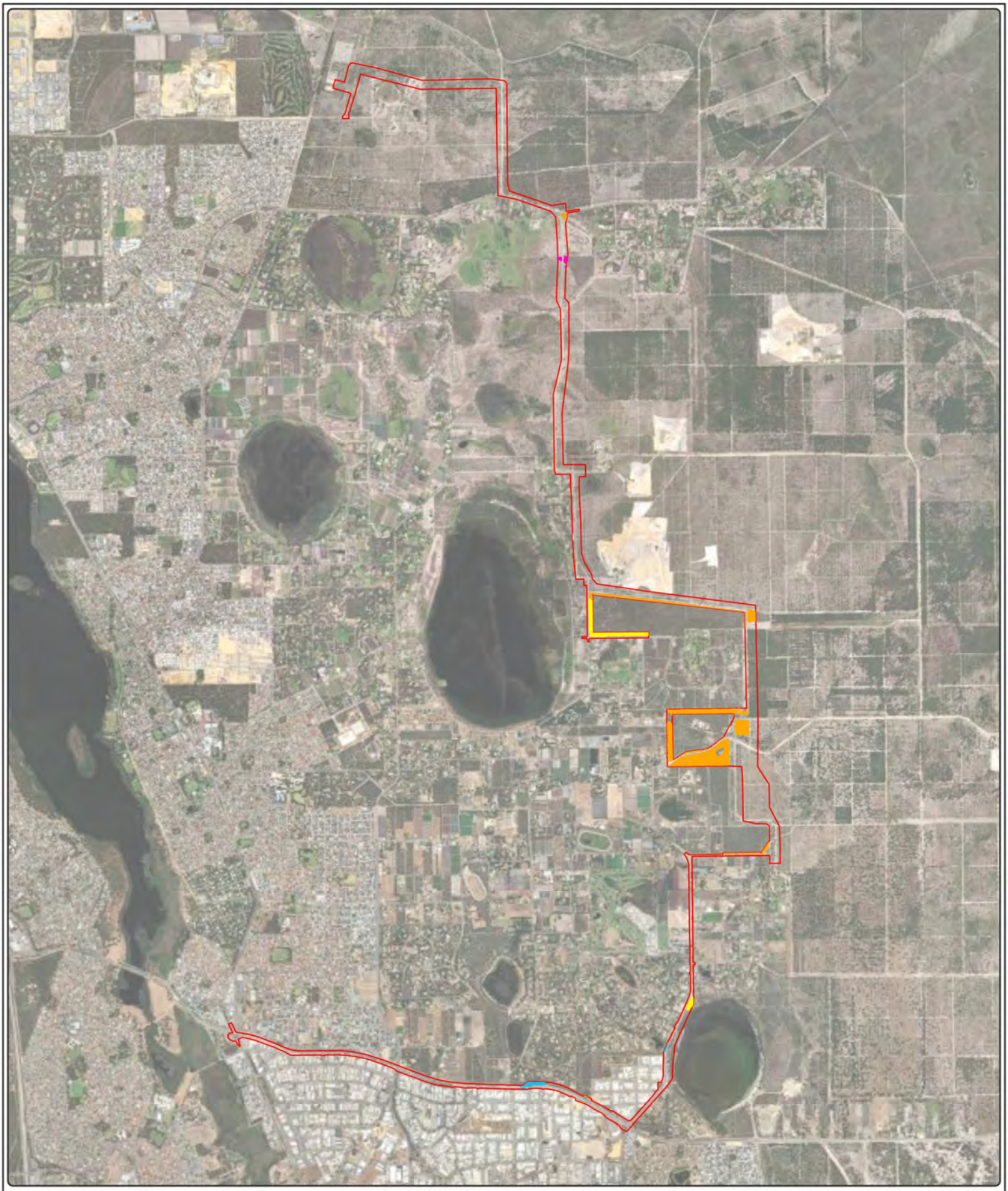

Figure 4-9: Conservation significant vegetation communities recorded in the survey area

Survey area

Conservation significant ecological communities

- Tuart Woodlands TEC (CR/P3)
- Banksia Woodlands of the Swan Coastal Plain TEC (CR/P3)
- Banksia Woodlands of the Swan Coastal Plain TEC (CR/P3) and FCT21c PEC (P3)
- Banksia Woodlands of the Swan Coastal Plain TEC (CR/P3) and FCT22 PEC (P3)
- FCT21c PEC (P3)

0 0.5 1 2

Kilometers

Datum/Projection:
GDA 1994 MGA Zone 50

25PER10273-GHM Date: 9/04/2026

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4.4. Fauna

4.4.1. Fauna overview

A total of 34 vertebrate fauna species (29 native and five introduced) were recorded within the survey area, consisting of 28 birds, four mammals and two reptiles. A complete fauna list is presented in Appendix R.

4.4.2. Significant fauna

Three conservation significant fauna species were recorded within the survey area, namely Carnaby's black cockatoo (*Zanda latirostris*; listed as EN under the EPBC Act and BC Act), Forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*; listed as VU under the EPBC Act and BC Act) and Rainbow bee-eater (*Merops ornatus*; listed as Marine [M] under the BC Act). Carnaby's cockatoo was observed flying overhead and perching in a Flooded Gum, while Forest red-tailed black cockatoo and Rainbow bee-eater were observed flying overhead.

Following the field survey, of the remaining 87 conservation significant fauna species identified from the desktop assessment (see Section 4.1.2 and Appendix G), a total of four species were considered as having the potential to occur within the survey area:

- *Falco peregrinus* (Peregrine falcon; listed as Other specially protected species [OS] under the BC Act)
- *Neelaps calonotos* (Western black-striped snake; listed as Priority [P] 3 by DBCA)
- *Isoodon fusciventer* (Quenda; listed as P4 by DBCA)
- *Notamacropus Irma* (Western brush wallaby; listed as P4 by DBCA).

The remaining 83 conservation-significant species identified in the desktop assessment were considered as being unlikely to occur (81 species) or as not occurring (two species) due to lack of suitable habitat or nearby records present. The complete fauna likelihood of assessment is presented in Appendix G.

4.4.3. Introduced fauna

Five introduced fauna species were recorded within the survey area, consisting of two bird species, the Laughing kookaburra (**Dacelo novaehollandiae*), the Rainbow lorikeet (**Trichoglossus moluccanus*) and three mammals, the European rabbit (**Oryctolagus cuniculus*), the domesticated dog (**Canis familiaris*) and the Horse (**Equus caballus*). The Rainbow lorikeet and European rabbit are listed as Declared Pests s22(2) under the BAM Act and have a C3 management control category (DPIRD 2026). The Laughing kookaburra, domesticated dog and Domestic horse are listed as Permitted (s-11) species in the Western Australian Organism List indicating that no specific management of these species are required (DPIRD 2026).

4.4.4. Fauna habitat

A total of 10 fauna habitat types were identified and mapped within the survey area, covering 183.3 ha (67.1% of the survey area; Table 14; Appendix S). Fauna habitats comprised a mix of intact woodlands and shrublands, as well as previously disturbed areas including ex- pine plantation, cleared areas, rehabilitation and managed gardens and roadside tree-lines. The mapped extent of each fauna habitat type relative to intact or non-native/highly modified vegetation is also presented below. Significant habitat features and conservation significant fauna species potentially utilising the fauna habitat are outlined in Table 14. Fauna habitat within the survey area is displayed in Appendix S.

Table 14: Fauna habitat recorded within the survey area

Fauna habitat	Description	Conservation significant fauna species potentially utilising habitat	Extent in the survey area (ha)	Proportion of the survey area (%)	Photo
Banksia woodland	This habitat is aligned with the BaBmBi vegetation community. It consists primarily of *Banksia attenuata, Banksia menziesii* and *Banksia ilicifolia* low open woodlands over mixed shrublands. It occurs on brown grey to grey sandy loam flats and slopes.	Carnaby's cockatoo, Peregrine falcon, Rainbow bee-eater, Western black-striped snake	1.4 (Full extent comprises intact vegetation or native regrowth among ex pine plantation)	0.5	
Banksia woodland with emergent trees	This habitat is aligned with the BsppEtAf, CcBaBi, EmBaBm and EPP_ErEtBspp vegetation communities. It consists of primarily of mixed Banksia spp. woodlands over mixed shrublands, with the occurrence of emergent trees of Marri, Jarrah, Rudis or Blackbutt. It occurs on brown grey to grey sandy loam flats and slopes.	Carnaby's cockatoo, Forest red-tailed black cockatoo, Rainbow bee-eater, Peregrine falcon, Western black-striped snake	36.3 (Full extent comprises intact vegetation or native regrowth among ex pine plantation)	13.3	
Cleared areas with scattered trees and/or shrubs	This habitat consists primarily of cleared areas with scattered pine trees and/or grass trees over a weedy herbaceous understory. It occurs on brown grey sandy soils. No quadrats or relevés were established in this vegetation community.	Carnaby's cockatoo, Forest red-tailed black cockatoo, Rainbow bee-eater, Western brush wallaby	12.7 (Full extent comprises non native or highly modified vegetation)	4.6	

Fauna habitat	Description	Conservation significant fauna species potentially utilising habitat	Extent in the survey area (ha)	Proportion of the survey area (%)	Photo
Managed gardens and roadside treelines	This habitat is aligned with the MG vegetation community. It consists of a variety of planted species as decorative roadside trees, park areas, garden areas and private property with planted species. It occurs on grey sand on flats and slopes.	Carnaby's cockatoo, Forest red-tailed black cockatoo, Rainbow bee-eater	15.3 (Full extent comprises non native or highly modified vegetation)	5.6	
Melaleuca closed depression	This habitat is aligned with the MpAgLs and MpAsHa vegetaiton communities. It comprises *Melaleuca preissiana* forest or woodland over mixed shrublands. It occurs on closed depression with grey brown sand to sandy loam.	Carnaby's cockatoo, Rainbow bee-eater, Quenda, Western brush wallaby	2.7 (Full extent comprises intact vegetation or native regrowth among ex pine plantation)	1.0	
Mixed open shrublands on sand	This habitat is aligned with the XpAcMf vegetation community. It consists of *Xanthorrhoea preissii*, *Adenanthos cygnorum* and *Macrozamia fraseri* mid open shrubland on sandy flats.	Carnaby's cockatoo, Rainbow bee-eater, Western brush wallaby	0.9 (Full extent comprises intact vegetation or native regrowth among ex pine plantation)	0.3	

Fauna habitat	Description	Conservation significant fauna species potentially utilising habitat	Extent in the survey area (ha)	Proportion of the survey area (%)	Photo
Mixed open woodlands and shrublands	This habitat is aligned with the EPP_Ec, EPP_ErMpNf, EPP_PpEmNf, MpNfAc and MXP vegetation communities. It consists primarily of mixed open woodlands and shrublands, with many of the areas comprising previously cleared ex-pine plantation, some of which has been naturally revegetated. It occurs on grey brown sandy loam on flats, slopes and open depression.	Carnaby's cockatoo, Forest red-tailed black cockatoo, Rainbow bee-eater, Peregrine falcon, Quenda, Western brush wallaby	89.1 (79.2 ha comprises intact vegetation or native regrowth among ex pine plantation; 9.9 ha comprises non native or highly modified vegetation)	32.6	
Pine plantation	This habitat is aligned with the PP vegetation community. It consists of pine plantation (**Pinus pinaster*) mid open forest, with typically little to no native understorey. It occurs on grey brown sandy loam on flats and slopes.	Carnaby's cockatoo, Rainbow bee-eater	19.5 (Full extent comprises non native or highly modified vegetation)	7.2	
Rehabilitation	This habitat consists of urban areas rehabilitated by Main Roads WA with a variety of native species.	Carnaby's cockatoo, Forest red-tailed black cockatoo, Rainbow bee-eater	5.4 (Full extent comprises non native or highly modified vegetation)	2.0	

Fauna habitat	Description	Conservation significant fauna species potentially utilising habitat	Extent in the survey area (ha)	Proportion of the survey area (%)	Photo
Cleared	Areas cleared of perennial vegetation. These spaces are either bare soil with weedy annual species such as agricultural paddocks, or lands utilised for roads, tracks, buildings and other urban infrastructure.		89.9	32.9	
Total			**273.2**	**100**	

4.4.5. Black cockatoo habitat assessment

A targeted assessment of potential foraging, breeding, and roosting habitat for Baudin's black cockatoo (*Zanda baudinii*), Carnaby's cockatoo (*Zanda latirostris*) and Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) was undertaken in the survey area. Both Carnaby's cockatoo and Forest Red-tailed Black Cockatoo were directly observed within the survey area; Carnaby's cockatoo was observed roosting in a Flooded gum (*Eucalyptus rudis*) and flying overhead, while Forest Red-tailed Black Cockatoo was recorded flying overhead during the survey. No secondary evidence (i.e. foraging evidence) was recorded in the survey area from the assessment. Potential foraging, breeding, and roosting habitat within the survey area is described in the sections below.

4.4.5.1. Foraging habitat

Habitat within the survey area was mapped as a mix of 'Moderate', 'Low', 'Negligible to Low' and 'Nil' foraging value for Carnaby's cockatoo (Table 15; Appendix T). Foraging quality scores in accordance with Bamford (2020) ranged from 6 to 0, based on factors including site condition, site context and species stocking rate. The score of Carnaby's was also moderated for the presence of pine plantation

A range of suitable forging species were present across the survey area at varying densities, including primary foraging species *Banksia attenuata*, *B. grandis*, *B. ilicifolia*, *B. menziesii*, *Corymbia calophylla* and *Eucalyptus gomphocephala*, and secondary foraging species **Pinus pinaster*, **Raphanus raphanistrum*, *Acacia saligna*, *Allocasuarina fraseriana*, *A. humilis*, *Eremophila glabra*, *Eucalyptus marginata*, *E. rudis*, *E. todtiana*, *Grevillea* spp., *Hakea* spp., *Jacksonia furcellata* and *Xanthorrhoea preissii.* The highest value habitat mapped was 'Moderate', which aligned with the Banksia woodland and Banksia woodland with emergent trees fauna habitats, within which covers of primary foraging species (e.g., *Banksia* spp.) were present.

Table 15: Quality of foraging habitat recorded in the survey area for Carnaby's cockatoo

Quality	Criteria summary	Associated fauna habitat/s	Extent (ha) within the survey area	% of survey area	Score (Bamford 2020)
Moderate	Presence of suitable foraging plant species at a high density (i.e. primary food sources present at 40-60% PFC, secondary food sources at >60% PFC) and presence of preferred food sources at several strata.	Banksia woodland, Banksia woodland with emergent trees	37.7	13.8	6
Low	Suitable foraging species present at a low density (i.e. primary food sources present at <10% PFC, secondary food sources present at 10-20% PFC).	Managed gardens and roadside treelines, Mixed open shrublands on sand, Mixed open woodlands and shrublands, Pine plantation	124.9	45.7	4
Negligible to low	Presence of some scattered foraging species but <2% PFC.	Cleared areas with scattered trees and/or shrubs, Melaleuca closed depression, Rehabilitation	20.7	7.6	1

Quality	Criteria summary	Associated fauna habitat/s	Extent (ha) within the survey area	% of survey area	Score (Bamford 2020)
Nil foraging value	No foraging value. No Proteaceae, eucalyptus, or other potential sources of food.	Cleared	89.9	32.9	0
Total			**273.2**	**100.0**	

Habitat within the survey area was mapped as a mix of 'Moderate', 'Low to moderate', 'Low', 'Negligible to low' and 'Nil' foraging value for Baudin's black cockatoo (Table 16; Appendix U). Foraging quality scores in accordance with Bamford (2020) ranged from 5 to 0, based on factors including site condition, site context and species stocking rate.

A range of suitable forging species were present across the survey area at varying densities, including **Pinus pinaster*, *Allocasuarina fraseriana*, *Banksia attenuata*, *B. grandis*, *B. ilicifolia*, *B. menziesii*, *Corymbia calophylla*, *Eucalyptus marginata*, *Hakea lissocarpha*, *H. petiolaris, H. prostrata*, *H. ruscifolia*, *H. trifurcata* and *Xanthorrhoea preissii*. The highest value habitat mapped was 'Moderate', which aligned with the Banksia woodland and Banksia woodland with emergent trees fauna habitats, within which covers of primary foraging species (e.g., *Banksia* spp.) were present, and with the Pine plantation fauna habitat, within which **Pinus pinaster* was present.

Table 16: Quality of foraging habitat recorded in the survey area for Baudin's black cockatoo

Quality	Criteria summary	Associated fauna habitat/s	Extent (ha) within the survey area	% of survey area	Score (Bamford 2020)
Moderate	Presence of suitable foraging plant species at a low to moderate density (i.e. food sources present at 20-40% PFC).	Banksia woodland, Banksia woodland with emergent trees, Pine plantation	57.2	20.9	5
Low to moderate	Suitable foraging species present but at a lower density (i.e. food sources present at 10-20% PFC).	Mixed open shrublands on sand, Mixed open woodlands and shrublands	90.1	33.0	4
Low	Suitable foraging species present at a low density (i.e. food sources present at 1-5% PFC.	Rehabilitation	5.4	2.0	2
Negligible to low	Presence of some scattered foraging species but <1% PFC.	Cleared areas with scattered trees and/or shrubs, Managed gardens and roadside treelines, Melaleuca closed depression	30.6	11.2	1
Nil foraging value	No foraging value. No suitable Proteaceae, eucalyptus, or other potential sources of food.	Cleared	89.9	32.9	0
Total			**273.2**	**100.0**	

Habitat within the survey area was mapped as a mix of 'Low to moderate', 'Low', 'Negligible to low' and 'Nil' foraging value for Forest red-tail black cockatoo (Table 17; Appendix V). Foraging quality scores in accordance with Bamford (2020) ranged from 5 to 0, based on factors including site condition, site context and species stocking rate.

A number of suitable forging species were present across the survey area at varying densities, including *Allocasuarina fraseriana*, *A. humilis*, *Corymbia calophylla*, *Eucalyptus gomphocephala* and *E. marginata*. The highest value habitat mapped was 'Low to Moderate', which aligned with the Banksia woodland with emergent trees fauna habitat, due to the presence of Marri (*Corymbia calophylla*).

Table 17: Quality of foraging habitat recorded in the survey area for Forest red-tailed black cockatoo

Quality	Criteria summary	Associated vegetation communities/types	Extent (ha) within the survey area	% of survey area	Score (Bamford 2020)
Low to moderate	Suitable foraging species present but at a lower density (i.e. food sources present at 10-20% PFC).	Banksia woodland with emergent trees	36.3	13.3	5
Low	Suitable foraging species present at a low density (i.e. food sources present at 1-5% PFC.	Managed gardens and roadside treelines, Mixed open woodlands and shrublands	104.4	38.2	2
Negligible to low	Presence of some scattered foraging species but <1% PFC.	Rehabilitation	5.4	2.0	1
No foraging value	No foraging value. No suitable Proteaceae, eucalyptus, or other potential sources of food.	Banksia woodland, Cleared areas with scattered trees and/or shrubs, Melaleuca closed depression, Mixed open shrublands on sand, Pine plantation, Cleared	127.1	46.5	0
Total			**273.2**	**100.0**	

No foraging evidence was recorded for any of the three Black Cockatoo species within the survey area. Foraging habitat within the survey area was defined based on criteria outlined in Appendix C and Appendix D.

In addition, the DAWE (2022) scoring tool was used to determine foraging habitat quality for black cockatoo species (Appendix X).

This outlines that 37.7 ha of native vegetation within the survey area is considered to be High-quality foraging habitat for Carnaby's cockatoo (score of 8), comprising Banksia woodland and Banksia woodland with emergent trees fauna habitats. A total of 127.7 ha of native vegetation within the survey area is considered to be Moderate-quality foraging habitat for Baudin's cockatoo (score of 6) comprising Banksia woodland, Banksia woodland with emergent trees, Mixed open shrublands on sand and Mixed open woodlands and shrublands fauna habitats. A total of 36.3 ha of native vegetation within the survey area is considered to be Moderate -quality foraging habitat for Forest red-tail black cockatoo (Score of 6) comprising the Banksia woodland with emergent trees fauna habitat (DAWE 2022; Appendix X).

4.4.5.2. Potential breeding and roosting habitat

A total of 39 potentially suitable breeding trees were recorded within the survey area, comprising 17 Flooded Gum (*Eucalyptus rudis*), 10 Marri (*Corymbia calophylla*), eight Jarrah (*Eucalyptus marginata*), three Tuart (*Eucalyptus gomphocephala*) trees and one stag (Appendix W; Appendix Y). Majority of trees (36; 92.3% of potentially suitable breeding trees recorded) had a hollow rank of 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.' A total of three trees had a hollow rank of 3 – 'Potentially suitable hollow visible but no chew marks present at entrance'.

Fauna habitat types containing large trees, namely Banksia woodland with emergent trees, Managed gardens and roadside treelines, Mixed open woodlands and shrublands and Pine plantation, as well as any identified breeding tree (+5 m buffer) was mapped as potential roosting habitat for all three black cockatoo species. A total of 160.2 ha (58.7% of the survey area) was mapped as potential roosting habitat for all three black cockatoo species (Appendix W).

5. Discussion

5.1. Flora

Flora species recorded in the survey area were typical of the Perth Swan Coastal Plain IBRA subregion (WAH 1998-). In total, 289 species (210 native and 79 introduced) from 63 families were recorded across 48 quadrats (257 species) and 12 relevés (21 additional taxa) established within the survey area and from opportunistic collections (11 additional taxa). Species richness at each quadrat ranged from 6 to 53, with an average of 30.5 species per quadrat. The families with the greatest number of species were Fabaceae, Myrtaceae, Poaceae) and Proteaceae.

Three conservation significant flora species were recorded within the survey area. This included *Schoenus griffinianus* (listed as P4 by DBCA), *Jacksonia sericea (*listed as P4 by DBCA) and *Grevillea olivacea* (listed as P4 by DBCA). Priority 4 species are 'Rare, Near Threatened and other species in need of monitoring' (Appendix A).

Jacksonia sericea is a low, spreading shrub to 0.6 m high with small, orange pea flowers which usually flower in December, or January to February (DBCA and WAH 2020). It is known from 88 records within a range of approximately 107 km from Carabooda in the north to Furnissdale in the south (DBCA 2007-2020). It grows in calcareous and sandy soils (DBCA and WAH 2020). Within the survey area, 168 individual *Jacksonia sericea* plants were recorded. These records occurred in the patch of remnant vegetation adjacent to Warbrook Way in the centre of the survey area. The *Jacksonia sericea* records occurred in association with the EmBaBm vegetation community. AECOM (2024) similarly recorded this species during their assessment.

Schoenus griffinianus is a small, tufted perennial, grass-like sedge which grows to 0.1 m (WAH 2026). It flowers between September and October (WAH-2026). It is known from only several collections between Eneabba and Wongan Hills growing in disturbed areas such as firebreaks in low heath and sand (WAH 2026). Two individuals *Schoenus griffinianus* plants were recorded within the survey area, both within quadrat ELA_Q23 in the MpNfAc vegetation community.

Grevillea olivacea naturally occurs along the west coast of Western Australia, from Dongara to Jurien Bay, where it occupies calcareous sands on coastal dunes and limestone substrates (WAH 1998). During the survey, *Grevillea olivacea* was recorded in three sites, ELA_Q01, ELA_R05 and ELA_R06 and further observed throughout the Rehabilitation/Regrowth and MG vegetation types. *Grevillea olivacea* has become widely naturalised across the Perth metropolitan region, where it is commonly cultivated, produced in nurseries, and used extensively in landscaping and revegetation plantings and therefore the recorded individuals do not represent a natural population. SLR (2025) similarly recorded this species during their assessment.

Seven of the conservation significant flora species assessed as having the potential to occur pre-survey were still considered as having the potential to occur following the field survey. This is due to several factors including: the presence of favourable habitat for the species, nearby records, annual or cryptic nature of the species, and known flowering times being outside of when the survey was conducted. These seven species include *Caladenia huegelii* (listed as EN under the EPBC Act, and as CR under the BC Act), *Drosera patens* (listed as P1 by DBCA), *Poranthera moorokatta* (listed as P2 by DBCA), *Stenanthemum sublineare* (listed as P2 by DBCA), *Styphelia filifolia* (listed as P3 by DBCA), *Anigozanthos humilis* subsp. *chrysanthus* (listed as P4 by DBCA) and *Hypolaena robusta* (listed as P4 by DBCA).

The remaining 19 conservation significant flora species identified as having the potential to occur in the survey area prior to the survey were considered unlikely to occur after the survey. Species from

comparable genera were observed flowering during the survey, and the target species have flowering periods that align with the current survey timing. Given these favourable survey conditions, it is expected that any individuals occurring within the survey area would have been recorded.

A total of 79 introduced (weed) species were recorded within the survey area, representing 27.3 % of the total flora species recorded. One species, **Asparagus asparagoides* is listed as an s22(2) (Exempt) Declared Pest and WoNS, was recorded at several locations throughout the survey area.

5.2. Vegetation

Vegetation within the survey area is highly variable with areas of current and previous pine plantation occurring throughout the northern half of the survey area, areas of remnant intact native vegetation in the central portion of the survey area (and in association with Lake Gnangara), and highly modified vegetation along the southern half of the survey area. Vegetation communities mapped during the current assessment are comparable to those previously mapped in the area by AECOM (2024) and SLR (2025), with similarities in species composition and vegetation structure. A total of thirteen vegetation communities were mapped within the survey area. Of these, eight represent intact vegetation communities and five comprise native regrowth amongst older ex-pine plantations. In 2024, AECOM mapped five different Banksia Woodland communities, two Eucalypt Woodland communities, three Melaleuca Woodland communities and disturbed vegetation in ex-pine plantations, which is comparable to those mapped during the current survey.

Four intact vegetation communities occurred in association with Lake Gnangara. Two of these – MpAgLs and MpAsHa were dominated by *Melaleuca preissiana* and represented riparian vegetation. The XpAcMf community occurred to the west of Lake Gnangara and was primarily a shrubland dominated by *Xanthorrhoea preissii*, *Adenanthos cygnorum* and *Macrozamia fraseri*. The CcBaBi community occurred as a small patch with limited extent to the north of Lake Gnangara and comprised a woodland dominated by *Corymbia calophylla* over *Banksia attenuata* and *Banksia menziesii*.. The Gnangara Lake intersects the survey area and is a known aquatic and terrestrial GDE, therefore there is the potential for vegetation communities mapped directly adjacent to the lake to represent GDE's.

Three vegetation communities occurred primarily in association with remnant Banksia Woodland located in the centre of the survey area, including communities BaBmBi, EmBaBm and BsppEtAf. The BaBmBi community comprised a low open woodland dominated by *Banksia attenuata*, *Banksia menziesii* and *Banksia ilicifolia* and occurred in a patch of remnant vegetation adjacent to Wirrega Rd. The EmBaBm community comprised a mid-open woodland dominated by *Eucalyptus marginata* over *Banksia* spp. and occupied much of the remnant vegetation adjacent to Warbrook Rd in the centre of the survey area. The BsppEtAf community comprised a low open woodland of *Banksia* spp. and occurred in several small disjunct patches in the northern half of the survey area.

Five vegetation communities occurred in association with older disused pine plantations and contained, to varying extents, native regrowth. In addition to these vegetation communities, five highly modified or actively managed vegetation types were also recorded. The main vegetation type was Pine Plantations (PP) comprising a monoculture of actively managed **Pinus pinaster* plantation. The four other vegetation types include the MG type, comprising managed gardens with roadside tree lines, Mixed Native Tree Plantations (MXP) and Scattered *Xanthorrhoea preissii* in cleared areas rehabilitation/regrowth. The remaining parts of the survey area were comprised of cleared areas.

Vegetation condition ranged from Excellent to Completely Degraded across the survey area. Remnant Banksia Woodland vegetation comprising communities EmBaBm and MpNfAc adjacent to Warbrook Rd were primarily in Excellent condition. Vegetation in Very Good condition included communities BaBmBi,

BsppEtAf, EmBaBm, EPP_ErMpNf and MpAgLs which occurred in remnant vegetation adjacent to Wirrega Rd and several other small disjunct patches of intact vegetation scattered throughout the survey area. Areas of Good vegetation were mostly associated with intact vegetation around Lake Gnangara and areas of older native regrowth in ex-pine plantation. Degraded and Completely Degraded vegetation occurs along the survey area in association with active pine plantations and highly modified planted vegetation.

Prior to the field assessment, the Banksia Woodlands TEC (listed as EN under the EPBC Act and P3 by DBCA) had been mapped in the survey area. The Banksia Woodlands TEC required a distinctive upper layer of low trees that must include one of *Banksia attenuata, B. menziesii, B. prionotes,* or *B. ilicifolia* (TSSC 2016). Given the presence of Banksia Woodlands vegetation in the survey area, an assessment against the key diagnostic characteristics of the Banksia Woodlands TEC was undertaken.

Several of the key diagnostic characteristics of the Banksia Woodlands TEC were met by vegetation communities BaBmBi, CcBaBi, EmBaBm and BsppEtAf, including location and landform, floristic structure and floristic composition. All four communities comprised of a woodland structure dominated by a mixture of *Banksia attenuata, B. menziesii* and/or *B. ilicifolia.* Most vegetation in the survey area mapped as the Banksia Woodlands TEC was considered to be in Excellent condition, with some areas of Very Good, Good, and Degraded vegetation. To be considered part of the Banksia Woodlands TEC, a patch needs to meet at least the 'Good' condition category (DoEE 2016). However, it is recognised that a single patch of this TEC may be degraded to some degree but still contributes to the overall function of the ecological community (DoEE 2016). As such, some vegetation assessed as being in Degraded condition within the survey area was included in this assessment as it can still serve as a linkage between or extensions of patches in Good or better condition. In total, 36.9 ha of Banksia Woodlands TEC vegetation was recorded in the survey area. Similarly, AECOM (2024) and SLR (2025) both recorded the Banksia Woodlands TEC during their assessments.

Given the presence of Tuart trees in the survey area, an assessment against the conservation advice for the Tuart Woodlands TEC (listed as CR under the EPBC Act and P3 by DBCA) was undertaken in the survey area. The Tuart Woodlands TEC was considered as having the potential to occur in the survey area prior to the survey and was recorded by AECOM (2024) during their assessment. Five individual patches of Tuart Woodlands vegetation were delineated in the survey area, including rehabilitated/planted vegetation on the corner of Townsend Road and Boundary Road (Patch 1), one patch along Hawkins Road (Patch 2), one patch associated with Tuscan Park on the corner of Tuscan Way and Sydney Road (Patch 3), and two patches along Ocean Reef Road (Patches 4 and 5).

Following the diagnostic criteria, Patches 3 and 4 were considered to be representative of the Tuart Woodlands TEC based on patch size and biotic condition. Patch 4 was considered to be in 'High' biotic condition based on results from a quadrat established within the patch and was approximately 1.3 ha in size (with 1.2 ha of this patch occurring in the survey area). While Patch 3 did not have an associated site, the patch contained a native understorey mapped as being in Good vegetation condition and was inferred to be part of a larger patch of Tuart vegetation associated with Tuscan Park. As such, this patch of was considered to represent the Tuart TEC based on the precautionary principle. In total 0.1 ha of this patch occurred in the survey area. In total, 1.3 ha of Tuart Woodlands TEC was recorded within the survey area. Patches 1, 2, and 5 were not considered to be representative of the Tuart Woodlands TEC given they were recorded as being in 'Poor' biotic condition.

In addition to the Banksia Woodlands TEC and Tuart Woodlands TEC, five conservation significant ecological communities associated with FCTs defined by Gibson et al. (1994) were considered as having the potential to occur in the survey area including FCT20a, FCT21c, FCT22, FCT23b and FCT24. Determination of these FCTs is primarily dependent on statistical analysis to compare quadrats

established within mapped vegetation communities in the survey area against the Gibson et al. (1994) dataset. As described in Section 4.2.6.1., this analysis was undertaken for quadrats established within intact native vegetation communities in the survey area.

Quadrats within communities BsppEtAf, BaBmBi and CcBaBi were found to have floristic affiliations with FCT21c 'Low lying *Banksia attenuata* woodlands or shrublands', which is considered to be a component of the Banksia Woodlands TEC and is itself listed as a Priority 3 PEC. An assessment against the vegetation description of the FCT21c vegetation community by Gibson et al. (1994) found that the CcBaBi community and sections of the BsppEtAf and BaBmBi communities were representative of the FCT21c PEC, with a total of 6.0 ha of the FCT21c PEC mapped within the survey area.

Parts of the BsppEtAf vegetation community were also considered to have a floristic affiliation with FCT22 '*Banksia ilicifolia* woodlands' PEC listed as P3 by DBCA (and also considered to be a component of the Banksia Woodlands TEC). An assessment against the vegetation description of the FCT22 vegetation community by Gibson et al. (1994) found that the BsppEtAf was in parts representative of the FCT22PEC, with a total of 0.6 ha of the FCT22 PEC mapped in the survey area.

Three quadrats within vegetation communities EmBaBm and BsppEtAf were found to have floristic affiliations with FCT 20a '*Banksia attenuata* woodlands over species rich dense shrublands' (listed as CR under the EPBC Act and BC Act). As such, further investigation was undertaken to determine the presence of this community, including comparison of affiliated sites with floristic descriptions, common taxa and landform descriptions detailed in the *Methods for survey and identification of Western Australia Threatened Ecological Communities* (DBCA 2023).

An analysis against this advice found that no vegetation within the survey area was representative of the FCT20a TEC. Vegetation in the survey area was found to have lower floristic diversity than that of FCT20a, with quadrats floristically affiliated with FCT20a having an average of 49 species recorded in comparison to the 67 species associated with the FCT20a TEC (Gibson et al. 1994). In addition, several key floristic indicator species were not recorded, including key differentiating species of FCT20a vegetation from other FCT20 subtypes, as well as other typical and common taxa expected to be present based on the descriptions by Gibson et al. (1994). Furthermore, ELA quadrats floristically affiliated with FCT20a were recorded on the Bassendean complex – North transition and Bassendean complex – North units, which are not typically associated with FCT20a based on the description by DBCA (2023).

Vegetation communities XpAcMf, MpAgLs, MpAsHa and MpNfAc were all associated with lowland/wetland FCTs that are not listed as TECs or PECs. Most of the Banksia Woodland vegetation within the survey area associated with communities EmBaBm and BsspEtAf were associated with FCT28 'Spearwood *Banksia attenuata* or *Banksia attenuata* – *Eucalyptus* woodlands' which is recognised as a component of the Banksia Woodlands TEC but not itself a listed TEC or PEC. No vegetation within the survey area was considered to have a floristic affiliation with FCT23b or FCT24.

5.3. Fauna

Fauna habitats present within the survey area are considered to provide suitable habitat for several terrestrial and avian fauna, with habitats providing a mix of suitable vegetation, substrate, and microhabitats for a variety of fauna species. Connectivity throughout the survey area has been somewhat diminished due to roads and development (i.e., infrastructure, tracks), however many connected areas of vegetation do exist throughout the landscape, particularly linking vegetated areas to the north and south.

Three conservation significant fauna species were recorded within the survey area, namely Carnaby's cockatoo (*Zanda latirostris*; listed as EN under the EPBC Act and BC Act), Forest red-tailed black cockatoo

(*Calyptorhynchus banksii naso*; listed as VU under the EPBC Act and BC Act) and the Rainbow bee-eater, (*Merops ornatus*; listed as a Marine species under the EPBC Act). Carnaby's cockatoo was observed flying overhead and perching in a Flooded Gum, while Forest red-tailed black cockatoo and Rainbow bee-eater were observed flying overhead. Black cockatoo species are discussed in further detail in Section 5.3.1 below.

The Rainbow bee-eater (listed as Marine under the BC Act) is the only bee-eater in Australia. It has very colourful plumage; a golden crown, orange-yellow chin and upper-throat and a black band on the lower throat, green upperparts and breat, blue lower abdomen, with primary feathers coppery and black-tipped (Ingwerson 2015). It is found across Australia (except in dry, waterless deserts), although is a seasonal migrant to southern Australia over Spring-Summer (Ingwerson 2015). No records of this species were identified from the DBCA database search; however, it was identified from the PMST search (DCCEEW 2026). The Rainbow bee-eater is found in open forest and woodlands, shrublands and cleared areas, usually near water (Ingwerson 2015). This species was observed flying over the survey area and may utilise all fauna habitats for foraging.

Following the field survey, of the remaining 87 conservation significant fauna species identified from the desktop assessment, a total of four fauna species were considered as having the potential to occur within the survey area, namely *Falco peregrinus* (Peregrine falcon), *Neelaps calonotos* (Western black-striped snake), *Isoodon fusciventer* (Quenda) and *Notamacropus Irma* (Western brush wallaby).

The Peregrine falcon (listed as OS under the BC Act) is a powerful-looking falcon with a black head and cheeks and a white bib, blueish grey above and pale whiteish below with fine bars on the lower breast (Department of Conservation and Land Management [CALM] 1998). It is found in all parts of Australia but is not common anywhere. A record of this species from 2003 occurs 600m from the survey area (DBCA 2026b). The Peregrine Falcon is found in most habitats, from rainforests to the arid zone, and at most altitudes, from the coast to alpine areas. It requires abundant prey and secure nest sites and prefers coastal and inland cliffs or open woodlands near water and may even be found nesting on high city buildings (Australian Museum 2026). Within the survey area, this species has the potential to utilise woodland fauna habitats for hunting (e.g., Banksia woodland, Banksia woodland with emergent trees and Mixed open woodlands and shrublands).

The Western black-striped snake (listed as P3 by DBCA) is a bring orange-red snake to 28 cm with a cream centre to each scale with a broad, black crescent-shaped band across its neck and a black tip on the snout (Wilson and Swan 2003). It is restricted to a sandy, coastal strip near Perth, WA, between Mandurah and Lancelin (Wilson and Swan 2003). A historical record of this species occurs within the survey area, while additional records occur within 5 km of the survey area (DBCA 2026b). This species occurs on dunes and sandplains vegetated with heaths and eucalypt/Banksia woodlands (Wilson and Swan 2003). Within the survey area, this species is considered as having the Potential to occur in areas of suitable habitat, namely within the Banksia woodland and Banksia woodland with emergent trees fauna habitats.

The Quenda (listed as P4 by DBCA) is a medium-sized ground dwelling marsupial with coarse dark greyish brown fur above and creamy white below, a tapered, dark brown tail and short, rounded ears (Threatened Species Recovery Hub 2021). Though this species is widespread, occurring along an arc in on the Swan Coastal Plain from Geraldton to Esperance in WA, population numbers are in decline due to habitat loss via land clearing, altered fire regimes, predation from feral species and competition for resources (Bryant 2019). A previous record from 2013 occurs within the survey area (DBCA 2026b). The species known to inhabit urban backyards and parklands, bush fragments and conservation reserves (Bryant 2019). This species prefers areas of scrubby vegetation (often swampy areas) with a dense cover of up to 1 m in height, often foraging in adjacent forest and woodland areas. Within the survey area,

this species is considered as having the Potential to occur in areas with sufficient understory (e.g., Melaleuca closed depression and Mixed open woodlands and shrublands fauna habitat types).

The Western brush wallaby (listed as P4 by DBCA) is a large, pale grey wallaby with a distinct white facial stripe, black and white ears and black hands and feet. The range of this species has been seriously reduced and fragmented due to clearing for agriculture. It is now distributed across the south-west of WA from Kalbarri to Cape Arid, occurring in open forest or woodland, particularly open, seasonally wet flats with low grasses and open, scrubby thickets (DEC 2012; Van Dyck, *et al.* 2013). A previous record of this species from 2006 is located approximately 1 km north of the survey (DBCA 2026b). Within the survey area, this species is considered as having the Potential to occur in areas with open woodlands and shrublands (e.g., Cleared areas with scattered trees and/or shrubs, Melaleuca closed depression, Mixed open shrublands on sand, Mixed open woodlands and shrublands).

5.3.1. Black cockatoos

The survey area occurs within the non-breeding range of Carnaby's cockatoo, within the 'Likely to occur' range of the Forest red-tailed black cockatoo and is outside of the predicted range of the Baudin's cockatoo. Previous records of all three black cockatoo species occur within 12 km of the survey area. As such, a Targeted black cockatoo habitat assessment was undertaken for all three species. A total of 1,496 records of black cockatoos were identified within 12 km of the survey area as part of the desktop assessment. This included 1,431 records of Carnaby's cockatoo, 11 records of Baudin's cockatoo, 12 records of white-tailed black cockatoo (not differentiated between Carnaby's and Baudin's cockatoo), and 42 records of Forest red-tailed black cockatoo (DBCA 2026b). Habitat critical to the survival of the Carnaby's cockatoo includes Eucalypt woodlands that provide nest hollows used for breeding, together with nearby vegetation that provides feeding, roosting, and watering habitat that supports successful breeding (DPaW 2012). Habitat critical to the survival of Baudin's cockatoo and the Forest red-tailed black cockatoo includes all Marri (*Corymbia calophylla*), Karri (*Eucalyptus diversicolor*), and Jarrah (*Eucalyptus marginata*) forests, woodlands, and remnants in the south-west of Western Australia receiving more than 600 mm of annual average rainfall (Chapman 2008).

Carnaby's black cockatoo and Forest red-tailed black cockatoo were directly observed within the survey area, perching in a tree and flying overhead. No evidence of black cockatoo foraging was recorded within the survey area.

Habitat within the survey area was mapped as a mix of 'Moderate', 'Low', 'Negligible to Low' and 'Nil' foraging value for Carnaby's cockatoo. Foraging quality scores in accordance with Bamford (2020) ranged from 6 to 0. A range of suitable forging species were present across the survey area at varying densities, including primary foraging species *Banksia attenuata*, *B. grandis*, *B. ilicifolia*, *B. menziesii*, *Corymbia calophylla* and *Eucalyptus gomphocephala*, and secondary foraging species **Pinus pinaster*, **Raphanus raphanistrum*, *Acacia saligna*, *Allocasuarina fraseriana*, *A. humilis*, *Eremophila glabra*, *Eucalyptus marginata*, *E. rudis*, *E. todtiana*, *Grevillea* spp., *Hakea* spp., *Jacksonia furcellata* and *Xanthorrhoea preissii.* The highest value habitat mapped was 'Moderate', which aligned with the Banksia woodland and Banksia woodland with emergent trees fauna habitats, within which covers of primary foraging species (e.g., *Banksia* spp.) were present. An assessment of this vegetation against the DAWE (2022) scoring tool found this vegetation to represent 'High-quality' foraging habitat for Carnaby's cockatoo.

Habitat within the survey area was mapped as a mix of 'Moderate', 'Low to moderate', 'Low', 'Negligible to low' and 'Nil' foraging value for Baudin's black cockatoo. Foraging quality scores in accordance with Bamford (2020) ranged from 5 to 0. A range of suitable forging species were present across the survey area at varying densities, including **Pinus pinaster*, *Allocasuarina fraseriana*, *Banksia attenuata*, *B.*

grandis, *B. ilicifolia*, *B. menziesii*, *Corymbia calophylla*, *Eucalyptus marginata*, *Hakea lissocarpha*, *H. petiolaris, H. prostrata*, *H. ruscifolia*, *H. trifurcata* and *Xanthorrhoea preissii*. The highest value habitat mapped was 'Moderate', which aligned with the Banksia woodland and Banksia woodland with emergent trees fauna habitats, within which covers of primary foraging species (e.g., *Banksia* spp.) were present, and with the Pine plantation fauna habitat, within which **Pinus pinaster* was present. An assessment of this vegetation against the DAWE (2022) scoring tool found this vegetation to represent 'Moderate-quality' foraging habitat for Baudin's black cockatoo.

Habitat within the survey area was mapped as a mix of 'Low to moderate', 'Low', 'Negligible to low' and 'Nil' foraging value for Forest red-tail black cockatoo. Foraging quality scores in accordance with Bamford (2020) ranged from 5 to 0. A number of suitable forging species were present across the survey area at varying densities, including *Allocasuarina fraseriana*, *A. humilis*, *Corymbia calophylla*, *Eucalyptus gomphocephala* and *E. marginata*. The highest value habitat mapped was 'Low to Moderate', which aligned with the Banksia woodland with emergent trees fauna habitat, due to the presence of Marri (*Corymbia calophylla*). An assessment of this vegetation against the DAWE (2022) scoring tool found this vegetation to represent 'Moderate-quality' foraging habitat for Forest red-tail black cockatoo black cockatoo.

A total of 39 potentially suitable breeding trees were recorded within the survey area, comprising 17 Flooded Gum (*Eucalyptus rudis*), 10 Marri (*Corymbia calophylla*), eight Jarrah (*Eucalyptus marginata*), three Tuart (*Eucalyptus gomphocephala*) trees and one stag. Majority of trees (36; 92.3% of potentially suitable breeding trees recorded) had a hollow rank of 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.' A total of three trees had a hollow rank of 3 – 'Potentially suitable hollow visible but no chew marks present at entrance'. Fauna habitat types containing large trees, namely Banksia woodland with emergent trees, Managed gardens and roadside treelines, Mixed open woodlands and shrublands and Pine plantation, as well as any identified breeding tree (+5 m buffer) was mapped as potential roosting habitat for all three black cockatoo species.

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Appendix A Framework for conservation significant flora and fauna ranking

CATEGORIES OF THREATENED SPECIES UNDER THE ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999 (EPBC ACT)

Threatened fauna and flora may be listed in any one of the following categories as defined in Section 179 of the EPBC Act. Species listed as 'conservation dependent' and 'extinct' are not Matters of National Environmental Significance and therefore do not trigger the EPBC Act.

Category	Definition
Extinct (EX)	There is no reasonable doubt that the last member of the species has died.
Extinct in the Wild (EW)	Taxa known to survive only in captivity or as a naturalised population well outside its past range; or taxa has not been recorded in its known and/or expected habitat at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
Critically Endangered (CR)	Taxa considered to be facing an extremely high risk of extinction in the wild.
Endangered (EN)	Taxa considered to be facing a very high risk of extinction in the wild.
Vulnerable (VU)	Taxa considered to be facing a high risk of extinction in the wild.
Near Threatened (NT)	Taxa has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered, or Vulnerable now, but is close to qualifying or is likely to qualify for a threatened category in the future.
Least Concern (LC)	Taxa has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable, or Near Threatened. Widespread and abundant taxa are included in this category.
Data Deficient (DD)	There is inadequate information to make a direct or indirect assessment of taxa's risk of extinction based on its distribution and/or population status.
Not Evaluated (NE)	Taxa has not yet been evaluated against the criteria.
Migratory (MI)	Not an IUCN category. Species are defined as migratory if they are listed in an international agreement approved by the Commonwealth Environment Minister, including: • the Bonn Convention (convention of the Conservation of Migratory Species of Wild Animal) for which Australia is a range state; • the agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their environment (CAMBA); • The agreement between the Government of Japan and the Government of Australia for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment (JAMBA); or • The agreement between Australia and the Republic of Korea to develop a bilateral migratory bird agreement similar to the JAMBA and CAMBA in respect to migratory bird conservation and provides a basis for collaboration on the protection of migratory shorebirds and their habitat (ROKAMBA)

CONSERVATION CODES FOR WESTERN AUSTRALIAN FLORA AND FAUNA

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.*

Specially protected fauna or flora are species 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.

Threatened species (T)

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).

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

Category	Code	Description
Critically Endangered	CR	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 Division 1 of the Biodiversity Conservation (Listing of Native Species) (Flora) Order 2024 or Schedule 2 Division 1 of the Biodiversity Conservation (Listing of Native Species) (Fauna) Order 2024.
Endangered	EN	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 1 Division 2 of the Biodiversity Conservation (Listing of Native Species) (Flora) Order 2024 or Schedule 2 Division 2 of the Biodiversity Conservation (Listing of Native Species) (Fauna) Order 2024.
Vulnerable	VU	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 1 Division 3 of the Biodiversity Conservation (Listing of Native Species) (Flora) Order 2024 or Schedule 2 Division 3 of the Biodiversity Conservation (Listing of Native Species) (Fauna) Order 2024.

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, as follows:

Category	Code	Description
Extinct species	EX	Species which have been adequately searched for and there is no reasonable doubt that the last individual has died. Published under Schedule 2 of the Biodiversity Conservation (Listing of Native Species) (Flora) Order 2024 or Schedule 3 of the Biodiversity Conservation (Listing of Native Species) (Fauna) Order 2024.
Extinct in the wild species	EW	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 flora or fauna 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 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.

Categories are detailed below.

Category	Code	Description
Migratory species	MI	Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; 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 government of Japan (JAMBA), People's Republic of 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. Listed as Migratory under Section 13(1)(a)(ii) of the BC Act. Published under Schedule 1 Division 2 of the Biodiversity Conservation (listing of Native Species) (Fauna) Order 2024.
Species of special conservation interest (conservation dependent fauna)	CD	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). Listed as species of special conservation interest (conservation dependent fauna) under Section 13(1)(a)(i) of the BC Act. Published under Schedule 1 Division 1 of the Biodiversity Conservation (listing of Native Species) (Fauna) Order 2024.
Other specially protected species	OS	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). Listed as Other specially protected species under Section 13(1)(b) of the BC Act. Published under Schedule 1 Division 3 of the Biodiversity Conservation (listing of Native Species) (Fauna) Order 2024.

Priority species (P)

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 flora or fauna.

Species that are adequately known, are rare but not threatened, 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 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.

Category	Code	Definition
Priority 1	P1	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	P2	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 not 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	P3	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 need further survey.
Priority 4	P4	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.

Appendix B Likelihood of occurrence criteria

Likelihood rating	Criteria
Recorded	The species has been previously recorded within the survey area from DBCA database search results and/or from previous surveys of the survey area, and/or the species has been confirmed through a current vouchered specimen at the WA Herbarium.
Likely	The species has not previously been recorded from within the survey area. However, to qualify requires one or more of the following criteria to be met: • The species has been recorded in close proximity to the survey area, and occurs in similar habitat to that which occurs within the survey area • Core habitat and suitable landforms for the species occurs within the survey area either year-round or seasonally. In relation to fauna species, this could be that a host plant is seasonally present on site, or habitat features such as caves are present that may be used during particular times during its life cycle e.g. for breeding. In relation to both flora and fauna species, it may be there are seasonal wetlands present • There is a medium to high probability that a species uses the survey area
Potential	The species has not previously been recorded from within the survey area. However, to qualify requires one or more of the following criteria to be met: • Targeted surveys may locate the species based on records occurring in proximity to the survey area and suitable habitat occurring in the survey area • The survey area has been assessed as having potentially suitable habitat through habitat modelling • The species is known to be cryptic and may not have been detected despite extensive surveys • The species is highly mobile and has an extensive foraging range so may not have been detected during previous surveys The species has been recorded in the survey area by a previous survey or there is historic evidence of species occurrence within the survey area. However, one or more of the following criteria is met: • Doubt remains over taxonomic identification or the majority of habitat does not appear suitable (although presence cannot be ruled out due to factors such as species ecology or distribution) • Location co-ordinates for the record are doubtful
Unlikely	The species has been recorded locally through DBCA database searches. However it has not been recorded within the survey area and: • It is unlikely to occur due to the site lacking critical habitat, having at best marginally suitable habitat, and/or being severely degraded • It is unlikely to occur due to few historic record/s and no other current collections in the local area The species has been recorded within the bioregion based on literature review but has not been recorded locally or within the survey area through DBCA database searches. The species has not been recorded in the survey area despite adequate survey efforts, such as a standardised methodology of targeted searching within potentially suitable habitat.
Does not occur (one or more criteria requires to be met)	The species is not known to occur within the IBRA bioregion based on current literature and distribution. The conspicuous species has not been recorded in the survey area despite adequate survey efforts at an appropriate time of year to detect the species within potentially suitable habitat. The survey area lacks important habitat for a species that has highly selective habitat requirements. The species has been historically recorded within the survey area or locally, however it is considered locally extinct due to significant habitat changes such as land clearing and/or introduced predators.

Appendix C Black cockatoo habitat definitions

Habitat	Definition
Foraging habitat	Foraging habitat is defined as plant species known to support foraging within the range of each species. The specific foraging requirements differ slightly between the three species as described in DAWE 2022: • **Carnaby's Cockatoo** – mainly feeds in native shrubland, kwongkan heathland, and woodland. Food items include seeds, flowers, and nectar of native proteaceous plant species (i.e. *Banksia* spp., *Hakea* spp., *Grevillea* spp.), as well as *Callistemon* spp., and Marri (*Corymbia calophylla*). Also feeds on the seeds of introduced species including *Pinus* spp., *Erodium* spp., wild radish, canola, almonds, macadamia, and pecan nuts; insects and insect larvae; occasionally flesh and juice of apples and persimmons; and liquidambar. • **Baudin's Cockatoo** – mainly feeds in eucalypt woodlands and forest and proteaceous woodlands and heath. Food items primarily include seeds of Marri, rarely Jarrah (*Eucalyptus marginata*), and seeds of native proteaceous plant species (e.g. *Banksia* spp. and *Hakea* spp.). Also feeds on insects and insect larvae; pith of kangaroo paw (*Anigozanthos flavidus*); tips of *Pinus* spp.; *Macadamia* spp.; almonds and pecans; seeds of apples, pears, and persimmons. • **Forest Red-tailed Black Cockatoo** – mainly feeds in Jarrah and Marri woodlands and forest and edges of Karri (*Eucalyptus diversicolor*) forests including Wandoo (*E. wandoo*) and Blackbutt (*E. patens*). Food items primarily include seeds of Marri and Jarrah. Also feeds on *Allocasuarina* cones, fruits of Snottygobble (*Persoonia longifolia*) and Mountain Marri (*Corymbia haematoxylon*). Other less important foods include: Blackbutt, Bullich (*Eucalyptus megacarpa*), *Allocasuarina fraseriana, Hakea* spp., Tuart (*Eucalyptus gomphocephala*), Redheart Moit (*Eucalyptus decipiens*), and Bushy Yate (*Eucalyptus lehmanii*). Also some introduced eucalypts such as river red gum (*E. camaldulensis*) and flooded gum (*E. rudis*).
Night roosting habitat	Habitat that contains one, or a group of potential roosting trees: • **Known roosting tree** – a tree (generally the tallest), native or introduced known to be used for night roosting or which demonstrates evidence of roosting. Usually close to an important water source and within an area of high-quality foraging habitat. During the breeding season, male black cockatoos roost in the vicinity of the nesting trees, therefore a breeding area may also be considered to be night roosting habitat. • **Potential roosting tree** – A tall tree of any species in close proximity to water.
Breeding habitat	Habitat that contains known, suitable, or potential nesting trees: • **Known nesting tree** – Trees (live or dead but still standing) which contain a hollow where black cockatoo breeding has been recorded or which demonstrates evidence of breeding (i.e. showing evidence of use through scratches, chew marks, or feathers). • **Suitable nesting tree –** Trees with suitable nesting hollows present, although no evidence of use. Note that any species of tree may develop suitable hollows for breeding. • **Suitable nesting hollow –** Any hollow with dimensions suitable for use for nesting by black cockatoos (Carnaby's Cockatoo 23-30 cm [EPA 2019], Baudin's Cockatoo 30-40 cm [Chapman 2008]. Forest Red-tailed Black Cockatoo 12-41cm [Chapman 2008]). Suitable nest hollows are only found in live trees with a diameter at breast height (DBH) of at least 500 mm. Usually this will be a natural hollow, but artificial hollows may also be suitable in some circumstances (for example, where the artificial hollow has been specifically designed for use by black cockatoos). Note that artificial hollows have only been shown to have value for Carnaby's Cockatoos to date. • **Potential nesting trees –** Trees that have a suitable DBH to develop a nest hollow but do not currently have hollows. For most species of trees, suitable nest hollows are only found in live trees with a DBH of at least 500 mm. Trees suitable to develop a nest hollow in the future are 300-500 mm DBH. Note that many species of eucalypt may develop suitable hollows for breeding.

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Appendix D Black Cockatoo foraging habitat quality criteria

Foraging habitat quality	Carnaby's Cockatoo	Forest Black Cockatoo (Baudin's Cockatoo and Forest Red-tailed Black Cockatoo)
High	• Presence of suitable foraging plant species[1] at a high density (i.e. primary food sources[2] present at >60% PFC[3], secondary food sources[2] present at >70% PFC) and presence of preferred food sources at several strata; • Low weed invasion and/or low tree deaths (indicating it is robust and unlikely to decline in the medium term); and/or • Lower quality foraging habitat based on vegetation characteristics, but with evidence of use (i.e. chewed nuts, cones, seeds or flowers). • Example: Banksia forest >60% PFC and Good or higher vegetation condition with low weed invasion and/or low tree deaths.	• Presence of suitable foraging plant species[1] at a high density (i.e. food sources present at >60% PFC[3]) and presence of preferred food sources at several strata; • Low weed invasion and/or low tree deaths (indicating it is robust and unlikely to decline in the medium term); and/or • Lower quality foraging habitat based on vegetation characteristics, but with evidence of use (i.e. chewed nuts, cones, seeds or flowers). • Example: Marri-Jarrah Forest >60% PFC and Good or higher vegetation condition with low weed invasion and/or low tree deaths.
Moderate to high	• Presence of suitable foraging plant species at a high density (i.e. primary food sources present at 40-60% PFC, secondary food sources at >60% PFC) and presence of preferred food sources at several strata; • Foraging species with >60% PFC but foraging habitat viability reduced due to high weed invasion and/or tree deaths indicating that the vegetation could potentially decline in the medium term due to suppressed regrowth or disease; and/or • Lower quality foraging habitat but with evidence of use (i.e. chewed nuts, cones, seeds or flowers).	• Presence of suitable foraging plant species at a high density (i.e. food sources present at 40-60% PFC) and presence of preferred food sources at several strata; • Foraging species with >60% PFC but foraging habitat viability reduced due to high weed invasion and/or tree deaths indicating that the vegetation could potentially decline in the medium term due to suppressed regrowth or disease; and/or • Lower quality foraging habitat but with evidence of use (i.e. chewed nuts, cones, seeds or flowers).
Moderate	• Presence of suitable foraging plant species at a low to moderate density (i.e. primary food sources present at 20-40% PFC, secondary food sources at 40-60% PFC); • Foraging species with 40-60% PFC but foraging habitat viability reduced due to high weed invasion and/or tree deaths indicating that the vegetation could potentially decline in the medium term due to suppressed regrowth or disease; and/or • Lower quality foraging habitat but with evidence of use (i.e. chewed nuts, cones, seeds or flowers).	• Presence of suitable foraging plant species at a low to moderate density (i.e. food sources present at 20-40% PFC); • Foraging species with 40-60% PFC but foraging habitat viability reduced due to high weed invasion and/or tree deaths indicating that the vegetation could potentially decline in the medium term due to suppressed regrowth or disease; and/or • Lower quality foraging habitat but with evidence of use (i.e. chewed nuts, cones, seeds or flowers).
Low to moderate	• Suitable foraging species present but at a lower density (i.e. primary food sources present at 10-20% PFC, secondary food sources present at 20-40% PFC); • Foraging species with 20-40% projected foliage cover but foraging habitat viability reduced due to high weed invasion and/or tree deaths indicating that the vegetation could potentially decline in the medium term due to suppressed regrowth or disease; and/or	• Suitable foraging species present but at a lower density (i.e. primary food sources present at 10-20% PFC, secondary food sources present at 20-40% PFC); • Foraging species with 20-40% projected foliage cover but foraging habitat viability reduced due to high weed invasion and/or tree deaths indicating that the vegetation could potentially decline in the medium term due to suppressed regrowth or disease; and/or

Foraging habitat quality	Carnaby's Cockatoo	Forest Black Cockatoo (Baudin's Cockatoo and Forest Red-tailed Black Cockatoo)
	• Lower quality foraging habitat but with evidence of use (i.e. chewed nuts, cones, seeds or flowers).	• Lower quality foraging habitat but with evidence of use (i.e. chewed nuts, cones, seeds or flowers).
Low	• Suitable foraging species present at a low density (i.e. primary food sources present at <10% PFC, secondary food sources present at 10-20% PFC); and/or • Scattered foraging species or paddocks with known food sources such as melons or weeds that represent a short-term food source.	• Suitable foraging species present at a low density (i.e. food sources present at 1-5% PFC); and/or • Scattered foraging species or paddocks with known food sources such as melons or weeds that represent a short-term food source.
Negligible to low	• Presence of some scattered foraging species but <2% PFC.	• Presence of some scattered foraging species but <1% PFC.
No foraging value	• No foraging value. No Proteaceae, eucalypts or other potential sources of food. Examples: water bodies, bare ground, developed sites, mown grass.	• No foraging value. No eucalypts or other potential sources of food. Examples: water bodies, bare ground, developed sites.

[1] Based on the list of suitable foraging plants collated forom the following soureces: DAWE (2022), Groom (2011), Johnstone *et al.* (2010), Heydenrych (2012), and Lee *et al.* (2013).

[2] Primary food sources for Carnaby's Cockatoo are defined as those species which are known to provide a regular foraging resource and have been designated as being 'high' priority for planting by the Department of Environment and Conservation (now known as DBCA), where as secondary food items are defined as those species that are only occasionally foraged upon, and which have been assigned as being moderate to low priority for planting by DBCA (Groom 2011).

[3] PFC = projected foliage cover

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Appendix E PMST database search results

Protected Matters Search Tool Summary table – survey area with 10km buffer	
Matters of National Environment Significance	**Count**
World Heritage Properties	0
National Heritage Places	0
Wetlands of International Importance (Ramsar Wetlands)	0
Great Barrier Reef Marine Park	0
Commonwealth Marine Area	0
Listed Threatened Ecological Communities	5
Listed Threatened Species	76
Listed Migratory Species	52
Extra Information	**Count**
State and Territory Reserves	16
Regional Forest Agreements	0
Nationally Important Wetlands	0
EPBC Act Referrals	101
Key Ecological Features	0
Biologically Important Areas	10
Bioregional Assessments	0
Geological and Bioregional Assessments	0
Other Matters Protected by the EPBC Act	**Count**
Commonwealth Lands	19
Commonwealth Heritage Places	0
Listed Marine Species	78
Whales and Other Cetaceans	12
Critical Habitats	0
Commonwealth Reserves Terrestrial	0
Australian Marine Parks	0
Habitat Critical to the Survival of Marine Turtles	0

Details for each count listed below.

E1: Listed Threatened Ecological Communities

Community ID	Community Name	Threatened Category	Presence	Buffer Status
131	Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area	In feature area
174	Empodisma peatlands of southwestern Australia	Endangered	Community may occur within area	In feature area
182	Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion	Critically Endangered	Community likely to occur within area	In feature area
153	Tuart (*Eucalyptus gomphocephala*) Woodlands and Forests of the Swan Coastal Plain ecological community	Critically Endangered	Community likely to occur within area	In feature area
16	Assemblages of plants and invertebrate animals of tumulus (organic mound) springs of the Swan Coastal Plain	Endangered	Community known to occur within area	In buffer area only

E2: Listed Threatened Species

Scientific Name	Common Name	Class	Simple Presence	Presence Text	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Anous tenuirostris melanops	Australian Lesser Noddy	Bird	May	Species or species habitat may occur within area	Vulnerable			Listed		In buffer area only
Ardenna grisea	Sooty Shearwater	Bird	May	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed (as *Puffinus griseus*)		In buffer area only
Botaurus poiciloptilus	Australasian Bittern	Bird	Known	Species or species habitat known to occur within area	Endangered					In feature area
Calidris acuminata	Sharp-tailed Sandpiper	Bird	Known	Species or species habitat known to occur within area	Vulnerable	Migratory	Migratory Wetlands Species	Listed		In feature area
Calidris canutus	Red Knot, Knot	Bird	Likely	Species or species habitat likely to occur within area	Vulnerable	Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Calidris ferruginea	Curlew Sandpiper	Bird	Known	Species or species habitat known to occur within area	Critically Endangered	Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area

Scientific Name	Common Name	Class	Simple Presence	Presence Text	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Calyptorhynchus banksii naso	Forest Red-tailed Black-Cockatoo, Karrak	Bird	Known	Species or species habitat known to occur within area	Vulnerable					In feature area
Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover	Bird	Likely	Species or species habitat likely to occur within area	Vulnerable	Migratory	Migratory Wetlands Species	Listed		In feature area
Diomedea amsterdamensis	Amsterdam Albatross	Bird	May	Species or species habitat may occur within area	Endangered	Migratory	Migratory Marine Birds	Listed		In buffer area only
Diomedea epomophora	Southern Royal Albatross	Bird	May	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Diomedea exulans	Wandering Albatross	Bird	Likely	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Halobaena caerulea	Blue Petrel	Bird	May	Species or species habitat may occur within area	Vulnerable			Listed		In buffer area only
Leipoa ocellata	Malleefowl	Bird	Likely	Species or species habitat likely to occur within area	Vulnerable					In feature area
Limosa lapponica menzbieri	Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit	Bird	Known	Species or species habitat known to occur within area	Endangered					In buffer area only
Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel	Bird	May	Species or species habitat may occur within area	Endangered	Migratory	Migratory Marine Birds	Listed		In buffer area only
Macronectes halli	Northern Giant Petrel	Bird	Likely	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew	Bird	May	Species or species habitat may occur within area	Critically Endangered	Migratory	Migratory Wetlands Species	Listed		In feature area
Pachyptila turtur subantarctica	Fairy Prion (southern)	Bird	Likely	Species or species habitat likely to occur within area	Vulnerable					In buffer area only

Scientific Name	Common Name	Class	Simple Presence	Presence Text	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Phaethon rubricauda westralis	Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird	Bird	May	Species or species habitat may occur within area	Endangered					In buffer area only
Phoebetria fusca	Sooty Albatross	Bird	May	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Pterodroma mollis	Soft-plumaged Petrel	Bird	May	Species or species habitat may occur within area	Vulnerable			Listed		In buffer area only
Rostratula australis	Australian Painted Snipe	Bird	Known	Species or species habitat known to occur within area	Endangered			Listed - overfly marine area (as *Rostratula benghalensis* (sensu lato))		In feature area
Sternula albifrons	Little Tern	Bird	May	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed (as Sterna albifrons)		In buffer area only
Sternula nereis nereis	Australian Fairy Tern	Bird	Known	Foraging, feeding or related behaviour known to occur within area	Vulnerable					In feature area
Thalassarche carteri	Indian Yellow-nosed Albatross	Bird	Likely	Species or species habitat likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Thalassarche cauta	Shy Albatross	Bird	May	Species or species habitat may occur within area	Endangered	Migratory	Migratory Marine Birds	Listed		In buffer area only
Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross	Bird	May	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Thalassarche melanophris	Black-browed Albatross	Bird	Likely	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Thalassarche steadi	White-capped Albatross	Bird	May	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only

Scientific Name	Common Name	Class	Simple Presence	Presence Text	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Tringa nebularia	Common Greenshank, Greenshank	Bird	Known	Species or species habitat known to occur within area	Endangered	Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Zanda latirostris (listed as *Calyptorhynchus latirostris*)	Carnaby's Black Cockatoo, Short-billed Black-cockatoo	Bird	Known	Breeding known to occur within area	Endangered					In feature area
Galaxiella nigrostriata	Black-striped Dwarf Galaxias, Black-stripe Minnow	Fish	Known	Species or species habitat known to occur within area	Endangered					In feature area
Hesperocolletes douglasi	Douglas' Broad-headed Bee, Rottnest Bee	Insect	Known	Species or species habitat known to occur within area	Critically Endangered					In feature area
Leioproctus douglasiellus	a short-tongued bee	Insect	May	Species or species habitat may occur within area	Critically Endangered					In buffer area only
Balaenoptera musculus	Blue Whale	Mammal	Likely	Species or species habitat likely to occur within area	Endangered	Migratory	Migratory Marine Species		Cetacean	In buffer area only
Bettongia penicillata ogilbyi	Woylie	Mammal	Known	Species or species habitat known to occur within area	Endangered					In feature area
Dasyurus geoffroii	Chuditch, Western Quoll	Mammal	Known	Species or species habitat known to occur within area	Vulnerable					In feature area
Eubalaena australis	Southern Right Whale	Mammal	Known	Breeding known to occur within area	Endangered	Migratory (as Balaena glacialis australis)	Migratory Marine Species		Cetacean	In buffer area only
Neophoca cinerea	Australian Sea-lion, Australian Sea Lion	Mammal	Likely	Species or species habitat likely to occur within area	Endangered			Listed		In buffer area only
Pseudocheirus occidentalis	Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit	Mammal	Likely	Species or species habitat likely to occur within area	Critically Endangered					In buffer area only

Scientific Name	Common Name	Class	Simple Presence	Presence Text	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Andersonia gracilis	Slender Andersonia	Plant	Likely	Species or species habitat likely to occur within area	Endangered					In feature area
Anigozanthos viridis subsp. *terraspectans*	Dwarf Green Kangaroo Paw	Plant	Likely	Species or species habitat likely to occur within area	Vulnerable					In feature area
Banksia mimica	Summer Honeypot	Plant	May	Species or species habitat may occur within area	Endangered					In feature area
Caladenia huegelii	King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid	Plant	Known	Species or species habitat known to occur within area	Endangered					In feature area
Caleana dixonii (listed as *Paracaleana dixonii*)	Sandplain Duck Orchid	Plant	May	Species or species habitat may occur within area	Endangered					In feature area
Calectasia elegans	Elegant Tinsel Lily	Plant	Known	Species or species habitat known to occur within area	Critically Endangered					In feature area
Chamelaucium lullfitzii (listed as *Chamelaucium* sp. Gingin (N.G.Marchant 6))	Gingin Wax	Plant	May	Species or species habitat may occur within area	Endangered					In buffer area only
Darwinia foetida	Muchea Bell	Plant	Likely	Species or species habitat likely to occur within area	Critically Endangered					In buffer area only
Diuris drummondii	Tall Donkey Orchid	Plant	May	Species or species habitat may occur within area	Vulnerable					In buffer area only
Diuris micrantha	Dwarf Bee-orchid	Plant	Likely	Species or species habitat likely to occur within area	Vulnerable					In feature area
Diuris purdiei	Purdie's Donkey-orchid	Plant	Likely	Species or species habitat likely to occur within area	Endangered					In feature area

Scientific Name	Common Name	Class	Simple Presence	Presence Text	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Drakaea elastica	Glossy-leafed Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid	Plant	Likely	Species or species habitat likely to occur within area	Endangered					In feature area
Drakaea micrantha	Dwarf Hammer-orchid	Plant	Likely	Species or species habitat likely to occur within area	Vulnerable					In feature area
Eleocharis keigheryi	Keighery's Eleocharis	Plant	Likely	Species or species habitat likely to occur within area	Vulnerable					In feature area
Eucalyptus argutifolia	Yanchep Mallee, Wabling Hill Mallee	Plant	Known	Species or species habitat known to occur within area	Vulnerable					In feature area
Eucalyptus x balanites	Cadda Road Mallee, Cadda Mallee	Plant	May	Species or species habitat may occur within area	Endangered					In buffer area only
Grevillea christineae	Christine's Grevillea	Plant	Likely	Species or species habitat likely to occur within area	Endangered					In buffer area only
Grevillea curviloba subsp. *curviloba*	Curved-leaf Grevillea	Plant	Known	Species or species habitat known to occur within area	Endangered					In buffer area only
Grevillea curviloba subsp. *incurva*	Narrow curved-leaf Grevillea	Plant	Likely	Species or species habitat likely to occur within area	Endangered					In feature area
Macarthuria keigheryi	Keighery's Macarthuria	Plant	May	Species or species habitat may occur within area	Endangered					In feature area
Marianthus paralius	null	Plant	Known	Species or species habitat known to occur within area	Endangered					In buffer area only
Melaleuca sp. Wanneroo (G.J.Keighery 16705)	null	Plant	Known	Species or species habitat known to occur within area	Endangered					In buffer area only

Scientific Name	Common Name	Class	Simple Presence	Presence Text	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Synaphea sp. Fairbridge Farm (D.Papenfus 696)	Selena's Synaphea	Plant	Likely	Species or species habitat likely to occur within area	Critically Endangered					In buffer area only
Thelymitra dedmaniarum	Cinnamon Sun Orchid	Plant	May	Species or species habitat may occur within area	Endangered					In feature area
Thelymitra stellata	Star Sun-orchid	Plant	Likely	Species or species habitat likely to occur within area	Endangered					In buffer area only
Thelymitra variegata	Queen of Sheba	Plant	May	Species or species habitat may occur within area	Critically Endangered					In feature area
Trithuria occidentalis	Swan Hydatella	Plant	Likely	Species or species habitat likely to occur within area	Endangered					In buffer area only
Caretta caretta	Loggerhead Turtle	Reptile	Known	Foraging, feeding or related behaviour known to occur within area	Endangered	Migratory	Migratory Marine Species	Listed		In buffer area only
Chelonia mydas	Green Turtle	Reptile	Known	Foraging, feeding or related behaviour known to occur within area	Vulnerable	Migratory	Migratory Marine Species	Listed		In buffer area only
Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth	Reptile	Known	Foraging, feeding or related behaviour known to occur within area	Endangered	Migratory	Migratory Marine Species	Listed		In buffer area only
Natator depressus	Flatback Turtle	Reptile	Known	Foraging, feeding or related behaviour known to occur within area	Vulnerable	Migratory	Migratory Marine Species	Listed		In buffer area only
Carcharias taurus (west coast population)	Grey Nurse Shark (west coast population)	Shark	Likely	Species or species habitat likely to occur within area	Vulnerable					In buffer area only
Carcharodon carcharias	White Shark, Great White Shark	Shark	Known	Species or species habitat known to occur within area	Vulnerable	Migratory	Migratory Marine Species			In buffer area only
Pristis pristis	Large-tooth Sawfish, Freshwater Sawfish, River Sawfish, Leichhardt's	Shark	May	Species or species habitat may occur within area	Endangered	Migratory	Migratory Marine Species			In feature area

Scientific Name	Common Name	Class	Simple Presence	Presence Text	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
	Sawfish, Northern Sawfish									
Rhincodon typus	Whale Shark	Shark	May	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Species			In buffer area only
Sphyrna lewini	Scalloped Hammerhead	Shark	Likely	Species or species habitat likely to occur within area	Conservation Dependent					In buffer area only

E3: Listed Migratory Species

Scientific Name	Common Name	Class	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Tringa nebularia	Common Greenshank, Greenshank	Bird	Species or species habitat known to occur within area	Endangered	Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Actitis hypoleucos	Common Sandpiper	Bird	Species or species habitat known to occur within area		Migratory	Migratory Wetlands Species	Listed		In feature area
Macronectes halli	Northern Giant Petrel	Bird	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel	Bird	Species or species habitat may occur within area	Endangered	Migratory	Migratory Marine Birds	Listed		In buffer area only
Natator depressus	Flatback Turtle	Reptile	Foraging, feeding or related behaviour known to occur within area	Vulnerable	Migratory	Migratory Marine Species	Listed		In buffer area only
Tringa glareola	Wood Sandpiper	Bird	Species or species habitat known to occur within area		Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Carcharodon carcharias	White Shark, Great White Shark	Shark	Species or species habitat known to occur within area	Vulnerable	Migratory	Migratory Marine Species			In buffer area only
Anous stolidus	Common Noddy	Bird	Species or species habitat likely to occur within area		Migratory	Migratory Marine Birds	Listed		In buffer area only
Thalassarche melanophris	Black-browed Albatross	Bird	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only

Scientific Name	Common Name	Class	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Apus pacificus	Fork-tailed Swift	Bird	Species or species habitat likely to occur within area		Migratory	Migratory Marine Birds	Listed - overfly marine area		In feature area
Mobula alfredi	Reef Manta Ray, Coastal Manta Ray	Shark	Species or species habitat may occur within area		Migratory (as *Manta alfredi*)	Migratory Marine Species			In buffer area only
Sterna dougallii	Roseate Tern	Bird	Foraging, feeding or related behaviour likely to occur within area		Migratory	Migratory Marine Birds	Listed		In buffer area only
Phaethon rubricauda	Red-tailed Tropicbird	Bird	Species or species habitat may occur within area		Migratory	Migratory Marine Birds	Listed		In buffer area only
Sternula albifrons	Little Tern	Bird	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed (as Sterna albifrons)		In buffer area only
Phoebetria fusca	Sooty Albatross	Bird	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Onychoprion anaethetus	Bridled Tern	Bird	Breeding known to occur within area		Migratory	Migratory Marine Birds	Listed (as *Sterna anaethetus*)		In buffer area only
Pristis pristis	Large-tooth Sawfish, Freshwater Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish	Shark	Species or species habitat may occur within area	Endangered	Migratory	Migratory Marine Species			In feature area
Hydroprogne caspia	Caspian Tern	Bird	Foraging, feeding or related behaviour known to occur within area		Migratory	Migratory Marine Birds	Listed (as *Sterna caspia*)		In buffer area only
Eubalaena australis	Southern Right Whale	Mammal	Breeding known to occur within area	Endangered	Migratory (as Balaena glacialis australis)	Migratory Marine Species		Cetacean	In buffer area only
Carcharias taurus	Grey Nurse Shark	Shark	Species or species habitat likely to occur within area		Migratory	Migratory Marine Species			In buffer area only
Diomedea amsterdamensis	Amsterdam Albatross	Bird	Species or species habitat may occur within area	Endangered	Migratory	Migratory Marine Birds	Listed		In buffer area only
Rhincodon typus	Whale Shark	Shark	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Species			In buffer area only
Thalassarche steadi	White-capped Albatross	Bird	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only

Scientific Name	Common Name	Class	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Thalassarche carteri	Indian Yellow-nosed Albatross	Bird	Species or species habitat likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Lamna nasus	Porbeagle, Mackerel Shark	Shark	Species or species habitat may occur within area		Migratory	Migratory Marine Species			In buffer area only
Megaptera novaeangliae	Humpback Whale	Mammal	Species or species habitat known to occur within area		Migratory	Migratory Marine Species		Cetacean	In buffer area only
Calidris canutus	Red Knot, Knot	Bird	Species or species habitat likely to occur within area	Vulnerable	Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Calidris ferruginea	Curlew Sandpiper	Bird	Species or species habitat known to occur within area	Critically Endangered	Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Ardenna carneipes	Flesh-footed Shearwater, Fleshy-footed Shearwater	Bird	Foraging, feeding or related behaviour likely to occur within area		Migratory	Migratory Marine Birds	Listed (as *Puffinus carneipes*)		In buffer area only
Calidris melanotos	Pectoral Sandpiper	Bird	Species or species habitat likely to occur within area		Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth	Reptile	Foraging, feeding or related behaviour known to occur within area	Endangered	Migratory	Migratory Marine Species	Listed		In buffer area only
Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover	Bird	Species or species habitat likely to occur within area	Vulnerable	Migratory	Migratory Wetlands Species	Listed		In feature area
Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross	Bird	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Caretta caretta	Loggerhead Turtle	Reptile	Foraging, feeding or related behaviour known to occur within area	Endangered	Migratory	Migratory Marine Species	Listed		In buffer area only
Limosa lapponica	Bar-tailed Godwit	Bird	Species or species habitat known to occur within area		Migratory	Migratory Wetlands Species	Listed		In buffer area only
Caperea marginata	Pygmy Right Whale	Mammal	Species or species habitat may occur within area		Migratory	Migratory Marine Species		Cetacean	In buffer area only
Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew	Bird	Species or species habitat may occur within area	Critically Endangered	Migratory	Migratory Wetlands Species	Listed		In feature area

Scientific Name	Common Name	Class	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Balaenoptera musculus	Blue Whale	Mammal	Species or species habitat likely to occur within area	Endangered	Migratory	Migratory Marine Species		Cetacean	In buffer area only
Balaenoptera edeni	Bryde's Whale	Mammal	Species or species habitat may occur within area		Migratory	Migratory Marine Species		Cetacean	In buffer area only
Motacilla cinerea	Grey Wagtail	Bird	Species or species habitat may occur within area		Migratory	Migratory Terrestrial Species	Listed - overfly marine area		In feature area
Chelonia mydas	Green Turtle	Reptile	Foraging, feeding or related behaviour known to occur within area	Vulnerable	Migratory	Migratory Marine Species	Listed		In buffer area only
Pandion haliaetus	Osprey	Bird	Species or species habitat known to occur within area		Migratory	Migratory Wetlands Species	Listed		In feature area
Calidris acuminata	Sharp-tailed Sandpiper	Bird	Species or species habitat known to occur within area	Vulnerable	Migratory	Migratory Wetlands Species	Listed		In feature area
Orcinus orca	Killer Whale, Orca	Mammal	Species or species habitat may occur within area		Migratory	Migratory Marine Species		Cetacean	In buffer area only
Mobula birostris	Giant Manta Ray	Shark	Species or species habitat may occur within area		Migratory (as *Manta birostris*)	Migratory Marine Species			In buffer area only
Calidris ruficollis	Red-necked Stint	Bird	Species or species habitat known to occur within area		Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Calidris subminuta	Long-toed Stint	Bird	Species or species habitat known to occur within area		Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Diomedea epomophora	Southern Royal Albatross	Bird	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Diomedea exulans	Wandering Albatross	Bird	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Ardenna grisea	Sooty Shearwater	Bird	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed (as *Puffinus griseus*)		In buffer area only
Carcharhinus longimanus	Oceanic Whitetip Shark	Shark	Species or species habitat may occur within area		Migratory	Migratory Marine Species			In buffer area only
Thalassarche cauta	Shy Albatross	Bird	Species or species habitat may occur within area	Endangered	Migratory	Migratory Marine Birds	Listed		In buffer area only

E4: Commonwealth Lands

Commonwealth Land ID	Commonwealth Land Name	Agency	State	Buffer Status
AGPR4375	RAAF base Pearce	Department of Defence	WA	In buffer area only
AGPR6977	Lot 9 P015884	Australian Postal Corporation	WA	In buffer area only
AGPR4315	RAAF base Pearce	Department of Defence	WA	In buffer area only
DD_3371	ANC TS MARMION - Hillarys	Department of Defence	WA	In buffer area only
DD_3363	AAC 57 Army Cadet Unit - Merredin	Department of Defence	WA	In buffer area only
AGPR4361	RAAF base Pearce	Department of Defence	WA	In buffer area only
DD_0965	Bullsbrook Training Area	Department of Defence	WA	In buffer area only
DD_1554	Joondalup Training Depot	Department of Defence	WA	In buffer area only
DD_1468	AAFC 723 Squadron - Joondalup	Department of Defence	WA	In buffer area only
DD_0964	Muchea Armament Range	Department of Defence	WA	In buffer area only
DD_1473	AAFC 704 & 721 Squadrons - Madeley	Department of Defence	WA	In buffer area only
AGPR4351	RAAF base Pearce	Department of Defence	WA	In buffer area only
DD_3354	AAC 58 Army Cadet Unit - Carine	Department of Defence	WA	In buffer area only
AGPR4352	RAAF base Pearce	Department of Defence	WA	In buffer area only
AGPR7066	Lot F 65	Australian Postal Corporation	WA	In feature area
DD_3367	AAC 53 Army Cadet Unit - Wanneroo	Department of Defence	WA	In buffer area only
AGPR4355	RAAF base Pearce	Department of Defence	WA	In buffer area only
AGPR4377	RAAF base Pearce	Department of Defence	WA	In buffer area only
AGPR4297	RAAF base Pearce	Department of Defence	WA	In buffer area only

E5: Listed Marine Species

Scientific Name	Common Name	Class	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Haliaeetus leucogaster	White-bellied Sea-Eagle	Bird	Species or species habitat known to occur within area				Listed		In feature area

Scientific Name	Common Name	Class	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Tringa nebularia	Common Greenshank, Greenshank	Bird	Species or species habitat known to occur within area	Endangered	Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Lissocampus fatiloquus	Prophet's Pipefish	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Mitotichthys meraculus	Western Crested Pipefish	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Actitis hypoleucos	Common Sandpiper	Bird	Species or species habitat known to occur within area		Migratory	Migratory Wetlands Species	Listed		In feature area
Stercorarius antarcticus	Brown Skua	Bird	Species or species habitat may occur within area				Listed (as *Catharacta skua*)		In buffer area only
Maroubra perserrata	Sawtooth Pipefish	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Macronectes halli	Northern Giant Petrel	Bird	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel	Bird	Species or species habitat may occur within area	Endangered	Migratory	Migratory Marine Birds	Listed		In buffer area only
Natator depressus	Flatback Turtle	Reptile	Foraging, feeding or related behaviour known to occur within area	Vulnerable	Migratory	Migratory Marine Species	Listed		In buffer area only
Pachyptila turtur	Fairy Prion	Bird	Species or species habitat likely to occur within area				Listed		In buffer area only
Tringa glareola	Wood Sandpiper	Bird	Species or species habitat known to occur within area		Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Anous tenuirostris melanops	Australian Lesser Noddy	Bird	Species or species habitat may occur within area	Vulnerable			Listed		In buffer area only
Campichthys galei	Gale's Pipefish	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Neophoca cinerea	Australian Sea-lion, Australian Sea Lion	Mammal	Species or species habitat likely to occur within area	Endangered			Listed		In buffer area only
Anous stolidus	Common Noddy	Bird	Species or species habitat likely to occur within area		Migratory	Migratory Marine Birds	Listed		In buffer area only

Scientific Name	Common Name	Class	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Stigmatopora nigra	Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Stigmatopora argus	Spotted Pipefish, Gulf Pipefish, Peacock Pipefish	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Solegnathus lettiensis	Gunther's Pipehorse, Indonesian Pipefish	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Thalassarche melanophris	Black-browed Albatross	Bird	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Merops ornatus	Rainbow Bee-eater	Bird	Species or species habitat may occur within area				Listed - overfly marine area		In feature area
Apus pacificus	Fork-tailed Swift	Bird	Species or species habitat likely to occur within area		Migratory	Migratory Marine Birds	Listed - overfly marine area		In feature area
Sterna dougallii	Roseate Tern	Bird	Foraging, feeding or related behaviour likely to occur within area		Migratory	Migratory Marine Birds	Listed		In buffer area only
Phaethon rubricauda	Red-tailed Tropicbird	Bird	Species or species habitat may occur within area		Migratory	Migratory Marine Birds	Listed		In buffer area only
Sternula albifrons	Little Tern	Bird	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed (as *Sterna albifrons*)		In buffer area only
Phoebetria fusca	Sooty Albatross	Bird	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Onychoprion anaethetus	Bridled Tern	Bird	Breeding known to occur within area		Migratory	Migratory Marine Birds	Listed (as *Sterna anaethetus*)		In buffer area only
Aipysurus pooleorum	Shark Bay Sea Snake	Reptile	Species or species habitat may occur within area				Listed		In buffer area only
Hippocampus breviceps	Short-head Seahorse, Short-snouted Seahorse	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Syngnathoides biaculeatus	Double-end Pipehorse, Double-	Fish	Species or species habitat may occur within area				Listed		In buffer area only

Scientific Name	Common Name	Class	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
	ended Pipehorse, Alligator Pipefish								
Hydroprogne caspia	Caspian Tern	Bird	Foraging, feeding or related behaviour known to occur within area		Migratory	Migratory Marine Birds	Listed (as *Sterna caspia*)		In buffer area only
Recurvirostra novaehollandiae	Red-necked Avocet	Bird	Species or species habitat known to occur within area				Listed - overfly marine area		In feature area
Halicampus brocki	Brock's Pipefish	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Diomedea amsterdamensis	Amsterdam Albatross	Bird	Species or species habitat may occur within area	Endangered	Migratory	Migratory Marine Birds	Listed		In buffer area only
Pterodroma mollis	Soft-plumaged Petrel	Bird	Species or species habitat may occur within area	Vulnerable			Listed		In buffer area only
Larus pacificus	Pacific Gull	Bird	Foraging, feeding or related behaviour may occur within area				Listed		In buffer area only
Hippocampus angustus	Western Spiny Seahorse, Narrow-bellied Seahorse	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Bubulcus ibis	Cattle Egret	Bird	Species or species habitat may occur within area				Listed - overfly marine area (as *Ardea ibis*)		In feature area
Nannocampus subosseus	Bonyhead Pipefish, Bony-headed Pipefish	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Thinornis cucullatus	Hooded Plover, Hooded Dotterel	Bird	Species or species habitat may occur within area				Listed - overfly marine area (as *Thinornis rubricollis*)		In feature area
Phycodurus eques	Leafy Seadragon	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Pugnaso curtirostris	Pugnose Pipefish, Pug-nosed Pipefish	Fish	Species or species habitat may occur within area				Listed		In buffer area only

Scientific Name	Common Name	Class	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Thalassarche steadi	White-capped Albatross	Bird	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Thalassarche carteri	Indian Yellow-nosed Albatross	Bird	Species or species habitat likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Phyllopteryx taeniolatus	Common Seadragon, Weedy Seadragon	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Calidris canutus	Red Knot, Knot	Bird	Species or species habitat likely to occur within area	Vulnerable	Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Calidris ferruginea	Curlew Sandpiper	Bird	Species or species habitat known to occur within area	Critically Endangered	Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Hydrophis platura	Yellow-bellied Sea Snake	Reptile	Species or species habitat may occur within area				Listed (as *Pelamis platurus*)		In buffer area only
Puffinus assimilis	Little Shearwater	Bird	Foraging, feeding or related behaviour known to occur within area				Listed		In buffer area only
Ardenna carneipes	Flesh-footed Shearwater, Fleshy-footed Shearwater	Bird	Foraging, feeding or related behaviour likely to occur within area		Migratory	Migratory Marine Birds	Listed (as *Puffinus carneipes*)		In buffer area only
Calidris melanotos	Pectoral Sandpiper	Bird	Species or species habitat likely to occur within area		Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Urocampus carinirostris	Hairy Pipefish	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth	Reptile	Foraging, feeding or related behaviour known to occur within area	Endangered	Migratory	Migratory Marine Species	Listed		In buffer area only
Vanacampus margaritifer	Mother-of-pearl Pipefish	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover	Bird	Species or species habitat likely to occur within area	Vulnerable	Migratory	Migratory Wetlands Species	Listed		In feature area
Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross	Bird	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only

Scientific Name	Common Name	Class	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Caretta caretta	Loggerhead Turtle	Reptile	Foraging, feeding or related behaviour known to occur within area	Endangered	Migratory	Migratory Marine Species	Listed		In buffer area only
Hippocampus subelongatus	West Australian Seahorse	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Acentronura australe	Southern Pygmy Pipehorse	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Hydrophis kingii	Spectacled Sea Snake	Reptile	Species or species habitat may occur within area				Listed (as *Disteira kingii*)		In buffer area only
Limosa lapponica	Bar-tailed Godwit	Bird	Species or species habitat known to occur within area		Migratory	Migratory Wetlands Species	Listed		In buffer area only
Arctocephalus forsteri	Long-nosed Fur-seal, New Zealand Fur-seal	Mammal	Species or species habitat may occur within area				Listed		In buffer area only
Rostratula australis	Australian Painted Snipe	Bird	Species or species habitat known to occur within area	Endangered			Listed - overfly marine area (as *Rostratula benghalensis* (sensu lato))		In feature area
Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew	Bird	Species or species habitat may occur within area	Critically Endangered	Migratory	Migratory Wetlands Species	Listed		In feature area
Motacilla cinerea	Grey Wagtail	Bird	Species or species habitat may occur within area		Migratory	Migratory Terrestrial Species	Listed - overfly marine area		In feature area
Chelonia mydas	Green Turtle	Reptile	Foraging, feeding or related behaviour known to occur within area	Vulnerable	Migratory	Migratory Marine Species	Listed		In buffer area only
Pandion haliaetus	Osprey	Bird	Species or species habitat known to occur within area		Migratory	Migratory Wetlands Species	Listed		In feature area
Calidris acuminata	Sharp-tailed Sandpiper	Bird	Species or species habitat known to occur within area	Vulnerable	Migratory	Migratory Wetlands Species	Listed		In feature area
Halobaena caerulea	Blue Petrel	Bird	Species or species habitat may occur within area	Vulnerable			Listed		In buffer area only

Scientific Name	Common Name	Class	Presence	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Buffer Status
Choeroichthys suillus	Pig-snouted Pipefish	Fish	Species or species habitat may occur within area				Listed		In buffer area only
Himantopus himantopus	Pied Stilt, Black-winged Stilt	Bird	Species or species habitat known to occur within area				Listed - overfly marine area		In feature area
Charadrius ruficapillus	Red-capped Plover	Bird	Species or species habitat known to occur within area				Listed - overfly marine area		In feature area
Calidris ruficollis	Red-necked Stint	Bird	Species or species habitat known to occur within area		Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Calidris subminuta	Long-toed Stint	Bird	Species or species habitat known to occur within area		Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Diomedea epomophora	Southern Royal Albatross	Bird	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Diomedea exulans	Wandering Albatross	Bird	Foraging, feeding or related behaviour likely to occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed		In buffer area only
Ardenna grisea	Sooty Shearwater	Bird	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Marine Birds	Listed (as *Puffinus griseus*)		In buffer area only
Thalassarche cauta	Shy Albatross	Bird	Species or species habitat may occur within area	Endangered	Migratory	Migratory Marine Birds	Listed		In buffer area only

E6: State and Territory Reserves

Protected Area ID	Protected Area Name	Reserve Type	State	Jurisdiction	Environment	Buffer Status
WA_07349	Jandabup	Nature Reserve	WA	State	Terrestrial	In feature area
WA_53332	Errina Road	Nature Reserve	WA	State	Terrestrial	In buffer area only
WA_21176	Unnamed WA21176	5(1)(h) Reserve	WA	State	Terrestrial	In buffer area only
WA_46919	Unnamed WA46919	Nature Reserve	WA	State	Terrestrial	In buffer area only
WA_21708	Lake Joondalup	Nature Reserve	WA	State	Terrestrial	In buffer area only

Protected Area ID	Protected Area Name	Reserve Type	State	Jurisdiction	Environment	Buffer Status
WA_44853	Unnamed WA44853	Nature Reserve	WA	State	Terrestrial	In buffer area only
WA_46756	Unnamed WA46756	Conservation Park	WA	State	Terrestrial	In buffer area only
WA_46920	Unnamed WA46920	Nature Reserve	WA	State	Terrestrial	In buffer area only
WA_24581	Neerabup	Nature Reserve	WA	State	Terrestrial	In buffer area only
WA_47146	Neaves Road	Nature Reserve	WA	State	Terrestrial	In buffer area only
WA_50514	Unnamed WA50514	5(1)(h) Reserve	WA	State	Terrestrial	In buffer area only
WA_43290	Unnamed WA43290	Conservation Park	WA	State	Terrestrial	In buffer area only
WA_27575	Neerabup	National Park	WA	State	Terrestrial	In buffer area only
WA_46926	Unnamed WA46926	5(1)(h) Reserve	WA	State	Terrestrial	In buffer area only
WA_30809	Woodvale	5(1)(h) Reserve	WA	State	Terrestrial	In buffer area only
56	Marmion	Marine Park	WA	State	Marine	In buffer area only

E7: EPBC Act Referrals

Reference Number	Title of referral	Jurisdiction	Industry Type	Stage	Stage Description	Referral Outcome	Buffer Status
2014/7174	Shark Hazard Mitigation Drum Line Program, WA	WA	Natural Resources Management	Completed	Withdrawn	Controlled Action	In buffer area only
2004/1479	Shenton Park Subdivision	WA	Residential Development	Completed	Withdrawn	Controlled Action	In buffer area only
2012/6419	Pinjar Motorcycle Park Raceway Development	WA	Commercial Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2010/5621	Excavate sand and limestone resources	WA	Mining	Completed	Withdrawn	Controlled Action	In buffer area only
2012/6541	Lots 71 & 72 Queensway Rd, East Landsdale	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2017/8011	Residential development of 118 Coogee Road, Mariginiup, WA	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2017/7995	Development of ECU Engineering Annex, Joondalup Campus, WA	WA	Private	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2019/8472	Residential Development, Lot 500 Park Street, Brabham, WA	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only

Reference Number	Title of referral	Jurisdiction	Industry Type	Stage	Stage Description	Referral Outcome	Buffer Status
2004/1700	Seismic Survey, Bremer Basin, Mentelle Basin and Zeewyck Sub-basin	WA	Exploration (mineral, oil and gas - marine)	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2023/09675	Mariginiup Residential Development	WA	Residential Development	Assessment	Assessment Approach Determined		In buffer area only
2022/09326	Wattle Avenue East Quarry	WA	Mining	Assessment	Assessment Approach Determined		In buffer area only
2010/5785	Catalina Residential Development	WA	Residential Development	Post-Approval	Approval Decision Made	Controlled Action	In buffer area only
2022/09324	Expansion of Limestone Extraction	WA	Mining	Post-Approval	Approval Decision made		In buffer area only
2017/8126	INDIGO West Submarine Telecommunications Cable, WA	IW	Telecommunications	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2017/7983	Flynn Drive / Pinjar Road Intersection Works, Lot 9000 Flynn Drive, Neerabup, WA	WA	Transport - Land	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2020/8677	Residential Development, 50 Lot 2 Driver Road, Darch, Western Australia	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2012/6412	Residential subdivision - lot 169 Kingsway Road, Landsdale WA	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2024/09948	Upgrade of Flynn Drive to dual carriageway between Tranquil Vista to Old Yanchep Road, CARRAMAR, BANKSIA GROVE and NEERABUP.	WA	Transport - Land	Assessment	Assessment Approach Determined		In buffer area only
2020/8798	Lot 9000 Wanneroo Road Sinagra Mixed Use Development, Western Australia	WA	Residential Development	Proposed Decision	Assessment Commenced	Controlled Action	In buffer area only
2009/4926	Road realignment and widening	WA	Transport - Land	Post-Approval	Referral Decision Made	Not Controlled Action (Particular Manner)	In buffer area only
2015/7421	Ellenbrook Reliable Water Storage Project, WA	WA	Water Management and Use	Post-Approval	Approval Decision Made	Controlled Action	In buffer area only
2006/2813	Natural Gas Pipeline Expansion	WA	Energy Generation and Supply (non-renewable)	Post-Approval	Approval Decision Made	Controlled Action	In buffer area only

Reference Number	Title of referral	Jurisdiction	Industry Type	Stage	Stage Description	Referral Outcome	Buffer Status
2012/6403	Lot 158 Landsdale Rd, Landsdale, WA	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2023/09702	Wanneroo South Groundwater Source Bores	WA	Water Management and Use	Completed	Referral Decision Made		In feature area
2012/6405	Pearsall Primary School, Lots 62, 269, 1008, 1009 & Part Lot 23, Pearsall, WA	WA	Commercial Development	Completed	Referral Decision Made	Not Controlled Action	In feature area
2009/5027	Eradication of the European House Borer, Perth metropolitan area, WA	WA	Natural Resources Management	Completed	Reconsideration Decision Made		In feature area
2009/5028	Subdivision Lot 4 Flynn Drive and earthworks for industrial development, 240 Fl	WA	Commercial Development	Completed	Reconsideration Decision Made		In buffer area only
2012/6409	Residential Subdivision - Lots 12, 36 & 38 Capron St, Wanneroo	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2017/8031	Urban Development Project, Lot 55 and 56 Cottonwood Crescent, Dianella, WA	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2011/6170	Realignment of Flynn Drive	WA	Transport - Land	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2011/5989	Butler Railway Extension Project - Nowergup Depot Eastern Alignment	WA	Transport - Land	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2014/7232	Rural Development, Lot 1983 North Ellenbrook, WA	WA	Agriculture and Forestry	Further Information Request	Further Information Requested	Controlled Action	In buffer area only
2023/09612	Rangedale Landholdings	WA	Residential Development	Assessment	Assessment Approach Determined		In buffer area only
2011/6068	Construction of an International Rifle Range	WA	Tourism and Recreation	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2001/510	Nava-1 Cable System	CM	Telecommunications	Completed	Withdrawn	Controlled Action	In buffer area only
2013/6982	Residential and commercial development, Lot 1981 Alexander Drive & Lot 152 Gnangara Road, Landsdale,	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In feature area

Reference Number	Title of referral	Jurisdiction	Industry Type	Stage	Stage Description	Referral Outcome	Buffer Status
2020/8833	Mitchell Freeway Principal Shared Path Gaps Project Ocean Reef Road to Hepburn Avenue	WA	Transport - Land	Post-Approval	Approval Decision Made	Controlled Action	In buffer area only
2024/10047	Residential Development, Woodvale	WA	Residential Development	Referral Decision	Publish Pending		In feature area
2011/5955	Vegetation Clearing, Wannaroo Rd and Nowergup Rd	WA	Natural Resources Management	Completed	Withdrawn	Controlled Action	In buffer area only
2020/8621	Lot 594 Wanneroo Road development, Hocking	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2016/7786	Groundwater Replenishment Scheme (GWRS) Stage 2	WA	Water Management and Use	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2023/09630	Wanneroo Shooting Complex - Public shooting range	WA	Tourism and Recreation	Assessment	Resubmitted		In buffer area only
2015/7597	Landsdale Primary School Development, WA	WA	Commercial Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2019/8560	Boundary Road Sand Quarry	WA	Mining	Completed	Withdrawn	Referral Decision	In buffer area only
2013/6971	Residential development, Lot 55 Alexander Drive, Landsdale, WA	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2014/7237	Ocean Reef Marina Development, City of Joondalup, WA	WA	Tourism and Recreation	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2017/8042	Nowergup Strawberry Farm McLennan Drive, Nowergup, WA	WA	Agriculture and Forestry	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2009/4937	Ocean Reef Marina Development	WA	Tourism and Recreation	Completed	Withdrawn	Controlled Action	In buffer area only
2021/8977	Subdivision of Lot 902 Flynn Drive Neerabup for Industrial Development	WA	Commercial Development	Assessment Approach	Assessment Method Determined	Controlled Action	In buffer area only
2019/8546	Morley-Ellenbrook Rail Line Part 2, WA	WA	Transport - Land	Post-Approval	Approval Decision Made	Controlled Action	In buffer area only
2013/7042	Perth-Darwin National Highway alignment (Swan Valley Section), WA	WA	Transport - Land	Post-Approval	Approval Decision Made	Controlled Action	In buffer area only
2024/10091	BP Area 2A Residential Development	WA	Residential Development	Completed	Referral Decision Made		In buffer area only

Reference Number	Title of referral	Jurisdiction	Industry Type	Stage	Stage Description	Referral Outcome	Buffer Status
2020/8753	Lot 112 and Lot 114 Warbrook Road, Bullsbrook	WA	Residential Development	Further Information Request	Further Information Requested	Controlled Action	In buffer area only
2011/6147	Telstra PITC O3B Clearing Application	WA	Telecommunications	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2021/9037	Development Application 20 Kenhelm St Balcatta WA	WA	Commercial Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2018/8324	Erindale Road Development, Hamersley, WA	WA	Residential Development	Further Information Request	Further Information Requested	Controlled Action	In buffer area only
2023/09761	Raphael Road Residential Development	WA	Residential Development	Completed	Referral Decision Made		In buffer area only
2010/5632	Extension of 7.5km of the Joondalup Line electrified passenger railway from Cla	WA	Transport - Land	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2016/7819	Residential development, Lot 14143 (16) Harford Way, Girrawheen, WA	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2008/4676	East Landsdale Residential Development	WA	Residential Development	Post-Approval	Approval Decision Made	Controlled Action	In buffer area only
2021/8917	Neerabup Industrial Area, WA	WA	Commercial Development	Assessment Approach	Assessment Method Determined	Controlled Action	In buffer area only
2012/6501	Wangara Industrial Extension Area, WA	WA	Commercial Development	Completed	Referral Decision Made	Not Controlled Action	In feature area
2012/6424	Neerabup Industrial Estate, Lot 701 Flynn Drive Neerabup WA	WA	Commercial Development	Post-Approval	Approval Decision Made	Controlled Action	In buffer area only
2024/10014	Caporn Street Mariginiup Subdivision and Development	WA	Commercial Development	Completed	Referral Decision Made		In buffer area only
2024/10016	Ballajura Station Precinct Structure Plan Project	WA	Residential Development	Referral Decision	Publish Pending		In buffer area only
2016/7758	Connect Joondalup - Lot 9000 McLarty Ave and Lot 999 Piccadilly Circus, Joondalup, WA	WA	Commercial Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2024/09799	Northern Terminal to Neerabup Terminal 330kV Transmission Line	WA	Energy Generation and Supply (non-renewable)	Assessment	Assessment Approach Determined		In feature area
2016/7732	Ellenbrook Bus Rapid Transit Project, WA	WA	Transport - Land	Completed	Referral Decision Made	Not Controlled Action	In buffer area only

Reference Number	Title of referral	Jurisdiction	Industry Type	Stage	Stage Description	Referral Outcome	Buffer Status
2010/5772	East Wanneroo Cell 9 residential subdivision - Lots 50,51,52,154 & 404	WA	Residential Development	Completed	Withdrawn	Controlled Action	In feature area
2014/7120	Vegetation clearing for future agricultural use, Bullsbrook, WA	WA	Agriculture and Forestry	Post-Approval	Approval Decision Made	Controlled Action	In buffer area only
2017/8100	Development of 39 (Lot 3000) Hardcastle Avenue, Landsdale, WA	WA	Private	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2019/8453	Alkimos Seawater Desalination	WA	Water Management and Use	Completed	Approval Decision made		In buffer area only
2012/6410	Residential Subdivision	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2015/7632	Wanneroo Road Duplication, WA	WA	Transport - Land	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2019/8452	Residential Development, Lot 4 Coogee Road, Mariginiup, WA	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2011/6027	Landsdale Residential Subdivision Development	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2019/8517	Container Deposit Scheme Project	WA	Waste Management (non-sewerage)	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2013/6892	Reid Highway/Malaga Drive interchange upgrade, City of Swan, WA	WA	Transport - Land	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2011/6020	National Lifestyle Villages Development	WA	Residential Development	Post-Approval	Approval Decision Made	Controlled Action	In buffer area only
2023/09554	Carabooda Quarry	WA	Mining	Completed	Referral Decision Made		In buffer area only
2014/7385	To grade separate three intersections on Tonkin Highway, WA	WA	Transport - Land	Post-Approval	Approval Decision Made	Controlled Action	In buffer area only
2021/9106	Land Development, James Street and Well Street, East Wanneroo, Elberton Property	WA	Residential Development	Assessment	Assessment Approach Determined		In buffer area only
2011/6040	Residential Subdivision development	WA	Commercial Development	Post-Approval	Approval Decision made		In feature area
2013/6966	Gnangara Road upgrade project, city of Swan, WA	WA	Transport - Land	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2013/6964	Residential development, Landsdale, WA	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only

Reference Number	Title of referral	Jurisdiction	Industry Type	Stage	Stage Description	Referral Outcome	Buffer Status
2017/7921	Lot 1665 Wanneroo Road, Sinagra.	WA	Residential Development	Post-Approval	Approval Decision Made	Controlled Action	In buffer area only
2022/09367	Land clearing for timber storage	WA	Commercial Development	Completed	Project Withdrawn		In buffer area only
2013/7073	Reid Highway duplication project(Erindale Rd - Duffy Rd)WA	WA	Transport - Land	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2018/8215	Quinns Main sewer extension, Clarkson - Neerabup, WA	WA	Waste Management (sewerage)	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2013/6767	Limestone extraction on Lot 8 Wattle Avenue, Nowergup	WA	Mining	Post-Approval	Approval Decision Made	Controlled Action	In buffer area only
2003/1175	South West Metropolitan Railway Project	WA	Transport - Land	Post-Approval	Referral Decision Made	Not Controlled Action (Particular Manner)	In buffer area only
2019/8521	Residential Development, Lots 10 Dundebar Road and 28 and 29 Belgrade Road, East Wanneroo, WA	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2015/7522	Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	NSW	Natural Resources Management	Completed	Referral Decision Made	Not Controlled Action	In feature area
2018/8367	Mitchell Freeway Extension and Wanneroo Road Upgrade, WA	WA	Transport - Land	Post-Approval	Approval Decision Made	Controlled Action	In buffer area only
2024/09839	Gonneville Nickel-Copper-Platinum Group Element Mine Development Project	WA	Mining	Assessment	Assessment Approach Determined		In buffer area only
2013/7091	Mitchell Freeway Extension between Burns Beach Rd and Hester Av, Neerabup, WA	WA	Transport - Land	Post-Approval	Approval Decision Made	Controlled Action	In buffer area only
2017/8110	Wanneroo Road/Ocean Reef Road Grade Separation, Pearsall, WA	WA	Transport - Land	Completed	Referral Decision Made	Not Controlled Action	In feature area
2016/7844	Commercial development of Lot 9004 Hodges Drive, Joondalup, WA	WA	Commercial Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only
2012/6407	Residential subdivision - Lots 156 and 157 Landsdale Road Landsdale WA	WA	Residential Development	Completed	Referral Decision Made	Not Controlled Action	In buffer area only

Reference Number	Title of referral	Jurisdiction	Industry Type	Stage	Stage Description	Referral Outcome	Buffer Status
2007/3479	Meridian Business Park Industrial Development	WA	Commercial Development	Post-Approval	Approval Decision Made	Controlled Action	In buffer area only
2010/5388	Ocean Reef Road Extension Works in Wangara	WA	Transport - Land	Post-Approval	Referral Decision Made	Not Controlled Action (Particular Manner)	In feature area

E8: Biologically Important Areas

Scientific Name	Common Name	Species Group	Behaviour	Presence	Buffer Status
Ardenna pacifica	Wedge-tailed Shearwater	Seabirds	Foraging (in high numbers)	Known to occur	In buffer area only
Hydroprogne caspia	Caspian Tern	Seabirds	Foraging (provisioning young)	Known to occur	In buffer area only
Larus pacificus	Pacific Gull	Seabirds	Foraging (in high numbers)	Former Range	In buffer area only
Onychoprion anaethetus	Bridled Tern	Seabirds	Foraging (in high numbers)	Known to occur	In buffer area only
Puffinus assimilis tunneyi	Little Shearwater	Seabirds	Foraging (in high numbers)	Known to occur	In buffer area only
Sterna dougallii	Roseate Tern	Seabirds	Foraging	Known to occur	In buffer area only
Sternula nereis	Fairy Tern	Seabirds	Foraging (in high numbers)	Known to occur	In buffer area only
Neophoca cinerea	Australian Sea Lion	Seals	Foraging (male)	Likely to occur	In buffer area only
Eubalaena australis	Southern Right Whale	Whales	Migration		In buffer area only
Megaptera novaeangliae	Humpback Whale	Whales	Migration (north and south)	Known to occur	In buffer area only

Appendix F Flora likelihood of occurrence assessment

Taxon	Common Name	EPBC Act	BC Act / DBCA	Source	Habitat	Pre-survey	Post-survey	Justification
Calectasia cyanea	Blue Tinsel Lily	CR	CR	ALA 2026	Heathland on flat to gentle slope growing in white sand or laterite gravel with the parent soil material being laterite. Associated species include: *Allocasuarina humilis, Banksia grandis, Adenanthos cuneatus, Hakea ruscifolia* and *Melaleuca thymoides*.	Unlikely	Unlikely	No suitable habitat present.
Calectasia elegans	Elegant Tinsel Lily	CR	CR	DBCA 2026a, ALA 2026, DCCEEW 2026	Occurs within the low shrub stratum of Banksia Woodland of the northern Swan Coastal Plain and central Dandaragan Plateau, on well-drained grey sand, within wide flat areas between contours of low relief.	Potential	Unlikely	No suitable habitat present.
Synaphea sp. Fairbridge Farm (D.Papenfus 696)	Selena's Synaphea	CR	CR	DCCEEW 2026	Grey, clayey sand with lateritic pebbles in low woodland areas near winter-wetflats. Sandy with lateritic pebbles. Near winter-wet flats, in low woodland with weedy grasses.	Unlikely	Unlikely	No suitable habitat present.
Thelymitra variegata	Queen Of Sheba	CR	CR	DBCA 2026a, ALA 2026, DCCEEW 2026	Sandy clay, sand, laterite.	Unlikely	Unlikely	No suitable habitat present.
Darwinia foetida	Muchea Bell	CR	EN	ALA 2026, DCCEEW 2026	Sandy soils, sandy loam soils and winter wet damp flats.	Unlikely	Unlikely	No suitable habitat present.
Caladenia huegelii	King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid	EN	CR	DBCA 2026a, ALA 2026, DCCEEW 2026	Occurs in areas of mixed woodland of jarrah (*Eucalyptus marginata*), candlestick banksia (*Banksia attenuata*), holly banksia (*B. ilicifolia*) and firewood banksia (*B. menziesii*) with scattered sheoak (*Allocasuarina fraseriana*) and marri (*Corymbia calophylla*) over dense shrubs. Throughout its range the species tends to favour areas of dense undergrowth. Soil is usually deep grey-white sand usually associated with the Bassendean sand-dune system. However, rare plants have been known to extend into the	Potential	Unlikely	Marginal habitat occurs, however typical areas of dense undergrowth in which the species tends to occur are largely absent. It is noted that this is a cryptic

Taxon	Common Name	EPBC Act	BC Act / DBCA	Source	Habitat	Pre-survey	Post-survey	Justification
					Spearwood system (in which calcareous yellow sands dominate) in some areas.			species and the survey was undertaken outside of the known flowering time. Within the survey area, the species has the potential to occur within BaBmBi, EmBaBm and BsppEtAf communities where condition is very good or better with a deep leaf litter layer and dense undergrowth.
Darwinia carnea	Mogumber Bell	EN	CR	DBCA 2026a, ALA 2026	Lateritic hilltops with loamy soils and Wandoo woodlands.	Unlikely	Unlikely	No suitable habitat present.
Darwinia oxylepis	Gillam's Bell	EN	CR	DBCA 2026a, ALA 2026	Confined to the gullies near the lower slopes of mountains in the Stirling Range National Park. Mallee heathland on acid, stony, peaty sand, in rocky gullies.	Does not occur	Does not occur	Outside of known range.
Drakaea elastica	Glossy-leafed Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid	EN	CR	DCCEEW 2026	White sand over a dark sandy loam on low-lying damp areas near ephemeral lakes, or on the slopes adjacent to winter wet depressions, swamps	Potential	Unlikely	No suitable habitat present.
Eucalyptus x balanites	Cadda Road Mallee, Cadda Mallee	EN	CR	DCCEEW 2026	*Eucalyptus balanites* is found on light coloured sandy soils over laterite. Habitat consists of gently sloping heathlands; open mallee	Unlikely	Unlikely	No suitable habitat present.

Taxon	Common Name	EPBC Act	BC Act / DBCA	Source	Habitat	Pre-survey	Post-survey	Justification
					woodland over shrubland (Population 2) or heathland with emergent mallees (Population 1).			
Thelymitra dedmaniarum	Cinnamon Sun Orchid	EN	CR	DCCEEW 2026	Occurring within granite or dolerite outcrops often within *Eucalyptus wandoo* and *Eucalyptus accedens* woodlands on red-brown sandy loam soil. Other species it is often associated with includes *Acacia pulchella, Acacia saligna, Calothamnus quadrifidus, Melaleuca radula* and *Hakea lissocarpha*. Flowers in November to January.	Unlikely	Unlikely	No suitable habitat present.
Banksia nivea subsp. *uliginosa*	Swamp Honeypot	EN	EN	ALA 2026	Habitat for this species is confined to orange clay loam over laterite and sandy areas within winter-wet southern ironstones that are highly restricted in distribution. Associated vegetation includes dense shrubland of *Viminaria juncea, Kunzea recurva, Xanthorrhoea* sp. and *Banksia squarrosa* subsp. *argillacea* over sedges.	Does not occur	Does not occur	Outside of known range.
Diuris purdiei	Purdie's Donkey-orchid	EN	EN	DCCEEW 2026	It grows on sand to sandy clay soils, in areas subject to winter inundation, and amongst native sedges and dense heath with scattered emergent *Melaleuca preissiana, Eucalyptus calophylla, E. marginata* and *Nuytsia floribunda*.	Unlikely	Unlikely	No suitable habitat present.
Grevillea christineae	Christine's Grevillea	EN	EN	DCCEEW 2026	Moist areas such as drainage lines or outcropping granite. It has been recorded in tall shrubland and low open woodland of *Eucalyptus loxophleba* and *E. wandoo* over open tall shrubs that include *Acacia acuminata, Allocasuarina campestris,* and *Melaleuca radula,* with *Drosera* spp. and *Tribonanthes* spp. understorey	Unlikely	Unlikely	No suitable habitat present.
Grevillea curviloba subsp. *curviloba*	Curved-leaf Grevillea	EN	EN	DBCA 2026a, DCCEEW 2026	Winter wet areas, soils deep peaty sand or grey sand over limestone or ironstone, often coastal, vegetation typically heath to shrubland *including Acacia saligna, Melaleuca huegelii* and *M. systena.*	Unlikely	Unlikely	No suitable habitat present.
Macarthuria keigheryi	Keighery's Macarthuria	EN	EN	DCCEEW 2026	Low-lying winter-wet damp, grey/white sands and grows in open patches with low tree canopy cover among heathland.	Potential	Unlikely	Marginal habitat present, species

Taxon	Common Name	EPBC Act	BC Act / DBCA	Source	Habitat	Pre-survey	Post-survey	Justification
								occurs as disjunct populations across its range. Targeted searches undertaken within known flowering time Sep-Dec.
Marianthus paralius	-	EN	EN	DBCA 2026a, ALA 2026, DCCEEW 2026	White sand over limestone. Low coastal cliffs.	Unlikely	Unlikely	No suitable habitat present.
Melaleuca sp. *Wanneroo (G.J. Keighery 16705)*	-	EN	EN	DBCA 2026a, DCCEEW 2026	Found in dense patches with other Melaleuca species, predominantly *M. systena*, when growing on very shallow soils over limestone 'caprock' on ridges.	Unlikely	Unlikely	No suitable habitat present.
Thelymitra stellata	Star Sun-orchid	EN	EN	DCCEEW 2026	This species grows within *Eucalyptus marginata* and *Eucalyptus wandoo* woodlands in gravelly loam amongst low heath and scrub. Sand, gravel, lateritic loam. Flowers in October and November.	Unlikely	Unlikely	No suitable habitat present.
Trithuria occidentalis	Swan Hydatella	EN	EN	DCCEEW 2026	Partly submerged on the edge of shallow, winter-wet claypans in very open shrubland *of Melaleuca lateritica* and numerous annual herbs	Unlikely	Unlikely	No suitable habitat present.
Andersonia gracilis	Slender Andersonia	EN	VU	DCCEEW 2026	Found on seasonally damp, black sandy clay flats near or on the margins of swamps, often on duplex soils supporting low open heath vegetation with species such as *Calothamnus hirsutus, Verticordia densiflora* and *Kunzea recurva* over sedges.	Unlikely	Unlikely	No suitable habitat present.
Banksia mimica	Summer Honeypot	EN	VU	DCCEEW 2026	Prostrate, lignotuberous shrub, 0.15-0.4 m high. Fl. yellow-brown, Dec or Jan to Feb. White or grey sand over laterite, sandy loam	Unlikely	Unlikely	No suitable habitat present.

Taxon	Common Name	EPBC Act	BC Act / DBCA	Source	Habitat	Pre-survey	Post-survey	Justification
Caleana dixonii (listed as Paracaleana dixonii)	Sandplain Duck Orchid	EN	VU	DCCEEW 2026	Deep sand in open areas beneath dense tall shrubs with scattered banksias, or in heathland in shallow sand over laterite. Flowers Oct - Jan.	Unlikely	Unlikely	No suitable habitat present.
Chamelaucium lullfitzii (listed as Chamelaucium sp. Gingin (N.G.Marchant 6))	Gingin Wax	EN	VU	DCCEEW 2026	Confined to the Gingin/Chittering area. Occurs on white/yellow sand supporting open low woodland with *Eucalyptus todtiana* (pricklybark), *Banksia attenuata* (candle banksia), and *Hibbertia* sp.	Does not occur	Does not occur	Outside of known range.
Diuris drummondii	Tall Donkey Orchid	VU	EN	DCCEEW 2026	Low-lying depressions in peaty and sandy clay swamps	Unlikely	Unlikely	No suitable habitat present.
Drakaea micrantha	Dwarf Hammer-orchid	VU	EN	DCCEEW 2026	The species is usually found in cleared fire breaks or open sandy patches that have been disturbed, and where competition from other plants has been removed. The Dwarf Hammer-orchid occurs in infertile grey sands, in Banksia, Jarrah (*Eucalyptus marginata*) and Common Sheoak (*Allocasuarina fraseriana*) woodland or forest. It is often found under thickets of Spearwood (*Kunzea ericifolia*) with Flying Duck orchid *(Paracaleana nigrita*) and other Drakaea species.	Potential	Unlikely	No suitable habitat present.
Anigozanthos viridis subsp. *terraspectans*	Dwarf Green Kangaroo Paw	VU	VU	DCCEEW 2026	Occurs in winter-wet depressions where it grows on grey sandy clay loam, or grey sand, in low post-fire regenerating heath. It is associated with species such as Slender-leaved Banksia (*Banksia leptophylla*), melaleucas (*Melaleuca* spp.), Compact Feather-flower (*Verticordia densiflora*), coneflowers (*Conostylis* spp.) and sedges.	Unlikely	Unlikely	No suitable habitat present.
Darwinia meeboldii	Cranbrook Bell	VU	VU	DBCA 2026a, ALA 2026	Hill slopes in peaty soils over quartzite within the western part of the Stirling Range National Park	Does not occur	Does not occur	Outside of known range.
Diuris micrantha	Dwarf Bee-orchid	VU	VU	DCCEEW 2026	It is found in small populations, on dark, grey to blackish, sandy clay-loam substrates in winter wet depressions or swamps.	Unlikely	Unlikely	No suitable habitat present.

Taxon	Common Name	EPBC Act	BC Act / DBCA	Source	Habitat	Pre-survey	Post-survey	Justification
Eleocharis keigheryi	Keighery's Eleocharis	VU	VU	DCCEEW 2026	Keighery's Eleocharis grows in small clumps in a substrate of clay or sandy loam. This species is emergent in freshwater creeks, and transient waterbodies such as drainage lines and claypans in water to approximately 15 cm deep.	Unlikely	Unlikely	No suitable habitat present.
Eucalyptus argutifolia	Yanchep Mallee, Wabling Hill Mallee	VU	VU	DBCA 2026a, DCCEEW 2026	Yanchep Mallee grows on slopes or gullies close to the summits of limestone ridges, where soils are shallow, well drained and grey with outcrops of limestone.	Unlikely	Unlikely	No suitable habitat present.
Baeckea sp. *Limestone (N. Gibson & M.N. Lyons 1425)*		-	P1	DBCA 2026a	Yellow/grey sand over limestone	Potential	Unlikely	No suitable habitat present.
Drosera micra	-		P1	DBCA 2026a	Known only from Ellenbrook and Malaga. Sandy peat soils in swamps.	Unlikely	Unlikely	No suitable habitat present.
Drosera paleacea	-		P1	ALA 2026	White sand, sandy clay on flat ground, wetlands	Unlikely	Unlikely	No suitable habitat present.
Drosera patens	-	-	P1	DBCA 2026a, ALA 2026	Sandy soils. Margins of winter-wet depressions, swamps and lakes.	Potential	Potential	Suitable habitat present, small cryptic herb with targeted searches undertaken outside of Dec or Feb flowering time. This species is cryptic and the survey was undertaken outside of known flowering time. Within the survey area this species has the potential to occur in vegetation associated with Lake Gnangara including the MpAgLs, and

Taxon	Common Name	EPBC Act	BC Act / DBCA	Source	Habitat	Pre-survey	Post-survey	Justification
								MpAsHa communities.
Drosera x *sidjamesii*	-	-	P1	DBCA 2026a, ALA 2026	Peaty sand. Along lake margins, close to winter high-water line.	Potential	Unlikely	No suitable habitat present.
Grevillea sp. *Ocean Reef (D. Pike Joon 4)*	-	-	P1	DBCA 2026a	Broad dune swails. Grey shallow sand. Numerous limestone boulders. Coastal sand scrub.	Unlikely	Unlikely	No suitable habitat present.
Hydrocotyle striata	-	-	P1	DBCA 2026a	Clay soils in springs	Unlikely	Unlikely	No suitable habitat present.
Leucopogon maritimus	-	-	P1	DBCA 2026a	Upper slopes of coastal dunes. Dry pale-yellow sand.	Unlikely	Unlikely	No suitable habitat present.
Stachystemon exilis	-	-	P1	DBCA 2026a	Banksia woodlands with *Eucalyptus marginata, Agonis flexuosa* or *Melaleuca preissii* on grey sandy soils.	Potential	Unlikely	Suitable habitat occurs; targeted searches would have identified the species if present.
Acacia benthamii	Bentham's Wattle	-	P2	DBCA 2026a, ALA 2026	Limestone breakaways, brown sand, seasonal wetlands	Unlikely	Unlikely	No suitable habitat present.
Drosera x badgerupii	-	-	P2	DBCA 2026a, ALA 2026	Black sandy soil amongst reeds back from the shoreline of Lake Jandabup (cultivated) and Lake Badgerup	Unlikely	Unlikely	No suitable habitat present.
Millotia tenuifolia var. *laevis*	-	-	P2	DBCA 2026a, ALA 2026	Granite or laterite soils. Wandoo Woodland, Banksia Woodland, Jarrah/Marri Woodlands, *Eucalyptus todtiana*.	Potential	Unlikely	No suitable habitat present.
Netrostylis sp. Chandala (G.J. Keighery 17055)	-	-	P2	DBCA 2026a	Peaty soils in wet areas, creeks, swamps. Typically, *Melaleuca preissii* or *M. rhaphiophylla* dominant or codominant over myrtaceous heath or sedgelands.	Potential	Unlikely	Suitable habitat occurs; targeted searches would have

Taxon	Common Name	EPBC Act	BC Act / DBCA	Source	Habitat	Pre-survey	Post-survey	Justification
								identified the species if present.
Phyllangium palustre	-	-	P2	ALA 2026	An erect, succulent annual herb that grows 0.02 m high. Flowers are visible October to November and are white. Winter-wet claypans, low-lying seasonal wetlands. Brown clay.	Unlikely	Unlikely	No suitable habitat present.
Poranthera moorokatta	-	-	P2	DBCA 2026a, ALA 2026	In open *Banksia menziesii, B. attenuata* woodland	Potential	Potential	Suitable habitat occurs; cryptic annual species may not have been visible at the time of survey. Within the survey area, the species has the potential to occur within Banksia woodland including the BaBmBi, EmBaBm and BsppEtAf communities where condition is very good or better.
Ricinocarpos tuberculatus	-	-	P2	ALA 2026	Granitic hills and granite outcrops, sometimes with lateritic soils. Mostly central wheatbelt.	Does not occur	Does not occur	Outside of known range.
Scaevola paludosa	-	-	P2	ALA 2026	Sandy soils in Cape Le Grand National Park	Does not occur	Does not occur	Outside of known range.
Stenanthemum sublineare	-	-	P2	DBCA 2026a, ALA 2026	Coastal or generally flat plains with well drained white to grey sand or sandy loam, sometimes with lateritic gravel. Variety of associated vegetation including shrubland, mallee woodlands, Banksia, Jarrah, Marri, Melaleuca woodlands.	Potential	Potential	Suitable habitat occurs; small cryptic shrub may not have been visible at the time of survey.

Taxon	Common Name	EPBC Act	BC Act / DBCA	Source	Habitat	Pre-survey	Post-survey	Justification
Thryptomene velutina	-	-	P2	DBCA 2026a	Medium fine gravelly clay loam dark grey, orange-brown fine siliceous sand and pale brown clayey sand. Sandstone outcrop, exposed granite, breakaway on road verge. Gentle slope. Over sandstone gravel.	Unlikely	Unlikely	No suitable habitat present.
Austrostipa mundula	Neat Spear-grass	-	P3	DBCA 2026a, ALA 2026	Shallow grey sand over limestone on moderate slope. Low shrubland/open herbland.	Unlikely	Unlikely	No suitable habitat present.
Conostylis bracteata	-	-	P3	DBCA 2026a, ALA 2026	Confined to coastal heath and scrub; sand, well-watered depressions in undulating sand dunes close to limestone	Unlikely	Unlikely	No suitable habitat present.
Cyathochaeta teretifolia	-	-	P3	DBCA 2026a, ALA 2026	Grey sand, sandy clay. Swamps, creek edges.	Potential	Unlikely	Suitable habitat occurs; targeted searches would have identified the species if present.
Dampiera triloba	-	-	P3	DBCA 2026a, ALA 2026	Dark brown/black peaty soils on low shrubland.	Potential	Unlikely	No suitable habitat present.
Daviesia nudiflora subsp. *drummondii*	-	-	P3	ALA 2026	White or grey sand. Undulating low rises.	Unlikely	Unlikely	No suitable habitat present.
Eryngium pinnatifidum subsp. *Palustre (G.J. Keighery 13459)*		-	3	P3	Seasonally wet poorly drained flat. Black sand.	Unlikely	Unlikely	No suitable habitat present.
Hibbertia leptotheca	-	-	P3	DBCA 2026a, ALA 2026	Shallow sand over limestone with coastal heath.	Unlikely	Unlikely	No suitable habitat present.
Hypocalymma tetrapterum	Papillose Myrtle	-	P3	ALA 2026	Grey sand, loam, lateritic gravel. Riverbanks, breakaways.	Unlikely	Unlikely	No suitable habitat present.

Taxon	Common Name	EPBC Act	BC Act / DBCA	Source	Habitat	Pre-survey	Post-survey	Justification
Lasiopetalum membranaceum	-	-	P3	ALA 2026	Sand over limestone.	Unlikely	Unlikely	No suitable habitat present.
Phlebocarya pilosissima subsp. *pilosissima*	-	-	P3	DBCA 2026a	White or grey sand, lateritic gravel. Low Banksia woodland or *E. todtiana* - Banksia woodlands.	Potential	Unlikely	No suitable habitat present (no lateritic gravels).
Pimelea calcicola	Coastal Banjine	-	P3	DBCA 2026a, ALA 2026	Sand. Coastal limestone ridges.	Unlikely	Unlikely	No suitable habitat present.
Pithocarpa corymbulosa	Corymbose Pithocarpa	-	P3	DBCA 2026a, ALA 2026	Gravelly or sandy loam. Amongst granite outcrops.	Unlikely	Unlikely	No suitable habitat present.
Sarcozona bicarinata	Ridged Noon-flower	-	P3	DBCA 2026a, ALA 2026	Limestone out - crop. Shallow grey/white sand. Open *Banksia sessilis* heathland	Potential	Unlikely	No suitable habitat present.
Stylidium maritimum	Coastal Triggerplant	-	P3	DBCA 2026a, ALA 2026	Sand over limestone. Dune slopes and flats. Coastal heath and shrubland, open Banksia woodland.	Potential	Unlikely	No suitable habitat present.
Stylidium paludicola	Swamp Reed Triggerplant	-	P3	DBCA 2026a, ALA 2026	Peaty sand over clay. Winter wet habitats. Marri and Melaleuca woodland, Melaleuca shrubland.	Potential	Unlikely	No suitable habitat present.
Stylidium trudgenii		-	P3	DBCA 2026a	Grey sand, dark grey to black sandy peat. Margins of winter-wet swamps, depressions	Unlikely	Unlikely	No suitable habitat present.
Styphelia filifolia		-	P3	DBCA 2026a, ALA 2026	It grows on sandy soils of the coastal plain (with one known occurrence from the northern Darling Scarp), usually in Banksia or Jarrah woodland and in low-lying situations.	Potential	Potential	Suitable habitat present, targeted searches undertaken outside of March-May flowering time. Within the survey area, the species has the

Taxon	Common Name	EPBC Act	BC Act / DBCA	Source	Habitat	Pre-survey	Post-survey	Justification
								potential to occur within Banksia woodland including the BaBmBi, EmBaBm and BsppEtAf communities where condition is very good or better.
Utricularia oppositiflora		-	P3	DBCA 2026a, ALA 2026	Wet areas, creeklines or swamps, some at high elevations. Variety of associated vegetation.	Unlikely	Unlikely	No suitable habitat present.
Anigozanthos humilis subsp. *chrysanthus*	Golden Catspaw	-	P4	DBCA 2026a, ALA 2026	Grey or yellow sand	Potential	Potential	Suitable habitat present, targeted searches undertaken outside of Jul-Oct flowering time.
Darwinia macrostegia	Mondurup Bell	-	P4	DBCA 2026a, ALA 2026	Mountainous areas near the Stirling Ranges. Stony soils, peaty sand. Rocky hillsides, gullies.	Does not occur	Does not occur	Outside of known range.
Drosera occidentalis	-	-	P4	DBCA 2026a	In swampy flats, appears as a rash in the sand. White/black sand over yellow clay.	Unlikely	Unlikely	No suitable habitat present.
Eucalyptus foecunda subsp. *foecunda*	-	-	P4	DBCA 2026a	Coastal limestone or coastal plain limestone formations, associated with various vegetation.	Potential	Unlikely	Suitable habitat occurs; targeted searches would have identified the species if present.
Hibbertia helianthemoides	-	-	P4	ALA 2026	Clayey sand over sandstone or loam over quartzite. Hills and scree slopes. Restricted to the western parts of the Stirling Range	Does not occur	Does not occur	Outside of known range.
Hypolaena robusta	-	-	P4	DBCA 2026a	White sand. Sandplains.	Potential	Potential	Suitable habitat present, targeted

Taxon	Common Name	EPBC Act	BC Act / DBCA	Source	Habitat	Pre-survey	Post-survey	Justification
								searches undertaken outside of Sep-Oct flowering time. Within the survey area, the species has the potential to occur within Banksia woodland including the BaBmBi, EmBaBm and BsppEtAf communities where condition is very good or better.
Jacksonia sericea	Waldjumi	-	P4	DBCA 2026a, ALA 2026	Calcareous and sandy soils in Banksia/Eucalypt woodland	Likely	Recorded	Recorded during survey.
Schoenus griffinianus	-	-	P4	DBCA 2026a, ALA 2026	Sandy soils with Kwongan heath or Banksia shrublands	Potential	Recorded	Recorded during survey.
Stylidium longitubum	Jumping Jacks	-	P4	DBCA 2026a, ALA 2026	Sandy clay, clay. Seasonal wetlands.	Potential	Unlikely	No suitable habitat present.
Stylidium striatum	-	-	P4	DBCA 2026a	Brown clay loam over laterite. Hillslopes. Jarrah/Marri Forest, Wandoo woodland.	Potential	Unlikely	No suitable habitat present.
Tripterococcus sp. *Brachylobus* (A.S. George 14234)	-	-	P4	DBCA 2026a	This species occurs in the Geraldton Sandplains, Jarrah Forest, Swan Coastal Plain and Warren bioregions of Western Australia	Unlikely	Unlikely	No suitable habitat present.
Verticordia lindleyi subsp. *lindleyi*	-	-	P4	DBCA 2026a, ALA 2026	Sand, sandy clay. Winter-wet depressions.	Potential	Unlikely	Suitable habitat occurs; targeted searches would have

Taxon	Common Name	EPBC Act	BC Act / DBCA	Source	Habitat	Pre-survey	Post-survey	Justification
								identified the species if present.
Ptilotus caespitulosus	Salt Lake Mulla-mulla	-	EX	ALA 2026	Sandy clay. Around salt lakes.	Does not occur	Does not occur	No suitable habitat present, presumed extinct.

Appendix G Fauna likelihood of occurrence assessment

Scientific name	Common name	EPBC Act	BC Act / DBCA	Other Status	Source	Habitat	Pre-survey likelihood of occurrence	Justification	Post-survey likelihood of occurrence	Justification
Calidris ferruginea	Curlew sandpiper	CR, MI & M	CR	Migratory Wetlands Species, Marine listed	DBCA 2026b, DCCEEW 2026	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They have also been occasionally recorded inland around ephemeral and permanent lakes, dams, waterholes and bore drains. sewage farms. They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand	Unlikely	Suitable habitat/nearby waterbody not likely to be present, nearby records are historical and over 4 km away.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Numenius madagascariensis	Eastern curlew, Far eastern curlew	CR, MI & M	CR	Migratory Wetlands Species, Marine listed	DCCEEW 2026	Within Australia, the eastern curlew has a primarily coastal distribution. During the non-breeding season in Australia, the eastern curlew is most associated with sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass (Zosteraceae). Occasionally, the species occurs on ocean beaches (often near estuaries), and coral reefs, rock platforms, or rocky islets. The birds are often recorded among saltmarsh and on mudflats fringed by mangroves, and sometimes within the mangroves.	Unlikely	Primarily a coastal species, suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Pseudemydura umbrina	Western swamp turtle	CR	CR	-	ALA 2026	Inhabits shallow, winter-wet swamps on clay or sand over clay soils with refuges. Occurs in swamps with Melaleuca lateritia which form a canopy over water.	Unlikely	Population is restricted to a small area ~10km from survey area. Suitable habitat not likely to be present.	Unlikely	Suitable swamp habitat not recorded in survey area.
Pseudocheirus occidentalis	Western ringtail possum, Ngwayir	CR	CR	-	DBCA 2026b, DCCEEW 2026	Inhabit areas with Agonis flexuosa either as the dominant tree or understorey component of a eucalypt forest or woodland. Preference to areas with little fire disturbance and a continuous upper or mid-storey canopy.	Unlikely	Several nearby (4 km away) recent (2023) records, however unlikely to be suitable habitat (Aginis flexuosa dominant) present within survey area.	Unlikely	Suitable denning habitat not recorded in survey area.
Diomedea amsterdamensis	Amsterdam albatross	EN, MI & M	CR	Migratory Marine Birds	DCCEEW 2026	The Amsterdam Albatross is a marine, pelagic seabird. It nests in open patchy vegetation (among tussocks, ferns or shrubs) near exposed ridges or hillocks. It sleeps and rests on ocean waters when not breeding.	Unlikely	Suitable habitat of exposed ridges and tussock grasses unlikely to be present.	Unlikely	Marine species, no coastal habitat. No nesting habitat such as rocky cliffs or tussock grasses present.
Thalassarche cauta	Shy albatross	EN, MI & M	EN	Migratory Marine Birds	DBCA 2026b, DCCEEW 2026	It predominately occurs in waters adjacent to Tasmania and southern Australia. The range of juvenile birds extends across the Indian Ocean to southern Africa and potentially the south-western Atlantic Ocean.	Unlikely	Suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat.
Thalassarche chrysostoma	Grey-headed albatross	EN, MI & M	VU	-	DBCA 2026b	It has a circum-global distribution in the southern hemisphere. The species breeds in subantarctic island colonies.	Unlikely	Suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Macronectes giganteus	Southern giant-petrel	EN, MI & M	MI	Migratory Marine Birds	DBCA 2026b, DCCEEW 2026, ALA 2026	The Southern Giant-Petrel is marine bird that occurs in Antarctic to subtropical waters. In summer, it mainly occurs over Antarctic waters, and it is widespread south as far as the pack-ice and onto the Antarctic continent	Unlikely	Suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat.
Tringa nebularia	Common greenshank	EN, MI & M	MI	Migratory Wetlands Species, Marine listed	DBCA 2026b, DCCEEW 2026	The Common Greenshank is found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity. It occurs in sheltered coastal habitats, typically with large mudflats and saltmarsh, mangroves or seagrass. Habitats include embayments, harbours, river estuaries, deltas and lagoons and are recorded less often in round tidal pools, rock-flats and rock platforms.	Unlikely	Suitable wetland habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.

Scientific name	Common name	EPBC Act	BC Act / DBCA	Other Status	Source	Habitat	Pre-survey likelihood of occurrence	Justification	Post-survey likelihood of occurrence	Justification
Limosa limosa	Black-tailed godwit	EN, MI & M	MI	-	DBCA 2026b, ALA 2026	Mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It is found often around beds of seagrass and, sometimes, in nearby saltmarsh. It has been sighted in coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats. It is rarely found on inland wetlands or in areas of short grass, such as farmland, paddocks and airstrips, although it is commonly recorded in paddocks at some locations overseas.	Unlikely	Suitable wetland and saltmarsh habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Rostratula australis	Australian painted snipe	EN & M	EN	Marine Listed	DCCEEW 2026	The Australian Painted Snipe generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans. They also use inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains. Typical sites include those with rank emergent tussocks of grass, sedges, rushes or reeds, or samphire; often with scattered clumps of lignum Muehlenbeckia or canegrass or sometimes tea-tree (Melaleuca).	Unlikely	Suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat.
Bettongia penicillata ogilbyi	Woylie, Brush-tailed bettong	EN	CR	-	DBCA 2026b, DCCEEW 2026	Historically has a large range of habitats however, now restricted to open forest and woodland with a low understorey consisting of tussock grasses or woody scrub.	Unlikely	Suitable habitat unlikely to be present.	Unlikely	Suitable habitat not recorded in survey area.
Limosa lapponica menzbieri	Northern siberian bar-tailed godwit	EN	CR	-	DCCEEW 2026	Mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It has also been recorded in coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats	Unlikely	Coastal species, suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Botaurus poiciloptilus	Australasian bittern	EN	EN	-	DBCA 2026b, DCCEEW 2026, ALA 2026	The Australasian Bittern occurs mainly in freshwater wetlands and, rarely, in estuaries or tidal wetlands. It favours wetlands with tall dense vegetation, where it forages in still, shallow water up to 0.3 m deep, often at the edges of pools or waterways, or from platforms or mats of vegetation over deep water.	Unlikely	Inhabits wetlands and estuaries; suitable habitat not likely to be present.	Unlikely	Suitable habitat not recorded in survey area, no waterbodies within the survey area itself.
Galaxiella nigrostriata	Black-striped dwarf galaxias, Black-stripe minnow	EN	EN	-	DCCEEW 2026	Permanent or ephemeral spring-fed headwater streams, ponds, roadside ditches and small creeks in sandy wetland areas with thick vegetation. Also occurs in the shallow areas of some freshwater lakes with thick vegetation	Unlikely	No permanent waterways present; suitable habitat unlikely to occur within survey area.	Unlikely	Suitable permanent stream or creek habitat not recorded in survey area.
Myrmecobius fasciatus	Numbat, Walpurti	EN	EN	-	DBCA 2026b	Currently occur in upland Jarrah forest, open Eucalypt woodland, Banksia woodland and tall closed shrublands. The habitats would usually have an abundant number of termites in the soil, hollow logs and branches for shelter.	Does not occur	Survey area is outside of the species distribution. Suitable habitat is unlikely to occur.	Does not occur	Outside distribution. Suitable habitat not recorded in survey area.
Zanda baudinii	Baudin's cockatoo	EN	EN	-	DBCA 2026b, ALA 2026	Predominantly occurs in eucalypt forests, especially Jarrah, Marri and Karri forests. Foraging occurs at all levels of the forest (from canopy to the ground), often feeding in the understorey on proteaceous trees and shrubs, especially Banksias and in orchards.	Unlikely	Several nearby records, however, they are all pre-2010. Outside of the range where the species is likely to occur.	Unlikely	Outside of distribution
Zanda latirostris	Carnaby's black cockatoo	EN	EN	-	DBCA 2026b, DCCEEW 2026, ALA 2026	Carnaby's Cockatoo is endemic to southwest WA with populations extending from the Murchison River to Esperance, and inland to Coorow, Kellerberrin and Lake Cronin. Foraging habitat for this species includes native shrubland, kwongan heathland and woodland dominated by proteaceous plant species including Banksia, Hakea and Grevillea, Eucalypt and Corymbia woodlands and pine plantations.	Likely	Suitable habitat likely to be present, has been previously recorded within the survey area (2005).	Recorded	Directly observed within survey area
Calidris canutus	Red knot	VU, MI & M	EN	Migratory Wetlands Species, Marine listed	DCCEEW 2026	In Australasia the Red Knot mainly inhabit intertidal mudflats, sandflats and sandy beaches of sheltered coasts, in estuaries, bays, inlets, lagoons and harbours; sometimes on sandy ocean beaches or shallow pools on	Unlikely	Coastal species; suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.

Scientific name	Common name	EPBC Act	BC Act / DBCA	Other Status	Source	Habitat	Pre-survey likelihood of occurrence	Justification	Post-survey likelihood of occurrence	Justification
						exposed wave-cut rock platforms or coral reefs. They are occasionally seen on terrestrial saline wetlands near the coast, such as lakes, lagoons, pools and pans, and recorded on sewage ponds and saltworks, but rarely use freshwater swamps.				
Phoebetria fusca	Sooty albatross	VU, MI & M	EN	Migratory Marine Birds	DCCEEW 2026	The Sooty Albatross is a pelagic or oceangoing species that inhabits subantarctic and subtropical marine waters, spending the majority of its time at sea. In Australian waters the Sooty Albatross occurs off the south coast from Tasmania to Western Australia.	Unlikely	Suitable habitat for the species not likely to be present within survey area.	Unlikely	Marine species, no coastal habitat.
Thalassarche carteri	Indian yellow-nosed albatross	VU, MI & M	EN	Migratory Marine Birds	DCCEEW 2026	The Indian Yellow-nosed Albatross is a marine bird, located in subtropical and warmer subantarctic waters. The species nests on tussock-covered coastal cliffs and slopes, often in rocky situations.	Unlikely	Rocky cliffs and coastal habitat does not present within the survey area.	Unlikely	Marine species, no tussock covered rocky cliff coastal habitat.
Thalassarche melanophris	Black-browed albatross	VU, MI & M	EN	Migratory Marine Birds	DCCEEW 2026	The Black-browed Albatross is a marine species that inhabits Antarctic, subantarctic and temperate waters and occasionally enters the tropics. It forages around the breaks of continental and island shelves and across nearby underwater banks. The Blackbrowed Albatross breeds on subantarctic and peri-Antarctic islands. The species is rarely sighted over land away from its breeding islands.	Unlikely	Species is marine; suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat.
Calidris acuminata	Sharp-tailed sandpiper	VU, MI & M	MI	Migratory Wetlands Species, Marine listed	DBCA 2026b, DCCEEW 2026	In Australasia, the Sharp-tailed Sandpiper prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, saltpans and hypersaline saltlakes inland. They also occur in saltworks and sewage farms.	Unlikely	Wetland habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Macronectes halli	Northern giant petrel	VU, MI & M	MI	Migratory Marine Birds	DBCA 2026b, DCCEEW 2026	In summer, it occurs predominantly in sub- Antarctic to Antarctic waters, usually between 40 and 64° south in open oceans.	Unlikely	Suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat.
Ardenna grisea	Sooty shearwater	VU, MI & M	MI	Migratory Marine Birds	DCCEEW 2026	The Sooty Shearwater forages in pelagic (open ocean) sub-tropical, sub-Antarctic and Antarctic waters. The Sooty Shearwater breeds mainly on subtropical and sub- Antarctic islands, as well as on the mainland of New Zealand. Birds nest in burrows or rock crevices on coastal slopes, ridges and cliff tops, in herbfields, tussock grassland or forest. Areas with waterlogged or shallow soils and/or dense vegetation are avoided.	Unlikely	Pelagic species and nesting habitat unlikely to be present	Unlikely	Marine species, no coastal habitat.
Sternula albifrons	Little tern	VU, MI & M	MI	Migratory Marine Birds	DCCEEW 2026	In Australia, Little Terns inhabit sheltered coastal environments, including lagoons, estuaries, river mouths and deltas, lakes, bays, harbours and inlets, especially those with exposed sandbanks or sand-spits, and also on exposed ocean beaches.	Unlikely	Inhabits sheltered, coastal environments, suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat.
Charadrius leschenaultii	Greater sand plover, Large sand plover	VU, MI & M	VU	Migratory Wetlands Species, Marine listed	DBCA 2026b, DCCEEW 2026	In the non-breeding grounds in Australasia, the species is almost entirely coastal, inhabiting littoral and estuarine habitats. They mainly occur on sheltered sandy, shelly or muddy beaches with large intertidal mudflats or sandbanks, as well as sandy estuarine lagoons.	Unlikely	Beach or mudflat habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Diomedea epomophora	Southern royal albatross	VU, MI & M	VU	Migratory Marine Birds	DCCEEW 2026	Nearly 80 percent of a royal albatross' life is spent directly exposed to the cold, treacherous, open oceans of the Southern Hemisphere. Remote tropical islands are sought out for nesting. They typically nest on slopes with tussock grass providing some shelter, though exposed sites are also common as they ease the often difficult tasks of take-off and landing.	Unlikely	Suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat.
Diomedea exulans	Wandering albatross	VU, MI & M	VU	Migratory Marine Birds	DCCEEW 2026	The Wandering Albatross breeds on Macquarie Island and feeds in Australian portions of the Southern Ocean. It is marine, pelagic and aerial and occurs where water surface temperatures range from -2 ° to 24°C.	Unlikely	Marine habitat not present within survey area.	Unlikely	Marine species, no coastal habitat.

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Thalassarche impavida	Campbell albatross, Campbell black-browed albatross	VU, MI & M	VU	Migratory Marine Birds	DCCEEW 2026	The Campbell Albatross is a marine sea bird inhabiting sub-Antarctic and subtropical waters from pelagic to shelf-break water habitats. In breeding and non-breeding seasons, the Campbell Albatross are specialised shelf feeders, concentrating around breeding islands or over adjacent submarine banks. They make their nests on tussock-covered ledges and terraces of cliffs, slopes and hills, overlooking the sea or valleys, and on the summits of rocky islets.	Unlikely	No coastal habitat present within survey area.	Unlikely	Marine species, no coastal habitat.
Thalassarche steadi	White-capped albatross	VU, MI & M	-	Migratory Marine Birds	DCCEEW 2026	The White-capped Albatross is a marine species and occurs in subantarctic and subtropical waters. Birds nest on slopes vegetated with tussock and succulents on Auckland Island.	Unlikely	Suitable habitat not likely to be present	Unlikely	Marine species, no coastal habitat.
Anous tenuirostris melanops	Australian lesser noddy	VU & M	EN	Marine Listed	DBCA 2026b, DCCEEW 2026	The species is endemic to Australia and nests on the Houtman Abrolhos Islands and, possibly, Ashmore Reef. Birds remain near breeding islands throughout the year, however, gales may displace birds many hundreds of kilometres.	Unlikely	Suitable habitat not likely to be present	Unlikely	Marine species, no coastal habitat.
Pluvialis squatarola	Grey plover	VU & MI	MI	-	DBCA 2026b, ALA 2026	In non-breeding grounds in Australia, Grey Plovers occur almost entirely in coastal areas, where they usually inhabit sheltered embayments, estuaries and lagoons with mudflats and sandflats, and occasionally on rocky coasts with wave-cut platforms or reef-flats, or on reefs within muddy lagoons. They also occur around terrestrial wetlands such as near-coastal lakes and swamps, or salt-lakes.	Unlikely	Estuary, lagoon and mudflat habitat required by the species not likely to be present within survey area.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Xenus cinereus	Terek sandpiper	VU & MI	MI	-	ALA 2026	Preferring to roost in or among mangroves. The Terek Sandpiper mostly forages in the open, on soft wet intertidal mudflats or in sheltered estuaries, embayments, harbours or lagoons. The species has also been recorded on islets, mudbanks, sandbanks and spits, and near mangroves and occasionally in samphire.	Unlikely	Mangrove/estuarine habitat not likely to be preset within survey area.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Halobaena caerulea	Blue petrel	VU & M	-	Marine Listed	DCCEEW 2026	The blue petrel previously bred on Macquarie Island itself, but breeding is now restricted to offshore stacks near Macquarie Island. Blue petrels nest in colonies, laying a single egg in rock crevices or burrows dug among rocks or tussock grasses. The blue petrel forages in Antarctic and subantarctic waters for pelagic crustaceans, fish, cephalopods and insects.	Unlikely	Rocky habitat with tussock grasses as required by the species not likely to be present within survey area.	Unlikely	Marine species, no coastal habitat.
Pterodroma mollis	Soft-plumaged petrel	VU & M	-	Marine Listed	DCCEEW 2026	The Soft-plumaged Petrel is a marine, oceanic species. Birds breeding at Iles Crozet forage mainly to the north of the islands, over subtropical waters. The birds burrow among tussock grass and ferns on slopes and valleys.	Unlikely	Suitable habitat not likely to be present	Unlikely	Marine species, no coastal habitat.
Calyptorhynchus banksii naso	Forest Red-tailed Black-Cockatoo, Karrak	VU	VU	-	DBCA 2026b, DCCEEW 2026	Inhabits dense Jarrah, Karri and Marri forests which receive more than 600 mm average annual rainfall. Known to feed in more open agricultural areas and metropolitan Perth.	Likely	Recent nearby records (within 300m) from 2017. Suitable habitat likely to be present.	Recorded	Directly observed within survey area
Dasyurus geoffroii	Chuditch, Western quoll	VU	VU	-	DBCA 2026b, DCCEEW 2026	Inhabits a variety of different habitat types including rocky outcrops, eucalypt forests and woodlands, sandy lowlands, beaches, shrubland, grasslands and deserts. Predominantly though, rocky areas provide denning habitat and foraging is predominantly done within nearby grasslands and creek lines.	Unlikely	Suitable habitat unlikely to occur. Nearest previous record is over 5 km away from 2010.	Unlikely	Suitable habitat not recorded in survey area. No suitable denning habitat.
Setonix brachyurus	Quokka	VU	VU	-	ALA 2026	Densely vegetation swamps and occasionally tea-tree thickets on sandy soils along creek systems and dense heath slopes are the predominant habitat types the Quokka inhabits (DEC 2012c). Mainland populations are	Unlikely	Habitat for this species such as dense swamp thickets unlikely to occur within the survey area.	Unlikely	Suitable habitat not recorded in survey area.

Scientific name	Common name	EPBC Act	BC Act / DBCA	Other Status	Source	Habitat	Pre-survey likelihood of occurrence	Justification	Post-survey likelihood of occurrence	Justification
						sparse and usually associated with Taxandria linearifolia swamp habitats within the northern Jarrah forest.				
Sternula nereis nereis	Australian fairy tern	VU	VU	-	DBCA 2026b, DCCEEW 2026, ALA 2026	The Fairy Tern (Australian) nests on sheltered sandy beaches, spits and banks above the high tide line and below vegetation. The subspecies has been found in embayments of a variety of habitats including offshore, estuarine or lacustrine (lake) islands, wetlands and mainland Coastline.	Unlikely	Marine species; suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Leipoa ocellata	Malleefowl	VU	VU	-	DCCEEW 2026	Occurs in scrubland and woodland dominated by mallee and wattle species. In Western Australia they are also found in some shrublands dominated by acacia, and occasionally in woodlands dominated by eucalypts such as Wandoo E. wandoo, Marri Corymbia calophylla and Mallet E. astringens.	Does not occur	Survey area is outside of the species distribution. Suitable habitat is unlikely to occur.	Does not occur	Outside distribution. Suitable habitat not recorded in survey area.
Pachyptila turtur subantarctica	Fairy prion (southern)	VU	-	-	DCCEEW 2026	The burrows of fairy prions (southern) are usually in crevices, in hollows beneath cushions of *Colobanthus muscoides* (a perennial herb that can form dense mats or cushions up to 250 mm thick and sometimes up to several metres across) or in burrows in peaty soil held together by a thick cover of Cotula plumosa (a short, feathery perennial herb).	Unlikely	Suitable habitat not likely to be present	Unlikely	Marine species, no coastal habitat.
Actitis hypoleucos	Common sandpiper	MI & M	MI	Migratory Wetlands Species, Marine listed	ALA 2026, DCCEEW 2026	The species utilises a wide range of coastal wetlands and some inland wetlands, with varying levels of salinity, and is mostly found around muddy margins or rocky shores and rarely on mudflats. Generally, the species forages in shallow water and on bare soft mud at the edges of wetlands; often where obstacles project from substrate, e.g. rocks or mangrove roots.	Unlikely	Habitat of coastal wetlands not likely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Apus pacificus	Fork-tailed swift	MI & M	MI	Migratory Marine Birds	DBCA 2026b, DCCEEW 2026	In Australia, they mostly occur over inland plains but sometimes above foothills or in coastal areas. They often occur over cliffs and beaches and also over islands and sometimes well out to sea. They also occur over settled areas, including towns, urban areas and cities. They mostly occur over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh. They are also found at treeless grassland and sandplains covered with spinifex, open farmland and inland and coastal sand-dunes.	Unlikely	No habitat with cliffs and beaches is likely to occur within survey area.	Unlikely	Marine species, no coastal habitat.
Calidris ruficollis	Red-necked stint	MI & M	MI	Migratory Wetlands Species, Marine listed	DBCA 2026b, DCCEEW 2026	In Australasia, the Red-necked Stint is mostly found in coastal areas, including in sheltered inlets, bays, lagoons and estuaries with intertidal mudflats, often near spits, islets and banks and, sometimes, on protected sandy or coralline shores. Occasionally they have been recorded on exposed or ocean beaches, and sometimes on stony or rocky shores, reefs or shoals.	Unlikely	A previous record from 2002 is located within the survey area.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Calidris subminuta	Long-toed stint	MI & M	MI	Migratory Wetlands Species, Marine listed	DBCA 2026b, DCCEEW 2026	The Long-toed Stint occurs in a variety of terrestrial wetlands. They prefer shallow freshwater or brackish wetlands including lakes, swamps, river floodplains, streams, lagoons and sewage ponds. The species is also fond of areas of muddy shoreline, growths of short grass, weeds, sedges, low or floating aquatic vegetation, reeds, rushes and occasionally stunted samphire.	Unlikely	Suitable habitat not likely to be present within survey area.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Hydroprogne caspia	Caspian tern	MI & M	MI	Migratory Marine Birds	ALA 2026, DCCEEW 2026	The Caspian Tern is mostly found in sheltered coastal embayments (harbours, lagoons, inlets, bays, estuaries and river deltas) and those with sandy or muddy margins are preferred. They also occur on near-coastal or inland terrestrial wetlands that are either fresh or saline, especially lakes (including ephemeral lakes), waterholes, reservoirs, rivers and creeks.	Unlikely	Marine species; suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat.

Scientific name	Common name	EPBC Act	BC Act / DBCA	Other Status	Source	Habitat	Pre-survey likelihood of occurrence	Justification	Post-survey likelihood of occurrence	Justification
Limosa lapponica	Bar-tailed godwit	MI & M	MI	Migratory Wetlands Species, Marine listed	DBCA 2026b, DCCEEW 2026, ALA 2026	The Bar-tailed Godwit is found mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It is found often around beds of seagrass and, sometimes, in nearby saltmarsh. It has been sighted in coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats.	Unlikely	Marine species; suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Onychoprion anaethetus	Bridled tern	MI & M	MI	Migratory Marine Birds	DBCA 2026b, DCCEEW 2026, ALA 2026	Bridled Terns occupy tropical and subtropical seas, breeding on islands, including vegetated coral cays, rocky continental islands and rock stacks.	Unlikely	Marine species; suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat.
Pandion haliaetus	Osprey	MI & M	MI	Migratory Wetlands Species, Marine listed	DBCA 2026b, DCCEEW 2026, ALA 2026	Eastern Ospreys occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands. They are mostly found in coastal areas but occasionally travel inland along major rivers, particularly in northern Australia. They require extensive areas of open fresh, brackish or saline water for foraging. They frequent a variety of wetland habitats including inshore waters, reefs, bays, coastal cliffs, beaches, estuaries, mangrove swamps, broad rivers, reservoirs and large lakes and waterholes.	Unlikely	Suitable habitat (waterbody) not likely to be present. Nearest record is over 7 km away (from 2018).	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Tringa glareola	Wood sandpiper	MI & M	MI	Migratory Wetlands Species, Marine listed	DBCA 2026b, DCCEEW 2026	The Wood Sandpiper uses well-vegetated, shallow, freshwater wetlands, such as swamps, billabongs, lakes, pools and waterholes. They are typically associated with emergent, aquatic plants or grass, and dominated by taller fringing vegetation, such as dense stands of rushes or reeds, shrubs, or dead or live trees, especially Melaleuca and River Red Gums Eucalyptus camaldulensis and often with fallen timber.	Unlikely	Marine species; suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Anous stolidus	Common noddy	MI & M	-	Migratory Marine Birds	DCCEEW 2026	Islands, shoals or cays of coral or sand during the breeding season. The species remains in the pelagic zone (open ocean) during the non-breeding season. Foraging occurs offshore.	Unlikely	Pelagic environment not present within survey area.	Unlikely	Marine species, no coastal habitat.
Ardenna carneipes	Flesh-footed shearwater, Fleshy-footed shearwater	MI & M	-	Migratory Marine Birds	DCCEEW 2026	The Fresh-footed Shearwater is a locally common vistor to waters of the continental shelf and continental slope off southern Australis (south-western Western Australia to souther-eastern Queensland)	Unlikely	Marine species; suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat.
Calidris melanotos	Pectoral sandpiper	MI & M	-	Migratory Wetlands Species, Marine listed	DCCEEW 2026	In Australasia, the Pectoral Sandpiper prefers shallow fresh to saline wetlands. The species is found at coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.	Unlikely	Marine species; suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Motacilla cinerea	Grey wagtail	MI & M	-	Migratory Terrestrial Species, Marine listed	DCCEEW 2026	This species inhabits fast-flowing mountain streams and rivers with riffles and exposed rocks or shoals, often in forested areas. It is also found in more lowland watercourses, even canals, where there are artificial waterfalls, weirs, millraces or lock gates. Outside of the breeding season it occupies a wider variety of habitats, including farmyards, sewage farms, forest tracks, tea estates and even town centres.	Unlikely	Marine species; suitable habitat not likely to be present.	Unlikely	Suitable habitat not recorded in survey area.
Phaethon rubricauda	Red-tailed tropicbird	MI & M	-	Migratory Marine Birds	DCCEEW 2026	Tropical and subtropical waters of the Indian Ocean.	Unlikely	Marine species; suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat.
Sterna dougallii	Roseate tern	MI & M	-	Migratory Marine Birds	DCCEEW 2026	In Australia, the subspecies gracillis occurs on much of the west, north and north-east coasts, from south-west Western Australia to south-east Queensland. The Roseate Tern occurs in coastal and marine areas in subtropical and tropical seas. The species inhabits rocky and sandy beaches, coral reefs, sand cays and offshore islands	Unlikely	Requires habitat including rocky cliffs and beaches; not likely to be present within survey area.	Unlikely	Marine species, no coastal habitat.

Scientific name	Common name	EPBC Act	BC Act / DBCA	Other Status	Source	Habitat	Pre-survey likelihood of occurrence	Justification	Post-survey likelihood of occurrence	Justification
Procellaria aequinoctialis	White-chinned petrel	MI	VU	-	DBCA 2026b	Occurs along oceans of southern Australia; they inhabit deep oceanic water where they forage and breed in sub-Antarctic islands.	Unlikely	Marine species; suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Ardenna pacifica	Wedge-tailed shearwater	MI	MI	-	DBCA 2026b, ALA 2026	The Wedge-tailed Shearwater is a pelagic species and inhabits tropical and subtropical seas. It is common in coastal and oceanic waters of east and west Australia.	Unlikely	Inhabits coastal environments; suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Calonectris leucomelas	Streaked shearwater	MI	MI	-	DBCA 2026b	The Streaked Shearwater is a pelagic species, found over shelf water and further out, and rarely inshore. It is a common summer-autumn visitor to the north, west, and east coasts of Australia.	Unlikely	One nearby record (over 4 km away) from 2010. Suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Chlidonias leucopterus	White-winged black tern	MI	MI	-	DBCA 2026b	In Australia, and elsewhere in their non-breeding range, the species mostly inhabits fresh, brackish or saline, and coastal or subcoastal wetlands. White-winged Black Terns frequent tidal wetlands, such as harbours, bays, estuaries and lagoons, and their associated tidal sandflats and mudflats. Terrestrial wetlands, including swamps, lakes, billabongs, rivers, floodplains, reservoirs, saltworks, sewage ponds and outfalls are also inhabited.	Unlikely	Several records within 10km, however they are all historical (1917; 1990). Suitable habitat unlikely to occur.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Gelochelidon nilotica	Gull-billed tern	MI	MI	-	DBCA 2026b, ALA 2026	It breeds in a variety of locations with bare or sparsely vegetated islands, banks, flats, or spits of dry mud and sand including barrier beaches (shoals), dunes, saltmarshes, saltpans, freshwater lagoons, estuaries, deltas, inland lakes, rivers, marshes and swamps.	Unlikely	Suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Glareola maldivarum	Oriental pratincole	MI	MI	-	DBCA 2026b	In non-breeding grounds in Australia, the Oriental Pratincole usually inhabits open plains, floodplains or short grassland (including farmland or airstrips), often with extensive bare areas. They often occur near terrestrial wetlands, such as billabongs, lakes or creeks, and artificial wetlands such as reservoirs, saltworks and sewage farms, especially around the margins. The species also occurs along the coast, inhabiting beaches, mudflats and islands, or around coastal lagoons.	Unlikely	Inhabits coastal environments; suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Plegadis falcinellus	Glossy ibis	MI	MI	-	DBCA 2026b, ALA 2026	The Glossy Ibis' preferred habitat for foraging and breeding are fresh water marshes at the edges of lakes and rivers, lagoons, flood-plains, wet meadows, swamps, reservoirs, sewage ponds, rice-fields and cultivated areas under irrigation. The species is occasionally found in coastal locations such as estuaries, deltas, saltmarshes and coastal lagoons.	Unlikely	Inhabits coastal environments; suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Pluvialis fulva	Pacific golden plover	MI	MI	-	ALA 2026	In non-breeding grounds in Australia this species usually inhabits coastal habitats, though it occasionally occurs around inland wetlands. Pacific Golden Plovers usually occur on beaches, mudflats and sandflats (sometimes in vegetation such as mangroves, low saltmarsh such as Sarcocornia, or beds of seagrass) in sheltered areas including harbours, estuaries and lagoons, and also in evaporation ponds in saltworks. The species is also sometimes recorded on islands, sand and coral cays and exposed reefs and rocks.	Unlikely	Inhabits coastal environments; suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Thalasseus bergii	Crested tern	MI	MI	-	DBCA 2026b, ALA 2026	Coastal bays and inlets, lakes and large rivers.	Unlikely	Inhabits coastal environments; suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Tringa stagnatilis	Marsh sandpiper	MI	MI	-	DBCA 2026b	The Marsh Sandpiper lives in permanent or ephemeral wetlands of varying salinity, including swamps, lagoons, billabongs, saltpans, saltmarshes, estuaries, pools on inundated floodplains, and intertidal mudflats and also regularly at sewage farms and saltworks. They are recorded less often at reservoirs, waterholes, soaks, bore-drain swamps and flooded inland lakes. In north Australia they prefer intertidal mudflats.	Unlikely	Inhabits coastal environments; suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.

Scientific name	Common name	EPBC Act	BC Act / DBCA	Other Status	Source	Habitat	Pre-survey likelihood of occurrence	Justification	Post-survey likelihood of occurrence	Justification
Phaethon rubricauda westralis	Red-tailed tropicbird (Indian Ocean), Indian ocean red-tailed tropicbird	MI	MI & P4	-	DCCEEW 2026	Tropical and subtropical waters of the Indian Ocean.	Unlikely	Marine species; suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat. No waterbodies occur within the survey area itself.
Bubulcus ibis	Cattle egret	M	-	Marine Listed	DCCEEW 2026	Habitat includes grasslands, woodlands and wetlands.	Unlikely	Suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat.
Charadrius ruficapillus	Red-capped plover	M	-	Marine Listed	DCCEEW 2026	Is widespread across Australia where it inhabits wetlands and prefers saline to brackish waters.	Unlikely	Inhabits saline to brackish inland wetlands; suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat.
Haliaeetus leucogaster	White-bellied sea-eagle	M	-	Marine Listed	DCCEEW 2026	Occurs on coastlines around Australia with habitat including areas of open water such as rivers, swamps, lakes and the sea. It also inhabits dunes, tidal flats, grassland, heathland, woodland and forest.	Unlikely	Inhabits coastal environments; suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat.
Himantopus himantopus	Pied stilt, Black-winged stilt	M	-	Marine Listed	DCCEEW 2026	Widespread on mainland Australia, inhabiting saltwater marshes, mudlfats and shallow edges of lakes and rivers.	Unlikely	Suitable saltwater marsh and mudflat habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat.
Larus pacificus	Pacific gull	M	-	Marine Listed	DCCEEW 2026	Is endemic to southern Australia and in WA it inhabits exposed coasts and offshore islands.	Unlikely	Requires coastal habitat; not likely to be present within survey area.	Unlikely	Marine species, no coastal habitat.
Merops ornatus	Rainbow bee-eater	M	-	Marine Listed	DCCEEW 2026	Occurs in open forests, woodlands and shrublands and in clear areas near water. Occurs throughout mainland Australia where it is widespread.	Potential	Suitable habitat such as woodland may be present within the survey area.	Recorded	Directly observed within survey area
Pachyptila turtur	Fairy prion	M	-	Marine Listed	DCCEEW 2026	Marine species found in the southern hemisphere. Habitat includes coastal rocky shores, burrows in soil, grass and rock crevices.	Unlikely	Inhabits rocky shores; not likely to be suitable habitat within survey area.	Unlikely	Marine species, no coastal habitat.
Puffinus assimilis	Little shearwater	M	-	Marine Listed	DCCEEW 2026	Widespread in the subtropical Atlantic, Pacific and Indian Oceans. It breeds on coastal cliffs, nesting in burrows.	Unlikely	Inhabits coastal cliffs; suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat.
Recurvirostra novaehollandiae	Red-necked avocet	M	-	Marine Listed	DCCEEW 2026	Occurs throughout Australia and breeds in the south-west. It inhabits shallow freshwater or saltwater wetlands and estuarine mudflats.	Unlikely	Wetland and estuarine habitat required by the species; suitable habitat not likely to be present.	Unlikely	Marine species, no coastal habitat.
Stercorarius antarcticus	Brown skua	M	-	Marine Listed	DCCEEW 2026	Marine migratory species which occurs in Antartica, and Atlantic, Indian and Pacific Oceans, nesting on grass, gravel or bare rock in coastal areas.	Unlikely	Inhabits coastal environments; suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat.
Thinornis cucullatus	Hooded plover, Hooded dotterel	M	-	Marine Listed	DCCEEW 2026	The hooded plover (eastern) is a small Australian beach nesting bird. It mainly occurs on wide beaches backed by dunes with large amounts of seaweed and jetsam, creek mouths and inlet entrances. Nests are found above the high water mark on flat beaches, on stony terraces, or on sparsely vegetated dunes.	Unlikely	Inhabits coastal environments; suitable habitat unlikely to be present.	Unlikely	Marine species, no coastal habitat.
Phascogale tapoatafa wambenger	South-western brush-tailed phascogale, Wambenger	-	CD	-	DBCA 2026b	In the southwest, brush-tailed phascogales are found in Jarrah forests.	Unlikely	Jarrah forest habitat not likely to be present. Nearest record is ~ 5km away from 1995.	Unlikely	Suitable habitat (Jarrah forest) not recorded in survey area.
Falco peregrinus	Peregrine falcon	-	OS	-	DBCA 2026b	The Peregrine Falcon is found in most habitats, from rainforests to the arid zone, and at most altitudes, from the coast to alpine areas. It requires abundant prey and secure nest sites, and prefers coastal and inland cliffs or open woodlands and forests near water in trees with old rave or Wedge-tailed Eagle nests, and may even be found nesting on high city buildings	Potential	A record from 2003 occurs 600m from the survey area. Suitable habitat may occur within the survey area.	Potential	Suitable habitat present (woodland and in proximity to water source).

Scientific name	Common name	EPBC Act	BC Act / DBCA	Other Status	Source	Habitat	Pre-survey likelihood of occurrence	Justification	Post-survey likelihood of occurrence	Justification
Botaurus flavicollis australis (southwest subpopulation)	Black bittern (southwest subpopulation)	-	P2	-	DBCA 2026b	Habitat includes swamps, mud flats, reed beds, wet forests, including Melaleuca Swamps.	Unlikely	Suitable habitat not likely to be present. Nearest record ~4 km away from 1987.	Unlikely	Suitable habitat not recorded in survey area, no waterbodies within the survey area itself.
Neelaps calonotos	Western black-striped snake	-	P3	-	DBCA 2026b, ALA 2026	The Black-striped Snake occurs only along the Swan Coastal Plain with the bulk of this species' known distribution occurring in the Perth region; however, there have been recent records of this species further north near Dongara and Eneabba suggesting it has a broader distribution. This species occurs on dunes and sand plains vegetated with heaths and eucalypt/banksia woodlands.	Potential	A historical record occurs within the survey area. Additional records occur within 5km. Suitable habitat may occur within the survey area.	Potential	Suitable habitat including Banksia/Eucalypt woodland recorded.
Tyto novaehollandiae novaehollandiae	Southern masked owl	-	P3	-	DBCA 2026b, ALA 2026	The Australian masked owl inhabits timbered areas, often with a shrub understorey. In Australia they are seldom found more than 300 km inland.	Unlikely	Nearby record from 1978 ~ 150m from survey area. Suitable habitat not likely to occur.	Unlikely	Suitable habitat not recorded in survey area.
Botaurus dubius	Australian little bittern	-	P4	-	DBCA 2026b	Most commonly occurs in the south-east of Australia, but also occurs in the south-west of WA along the Swan Coastal Plain. Inhabits freshwater wetlands with dense reeds and sedges as well as inundated shrub thickets.	Unlikely	Nearby historical records. Suitable habitat unlikely to occur.	Unlikely	Suitable habitat not recorded in survey area, no wetland habitat within the survey area itself.
Hydromys chrysogaster	Water-rat, Rakali	-	P4	-	DBCA 2026b, ALA 2026	The Rakali is widespread and common in much of coastal north, east, and southwest Australia. It inhabits a variety of aquatic environments, including subalpine streams, slow inland rivers, lakes, farm dams, and sheltered marine waters. It typically forages in water or adjacent vegetation, and lives in burrows alongside rivers or lake banks.	Unlikely	Nearest record is over 2 km away from 2018. Suitable waterbody as habitat unlikely to be present within survey area.	Unlikely	Suitable habitat not recorded in survey area, no waterbodies within the survey area itself.
Isoodon fusciventer	Quenda, Southwestern brown bandicoot	-	P4	-	DBCA 2026b, ALA 2026	Inhabits scrubby, often swampy, vegetation with dense cover up to 1 m high, often feeds in adjacent forest and woodland that is burnt on a regular basis and in areas of pasture and cropland lying close to dense cover. Populations inhabiting Jarrah and Wandoo forests are usually associated with watercourses.	Potential	Suitable habitat may occur within the survey area. A previous record from 2013 occurs within the survey area.	Potential	Suitable habitat recorded.
Notamacropus eugenii derbianus	Tammar wallaby	-	P4	-	DBCA 2026b	Habitat includes coastal heath, scrub, sclerophyll forests and Mallee woodland. Habitat requirements include dense, low vegetation for shelter and open grassy areas for foraging.	Unlikely	Nearest records are from 2014 and are over 8 km from the survey area. Suitable habitat not likely to be present within the survey area.	Unlikely	No suitable habitat including coastal heath, shrub or malle woodland habitat present within survey area.
Notamacropus irma	Western brush wallaby	-	P4	-	DBCA 2026b, ALA 2026	Inhabits open forest or woodland, particularly favouring open, seasonally wet flats with low grasses and open scrubby thickets. It is also found in some areas of mallee and heathland, and is uncommon in karri forest.	Potential	A previous record from 2006 is located approximately 1km north of the survey area. Suitable habitat may occur within the survey area.	Potential	Suitable habitat including open woodland recorded.
Oxyura australis	Blue-billed duck	-	P4	-	DBCA 2026b, ALA 2026	The Blue-billed Duck prefers deep water in large permanent wetlands and swamps with dense aquatic vegetation. The species is completely aquatic, swimming low in the water along the edge of dense cover. It will fly if disturbed, but prefers to dive if approached	Unlikely	Many nearby records however, these mostly occur at the nearby Lake Joondalup. Records in close proximity to the survey area are historic records (1990).	Unlikely	Suitable habitat not recorded in survey area, no waterbodies within the survey area itself.

Appendix H Ecological communities likelihood of occurrence assessment

Community ID	Community name	Description	EPBC Act	BC Act / DBCA	Source	Pre-survey likelihood of occurrence	Post-survey likelihood of occurrence	Justification
SCP26a	*Melaleuca huegelii - M. systena* shrublands of limestone ridges (floristic community type 26a as originally described in Gibson et al. 1994)	The community is known from shallow soils over limestone or massive limestone ridges of Tamala Limestone between Yanchep north of Perth, and south of Perth near Lake Clifton. The community generally comprises species-rich thickets, heaths and scrubs dominated by *Melaleuca huegelii* (chenille honeymyrtle), *Melaleuca systena* (coastal honeymyrtle) and *Banksia sessilis* (parrot bush), commonly over *Grevillea preissii* (spider net grevillea), *Spyridium globulosum* (basket bush), and *Acacia lasiocarpa* (pajang). A suite of herbs commonly occurs under the shrub layer. The community is also known as 'floristic community type 26a' as originally described in Gibson et al. (1994).	Critically Endangered	BCA Critically Endangered	DBCA 2026c	Unlikely	Unlikely	Key landform and species assemblage not recorded.
SCP10a	Shrublands on dry clay flats (floristic community type 10a as originally described in Gibson et al. 1994)	The community occurs on clay flats with thin skeletal soils and has been recorded largely between Wattle Grove and Sabina River. It comprises rapidly drying clay flats. Typical and common shrubs include *Hakea sulcata* (furrowed hakea), *Verticordia densiflora* (compacted featherflower), *Hakea varia* (variable-leaved hakea), *Pericalymma ellipticum* (swamp teatree) and *Viminaria juncea* (swishbush).	Critically Endangered	BCA Endangered	DBCA 2026c	Unlikely	Unlikely	Key landform and species assemblage not recorded.
SCP25	Southern Eucalyptus gomphocephala-Agonis flexuosa woodlands	Woodlands of *Eucalyptus gomphocephala* - *Agonis flexuosa* south of Woodman Point. Recorded from the Karrakatta, Cottesloe and Vasse units. Dominants other than tuart were occasionally recorded, including *Corymbia calophylla* at Paganoni block and Eucalyptus decipiens at Kemerton. Occasionally dominants other than tuarts were recorded (*Corymbia calophylla* and *Eucalyptus decipiens*) however tuarts are emergent nearby. Banksias found in this community include *Banksia attenuata, B. grandis and B. littoralis.* Tuart formed the overstorey nearby however.	Critically Endangered	Priority 3	DBCA 2026c	Unlikely	Unlikely	Key species assemblage(s) not recorded
Tuart woodlands	Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain	The nationally-listed Tuart Woodlands and Forests ecological community includes the assemblage of plants, animals and other organisms that occur in association with Tuart (*Eucalyptus gomphocephala*) on the Swan Coastal Plain of Western Australia. It occurs where there are multiple Tuart trees with crowns separated by a distance of no more than 60 m, with an understorey containing a minimum number of native plant species or demonstrating other important conservation values.	Critically Endangered	Priority 3	DBCA 2026c, PMST	Potential	Recorded	Diagnostic Criteria infers occurrence within survey area
Honeymyrtle Shrubland	Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion	This ecological community forms a shrub-dominated ecosystem, with sclerophyll shrubs typically forming thickets or heaths. There are typically long intervals between successive fires, usually resulting, over time, in a mossy ground cover with numerous herbs in the understorey. Honeymyrtle shrubland is dominated by *Melaleuca huegelii* (chenille honeymyrtle), *M. systena* (coastal honeymyrtle) and/or *Banksia sessilis* (parrot bush); commonly over *Acacia lasiocarpa* (pajang), *Grevillea preissii* (spider net grevillea) and *Spyridium globulosum* (basket bush). Other common shrubs include: *Acacia rostellifera* (summer-scented wattle), *Banksia dallanneyi* (couch honeypot), *Gompholobium tomentosum* (hairy yellow pea), *Hardenbergia comptoniana* (native wisteria), *Hibbertia hypericoides* (yellow buttercups), *Leucopogon parviflorus* (coast beard - heath) and *Templetonia retusa* (cockies tongue).	Critically Endangered		DBCA 2026c, PMST	Unlikely	Unlikely	Key landform and species assemblage not recorded.
SCP20a	Banksia attenuata woodlands over species rich dense shrublands (floristic community type 20a as originally described in Gibson et al. 1994)	The community has been recorded from sands near Koondoola and Banksia Grove, and at the base of the Darling Scarp between Wannamal and Maddington. This community is generally very species rich. It is usually dominated by *Banksia attenuata* (slender banksia), occasionally with *Eucalyptus marginata* (jarrah) with *Bossiaea eriocarpa* (common brown pea), *Conostephium pendulum* (pearl flower), *Hibbertia huegelii, Hibbertia hypericoides* (yellow buttercups), *Petrophile linearis* (pixie mops), Scaevola repens, Stirlingia latifolia (blueboy), *Mesomelaena pseudostygia* and *Alexgeorgea nitens* being common in the understorey. The community is also known as 'floristic community type 20a' as originally described in Gibson et al. (1994).	Endangered	BCA Critically Endangered	DBCA 2026c	Potential	Unlikely	While some quadrats have floristic affinities with SCP20a, vegetation in the survey area does not match the description of this TEC based on floristic assemblage and landform.

Community ID	Community name	Description	EPBC Act	BC Act / DBCA	Source	Pre-survey likelihood of occurrence	Post-survey likelihood of occurrence	Justification
Mound Springs SCP	Communities of Tumulus Springs (Organic Mound Springs, Swan Coastal Plain)	The community occurs in tumulus springs (organic mound springs) on the Swan Coastal Plain. The habitat of the mound springs is characterised by continuous discharge of groundwater in raised areas of peat. The peat and surrounds provide a stable, permanently moist series of microhabitats, with a high level of heterogeneity of invertebrate fauna assemblages between sites. Groups commonly represented include Ostracoda, Nematoda, Cladocera, Copepoda, Oligochaeta, Tardigrada, Turbellaria and Insecta. Typical and common native vascular plant species associated with the tumulus springs are the trees *Banksia littoralis* (swamp banksia), *Melaleuca preissiana* (moonah) and *Eucalyptus rudis* (flooded gum), and the shrubs *Taxandria linearifolia* (swamp peppermint), *Pteridium esculentum* (bracken fern), *Astartea scoparia* (common astartea) and *Cyclosorus interruptus* (swamp shield-fern).	Endangered	BCA Critically Endangered	DBCA 2026c, PMST	Unlikely	Unlikely	Key landform and species assemblage not recorded.
Muchea Limestone	Shrublands and woodlands on Muchea Limestone of the Swan Coastal Plain	The community occurs on the heavy soils of the eastern side of the Swan Coastal Plain and has been recorded between Beermullah and Wokalup. Known patches include wetland and well-drained habitats, in a variety of landforms. It is defined on the basis of substrates with a limestone influence. Many of the species are commonly associated with the limestone soils that occur on the coast, and do not generally occur further inland.	Endangered	BCA Endangered	DBCA 2026c	Unlikely	Unlikely	Key landform and species assemblage not recorded.
SCP22	*Banksia ilicifolia* woodlands	Low lying sites generally consisting of *Banksia ilicifolia – B. attenuata* woodlands, but *Melaleuca preissiana* woodlands and scrubs are also recorded. Occurs on Bassendean and Spearwood systems in the central Swan Coastal Plain north of Rockingham. Typically, has very open understorey, and sites are likely to be seasonally waterlogged.	Endangered	Priority 3	DBCA 2026c	Potential	Recorded	FCT analysis infers occurrence within survey area
Banksia WL SCP	Banksia Woodlands of the Swan Coastal Plain ecological community	Canopy is most commonly dominated or co-dominated by *Banksia attenuata* and/or *B. menziesii.* Other Banksia species that can dominate in the community are *B. prionotes* or *B.ilicifolia*. It typically occurs on well drained, low nutrient soils on sandplain landforms, particularly deep Bassendean and Spearwood sands and occasionally on Quindalup sands; it is also common on sandy colluvium and aeolian sands of the Ridge Hill Shelf, Whicher Scarp and Dandaragan Plateau and, in other less common scenarios. The description, area and condition thresholds that apply to the EPBC-listed TEC of the same name, also apply to this Priority ecological community	Endangered	Priority 3	DBCA 2026c, PMST	Likely	Recorded	Diagnostic Criteria and FCT analysis infers occurrence within survey area
SCP21c	Low lying *Banksia attenuata* woodlands or shrublands	Occurs sporadically between Gingin and Bunbury and is largely restricted to the Bassendean system. The type tends to occupy lower lying wetter sites and is variously dominated by *Melaleuca preissiana, Banksia attenuata, B. menziesii, Regelia ciliata, Eucalyptus marginata* or *Corymbia calophylla*. Structurally, this community type may be either a woodland or occasionally shrubland.	Endangered	Priority 3	DBCA 2026c	Potential	Recorded	FCT analysis infers occurrence within survey area
SCP24	Northern Spearwood shrublands and woodlands	Northern Spearwood shrublands and woodlands (SCP24) occurs as heaths with scattered Tuarts, and typically includes *Banksia sessilis, Calothamnus quadrifidus* and *Schoenus grandiflorous*.	Endangered	Priority 3	DBCA 2026c	Potential	Unlikely	Key species assemblage(s) not recorded
SCP23b	Swan Coastal Plain *Banksia attenuata - Banksia menziesii* woodlands	These woodlands occur in the Bassendean system, from Melaleuca Park to Gingin. Occurs in reasonably extensive Banksia woodlands north of Perth.	Endangered	Priority 3	DBCA 2026c	Potential	Potential	Inferred occurrence from previous surveys (AECOM)

Community ID	Community name	Description	EPBC Act	BC Act / DBCA	Source	Pre-survey likelihood of occurrence	Post-survey likelihood of occurrence	Justification
	Empodisma peatlands of southwestern Australia	The Empodisma peatlands are a type of freshwater wetland inhabited by species-rich assemblages of mid-dense to dense shrubs, restiad rushes, sedges and perennial herbs. Trees are mostly absent to sparse, although they may occur on the drier fringes of the ecological community. A dense to sparse cover of low to tall shrubs may be present. The understorey predominantly contains restiad rushes and sedges, other graminoids and other herbaceous vegetation. Restionaceae vegetation, in which *Empodisma gracillimum* is almost always present. *E. gracillimum* inhabits seasonally or permanently waterlogged wetlands and stream margins on nutrient poor, peat or sandy peat soils. When present, tree species typically include *Eucalyptus megacarpa* (blue gum of Western Australia, Bullich), *Melaleuca preissiana* (moonah) and *Taxandria juniperina*.	Endangered		DBCA 2026c, PMST	Unlikely	Unlikely	Key landform and species assemblage not recorded.
SCP30a	*Callitris preissii* (or *Melaleuca lanceolata*) forests and woodlands of the Swan Coastal Plain (floristic community type 30a as originally described in Gibson et al. 1994)	The community is located on calcareous sandy soils of the Quindalup Dunes generally occurring between Trigg and Point Peron and on the Swan River in Peppermint Grove. The community also occurs on Garden Island and Rottnest Island. Typical and common native taxa in the community are: *Callitris preissii* (Rottnest Island pine), *Melaleuca lanceolata* (Rottnest teatree*), Spyridium globulosum* (basket bush), *Acanthocarpus preissii, Rhagodia baccata* (berry saltbush), *Austrostipa flavescens* and *Trachymene pilosa* (native parsnip). The community is also known as 'floristic community type 30a' as originally described in Gibson et al. (1994).		BCA Critically Endangered	DBCA 2026c	Unlikely	Unlikely	Key landform and species assemblage not recorded.
SCP02	Southern wet shrublands, Swan Coastal Plain (floristic community type 2 as originally described in Gibson et al. 1994)	The community typically comprises shrublands or open woodlands. It occurs on seasonally inundated sandy clay soils that are restricted to small remnants on the eastern side of the Swan Coastal Plain. It has been recorded from Forrestfield to Chapman Hill. The community has moderate species richness with the occurrence of species reflecting the wetter nature of the sites.		BCA Critically Endangered	DBCA 2026c	Unlikely	Unlikely	Key landform and species assemblage not recorded.
SCP29a	Coastal shrublands on shallow sands	Mostly heaths on shallow sands over limestone close to the coast. No single dominant but important species include *Spyridium globulosum, Rhagodia baccata*, and *Olearia axillaris*.		Priority 3	DBCA 2026c	Unlikely	Unlikely	Key landform and species assemblage not recorded.

Appendix I Flora species list

Family	Species Name	Significance
Aizoaceae	**Carpobrotus edulis*	Permitted - s11
Anarthriaceae	*Lyginia barbata*	
Anarthriaceae	*Lyginia imberbis*	
Apiaceae	*Daucus glochidiatus*	
Apiaceae	*Xanthosia huegelii*	
Araliaceae	*Trachymene pilosa*	
Asparagaceae	**Asparagus asparagoides*	Declared Pest - s22(2) (Exempt), WoNS
Asparagaceae	*Laxmannia ramosa* subsp. *ramosa*	
Asparagaceae	*Laxmannia squarrosa*	
Asparagaceae	*Lomandra caespitosa*	
Asparagaceae	*Lomandra hermaphrodita*	
Asparagaceae	*Lomandra micrantha* subsp. *micrantha*	
Asparagaceae	*Lomandra preissii*	
Asparagaceae	*Lomandra* sp.	
Asparagaceae	*Thysanotus manglesianus*	
Asparagaceae	*Thysanotus multiflorus*	
Asparagaceae	*Thysanotus thyrsoideus*	
Asphodelaceae	**Asphodelus fistulosus*	Permitted - s11
Asteraceae	**Arctotheca calendula*	Permitted - s11
Asteraceae	**Arctotis stoechadifolia*	Permitted - s11
Asteraceae	**Gazania linearis*	Permitted - s11
Asteraceae	**Hypochaeris glabra*	Permitted - s11
Asteraceae	**Lactuca serriola*	Permitted - s11
Asteraceae	**Leontodon rhagadioloides*	Permitted - s11
Asteraceae	**Osteospermum ecklonis*	Permitted - s11
Asteraceae	**Sonchus oleraceus*	Permitted - s11
Asteraceae	**Tolpis barbata*	Permitted - s11
Asteraceae	**Urospermum picroides*	Permitted - s11
Asteraceae	**Ursinia anthemoides*	Permitted - s11
Asteraceae	*Hyalosperma cotula*	
Asteraceae	*Lagenophora huegelii*	
Asteraceae	*Olearia axillaris*	
Asteraceae	*Podotheca gnaphalioides*	
Asteraceae	*Siloxerus humifusus*	
Brassicaceae	**Brassica tournefortii*	Permitted - s11
Brassicaceae	**Raphanus raphanistrum*	Permitted - s11
Campanulaceae	**Wahlenbergia capensis*	Permitted - s11
Campanulaceae	**Wahlenbergia gracilenta*	Permitted - s11
Campanulaceae	**Wahlenbergia preissii*	Permitted - s11
Campanulaceae	*Lobelia rhytidosperma*	
Campanulaceae	*Lobelia tenuior*	
Caryophyllaceae	**Petrorhagia dubia*	Permitted - s11

Family	Species Name	Significance
Caryophyllaceae	**Polycarpon tetraphyllum*	Permitted - s11
Caryophyllaceae	**Silene gallica*	Permitted - s11
Casuarinaceae	**Allocasuarina verticillata*	Permitted - s11
Casuarinaceae	*Allocasuarina fraseriana*	
Casuarinaceae	*Allocasuarina humilis*	
Celastraceae	*Tripterococcus brunonis*	
Centrolepidaceae	*Centrolepis aristata*	
Chenopodiaceae	*Atriplex cinerea*	
Chenopodiaceae	*Rhagodia baccata*	
Chenopodiaceae	*Rhagodia preissii* subsp. *obovata*	
Colchicaceae	*Burchardia congesta*	
Commelinaceae	*Cartonema philydroides*	
Crassulaceae	**Crassula glomerata*	Permitted - s11
Crassulaceae	*Crassula colorata*	
Cyperaceae	**Ficinia marginata*	Permitted - s11
Cyperaceae	*Ammothryon grandiflorum*	
Cyperaceae	*Chaetospora curvifolia*	
Cyperaceae	*Ficinia nodosa*	
Cyperaceae	*Lepidosperma apricola*	
Cyperaceae	*Lepidosperma calcicola*	
Cyperaceae	*Lepidosperma leptostachyum*	
Cyperaceae	*Lepidosperma scabrum*	
Cyperaceae	*Leptocarpus scariosus*	
Cyperaceae	*Mesomelaena pseudostygia*	
Cyperaceae	*Schoenus clandestinus*	
Cyperaceae	*Schoenus griffinianus*	
Dasypogonaceae	*Calectasia narragara*	
Dasypogonaceae	*Dasypogon bromeliifolius*	
Dilleniaceae	*Hibbertia huegelii*	
Dilleniaceae	*Hibbertia hypericoides*	
Dilleniaceae	*Hibbertia subvaginata*	
Droseraceae	*Drosera micrantha*	
Droseraceae	*Drosera* sp.	
Ericaceae	*Conostephium pendulum*	
Ericaceae	*Styphelia conostephioides*	
Ericaceae	*Styphelia pallida*	
Ericaceae	*Styphelia propinqua*	
Ericaceae	*Styphelia* sp.	
Ericaceae	*Styphelia xerophylla*	
Euphorbiaceae	**Euphorbia terracina*	Permitted - s11
Euphorbiaceae	**Ricinus communis*	Permitted - s11
Euphorbiaceae	*Monotaxis grandiflora* var. *grandiflora*	
Fabaceae	**Acacia iteaphylla*	Permitted - s11
Fabaceae	**Acacia longifolia*	Permitted - s11
Fabaceae	**Lupinus cosentinii*	Permitted - s11

Family	Species Name	Significance
Fabaceae	**Ornithopus compressus*	Permitted - s11
Fabaceae	**Trifolium arvense*	Permitted - s11
Fabaceae	**Trifolium campestre*	Permitted - s11
Fabaceae	**Trifolium* sp.	Permitted - s11
Fabaceae	**Vicia sativa*	Permitted - s11
Fabaceae	*Acacia applanata*	
Fabaceae	*Acacia cyclops*	
Fabaceae	*Acacia huegelii*	
Fabaceae	*Acacia lasiocarpa*	
Fabaceae	*Acacia pulchella*	
Fabaceae	*Acacia pulchella* var. *glaberrima*	
Fabaceae	*Acacia rostellifera*	
Fabaceae	*Acacia saligna*	
Fabaceae	*Acacia sessilis*	
Fabaceae	*Acacia truncata*	
Fabaceae	*Bossiaea eriocarpa*	
Fabaceae	*Daviesia divaricata*	
Fabaceae	*Daviesia divaricata* subsp. *divaricata*	
Fabaceae	*Daviesia nudiflora*	
Fabaceae	*Daviesia physodes*	
Fabaceae	*Daviesia triflora*	
Fabaceae	*Euchilopsis linearis*	
Fabaceae	*Gastrolobium capitatum*	
Fabaceae	*Gompholobium scabrum*	
Fabaceae	*Gompholobium tomentosum*	
Fabaceae	*Hardenbergia comptoniana*	
Fabaceae	*Hovea pungens*	
Fabaceae	*Hovea trisperma*	
Fabaceae	*Jacksonia floribunda*	
Fabaceae	*Jacksonia furcellata*	
Fabaceae	*Jacksonia sericea*	
Fabaceae	*Jacksonia sternbergiana*	
Fabaceae	*Kennedia prostrata*	
Gentianaceae	**Centaurium pulchellum*	Permitted - s11
Geraniaceae	**Pelargonium capitatum*	Permitted - s11
Goodeniaceae	*Dampiera linearis*	
Goodeniaceae	*Lechenaultia biloba*	
Goodeniaceae	*Lechenaultia floribunda*	
Goodeniaceae	*Scaevola crassifolia*	
Goodeniaceae	*Scaevola repens*	
Haemodoraceae	*Anigozanthos humilis*	
Haemodoraceae	*Anigozanthos manglesii*	
Haemodoraceae	*Conostylis aculeata* subsp. *aculeata*	
Haemodoraceae	*Conostylis aurea*	
Haemodoraceae	*Conostylis juncea*	

Family	Species Name	Significance
Haemodoraceae	*Conostylis setigera*	
Haemodoraceae	*Haemodorum laxum*	
Haemodoraceae	*Haemodorum spicatum*	
Haemodoraceae	*Phlebocarya ciliata*	
Haloragaceae	*Gonocarpus pithyoides*	
Haloragaceae	*Haloragis* sp.	
Hemerocallidaceae	*Caesia micrantha*	
Hemerocallidaceae	*Chamaescilla corymbosa*	
Hemerocallidaceae	*Corynotheca micrantha*	
Hemerocallidaceae	*Dianella revoluta*	
Hemerocallidaceae	*Johnsonia acaulis*	
Hemerocallidaceae	*Tricoryne elatior*	
Iridaceae	**Freesia leichtlinii*	Permitted - s11
Iridaceae	**Freesia leichtlinii* subsp. *alba* × *leichtlinii* subsp. *Leichtlinii*	Permitted - s11
Iridaceae	**Gladiolus caryophyllaceus*	Permitted - s11
Iridaceae	**Watsonia meriana*	Permitted - s11
Iridaceae	*Patersonia occidentalis*	
Iridaceae	*Patersonia occidentalis* var. *occidentalis*	
Juncaceae	*Juncus* sp.	
Lamiaceae	**Lavandula stoechas*	Permitted - s11
Lamiaceae	**Stachys arvensis*	Permitted - s11
Lamiaceae	*Hemiandra linearis*	
Lamiaceae	*Hemiandra pungens*	
Lauraceae	*Cassytha flava*	
Loganiaceae	*Phyllangium paradoxum*	
Loranthaceae	*Nuytsia floribunda*	
Macarthuriaceae	*Macarthuria australis*	
Malvaceae	**Malva parviflora*	Permitted - s11
Malvaceae	*Guichenotia ledifolia*	
Montiaceae	*Calandrinia liniflora*	
Myrtaceae	**Chamelaucium uncinatum*	Permitted - s11
Myrtaceae	**Eucalyptus camaldulensis*	Permitted - s11
Myrtaceae	**Eucalyptus robusta*	Permitted - s11
Myrtaceae	**Gaudium laevigatum*	Permitted - s11
Myrtaceae	*Agonis flexuosa*	
Myrtaceae	*Astartea scoparia*	
Myrtaceae	*Beaufortia elegans*	
Myrtaceae	*Calothamnus quadrifidus*	
Myrtaceae	*Calothamnus sanguineus*	
Myrtaceae	*Calytrix flavescens*	
Myrtaceae	*Calytrix fraseri*	
Myrtaceae	*Calytrix* sp.	
Myrtaceae	*Corymbia calophylla*	
Myrtaceae	*Eremaea asterocarpa*	
Myrtaceae	*Eremaea pauciflora*	

Family	Species Name	Significance
Myrtaceae	*Eucalyptus gomphocephala*	
Myrtaceae	*Eucalyptus marginata*	
Myrtaceae	*Eucalyptus rudis*	
Myrtaceae	*Eucalyptus* sp.	
Myrtaceae	*Eucalyptus todtiana*	
Myrtaceae	*Hypocalymma angustifolium*	
Myrtaceae	*Hypocalymma balbakiae*	
Myrtaceae	*Hypocalymma robustum*	
Myrtaceae	*Kunzea glabrescens*	
Myrtaceae	*Melaleuca preissiana*	
Myrtaceae	*Melaleuca seriata*	
Myrtaceae	*Melaleuca* sp.	
Myrtaceae	*Melaleuca systena*	
Myrtaceae	*Pericalymma ellipticum*	
Myrtaceae	*Regelia ciliata*	
Myrtaceae	*Scholtzia involucrata*	
Myrtaceae	*Verticordia densiflora*	
Myrtaceae	*Verticordia nitens*	
Oleaceae	**Olea europaea*	Permitted - s11
Onagraceae	**Oenothera drummondii*	Permitted - s11
Orchidaceae	**Disa bracteata*	Permitted - s11
Orchidaceae	*Caladenia flava*	
Orchidaceae	*Diuris* sp.	
Orchidaceae	*Microtis media*	
Orchidaceae	*Pterostylis sanguinea*	
Orchidaceae	*Pyrorchis nigricans*	
Orobanchaceae	**Bellardia trixago*	Permitted - s11
Orobanchaceae	**Orobanche minor*	Permitted - s11
Papaveraceae	**Fumaria capreolata*	Permitted - s11
Pinaceae	**Pinus pinaster*	Permitted - s11
Plantaginaceae	**Misopates orontium*	Permitted - s11
Poaceae	**Aira cupaniana*	Permitted - s11
Poaceae	**Avena barbata*	Permitted - s11
Poaceae	**Bambusa vulgaris*	Permitted - s11
Poaceae	**Brachypodium distachyon*	Permitted - s11
Poaceae	**Briza maxima*	Permitted - s11
Poaceae	**Briza minor*	Permitted - s11
Poaceae	**Bromus diandrus*	Permitted - s11
Poaceae	**Bromus rubens*	Permitted - s11
Poaceae	**Cynodon dactylon*	Permitted - s11
Poaceae	**Ehrharta calycina*	Permitted - s11
Poaceae	**Ehrharta longiflora*	Permitted - s11
Poaceae	**Eragrostis curvula*	Permitted - s11
Poaceae	**Lagurus ovatus*	Permitted - s11
Poaceae	**Lolium perenne*	Permitted - s11

Family	Species Name	Significance
Poaceae	**Lolium rigidum*	Permitted - s11
Poaceae	**Pentameris airoides*	Permitted - s11
Poaceae	**Pentameris pallida*	Permitted - s11
Poaceae	**Vulpia bromoides*	Permitted - s11
Poaceae	**Vulpia fasciculata*	Permitted - s11
Poaceae	**Vulpia myuros*	Permitted - s11
Poaceae	*Amphipogon turbinatus*	
Poaceae	*Austrostipa compressa*	
Poaceae	*Austrostipa elegantissima*	
Poaceae	*Austrostipa flavescens*	
Poaceae	*Austrostipa tenuifolia*	
Poaceae	*Microlaena stipoides*	
Poaceae	*Poaceae* spp.	
Polygalaceae	*Comesperma calymega*	
Polygalaceae	*Comesperma virgatum*	
Primulaceae	**Lysimachia arvensis*	Permitted - s11
Proteaceae	*Adenanthos cygnorum*	
Proteaceae	*Banksia attenuata*	
Proteaceae	*Banksia grandis*	
Proteaceae	*Banksia ilicifolia*	
Proteaceae	*Banksia menziesii*	
Proteaceae	*Banksia* sp.	
Proteaceae	*Conospermum stoechadis*	
Proteaceae	*Grevillea olivacea*	
Proteaceae	*Grevillea preissii*	
Proteaceae	*Grevillea* sp.	
Proteaceae	*Hakea lissocarpha*	
Proteaceae	*Hakea petiolaris*	
Proteaceae	*Hakea prostrata*	
Proteaceae	*Hakea ruscifolia*	
Proteaceae	*Hakea trifurcata*	
Proteaceae	*Persoonia saccata*	
Proteaceae	*Petrophile linearis*	
Proteaceae	*Petrophile macrostachya*	
Proteaceae	*Stirlingia latifolia*	
Proteaceae	*Synaphea spinulosa*	
Proteaceae	*Synaphea spinulosa* subsp. *spinulosa*	
Restionaceae	*Alexgeorgea nitens*	
Restionaceae	*Chordifex microcodon*	
Restionaceae	*Chordifex sinuosus*	
Restionaceae	*Desmocladus flexuosus*	
Restionaceae	*Hypolaena exsulca*	
Restionaceae	*Lepidobolus preissianus*	
Restionaceae	*Lepidobolus preissianus* subsp. *preissianus*	
Rhamnaceae	*Spyridium globulosum*	

Family	Species Name	Significance
Rubiaceae	*Opercularia vaginata*	
Rutaceae	*Cyanothamnus ramosus* subsp. *anethifolius*	
Rutaceae	*Philotheca spicata*	
Santalaceae	*Exocarpos sparteus*	
Scrophulariaceae	*Eremophila glabra*	
Scrophulariaceae	*Myoporum insulare*	
Solanaceae	**Nicotiana* sp.	Permitted - s11
Solanaceae	**Solanum nigrum*	Permitted - s11
Stylidiaceae	*Levenhookia pusilla*	
Stylidiaceae	*Levenhookia stipitata*	
Stylidiaceae	*Stylidium araeophyllum*	
Stylidiaceae	*Stylidium brunonianum*	
Stylidiaceae	*Stylidium calcaratum*	
Stylidiaceae	*Stylidium crossocephalum*	
Stylidiaceae	*Stylidium cygnorum*	
Stylidiaceae	*Stylidium neurophyllum*	
Stylidiaceae	*Stylidium repens*	
Stylidiaceae	*Stylidium rigidulum*	
Thymeleaceae	*Pimelea sulphurea*	
Violaceae	*Pigea calycina*	
Xanthorrhoeaceae	*Xanthorrhoea preissii*	
Zamiaceae	*Macrozamia fraseri*	

Appendix J Flora species by site matrix

Species name	ELA_Q01	ELA_Q02	ELA_Q03	ELA_Q04	ELA_Q05	ELA_Q06	ELA_Q07	ELA_Q08	ELA_Q09	ELA_Q10	ELA_Q11	ELA_Q12	ELA_Q13	ELA_Q14	ELA_Q15	ELA_Q16	ELA_Q17	ELA_Q18	ELA_Q19	ELA_Q20	ELA_Q21	ELA_Q22	ELA_Q23
**Acacia iteaphylla*					X	X																	
**Acacia longifolia*				X	X		X	X	X	X													
**Aira cupaniana*																	X		X	X			
**Allocasuarina verticillata*						X																	
**Arctotheca calendula*										X													
**Asparagus asparagoides*				X																			
**Asphodelus fistulosus*																							X
**Avena barbata*	X		X	X						X	X	X			X							X	
**Bambusa vulgaris*																							
**Brachypodium distachyon*																							X
**Brassica tournefortii*										X													
**Briza maxima*		X	X			X	X		X	X	X	X	X	X	X	X	X	X	X	X		X	X	X
**Briza minor*					X					X			X									X	
**Bromus diandrus*			X															X				X	
**Bromus rubens*																							
**Carpobrotus edulis*										X	X	X	X					X				X	X
**Centaurium pulchellum*																							
**Chamelaucium uncinatum*		X																					
**Crassula glomerata*						X	X																
**Cynodon dactylon*																							
**Disa bracteata*													X						X				
**Ehrharta calycina*		X	X	X			X	X	X	X	X	X	X		X	X		X	X			X	X
**Ehrharta longiflora*			X				X	X	X														
**Eragrostis curvula*																							
**Euphorbia terracina*	X		X							X		X										X	
**Ficinia marginata*											X											X	
**Freesia leichtlinii*													X										
**Freesia leichtlinii* subsp. *alba* × *leichtlinii* subsp. *Leichtlinii*																							
**Fumaria capreolata*			X																				
**Gaudium laevigatum*					X																		
**Gladiolus caryophyllaceus*		X		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X		X
**Hypochaeris glabra*					X		X	X	X	X	X	X	X	X						X		X	X

Species name	ELA_Q01	ELA_Q02	ELA_Q03	ELA_Q04	ELA_Q05	ELA_Q06	ELA_Q07	ELA_Q08	ELA_Q09	ELA_Q10	ELA_Q11	ELA_Q12	ELA_Q13	ELA_Q14	ELA_Q15	ELA_Q16	ELA_Q17	ELA_Q18	ELA_Q19	ELA_Q20	ELA_Q21	ELA_Q22	ELA_Q23
*Lactuca serriola			X																				
*Lagurus ovatus																							
*Lavandula stoechas																							
*Leontodon rhagadioloides																						X	
*Lolium rigidum																							
*Lupinus cosentinii	X																						
*Lysimachia arvensis																						X	X
*Misopates orontium	X																						
*Oenothera drummondii																							
*Olea europaea													X										
*Ornithopus compressus																							
*Orobanche minor										X			X										
*Osteospermum ecklonis																							
*Pelargonium capitatum										X		X	X	X	X							X	
*Pentameris airoides		X								X	X	X	X	X	X			X			X		
*Pentameris pallida																							X
*Petrorhagia dubia										X	X	X											
*Pinus pinaster																							
*Polycarpon tetraphyllum					X	X																	
*Raphanus raphanistrum			X																				
*Silene gallica																							
*Sonchus oleraceus	X		X	X	X		X	X	X	X	X	X	X	X								X	
*Stachys arvensis	X																						
*Tolpis barbata																							
*Trifolium arvense	X																						
*Trifolium campestre			X																				
*Urospermum picroides	X		X	X	X		X	X	X	X	X	X	X									X	
*Ursinia anthemoides		X				X		X	X	X	X	X		X	X	X	X	X	X	X		X	X
*Vulpia bromoides										X													
*Vulpia fasciculata																							
*Vulpia myuros																							
*Wahlenbergia capensis										X		X	X									X	
*Wahlenbergia gracilenta																						X	
*Wahlenbergia preissii																							
*Watsonia meriana																							

Species name	ELA_Q01	ELA_Q02	ELA_Q03	ELA_Q04	ELA_Q05	ELA_Q06	ELA_Q07	ELA_Q08	ELA_Q09	ELA_Q10	ELA_Q11	ELA_Q12	ELA_Q13	ELA_Q14	ELA_Q15	ELA_Q16	ELA_Q17	ELA_Q18	ELA_Q19	ELA_Q20	ELA_Q21	ELA_Q22	ELA_Q23
Acacia applanata																	X						
Acacia cyclops	X																						
Acacia huegelii		X										X											
Acacia lasiocarpa	X																						
Acacia pulchella													X								X		
Acacia pulchella var. *glaberrima*																X			X			X	X
Acacia rostellifera	X																						
Acacia saligna	X																						
Acacia sessilis																	X	X					
Acacia truncata	X																						
Adenanthos cygnorum		X								X	X	X		X	X	X				X	X		X
Agonis flexuosa	X			X	X																		
Alexgeorgea nitens										X	X			X	X			X			X		
Allocasuarina fraseriana																				X			
Allocasuarina humilis														X									
Ammothryon grandiflorum																							
Amphipogon turbinatus		X													X		X	X			X		
Anigozanthos humilis																					X		
Anigozanthos manglesii		X																X	X				X
Astartea scoparia				X	X		X	X	X													X	
Atriplex cinerea	X																						
Austrostipa compressa																	X		X	X			
Austrostipa elegantissima		X																					
Austrostipa flavescens		X								X	X			X	X						X		
Austrostipa tenuifolia																							X
Banksia attenuata	X	X	X										X	X	X	X	X	X	X	X	X		
Banksia grandis																							
Banksia ilicifolia			X										X		X		X						
Banksia menziesii		X	X											X	X	X	X	X	X	X	X		
Banksia sp.	X																						
Beaufortia elegans																							
Bossiaea eriocarpa												X	X	X		X		X	X		X		
Burchardia congesta														X	X	X	X	X	X	X	X		X
Caesia micrantha															X								
Caladenia flava																				X			

Species name	ELA_Q01	ELA_Q02	ELA_Q03	ELA_Q04	ELA_Q05	ELA_Q06	ELA_Q07	ELA_Q08	ELA_Q09	ELA_Q10	ELA_Q11	ELA_Q12	ELA_Q13	ELA_Q14	ELA_Q15	ELA_Q16	ELA_Q17	ELA_Q18	ELA_Q19	ELA_Q20	ELA_Q21	ELA_Q22	ELA_Q23
Calandrinia liniflora																							
Calectasia narragara														X	X	X							
Calothamnus quadrifidus	X		X																				
Calothamnus sanguineus														X							X		
Calytrix flavescens														X	X			X			X		
Calytrix fraseri		X											X										
Calytrix sp.																	X		X				
Cartonema philydroides										X	X												
Cassytha flava							X	X	X					X									
Centrolepis aristata																							
Chaetospora curvifolia												X	X					X					
Chamaescilla corymbosa																							
Chordifex microcodon																							
Chordifex sinuosus																			X				
Comesperma calymega																							X
Conospermum stoechadis		X													X		X	X			X		
Conostephium pendulum															X				X				
Conostylis aculeata subsp. *aculeata*														X	X			X	X		X		
Conostylis aurea												X				X	X						
Conostylis juncea													X			X							
Conostylis setigera																							X
Corymbia calophylla													X										
Corynotheca micrantha											X	X		X		X		X	X				
Crassula colorata											X	X											
Cyanothamnus ramosus subsp. *anethifolius*																						X	X
Dampiera linearis						X	X	X	X				X			X			X	X			
Dasypogon bromeliifolius										X	X	X	X			X	X			X			X
Daucus glochidiatus						X	X																
Daviesia divaricata		X												X	X			X			X		
Daviesia divaricata subsp. *divaricata*																X	X		X				
Daviesia nudiflora		X													X								
Daviesia physodes																							X
Daviesia triflora		X												X	X								
Desmocladus flexuosus														X	X	X	X	X	X		X		
Dianella revoluta				X	X	X	X	X	X	X	X		X	X					X			X	X

Species name	ELA_Q01	ELA_Q02	ELA_Q03	ELA_Q04	ELA_Q05	ELA_Q06	ELA_Q07	ELA_Q08	ELA_Q09	ELA_Q10	ELA_Q11	ELA_Q12	ELA_Q13	ELA_Q14	ELA_Q15	ELA_Q16	ELA_Q17	ELA_Q18	ELA_Q19	ELA_Q20	ELA_Q21	ELA_Q22	ELA_Q23
Diuris sp.																		X	X				
Drosera micrantha															X								
Drosera sp.																	X						
Eremaea asterocarpa																							
Eremaea pauciflora																		X	X		X		
Eremophila glabra																							
Eucalyptus camaldulensis					X																		
Eucalyptus gomphocephala																							
Eucalyptus marginata																X		X			X		
Eucalyptus rudis																						X	
Eucalyptus sp.	X																						
Eucalyptus todtiana		X												X									
Euchilopsis linearis																				X			
Exocarpos sparteus																							
Ficinia nodosa	X																						
Gastrolobium capitatum		X																X					
Gompholobium scabrum																							
Gompholobium tomentosum		X			X	X						X	X	X	X	X		X			X	X	X
Gonocarpus pithyoides		X																					X
Grevillea olivacea	X																						
Grevillea preissii	X																						
Grevillea sp.	X																						
Guichenotia ledifolia	X																						
Haemodorum laxum															X			X			X		
Haemodorum spicatum										X	X	X	X	X					X		X		X
Hakea lissocarpha			X																				
Hakea petiolaris	X																						
Hakea prostrata		X	X																				
Hakea ruscifolia																							
Hakea trifurcata																							
Haloragis sp.																						X	
Hardenbergia comptoniana										X	X	X											
Hemiandra linearis															X		X						
Hemiandra pungens	X		X																X				
Hibbertia huegelii															X		X	X			X		

Species name	ELA_Q01	ELA_Q02	ELA_Q03	ELA_Q04	ELA_Q05	ELA_Q06	ELA_Q07	ELA_Q08	ELA_Q09	ELA_Q10	ELA_Q11	ELA_Q12	ELA_Q13	ELA_Q14	ELA_Q15	ELA_Q16	ELA_Q17	ELA_Q18	ELA_Q19	ELA_Q20	ELA_Q21	ELA_Q22	ELA_Q23
Hibbertia hypericoides		X												X	X	X	X	X	X		X		
Hibbertia subvaginata																			X	X	X		X
Hovea pungens																							X
Hovea trisperma						X								X	X	X							
Hyalosperma cotula														X		X	X	X	X	X	X		
Hypocalymma angustifolium							X	X	X											X			
Hypocalymma balbakiae																							X
Hypocalymma robustum														X		X	X	X	X		X		
Hypolaena exsulca		X						X	X											X			
Jacksonia floribunda		X														X		X	X		X		
Jacksonia furcellata				X		X	X					X	X										
Jacksonia sericea																	X						
Jacksonia sternbergiana		X			X								X								X		
Johnsonia acaulis																							X
Juncus sp.																				X			X
Kennedia prostrata				X				X					X										
Kunzea glabrescens			X																			X	X
Lagenophora huegelii														X		X							
Laxmannia ramosa subsp. *ramosa*																							
Laxmannia squarrosa		X									X		X			X	X						
Lechenaultia biloba										X	X	X											
Lechenaultia floribunda																						X	X
Lepidobolus preissianus															X								
Lepidobolus preissianus subsp. *preissianus*		X																					
Lepidosperma calcicola												X	X										
Lepidosperma leptostachyum														X				X					
Lepidosperma scabrum																X	X		X				
Leptocarpus scariosus				X	X	X	X	X															
Levenhookia pusilla					X		X		X														
Levenhookia stipitata		X												X		X	X	X	X	X	X		X
Lobelia rhytidosperma																							X
Lobelia tenuior									X														
Lomandra caespitosa													X							X			X
Lomandra hermaphrodita												X			X								
Lomandra micrantha subsp. *micrantha*																X			X				

Species name	ELA_Q01	ELA_Q02	ELA_Q03	ELA_Q04	ELA_Q05	ELA_Q06	ELA_Q07	ELA_Q08	ELA_Q09	ELA_Q10	ELA_Q11	ELA_Q12	ELA_Q13	ELA_Q14	ELA_Q15	ELA_Q16	ELA_Q17	ELA_Q18	ELA_Q19	ELA_Q20	ELA_Q21	ELA_Q22	ELA_Q23
Lomandra preissii														X									
Lomandra sp.																X		X			X		
Lomandra sp.																	X						
Lyginia barbata																	X						
Lyginia imberbis		X												X	X			X			X		
Macarthuria australis																		X					
Macrozamia fraseri			X							X	X	X			X	X							
Melaleuca preissiana			X	X	X	X	X	X	X		X									X		X	X
Melaleuca seriata															X								
Melaleuca sp.																							X
Melaleuca systena	X																						
Mesomelaena pseudostygia		X												X	X	X	X	X	X		X		
Microlaena stipoides					X	X	X												X				
Microtis media				X	X	X							X										
Monotaxis grandiflora var. *grandiflora*																X							
Myoporum insulare	X																						
Nicotiana sp.																							
Nuytsia floribunda			X							X										X			
Olearia axillaris	X																						
Opercularia vaginata													X						X			X	
Patersonia occidentalis												X	X	X	X	X		X	X	X	X		X
Patersonia occidentalis var. *occidentalis*							X	X	X														
Pericalymma ellipticum																				X			
Persoonia saccata																		X			X		
Petrophile linearis													X		X	X	X	X	X		X		
Petrophile macrostachya															X			X					
Philotheca spicata																X							
Phlebocarya ciliata												X	X										
Phyllangium paradoxum														X				X					
Pigea calycina														X	X		X		X				
Pimelea sulphurea																	X	X					
Poaceae spp.																							
Podotheca gnaphalioides										X	X	X											
Pterostylis sanguinea						X																	
Pyrorchis nigricans														X		X			X				

Species name	ELA_Q01	ELA_Q02	ELA_Q03	ELA_Q04	ELA_Q05	ELA_Q06	ELA_Q07	ELA_Q08	ELA_Q09	ELA_Q10	ELA_Q11	ELA_Q12	ELA_Q13	ELA_Q14	ELA_Q15	ELA_Q16	ELA_Q17	ELA_Q18	ELA_Q19	ELA_Q20	ELA_Q21	ELA_Q22	ELA_Q23
Regelia ciliata			X								X									X			
Rhagodia baccata	X																						
Rhagodia preissii subsp. *obovata*																							
Scaevola crassifolia	X																						
Scaevola repens		X												X	X		X	X	X		X		
Schoenus clandestinus														X	X		X	X	X		X		
Schoenus griffinianus																							X
Scholtzia involucrata																							
Siloxerus humifusus						X														X			X
Spyridium globulosum				X	X	X																	
Stirlingia latifolia		X												X		X	X						
Stylidium araeophyllum															X								
Stylidium brunonianum															X			X	X	X	X		X
Stylidium calcaratum		X												X		X	X				X		
Stylidium crossocephalum																			X		X		
Stylidium cygnorum																	X		X				X
Stylidium neurophyllum																X	X						
Stylidium repens		X											X	X	X			X		X	X		
Stylidium rigidulum																							
Styphelia conostephioides																							
Styphelia pallida																X							
Styphelia propinqua														X	X			X			X		
Styphelia sp.																							
Styphelia xerophylla																			X		X		X
Synaphea spinulosa																	X						
Synaphea spinulosa subsp. *spinulosa*																			X				
Thysanotus manglesianus				X	X					X					X								
Thysanotus multiflorus								X															X
Thysanotus thyrsoideus																							
Trachymene pilosa	X			X	X	X	X	X	X		X	X	X	X	X			X		X			X
Tricoryne elatior					X	X									X								
Trifolium sp.																							
Tripterococcus brunonis																							X
Verticordia densiflora	X																		X				
Xanthorrhoea preissii					X					X	X	X	X	X	X	X	X	X			X		X

Species name	ELA_Q01	ELA_Q02	ELA_Q03	ELA_Q04	ELA_Q05	ELA_Q06	ELA_Q07	ELA_Q08	ELA_Q09	ELA_Q10	ELA_Q11	ELA_Q12	ELA_Q13	ELA_Q14	ELA_Q15	ELA_Q16	ELA_Q17	ELA_Q18	ELA_Q19	ELA_Q20	ELA_Q21	ELA_Q22	ELA_Q23
Xanthosia huegelii		X												X		X		X					X

Species name	ELA_Q 24	ELA_Q 25	ELA_Q 26	ELA_Q 27	ELA_Q 28	ELA_Q 29	ELA_Q 30	ELA_Q 31	ELA_Q 32	ELA_Q 33	ELA_Q 34	ELA_Q 35	ELA_Q 36	ELA_Q 37	ELA_Q 38	ELA_Q 39	ELA_Q 40	ELA_Q 41	ELA_Q 42	ELA_Q 43	ELA_Q 44	ELA_Q 45	ELA_Q 46
**Acacia iteaphylla*																							
**Acacia longifolia*																							
**Aira cupaniana*	X									X		X		X	X		X	X		X	X		X
**Allocasuarina verticillata*																							
**Arctotheca calendula*										X													
**Asparagus asparagoides*			X									X											
**Asphodelus fistulosus*																							
**Avena barbata*	X	X	X		X		X	X	X	X				X		X	X			X	X		
**Bambusa vulgaris*																							
**Brachypodium distachyon*										X								X					
**Brassica tournefortii*																							
**Briza maxima*	X	X	X	X	X	X	X	X	X	X	X	X		X	X		X			X	X		X
**Briza minor*																				X			
**Bromus diandrus*	X							X		X								X		X	X		
**Bromus rubens*																							
**Carpobrotus edulis*			X							X						X		X		X	X	X	
**Centaurium pulchellum*																							
**Chamelaucium uncinatum*																							
**Crassula glomerata*										X													
**Cynodon dactylon*																							
**Disa bracteata*															X		X			X			X
**Ehrharta calycina*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X
**Ehrharta longiflora*																							
**Eragrostis curvula*																						X	
**Euphorbia terracina*							X	X															
**Ficinia marginata*					X			X		X								X					
**Freesia leichtlinii*																							
**Freesia leichtlinii* subsp. *alba* × *leichtlinii* subsp. *Leichtlinii*											X												
**Fumaria capreolata*								X															
**Gaudium laevigatum*																							
**Gladiolus caryophyllaceus*	X	X	X			X		X	X	X	X	X		X	X		X			X	X		
**Hypochaeris glabra*		X	X	X	X	X		X	X								X						
**Lactuca serriola*									X														
**Lagurus ovatus*																							
**Lavandula stoechas*																							

Species name	ELA_Q 24	ELA_Q 25	ELA_Q 26	ELA_Q 27	ELA_Q 28	ELA_Q 29	ELA_Q 30	ELA_Q 31	ELA_Q 32	ELA_Q 33	ELA_Q 34	ELA_Q 35	ELA_Q 36	ELA_Q 37	ELA_Q 38	ELA_Q 39	ELA_Q 40	ELA_Q 41	ELA_Q 42	ELA_Q 43	ELA_Q 44	ELA_Q 45	ELA_Q 46
**Leontodon rhagadioloides*																							
**Lolium rigidum*																							
**Lupinus cosentinii*																							
**Lysimachia arvensis*							X	X	X	X	X							X					
**Misopates orontium*																							
**Oenothera drummondii*																							
**Olea europaea*																							
**Ornithopus compressus*											X		X		X		X	X	X	X	X	X	X
**Orobanche minor*																							
**Osteospermum ecklonis*																							
**Pelargonium capitatum*			X				X	X		X					X						X	X	
**Pentameris airoides*		X	X		X	X	X	X	X														
**Pentameris pallida*																							
**Petrorhagia dubia*	X				X				X								X						
**Pinus pinaster*	X												X	X	X		X			X			X
**Polycarpon tetraphyllum*																							
**Raphanus raphanistrum*																							
**Silene gallica*																							
**Sonchus oleraceus*	X	X	X	X				X	X	X	X			X		X	X			X	X		
**Stachys arvensis*																							
**Tolpis barbata*													X						X			X	X
**Trifolium arvense*	X																	X		X	X		
**Trifolium campestre*	X						X	X			X						X			X	X		
**Urospermum picroides*		X	X	X	X		X	X	X								X						X
**Ursinia anthemoides*	X	X	X	X			X	X	X	X		X			X	X	X				X		X
**Vulpia bromoides*								X															
**Vulpia fasciculata*	X																						
**Vulpia myuros*	X												X				X			X			
**Wahlenbergia capensis*		X			X	X	X	X	X		X		X					X	X	X	X		X
**Wahlenbergia gracilenta*																							
**Wahlenbergia preissii*																		X					
**Watsonia meriana*			X																				
Acacia applanata										X													
Acacia cyclops																							
Acacia huegelii				X																			
Acacia lasiocarpa																							

Species name	ELA_Q 24	ELA_Q 25	ELA_Q 26	ELA_Q 27	ELA_Q 28	ELA_Q 29	ELA_Q 30	ELA_Q 31	ELA_Q 32	ELA_Q 33	ELA_Q 34	ELA_Q 35	ELA_Q 36	ELA_Q 37	ELA_Q 38	ELA_Q 39	ELA_Q 40	ELA_Q 41	ELA_Q 42	ELA_Q 43	ELA_Q 44	ELA_Q 45	ELA_Q 46
Acacia pulchella		X	X	X	X	X	X	X	X														
Acacia pulchella var. *glaberrima*										X		X					X		X	X		X	
Acacia rostellifera																							
Acacia saligna																							
Acacia sessilis														X									
Acacia truncata																							
Adenanthos cygnorum				X		X			X	X		X			X		X	X		X	X		X
Agonis flexuosa																							
Alexgeorgea nitens		X	X	X	X	X	X		X														
Allocasuarina fraseriana				X		X			X														
Allocasuarina humilis								X	X														
Ammothryon grandiflorum																							
Amphipogon turbinatus																							
Anigozanthos humilis						X																	
Anigozanthos manglesii																							
Astartea scoparia										X													
Atriplex cinerea																							
Austrostipa compressa															X					X	X		
Austrostipa elegantissima																							
Austrostipa flavescens		X	X		X																		
Austrostipa tenuifolia																							
Banksia attenuata		X	X	X	X	X	X	X	X										X				X
Banksia grandis																							
Banksia ilicifolia		X	X									X											
Banksia menziesii		X	X	X	X	X	X	X	X			X				X			X				
Banksia sp.																							
Beaufortia elegans					X		X	X	X														
Bossiaea eriocarpa		X	X	X	X	X	X		X			X						X	X			X	X
Burchardia congesta	X				X			X	X														
Caesia micrantha																							
Caladenia flava																							
Calandrinia liniflora									X														
Calectasia narragara																							
Calothamnus quadrifidus																			X			X	
Calothamnus sanguineus							X	X															
Calytrix flavescens			X	X	X	X	X	X															

Species name	ELA_Q 24	ELA_Q 25	ELA_Q 26	ELA_Q 27	ELA_Q 28	ELA_Q 29	ELA_Q 30	ELA_Q 31	ELA_Q 32	ELA_Q 33	ELA_Q 34	ELA_Q 35	ELA_Q 36	ELA_Q 37	ELA_Q 38	ELA_Q 39	ELA_Q 40	ELA_Q 41	ELA_Q 42	ELA_Q 43	ELA_Q 44	ELA_Q 45	ELA_Q 46
Calytrix fraseri																							
Calytrix sp.														X									
Cartonema philydroides																							
Cassytha flava							X																
Centrolepis aristata					X																		
Chaetospora curvifolia		X	X		X							X											
Chamaescilla corymbosa																				X			
Chordifex microcodon												X											
Chordifex sinuosus																							
Comesperma calymega																							
Conospermum stoechadis																							
Conostephium pendulum																							
Conostylis aculeata subsp. *aculeata*				X		X			X														
Conostylis aurea							X	X															
Conostylis juncea																							
Conostylis setigera																							
Corymbia calophylla																							
Corynotheca micrantha				X	X	X			X														
Crassula colorata	X				X																		
Cyanothamnus ramosus subsp. *anethifolius*			X									X											
Dampiera linearis			X	X		X		X				X											
Dasypogon bromeliifolius	X		X								X	X								X	X		
Daucus glochidiatus						X																	
Daviesia divaricata																							
Daviesia divaricata subsp. *divaricata*																		X					
Daviesia nudiflora																							
Daviesia physodes																							
Daviesia triflora					X		X	X	X														
Desmocladus flexuosus	X			X	X	X	X	X	X					X									
Dianella revoluta										X	X												
Diuris sp.																							
Drosera micrantha	X																						
Drosera sp.																							
Eremaea asterocarpa	X	X																					
Eremaea pauciflora				X	X	X	X	X	X										X				
Eremophila glabra																							

Species name	ELA_Q 24	ELA_Q 25	ELA_Q 26	ELA_Q 27	ELA_Q 28	ELA_Q 29	ELA_Q 30	ELA_Q 31	ELA_Q 32	ELA_Q 33	ELA_Q 34	ELA_Q 35	ELA_Q 36	ELA_Q 37	ELA_Q 38	ELA_Q 39	ELA_Q 40	ELA_Q 41	ELA_Q 42	ELA_Q 43	ELA_Q 44	ELA_Q 45	ELA_Q 46
Eucalyptus camaldulensis																							
Eucalyptus gomphocephala																							
Eucalyptus marginata						X									X					X			
Eucalyptus rudis																X			X			X	
Eucalyptus sp.																							
Eucalyptus todtiana				X		X	X		X			X					X		X			X	X
Euchilopsis linearis																							
Exocarpos sparteus																							
Ficinia nodosa																							
Gastrolobium capitatum												X					X	X	X				
Gompholobium scabrum																			X				
Gompholobium tomentosum	X	X	X	X	X	X		X	X	X		X			X		X			X			X
Gonocarpus pithyoides																							
Grevillea olivacea																							
Grevillea preissii																							
Grevillea sp.																							
Guichenotia ledifolia																							
Haemodorum laxum																							
Haemodorum spicatum				X	X	X	X		X									X					
Hakea lissocarpha																							
Hakea petiolaris																							
Hakea prostrata																							
Hakea ruscifolia																							
Hakea trifurcata																							
Haloragis sp.																				X	X		
Hardenbergia comptoniana																							X
Hemiandra linearis																							
Hemiandra pungens		X						X															
Hibbertia huegelii					X			X	X														
Hibbertia hypericoides				X	X	X	X	X	X														
Hibbertia subvaginata			X	X	X		X		X			X			X		X			X	X		
Hovea pungens				X		X																	
Hovea trisperma			X																				
Hyalosperma cotula																							
Hypocalymma angustifolium			X							X	X												
Hypocalymma balbakiae																							

Species name	ELA_Q 24	ELA_Q 25	ELA_Q 26	ELA_Q 27	ELA_Q 28	ELA_Q 29	ELA_Q 30	ELA_Q 31	ELA_Q 32	ELA_Q 33	ELA_Q 34	ELA_Q 35	ELA_Q 36	ELA_Q 37	ELA_Q 38	ELA_Q 39	ELA_Q 40	ELA_Q 41	ELA_Q 42	ELA_Q 43	ELA_Q 44	ELA_Q 45	ELA_Q 46
Hypocalymma robustum		X	X	X	X	X	X	X	X							X				X	X		
Hypolaena exsulca		X	X								X												
Jacksonia floribunda					X		X	X	X			X		X				X	X				
Jacksonia furcellata		X	X							X					X				X			X	
Jacksonia sericea																							
Jacksonia sternbergiana																							
Johnsonia acaulis																							
Juncus sp.																							
Kennedia prostrata																						X	
Kunzea glabrescens											X	X							X			X	
Lagenophora huegelii																							
Laxmannia ramosa subsp. *ramosa*												X											
Laxmannia squarrosa					X	X																	
Lechenaultia biloba																							
Lechenaultia floribunda			X	X		X	X										X						
Lepidobolus preissianus																							
Lepidobolus preissianus subsp. *preissianus*																							
Lepidosperma calcicola																							
Lepidosperma leptostachyum																							
Lepidosperma scabrum										X													
Leptocarpus scariosus																							
Levenhookia pusilla																							
Levenhookia stipitata																							
Lobelia rhytidosperma																							
Lobelia tenuior									X														
Lomandra caespitosa																							
Lomandra hermaphrodita																							
Lomandra micrantha subsp. *micrantha*												X		X									
Lomandra preissii																							
Lomandra sp.					X																		
Lomandra sp.																							
Lyginia barbata															X			X					
Lyginia imberbis		X		X	X	X	X	X	X			X											
Macarthuria australis																							
Macrozamia fraseri		X		X		X		X	X														X
Melaleuca preissiana										X	X					X					X		

Species name	ELA_Q 24	ELA_Q 25	ELA_Q 26	ELA_Q 27	ELA_Q 28	ELA_Q 29	ELA_Q 30	ELA_Q 31	ELA_Q 32	ELA_Q 33	ELA_Q 34	ELA_Q 35	ELA_Q 36	ELA_Q 37	ELA_Q 38	ELA_Q 39	ELA_Q 40	ELA_Q 41	ELA_Q 42	ELA_Q 43	ELA_Q 44	ELA_Q 45	ELA_Q 46
Melaleuca seriata		X	X		X		X	X	X														
Melaleuca sp.																							
Melaleuca systena																							
Mesomelaena pseudostygia					X													X					
Microlaena stipoides																							
Microtis media																	X						
Monotaxis grandiflora var. *grandiflora*																							
Myoporum insulare																							
Nicotiana sp.																							
Nuytsia floribunda		X		X	X	X	X	X	X							X	X			X			X
Olearia axillaris																							
Opercularia vaginata																							
Patersonia occidentalis		X	X	X	X	X	X	X							X								
Patersonia occidentalis var. *occidentalis*																							
Pericalymma ellipticum																							
Persoonia saccata					X		X																
Petrophile linearis		X	X		X	X	X	X	X			X											
Petrophile macrostachya																							
Philotheca spicata									X											X			
Phlebocarya ciliata																							
Phyllangium paradoxum																							
Pigea calycina																							
Pimelea sulphurea																							
Poaceae spp.																							
Podotheca gnaphalioides			X	X		X																	
Pterostylis sanguinea																							
Pyrorchis nigricans																							
Regelia ciliata																			X			X	
Rhagodia baccata																							
Rhagodia preissii subsp. *obovata*																							
Scaevola crassifolia																							
Scaevola repens					X		X	X	X														
Schoenus clandestinus																							
Schoenus griffinianus																							
Scholtzia involucrata												X			X			X		X			
Siloxerus humifusus																							

Species name	ELA_Q 24	ELA_Q 25	ELA_Q 26	ELA_Q 27	ELA_Q 28	ELA_Q 29	ELA_Q 30	ELA_Q 31	ELA_Q 32	ELA_Q 33	ELA_Q 34	ELA_Q 35	ELA_Q 36	ELA_Q 37	ELA_Q 38	ELA_Q 39	ELA_Q 40	ELA_Q 41	ELA_Q 42	ELA_Q 43	ELA_Q 44	ELA_Q 45	ELA_Q 46
Spyridium globulosum																							
Stirlingia latifolia					X		X	X						X									
Stylidium araeophyllum		X				X																	
Stylidium brunonianum																					X		
Stylidium calcaratum		X	X					X															
Stylidium crossocephalum							X																
Stylidium cygnorum																							
Stylidium neurophyllum																							
Stylidium repens		X	X						X														
Stylidium rigidulum															X								
Styphelia conostephioides			X		X				X						X					X			
Styphelia pallida																							
Styphelia propinqua		X	X		X	X	X	X	X														
Styphelia sp.																							
Styphelia xerophylla																							
Synaphea spinulosa																							
Synaphea spinulosa subsp. *spinulosa*																							
Thysanotus manglesianus																							
Thysanotus multiflorus																							
Thysanotus thyrsoideus			X																				
Trachymene pilosa		X		X																			
Tricoryne elatior					X		X																
Trifolium sp.																							
Tripterococcus brunonis																							
Verticordia densiflora																							
Xanthorrhoea preissii		X	X		X	X	X	X	X		X	X			X		X			X			
Xanthosia huegelii																							

Species name	ELA_Q47	ELA_Q48	ELA_R01	ELA_R02	ELA_R03	ELA_R04	ELA_R05	ELA_R06	ELA_R07	ELA_R08	ELA_R09	ELA_R10	ELA_R11	ELA_R12	ELA_R13	ELA_R14	ELA_R15	ELA_R16	ELA_R17	ELA_R18	ELA_R19	ELA_R20	ELA_R21
**Acacia iteaphylla*									X														
**Acacia longifolia*																							
**Aira cupaniana*														X	X		X	X		X	X	X	
**Allocasuarina verticillata*																							
**Arctotheca calendula*										X													
**Asparagus asparagoides*																							
**Asphodelus fistulosus*																							
**Avena barbata*					X				X	X	X	X	X		X		X	X	X		X	X	
**Bambusa vulgaris*																X							
**Brachypodium distachyon*															X			X					
**Brassica tournefortii*					X					X										X			
**Briza maxima*			X										X	X			X	X	X	X	X	X	
**Briza minor*																							
**Bromus diandrus*							X				X					X	X	X	X		X	X	
**Bromus rubens*																	X	X	X			X	
**Carpobrotus edulis*	X	X													X		X	X	X	X	X	X	X
**Centaurium pulchellum*																		X					
**Chamelaucium uncinatum*						X				X			X										
**Crassula glomerata*																	X	X				X	
**Cynodon dactylon*												X				X							
**Disa bracteata*																							
**Ehrharta calycina*	X	X	X		X	X	X		X	X	X		X	X	X	X	X	X	X	X	X	X	X
**Ehrharta longiflora*																							
**Eragrostis curvula*	X															X							
**Euphorbia terracina*					X										X		X	X	X	X			
**Ficinia marginata*																		X		X			
**Freesia leichtlinii*																							
**Freesia leichtlinii* subsp. *alba* × *leichtlinii* subsp. *Leichtlinii*																							
**Fumaria capreolata*																X			X				
**Gaudium laevigatum*						X				X													
**Gladiolus caryophyllaceus*			X											X	X						X	X	
**Hypochaeris glabra*										X					X								
**Lactuca serriola*						X						X											
**Lagurus ovatus*																						X	
**Lavandula stoechas*									X														

Species name	ELA_Q47	ELA_Q48	ELA_R01	ELA_R02	ELA_R03	ELA_R04	ELA_R05	ELA_R06	ELA_R07	ELA_R08	ELA_R09	ELA_R10	ELA_R11	ELA_R12	ELA_R13	ELA_R14	ELA_R15	ELA_R16	ELA_R17	ELA_R18	ELA_R19	ELA_R20	ELA_R21
**Leontodon rhagadioloides*																	X	X		X		X	
**Lolium rigidum*									X														
**Lupinus cosentinii*			X									X											
**Lysimachia arvensis*																X	X		X				
**Misopates orontium*												X											
**Oenothera drummondii*					X																		
**Olea europaea*																							
**Ornithopus compressus*		X													X	X					X		
**Orobanche minor*																							
**Osteospermum ecklonis*																X							
**Pelargonium capitatum*	X	X												X	X		X	X	X	X	X		X
**Pentameris airoides*																							
**Pentameris pallida*																							
**Petrorhagia dubia*																							
**Pinus pinaster*		X														X	X		X		X	X	
**Polycarpon tetraphyllum*																							
**Raphanus raphanistrum*																							
**Silene gallica*											X												
**Sonchus oleraceus*											X												
**Stachys arvensis*																							
**Tolpis barbata*	X	X																					
**Trifolium arvense*															X								
**Trifolium campestre*			X																	X		X	
**Urospermum picroides*																X							
**Ursinia anthemoides*			X			X								X							X		
**Vulpia bromoides*																							
**Vulpia fasciculata*																							
**Vulpia myuros*																				X	X		
**Wahlenbergia capensis*														X	X		X	X	X	X	X	X	X
**Wahlenbergia gracilenta*																							
**Wahlenbergia preissii*																		X		X			
**Watsonia meriana*																							
Acacia applanata																							
Acacia cyclops					X																		
Acacia huegelii																						X	
Acacia lasiocarpa												X											

Species name	ELA_Q47	ELA_Q48	ELA_R01	ELA_R02	ELA_R03	ELA_R04	ELA_R05	ELA_R06	ELA_R07	ELA_R08	ELA_R09	ELA_R10	ELA_R11	ELA_R12	ELA_R13	ELA_R14	ELA_R15	ELA_R16	ELA_R17	ELA_R18	ELA_R19	ELA_R20	ELA_R21
Acacia pulchella														X									
Acacia pulchella var. *glaberrima*	X														X								
Acacia rostellifera					X	X		X				X							X				
Acacia saligna											X	X	X		X	X							
Acacia sessilis																			X	X	X		
Acacia truncata																							
Adenanthos cygnorum		X				X	X			X	X		X	X	X	X	X	X	X		X	X	X
Agonis flexuosa												X											
Alexgeorgea nitens																							
Allocasuarina fraseriana																							
Allocasuarina humilis																							
Ammothryon grandiflorum																					X		
Amphipogon turbinatus																							
Anigozanthos humilis																							
Anigozanthos manglesii													X	X									
Astartea scoparia																							
Atriplex cinerea																							
Austrostipa compressa																		X				X	
Austrostipa elegantissima																							
Austrostipa flavescens																							
Austrostipa tenuifolia																							
Banksia attenuata	X					X	X			X	X		X	X								X	
Banksia grandis	X																						
Banksia ilicifolia																				X			
Banksia menziesii						X				X			X	X									
Banksia sp.																							
Beaufortia elegans																							
Bossiaea eriocarpa	X																X						
Burchardia congesta																							
Caesia micrantha																							
Caladenia flava																							
Calandrinia liniflora																							
Calectasia narragara																							
Calothamnus quadrifidus					X	X				X	X												
Calothamnus sanguineus																							
Calytrix flavescens																							

Species name	ELA_Q47	ELA_Q48	ELA_R01	ELA_R02	ELA_R03	ELA_R04	ELA_R05	ELA_R06	ELA_R07	ELA_R08	ELA_R09	ELA_R10	ELA_R11	ELA_R12	ELA_R13	ELA_R14	ELA_R15	ELA_R16	ELA_R17	ELA_R18	ELA_R19	ELA_R20	ELA_R21
Calytrix fraseri																							
Calytrix sp.																							
Cartonema philydroides																							
Cassytha flava																							
Centrolepis aristata																							
Chaetospora curvifolia																							
Chamaescilla corymbosa																							
Chordifex microcodon																							
Chordifex sinuosus																							
Comesperma calymega																							
Conospermum stoechadis													X								X		
Conostephium pendulum																							
Conostylis aculeata subsp. *aculeata*																			X	X	X		
Conostylis aurea														X	X								
Conostylis juncea																							
Conostylis setigera																							
Corymbia calophylla			X												X								
Corynotheca micrantha																					X		
Crassula colorata																		X					
Cyanothamnus ramosus subsp. *anethifolius*																							
Dampiera linearis														X									
Dasypogon bromeliifolius																	X						
Daucus glochidiatus																							
Daviesia divaricata																							
Daviesia divaricata subsp. *divaricata*																	X		X		X	X	
Daviesia nudiflora																							
Daviesia physodes																							
Daviesia triflora																							
Desmocladus flexuosus																	X				X	X	
Dianella revoluta										X				X									
Diuris sp.																							
Drosera micrantha																							
Drosera sp.																							
Eremaea asterocarpa																							
Eremaea pauciflora		X												X			X					X	
Eremophila glabra					X		X					X											

Species name	ELA_Q47	ELA_Q48	ELA_R01	ELA_R02	ELA_R03	ELA_R04	ELA_R05	ELA_R06	ELA_R07	ELA_R08	ELA_R09	ELA_R10	ELA_R11	ELA_R12	ELA_R13	ELA_R14	ELA_R15	ELA_R16	ELA_R17	ELA_R18	ELA_R19	ELA_R20	ELA_R21
Eucalyptus camaldulensis			X	X					X			X				X							
Eucalyptus gomphocephala				X					X						X								
Eucalyptus marginata		X	X			X																	
Eucalyptus rudis	X			X											X								X
Eucalyptus sp.																							
Eucalyptus todtiana	X						X						X					X				X	
Euchilopsis linearis																							
Exocarpos sparteus																				X			
Ficinia nodosa																							
Gastrolobium capitatum																							
Gompholobium scabrum	X																						
Gompholobium tomentosum													X		X							X	
Gonocarpus pithyoides																							
Grevillea olivacea							X	X															
Grevillea preissii									X			X											
Grevillea sp.																							
Guichenotia ledifolia																							
Haemodorum laxum																							
Haemodorum spicatum														X				X		X		X	X
Hakea lissocarpha																							
Hakea petiolaris																							
Hakea prostrata											X		X										
Hakea ruscifolia						X																	
Hakea trifurcata					X	X																	
Haloragis sp.																							
Hardenbergia comptoniana		X																					
Hemiandra linearis																							
Hemiandra pungens																							
Hibbertia huegelii																							
Hibbertia hypericoides													X						X				
Hibbertia subvaginata																	X						
Hovea pungens																							
Hovea trisperma														X									
Hyalosperma cotula																							
Hypocalymma angustifolium																							
Hypocalymma balbakiae																							

Species name	ELA_Q47	ELA_Q48	ELA_R01	ELA_R02	ELA_R03	ELA_R04	ELA_R05	ELA_R06	ELA_R07	ELA_R08	ELA_R09	ELA_R10	ELA_R11	ELA_R12	ELA_R13	ELA_R14	ELA_R15	ELA_R16	ELA_R17	ELA_R18	ELA_R19	ELA_R20	ELA_R21
Hypocalymma robustum																							
Hypolaena exsulca																							
Jacksonia floribunda																					X	X	X
Jacksonia furcellata							X				X				X	X							
Jacksonia sericea																							
Jacksonia sternbergiana													X										
Johnsonia acaulis																							
Juncus sp.																							
Kennedia prostrata	X	X																	X				
Kunzea glabrescens	X				X																		
Lagenophora huegelii																							
Laxmannia ramosa subsp. *ramosa*																							
Laxmannia squarrosa													X	X									
Lechenaultia biloba																							
Lechenaultia floribunda														X			X					X	
Lepidobolus preissianus																							
Lepidobolus preissianus subsp. *preissianus*																							
Lepidosperma calcicola																							
Lepidosperma leptostachyum																							
Lepidosperma scabrum																							
Leptocarpus scariosus																							
Levenhookia pusilla																							
Levenhookia stipitata														X									
Lobelia rhytidosperma																							
Lobelia tenuior																							
Lomandra caespitosa																							
Lomandra hermaphrodita																							
Lomandra micrantha subsp. *micrantha*															X		X					X	
Lomandra preissii																							
Lomandra sp.																							
Lomandra sp.																							
Lyginia barbata														X				X		X		X	
Lyginia imberbis													X										
Macarthuria australis																				X	X		
Macrozamia fraseri		X													X			X	X	X			
Melaleuca preissiana				X																			

Species name	ELA_Q47	ELA_Q48	ELA_R01	ELA_R02	ELA_R03	ELA_R04	ELA_R05	ELA_R06	ELA_R07	ELA_R08	ELA_R09	ELA_R10	ELA_R11	ELA_R12	ELA_R13	ELA_R14	ELA_R15	ELA_R16	ELA_R17	ELA_R18	ELA_R19	ELA_R20	ELA_R21
Melaleuca seriata																							
Melaleuca sp.																							
Melaleuca systena					X																		
Mesomelaena pseudostygia			X										X										
Microlaena stipoides																							
Microtis media																							
Monotaxis grandiflora var. *grandiflora*																							
Myoporum insulare																							
Nicotiana sp.					X																		
Nuytsia floribunda																	X	X	X	X		X	
Olearia axillaris																							
Opercularia vaginata																							
Patersonia occidentalis																	X	X					X
Patersonia occidentalis var. *occidentalis*																							
Pericalymma ellipticum																							
Persoonia saccata																							
Petrophile linearis														X			X	X		X		X	
Petrophile macrostachya																							
Philotheca spicata																							
Phlebocarya ciliata																							
Phyllangium paradoxum																							
Pigea calycina																							
Pimelea sulphurea																							
Poaceae spp.				X																			
Podotheca gnaphalioides																							
Pterostylis sanguinea																							
Pyrorchis nigricans																							
Regelia ciliata	X									X													
Rhagodia baccata																							
Rhagodia preissii subsp. *obovata*																			X				
Scaevola crassifolia																							
Scaevola repens																				X	X		
Schoenus clandestinus																							
Schoenus griffinianus																							
Scholtzia involucrata														X		X	X					X	
Siloxerus humifusus																							

Species name	ELA_Q47	ELA_Q48	ELA_R01	ELA_R02	ELA_R03	ELA_R04	ELA_R05	ELA_R06	ELA_R07	ELA_R08	ELA_R09	ELA_R10	ELA_R11	ELA_R12	ELA_R13	ELA_R14	ELA_R15	ELA_R16	ELA_R17	ELA_R18	ELA_R19	ELA_R20	ELA_R21
Spyridium globulosum																							
Stirlingia latifolia													X					X		X		X	
Stylidium araeophyllum																							
Stylidium brunonianum																							
Stylidium calcaratum																							
Stylidium crossocephalum																							
Stylidium cygnorum																							
Stylidium neurophyllum																							
Stylidium repens																	X						
Stylidium rigidulum																							
Styphelia conostephioides																						X	
Styphelia pallida																							
Styphelia propinqua																							
Styphelia sp.														X									
Styphelia xerophylla														X									
Synaphea spinulosa																							
Synaphea spinulosa subsp. *spinulosa*																							
Thysanotus manglesianus																							
Thysanotus multiflorus																							
Thysanotus thyrsoideus																							
Trachymene pilosa																							
Tricoryne elatior																	X						
Trifolium sp.																				X			
Tripterococcus brunonis																							
Verticordia densiflora																							
Xanthorrhoea preissii		X		X											X		X	X			X	X	
Xanthosia huegelii																							

Appendix K Significant flora point data

Species	Significance	Easting	Northing	Abundance
Schoenus griffinianus	Priority 4	393243	6487514	2
Jacksonia sericea	Priority 4	392905	6486144	1
Jacksonia sericea	Priority 4	392942	6486184	5
Jacksonia sericea	Priority 4	392730	6486169	6
Jacksonia sericea	Priority 4	392685	6486183	5
Jacksonia sericea	Priority 4	392615	6486189	1
Jacksonia sericea	Priority 4	392706	6486209	2
Jacksonia sericea	Priority 4	392739	6486220	1
Jacksonia sericea	Priority 4	392749	6486224	10
Jacksonia sericea	Priority 4	392887	6486215	11
Jacksonia sericea	Priority 4	392919	6486203	1
Jacksonia sericea	Priority 4	392751	6486259	3
Jacksonia sericea	Priority 4	392743	6486262	6
Jacksonia sericea	Priority 4	392733	6486261	8
Jacksonia sericea	Priority 4	392714	6486259	20
Jacksonia sericea	Priority 4	392695	6486257	15
Jacksonia sericea	Priority 4	392673	6486253	4
Jacksonia sericea	Priority 4	392658	6486281	1
Jacksonia sericea	Priority 4	392685	6486279	2
Jacksonia sericea	Priority 4	392711	6486282	3
Jacksonia sericea	Priority 4	392583	6486119	1
Jacksonia sericea	Priority 4	392650	6486120	1
Jacksonia sericea	Priority 4	392650	6486120	1
Jacksonia sericea	Priority 4	393039	6486118	1
Jacksonia sericea	Priority 4	393046	6486123	1
Jacksonia sericea	Priority 4	393047	6486125	1
Jacksonia sericea	Priority 4	392935	6486159	1
Jacksonia sericea	Priority 4	392933	6486159	1
Jacksonia sericea	Priority 4	392710	6486199	1
Jacksonia sericea	Priority 4	392739	6486199	1
Jacksonia sericea	Priority 4	392747	6486198	1
Jacksonia sericea	Priority 4	392749	6486195	1
Jacksonia sericea	Priority 4	392750	6486193	1
Jacksonia sericea	Priority 4	392752	6486193	1
Jacksonia sericea	Priority 4	392756	6486193	1
Jacksonia sericea	Priority 4	392758	6486194	1
Jacksonia sericea	Priority 4	392759	6486194	1
Jacksonia sericea	Priority 4	392761	6486194	1
Jacksonia sericea	Priority 4	392763	6486193	1
Jacksonia sericea	Priority 4	392767	6486194	1
Jacksonia sericea	Priority 4	392768	6486194	1
Jacksonia sericea	Priority 4	392769	6486194	1
Jacksonia sericea	Priority 4	392769	6486194	1
Jacksonia sericea	Priority 4	392770	6486196	1
Jacksonia sericea	Priority 4	392770	6486197	1
Jacksonia sericea	Priority 4	392771	6486199	1
Jacksonia sericea	Priority 4	392772	6486201	1
Jacksonia sericea	Priority 4	392915	6486198	1
Jacksonia sericea	Priority 4	392918	6486201	1
Jacksonia sericea	Priority 4	392917	6486202	1

Species	Significance	Easting	Northing	Abundance
Jacksonia sericea	Priority 4	392914	6486201	1
Jacksonia sericea	Priority 4	392913	6486200	1
Jacksonia sericea	Priority 4	392941	6486188	1
Jacksonia sericea	Priority 4	392979	6486168	1
Jacksonia sericea	Priority 4	392757	6486237	1
Jacksonia sericea	Priority 4	392665	6486239	1
Jacksonia sericea	Priority 4	392660	6486242	1
Jacksonia sericea	Priority 4	392654	6486245	1
Jacksonia sericea	Priority 4	392647	6486247	1
Jacksonia sericea	Priority 4	392646	6486247	1
Jacksonia sericea	Priority 4	392645	6486243	8
Jacksonia sericea	Priority 4	392644	6486243	1
Jacksonia sericea	Priority 4	392642	6486244	10
Jacksonia sericea	Priority 4	392953	6486378	1
Jacksonia sericea	Priority 4	392956	6486378	1
Jacksonia sericea	Priority 4	392963	6486381	1
Jacksonia sericea	Priority 4	392963	6486379	1
Asparagus asparagoides	Declared Pest -s22(2)	391131	6491596	1
Asparagus asparagoides	Declared Pest -s22(2)	391123	6491586	1
Asparagus asparagoides	Declared Pest -s22(2)	391114	6492224	1
Asparagus asparagoides	Declared Pest -s22(2)	391105	6492615	1
Asparagus asparagoides	Declared Pest -s22(2)	390981	6489941	1
Asparagus asparagoides	Declared Pest -s22(2)	391113	6492265	1
Asparagus asparagoides	Declared Pest -s22(2)	391101	6492631	1
Asparagus asparagoides	Declared Pest -s22(2)	391110	6492098	1
Asparagus asparagoides	Declared Pest -s22(2)	391908	6487639	3
Asparagus asparagoides	Declared Pest -s22(2)	391882	6487639	2
Asparagus asparagoides	Declared Pest -s22(2)	391821	6487639	1
Asparagus asparagoides	Declared Pest -s22(2)	393081	6485066	2
Asparagus asparagoides	Declared Pest -s22(2)	392370	6482403	10
Asparagus asparagoides	Declared Pest -s22(2)	392361	6482403	20
Asparagus asparagoides	Declared Pest -s22(2)	392360	6482428	5
Asparagus asparagoides	Declared Pest -s22(2)	392358	6482443	12
Asparagus asparagoides	Declared Pest -s22(2)	392362	6482461	10
Asparagus asparagoides	Declared Pest -s22(2)	392352	6482541	5
Asparagus asparagoides	Declared Pest -s22(2)	392364	6482717	2
Asparagus asparagoides	Declared Pest -s22(2)	391924	6487644	1
Asparagus asparagoides	Declared Pest -s22(2)	391896	6487669	2
Asparagus asparagoides	Declared Pest -s22(2)	392371	6482464	2

Appendix L Quadrat and relevé data

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q01	06/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely Degraded	Weeds	Old (>20)	Rehabilitation/regrowth
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Rehabilitation	Crest/Flat (hilltop)	N/A	0
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Black	Sand	N/A	0
Easting		**Northing**	
387170		6482888	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Avena barbata*	0.4	1	Ground	Grasses
**Euphorbia terracina*	0.4	0.1	Ground	Herbs
**Lupinus cosentinii*	0.3	0.1	Ground	Herbs
**Misopates orontium*	0.3	0.2	Ground	Herbs
**Sonchus oleraceus*	0.4	0.5	Ground	Herbs
**Stachys arvensis*	0.15	0.05	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Trifolium arvense*	0.2	0.1	Ground	Herbs
**Urospermum picroides*	0.2	0.1	Ground	Herbs
Acacia cyclops	0.8	1	Ground	Shrubs
Acacia lasiocarpa	0.4	0.2	Ground	Shrubs
Acacia rostellifera	1.2	3	Middle	Trees
Acacia saligna	0.6	0.2	Ground	Trees
Acacia truncata	0.4	0.1	Ground	Shrubs
Agonis flexuosa	0.4	1	Ground	Trees
Atriplex cinerea	0.5	0.1	Ground	Shrubs
Banksia attenuata	0.3	0.2	Ground	Trees
Banksia sp.	0.3	0.1	Ground	
Calothamnus quadrifidus	0.6	1	Ground	Shrubs
Eucalyptus sp.	2	0.5	Middle	Trees
Ficinia nodosa	0.5	0.1	Ground	Sedges
Grevillea olivacea	1.6	5	Middle	Shrubs
Grevillea preissii	0.3	0.5	Ground	Shrub
Grevillea sp.	0.4	0.1	Ground	Shrubs
Guichenotia ledifolia	0.3	0.1	Ground	Shrubs
Hakea petiolaris	0.4	0.1	Ground	Shrubs
Hemiandra pungens	0.2	0.2	Ground	Shrubs
Melaleuca systena	0.4	0.2	Ground	Shrubs
Myoporum insulare	0.5	0.5	Ground	Shrubs
Olearia axillaris	1.6	1	Middle	Shrubs
Rhagodia baccata	1	0.5	Middle	Shrubs
Scaevola crassifolia	0.5	3	Ground	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q02	07/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely Degraded	Weeds	Old (>20)	Rehabilitation/regrowth
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Rehabilitation	Slope	South	30
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Fine sand	N/A	0
Easting		**Northing**	
390876		6482346	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Briza maxima*	0.4	1	Ground	Grasses
**Chamelaucium uncinatum*	1.6	15	Middle	Shrubs
**Ehrharta calycina*	0.6	0.05	Ground	Grasses
**Gladiolus caryophyllaceus*	1	0.05	Ground	Herbs
**Pentameris airoides*	0.2	0.05	Ground	Herbs
**Ursinia anthemoides*	0.2	0.5	Ground	Herbs
Acacia huegelii	0.4	0.1	Ground	Shrubs
Adenanthos cygnorum	2.5	1.5	Middle	Shrubs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Amphipogon turbinatus	0.4	0.05	Ground	Herbs
Anigozanthos manglesii	0.8	0.4	Ground	Herbs
Austrostipa elegantissima	0.9	0.1	Ground	Grasses
Austrostipa flavescens	0.5	0.05	Ground	Grasses
Banksia attenuata	2	2	Middle	Trees
Banksia menziesii	6	0.5	Upper	Trees
Calytrix fraseri	1.1	0.1	Middle	Shrubs
Conospermum stoechadis	1.6	0.5	Middle	Shrubs
Daviesia divaricata	1	0.2	Middle	Shrubs
Daviesia nudiflora	0.4	0.1	Ground	Shrubs
Daviesia triflora	0.8	0.2	Ground	Shrubs
Eucalyptus todtiana	4	6	Upper	Trees
Gastrolobium capitatum	0.5	0.5	Ground	Shrubs
Gompholobium tomentosum	0.4	0.1	Ground	Shrubs
Gonocarpus pithyoides	0.3	0.1	Ground	Shrubs
Hakea prostrata	5	1	Upper	Shrubs
Hibbertia hypericoides	0.6	2	Ground	Shrubs
Hypolaena exsulca	0.45	0.2	Ground	Shrubs
Jacksonia floribunda	1	0.1	Middle	Shrubs
Jacksonia sternbergiana	1.2	0.5	Middle	Shrubs
Laxmannia squarrosa	0.2	0.1	Ground	Herbs
Lepidobolus preissianus subsp. *preissianus*	0.5	0.05	Ground	Sedges
Levenhookia stipitata	0.1	0.05	Ground	Herbs
Lyginia imberbis	0.5	0.2	Ground	Sedges
Mesomelaena pseudostygia	0.5	1	Ground	Sedges
Scaevola repens	0.2	0.1	Ground	Shrubs
Stirlingia latifolia	0.9	0.5	Ground	Shrubs
Stylidium calcaratum	0.15	0.3	Ground	Herbs
Stylidium repens	0.1	0.05	Ground	Herbs
Trachymene pilosa	0.1	0.1	Ground	Herbs
Verticordia densiflora	0.15	0.1	Ground	Shrubs
Xanthosia huegelii	0.1	0.05	Ground	Herbs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q03	06/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Degraded	Weeds	Old (>20)	BaBmBi
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland	Slope/flat	East	3
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Brown/grey	Sandy loam	N/A	0
Easting		**Northing**	
392189		6482251	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Avena barbata*	1.2	0.5	Ground	Grasses
**Briza maxima*	0.4	2	Ground	Grasses
**Bromus diandrus*	0.5	5	Ground	Grasses
**Ehrharta calycina*	0.8	5	Ground	Grasses
**Ehrharta longiflora*	0.4	0.5	Ground	Grasses
**Euphorbia terracina*	1.2	0.5	Ground	Herbs
**Fumaria capreolata*	0.4	0.2	Ground	Herbs
**Lactuca serriola*	0.6	0.5	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Raphanus raphanistrum*	0.5	0.05	Ground	Herbs
**Sonchus oleraceus*	0.4	0.5	Ground	Herbs
**Trifolium campestre*	0.15	3	Ground	Herbs
**Urospermum picroides*	0.3	0.2	Ground	Herbs
Banksia attenuata	4	0.5	Upper	Trees
Banksia ilicifolia	7	8	Upper	Trees
Banksia menziesii	4	0.5	Upper	Trees
Calothamnus quadrifidus	2	0.5	Middle	Shrubs
Hakea lissocarpha	1.4	0.5	Middle	Shrubs
Hakea prostrata	2	0.2	Middle	Shrubs
Hemiandra pungens	0.4	0.2	Ground	Ground
Kunzea glabrescens	2.2	5	Middle	Shrubs
Macrozamia fraseri	2	0.2	Middle	Trees
Melaleuca preissiana	6	1	Upper	Trees
Nuytsia floribunda	5	1	Upper	Trees
Regelia ciliata	1.5	5	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q04	05/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
	Weeds, rabbit grazing	Old (>20)	MpAgLs
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Melaleuca closed depression	Flat	Southeast	0.1
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Fine sand	N/A	0
Easting		**Northing**	
392483		6483076	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Acacia longifolia*	2	1	Middle	Tree
**Asparagus asparagoides*	CL	0.2	Ground	Herbs
**Avena barbata*	0.8	0.2	Ground	Grasses
**Ehrharta calycina*	0.8	0.1	Ground	Grasses
**Gladiolus caryophyllaceus*	0.7	0.2	Ground	Herbs
**Sonchus oleraceus*	0.3	0.5	Ground	Herbs
**Urospermum picroides*	0.3	0.5	Ground	Herbs
Agonis flexuosa	2.5	1	Upper	Trees

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Astartea scoparia	0.4	0.5	Ground	Shrubs
Dianella revoluta	0.8	0.5	Ground	Herbs
Jacksonia furcellata	2	0.5	Middle	Shrubs
Kennedia prostrata	0.1	0.1	Ground	Herbs
Leptocarpus scariosus	0.8	60	Ground	Sedges
Melaleuca preissiana	6	50	Upper	Trees
Microtis media	0.4	0.1	Ground	Herbs
Spyridium globulosum	0.5	0.1	Ground	Shrubs
Thysanotus manglesianus	CL	0.05	Ground	Herbs
Trachymene pilosa	0.15	0.1	Ground	Herbs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q05	05/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
	Weeds	Old (>20)	MpAgLs
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Melaleuca closed depression	Closed depression	Southeast	0.5
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Brown	Fine sandy loam	N/A	0
Easting		**Northing**	
392370		6482536	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Acacia iteaphylla*	1.1	0.5	Middle	Shrubs
**Acacia longifolia*	0.8	0.2	Middle	Shrubs
**Briza minor*	0.2	0.1	Ground	Grasses
**Eucalyptus camaldulensis*	8	5	Upper	Trees
**Gaudium laevigatum*	2	1	Middle	Shrubs
**Gladiolus caryophyllaceus*	0.8	0.1	Ground	Herbs
**Hypochaeris glabra*	0.02	0.05	Ground	Herbs
**Polycarpon tetraphyllum*	0.05	0.1	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Sonchus oleraceus*	0.3	0.05	Ground	Herbs
**Urospermum picroides*	0.2	0.2	Ground	Herbs
Agonis flexuosa	6	12	Upper	Trees
Astartea scoparia	0.8	0.2	Ground	Shrubs
Dianella revoluta	0.8	0.2	Ground	Herbs
Gompholobium tomentosum	0.4	0.2	Ground	Shrubs
Jacksonia sternbergiana	3	0.5	Middle	Shrubs
Leptocarpus scariosus	0.5	40	Ground	Sedges
Levenhookia pusilla	0.05	0.05	Ground	Herbs
Melaleuca preissiana	6	16	Upper	Trees
Microlaena stipoides	0.5	0.2	Ground	Herbs
Microtis media	0.3	0.1	Ground	Herbs
Spyridium globulosum	1	0.2	Middle	Shrubs
Thysanotus manglesianus	CL	0.1	Ground	Climber
Trachymene pilosa	0.1	0.1	Ground	Herbs
Tricoryne elatior	0.4	5	Ground	Herbs
Xanthorrhoea preissii	1	1	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q06	05/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
	Weeds	Old (>20)	MpAgLs
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Melaleuca closed depression	Closed depression	Southeast	0.2
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Brown	Fine sandy loam	N/A	0
Easting		**Northing**	
392367		6482635	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Acacia iteaphylla*	2	0.5	Middle	Tree
**Allocasuarina verticillata*	4	1	Upper	Tree
**Briza maxima*	0.2	0.1	Ground	Grasses
**Crassula glomerata*	0.1	0.05	Ground	Herbs
**Gladiolus caryophyllaceus*	0.6	0.1	Ground	Herbs
**Polycarpon tetraphyllum*	0.05	0.05	Ground	Herbs
**Ursinia anthemoides*	0.2	0.05	Ground	Herbs
Dampiera linearis	0.3	0.5	Ground	Shrubs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Daucus glochidiatus	0.1	0.05	Ground	Herbs
Dianella revoluta	0.6	0.1	Ground	Herbs
Gompholobium tomentosum	0.3	0.1	Ground	Shrubs
Hovea trisperma	0.3	0.2	Ground	Shrubs
Jacksonia furcellata	3	0.5	Middle	Shrubs
Leptocarpus scariosus	0.6	65	Ground	Sedges
Melaleuca preissiana	6	55	Upper	Trees
Microlaena stipoides	0.5	0.2	Ground	Herbs
Microtis media	0.2	0.5	Ground	Herbs
Pterostylis sanguinea	0.3	0.05	Ground	Herbs
Siloxerus humifusus	0.05	0.02	Ground	Herbs
Spyridium globulosum	1	0.2	Middle	Shrubs
Trachymene pilosa	0.1	0.05	Ground	Herbs
Tricoryne elatior	0.4	5	Ground	Herbs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q07	06/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
	Weeds	Old (>20)	MpAsHa
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Melaleuca closed depression	Closed depression	East	0.2
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Sandy loam	N/A	0
Easting		**Northing**	
392475		6483025	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Acacia longifolia*	1	0.5	Middle	Trees
**Briza maxima*	0.2	0.2	Ground	Grasses
**Crassula glomerata*	0.1	0.1	Ground	Herbs
**Ehrharta calycina*	1	2	Ground	Grasses
**Ehrharta longiflora*	0.3	1	Ground	Grasses
**Gladiolus caryophyllaceus*	1	0.1	Ground	Herbs
**Hypochaeris glabra*	0.02	0.5	Ground	Herbs
**Sonchus oleraceus*	0.3	0.05	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Urospermum picroides*	0.2	0.2	Ground	Herbs
Astartea scoparia	2	25	Middle	Shrubs
Cassytha flava	CL	0.2	Ground	Climber
Dampiera linearis	0.3	1	Ground	Shrubs
Daucus glochidiatus	0.1	0.2	Ground	Herbs
Dianella revoluta	0.5	2.5	Ground	Herbs
Hypocalymma angustifolium	1.1	20	Middle	Shrubs
Jacksonia furcellata	1.8	0.2	Middle	Shrubs
Leptocarpus scariosus	0.5	1	Ground	Sedges
Levenhookia pusilla	0.05	0.05	Ground	Herbs
Melaleuca preissiana	6	15	Upper	Trees
Microlaena stipoides	0.4	0.1	Ground	Herbs
Patersonia occidentalis var. *occidentalis*	0.5	0.2	Ground	Herbs
Trachymene pilosa	0.1	0.05	Ground	Herbs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q08	06/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
	Weeds	Old (>20)	MpAsHa
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Melaleuca closed depression	Closed depression	Southeast	0.2
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Dark grey	Fine sand	N/A	0
Easting		**Northing**	
392524		6483089	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Acacia longifolia*	2.5	5	Middle	Trees
**Ehrharta calycina*	0.7	1	Ground	Grasses
**Ehrharta longiflora*	0.3	1.5	Ground	Grasses
**Hypochaeris glabra*	0.05	0.2	Ground	Herbs
**Sonchus oleraceus*	0.2	0.05	Ground	Herbs
**Urospermum picroides*	0.3	0.1	Ground	Herbs
**Ursinia anthemoides*	0.2	0.5	Ground	Herbs
Astartea scoparia	2	20	Shrubs	Shrubs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Cassytha flava	CL	0.1	Ground	Climber
Dampiera linearis	0.4	2	Ground	Shrubs
Dianella revoluta	0.5	0.1	Ground	Herbs
Hypocalymma angustifolium	0.6	10	Ground	Shrubs
Hypolaena exsulca	0.4	0.1	Ground	Sedges
Kennedia prostrata	0.4	0.2	Ground	Herbs
Leptocarpus scariosus	0.6	5	Ground	Sedges
Melaleuca preissiana	7	20	Upper	Trees
Patersonia occidentalis var. *occidentalis*	0.5	5	Ground	Herbs
Thysanotus multiflorus	0.2	0.1	Ground	Herbs
Trachymene pilosa	0.1	0.1	Ground	Herbs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q09	05/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
	Weeds	Old (>20)	MpAsHa
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Melaleuca closed depression	Closed depression	Southeast	0.2
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Brown	Fine sandy loam	N/A	0
Easting		**Northing**	
392367		6482635	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Acacia longifolia*	0.6	0.2	Ground	Shrubs
**Briza maxima*	0.5	0.3	Ground	Grasses
**Ehrharta calycina*	1.2	0.2	Ground	Grasses
**Ehrharta longiflora*	0.4	0.1	Ground	Grasses
**Gladiolus caryophyllaceus*	0.5	0.1	Ground	Herbs
**Hypochaeris glabra*	0.02	0.05	Ground	Herbs
**Sonchus oleraceus*	0.3	0.05	Ground	Herbs
**Urospermum picroides*	0.2	0.1	Ground	Herbs

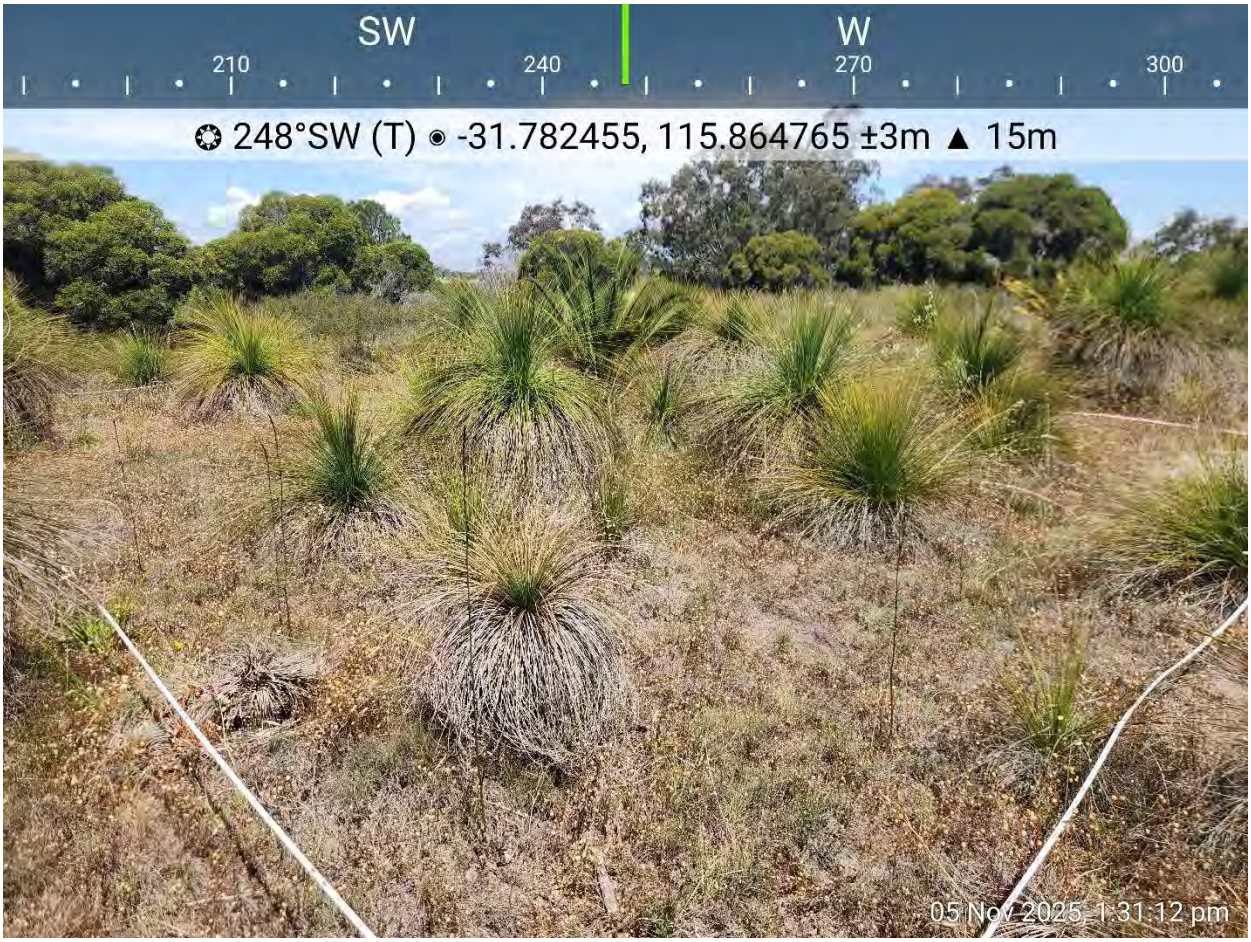
Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Ursinia anthemoides*	0.4	2	Ground	Herbs
Astartea scoparia	2	30	Middle	Shrubs
Cassytha flava	CL	0.5	Climber	Climber
Dampiera linearis	0.4	2	Ground	Shrubs
Dianella revoluta	0.5	0.2	Ground	Herbs
Hypocalymma angustifolium	1	20	Middle	Shrubs
Hypolaena exsulca	0.4	0.2	Ground	Herbs
Levenhookia pusilla	0.05	0.05	Ground	Herbs
Lobelia tenuior	0.3	0.1	Ground	Herbs
Melaleuca preissiana	7	8	Upper	Trees
Patersonia occidentalis var. *occidentalis*	0.7	0.5	Ground	Herbs
Trachymene pilosa	0.1	0.2	Ground	Herbs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q10	05/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
	Weeds, rabbit grazing	Old (>20)	XpAcMf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open shrublands on sand	Flat	Southeast	0.1
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Fine sand	N/A	0
Easting		**Northing**	
392483		6483076	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Acacia longifolia*	1.8	0.2	Middle	Tree
**Arctotheca calendula*	0.1	0.1	Ground	Herbs
**Avena barbata*	1.3	3	Ground	Grasses
**Brassica tournefortii*	0.8	0.1	Ground	Herbs
**Briza maxima*	0.3	0.05	Ground	Grasses
**Briza minor*	0.2	0.2	Ground	Grasses

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Carpobrotus edulis*	0.15	0.5	Ground	Herbs
**Ehrharta calycina*	1.3	4	Ground	Grasses
**Euphorbia terracina*	0.3	0.1	Ground	Herbs
**Gladiolus caryophyllaceus*	0.8	0.05	Ground	Herbs
**Hypochaeris glabra*	0.02	0.1	Ground	Herbs
**Orobanche minor*	0.2	0.5	Ground	Herbs
**Pelargonium capitatum*	0.15	0.1	Ground	Herbs
**Pentameris airoides*	0.2	5	Ground	Grasses
**Petrorhagia dubia*	0.3	0.1	Ground	Herbs
**Sonchus oleraceus*	0.2	0.05	Ground	Herbs
**Urospermum picroides*	0.3	0.5	Ground	Herbs
**Ursinia anthemoides*	0.2	20	Ground	Herbs
**Vulpia bromoides*	0.2	5	Ground	Grasses
**Wahlenbergia capensis*	0.3	0.05	Ground	Herbs
Adenanthos cygnorum	1.8	0.5	Middle	Shrubs
Alexgeorgea nitens	0.15	2	Ground	Sedges
Austrostipa flavescens	0.4	0.1	Ground	Grasses
Cartonema philydroides	0.15	0.2	Ground	Herbs
Dasypogon bromeliifolius	0.3	1	Ground	Herbs
Dianella revoluta	0.5	0.1	Ground	Herbs
Haemodorum spicatum	1	0.2	Ground	Herbs
Hardenbergia comptoniana	CL	0.1	Middle	Climber
Lechenaultia biloba	0.3	0.05	Ground	Shrubs
Macrozamia fraseri	2	1	Middle	Trees
Nuytsia floribunda	3	3	Upper	Trees
Podotheca gnaphalioides	0.2	2	Ground	Herbs
Thysanotus manglesianus	CL	0.05	Ground	Herbs
Xanthorrhoea preissii	2	15	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q11	05/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
	Weeds	Old (>20)	XpAcMf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open shrublands on sand	Flat, open depression	N/A	0
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Fine sand	N/A	0
Easting		**Northing**	
392511		6483125	



Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Avena barbata*	1.4	3	Ground	Grasses
**Briza maxima*	0.3	0.5	Ground	Grasses
**Carpobrotus edulis*	0.15	0.2	Ground	Herbs
**Crassula colorata*	0.1	0.1	Ground	Herbs
**Ehrharta calycina*	1.5	2	Ground	Grasses
**Ficinia marginata*	0.05	0.05	Ground	Sedges

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Gladiolus caryophyllaceus*	0.6	0.05	Ground	Herbs
**Hypochaeris glabra*	0.02	0.1	Ground	Herbs
**Pentameris airoides*	0.3	10	Ground	Grasses
**Petrorhagia dubia*	0.3	0.05	Ground	Herbs
**Sonchus oleraceus*	0.4	0.5	Ground	Herbs
**Urospermum picroides*	0.2	0.2	Ground	Herbs
**Ursinia anthemoides*	0.3	25	Ground	Herbs
Adenanthos cygnorum	2	0.5	Middle	Shrubs
Alexgeorgea nitens	0.15	15	Ground	Sedges
Austrostipa flavescens	0.4	0.1	Ground	Grasses
Cartonema philydroides	0.2	0.2	Ground	Herbs
Corynotheca micrantha	0.4	5	Ground	Herbs
Dasypogon bromeliifolius	0.3	0.2	Ground	Herbs
Dianella revoluta	0.6	0.2	Ground	Herbs
Haemodorum spicatum	1.2	0.4	Middle	Herbs
Hardenbergia comptoniana	CL	0.1	Middle	Climber
Laxmannia squarrosa	0.1	0.1	Ground	Herbs
Lechenaultia biloba	0.2	0.1	Ground	Shrubs
Macrozamia fraseri	2	1	Middle	Trees
Melaleuca preissiana	4	0.5	Upper	Trees
Podotheca gnaphalioides	0.15	0.5	Ground	Herbs
Regelia ciliata	0.5	0.5	Ground	Shrubs
Trachymene pilosa	0.1	0.1	Ground	Herbs
Xanthorrhoea preissii	2	25	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q12	05/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
	Weeds, rabbit grazing	Old (>20)	XpAcMf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open shrublands on sand	Flat, open depression	N/A	0
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Fine sand	N/A	0
Easting		**Northing**	
392542		6483183	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Avena barbata*	1.1	0.2	Ground	Grasses
**Briza maxima*	0.3	0.5	Ground	Grasses
**Carpobrotus edulis*	0.15	0.5	Ground	Herbs
**Crassula colorata*	0.1	0.05	Ground	Herbs
**Ehrharta calycina*	1.1	1	Ground	Grasses
**Euphorbia terracina*	0.4	0.1	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Gladiolus caryophyllaceus*	0.8	0.2	Ground	Herbs
**Hypochaeris glabra*	0.02	0.1	Ground	Herbs
**Pelargonium capitatum*	0.2	0.02	Ground	Herbs
**Pentameris airoides*	0.3	2	Ground	Grasses
**Petrorhagia dubia*	0.3	0.05	Ground	Herbs
**Sonchus oleraceus*	0.3	0.1	Ground	Herbs
**Urospermum picroides*	0.3	0.5	Ground	Herbs
**Ursinia anthemoides*	0.25	10	Ground	Herbs
**Wahlenbergia capensis*	0.4	0.05	Ground	Herbs
Acacia huegelii	0.4	0.1	Ground	Shrubs
Adenanthos cygnorum	2	1	Middle	Shrubs
Bossiaea eriocarpa	0.4	0.2	Ground	Shrubs
Chaetospora curvifolia	0.3	0.1	Ground	Sedges
Conostylis aurea	0.4	1	Ground	Herbs
Corynotheca micrantha	0.5	10	Ground	Herbs
Dasypogon bromeliifolius	0.5	0.5	Ground	Herbs
Gompholobium tomentosum	0.5	0.2	Ground	Shrubs
Haemodorum spicatum	1	0.02	Middle	Herbs
Hardenbergia comptoniana	CL	0.1	Ground	Climber
Jacksonia furcellata	1	0.2	Middle	Shrubs
Lechenaultia biloba	0.3	0.2	Ground	Shrubs
Lepidosperma calcicola	0.4	0.1	Ground	Sedges
Lomandra hermaphrodita	0.3	0.1	Ground	Herbs
Macrozamia fraseri	2.1	1.5	Middle	Trees
Patersonia occidentalis	0.4	0.2	Ground	Herbs
Phlebocarya ciliata	0.4	5	Ground	Herbs
Podotheca gnaphalioides	0.2	0.5	Ground	Herbs
Trachymene pilosa	0.15	0.1	Ground	Herbs
Xanthorrhoea preissii	1.8	20	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q13	05/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Good	Weeds	Old (>20)	CcBaBi
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Flat, open depression	N/A	0
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sandy loam	N/A	0
Easting		**Northing**	
392596		6483329	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Briza maxima*	0.2	1.5	Ground	Grasses
**Briza minor*	0.2	0.05	Ground	Grasses
**Carpobrotus edulis*	0.15	0.2	Ground	Herbs
**Disa bracteata*	0.25	0.05	Ground	Herbs
**Ehrharta calycina*	1.1	1	Ground	Grasses
**Freesia leichtlinii*	0.3	1.5	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Gladiolus caryophyllaceus*	1	0.2	Ground	Herbs
**Hypochaeris glabra*	0.2	0.1	Ground	Herbs
**Orobanche minor*	0.2	0.05	Ground	Herbs
**Pelargonium capitatum*	0.3	0.5	Ground	Herbs
**Pentameris airoides*	0.3	0.1	Ground	Grasses
**Sonchus oleraceus*	0.15	0.05	Ground	Herbs
**Urospermum picroides*	0.2	0.1	Ground	Herbs
**Wahlenbergia capensis*	0.3	0.05	Ground	Herbs
Acacia pulchella	1.3	0.5	Middle	Shrubs
Banksia attenuata	6	5	Upper	Trees
Banksia ilicifolia	6	20	Upper	Trees
Bossiaea eriocarpa	0.3	0.1	Ground	Shrubs
Calytrix fraseri	1.4	1	Middle	Shrubs
Chaetospora curvifolia	0.4	0.05	Ground	Sedges
Conostylis juncea	0.2	0.1	Ground	Herbs
Corymbia calophylla	12	15	Upper	Trees
Dampiera linearis	0.2	0.1	Ground	Shrubs
Dasypogon bromeliifolius	0.6	0.8	Ground	Herbs
Dianella revoluta	0.8	0.5	Ground	Herbs
Gompholobium tomentosum	0.6	0.5	Ground	Shrubs
Haemodorum spicatum	1.7	0.2	Middle	Herbs
Jacksonia furcellata	1	0.2	Middle	Shrubs
Jacksonia sternbergiana	1.5	0.5	Middle	Shrubs
Kennedia prostrata	0.15	0.1	Ground	Herbs
Laxmannia squarrosa	0.1	0.1	Ground	Herbs
Lepidosperma calcicola	0.6	2	Ground	Herbs
Lomandra caespitosa	0.3	0.4	Ground	Herbs
Microtis media	0.3	0.05	Ground	Herbs
**Olea europaea*	0.3	0.05	Ground	Shrubs
Opercularia vaginata	0.3	0.5	Ground	Herbs
Patersonia occidentalis	0.8	2	Ground	Herbs
Petrophile linearis	0.6	0.1	Ground	Shrubs
Phlebocarya ciliata	0.4	5	Ground	Herbs
Stylidium repens	0.1	0.05	Ground	Herbs
Trachymene pilosa	0.1	0.1	Ground	Herbs
Xanthorrhoea preissii	1.8	7.5	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q14	05/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Excellent	Weeds	Young (1-10)	EmBaBm
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Slope	East	1
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sand	N/A	0
Easting		**Northing**	
393057		6485079	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Briza maxima*	0.4	0.3	Ground	Grasses
**Gladiolus caryophyllaceus*	0.8	0.1	Ground	Herbs
**Hypochaeris glabra*	0.02	0.05	Ground	Herbs
**Pelargonium capitatum*	0.2	0.05	Ground	Herbs
**Pentameris airoides*	0.3	0.05	Ground	Grasses
**Sonchus oleraceus*	0.2	0.05	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Ursinia anthemoides*	0.2	0.5	Ground	Herbs
Adenanthos cygnorum	3	2	Middle	Shrubs
Alexgeorgea nitens	0.15	0.5	Ground	Sedges
Allocasuarina humilis	1.2	0.5	Middle	Shrubs
Austrostipa flavescens	0.7	0.1	Ground	Grasses
Banksia attenuata	6	20	Upper	Trees
Banksia menziesii	2.5	3	Upper	Trees
Bossiaea eriocarpa	0.4	0.1	Ground	Shrubs
Burchardia congesta	0.6	0.1	Ground	Herbs
Calectasia narragara	0.5	0.4	Ground	Shrubs
Calothamnus sanguineus	0.5	0.2	Ground	Shrubs
Calytrix flavescens	0.8	0.2	Ground	Shrubs
Cassytha flava	CL	0.05	Ground	Herbs
Conostylis aculeata subsp. *aculeata*	0.3	0.5	Ground	Herbs
Corynotheca micrantha	0.8	10	Ground	Herbs
Daviesia divaricata	1	0.5	Middle	Shrubs
Daviesia triflora	0.8	0.1	Ground	Shrubs
Desmocladus flexuosus	0.15	2	Ground	Sedges
Dianella revoluta	1	0.2	Ground	Herbs
Eucalyptus todtiana	7	0.5	Upper	Trees
Gompholobium tomentosum	0.6	0.5	Ground	Shrubs
Haemodorum spicatum	1.1	0.05	Middle	Herbs
Hibbertia hypericoides	0.5	14	Ground	Shrubs
Hovea trisperma	0.2	0.05	Ground	Shrubs
Hyalosperma cotula	0.15	0.1	Ground	Herbs
Hypocalymma robustum	0.8	0.5	Ground	Shrubs
Lagenophora huegelii	0.02	0.05	Ground	Herbs
Lepidosperma leptostachyum	0.6	0.2	Ground	Sedges
Levenhookia stipitata	0.1	0.05	Ground	Herbs
Lomandra preissii	0.3	0.05	Ground	Herbs
Lyginia imberbis	0.8	0.5	Ground	Sedges
Mesomelaena pseudostygia	0.6	2	Ground	Sedges
Patersonia occidentalis	0.5	0.2	Ground	Herbs
Phyllangium paradoxum	0.1	0.05	Ground	Herbs
Pigea calycina	0.3	0.1	Ground	Herbs
Pyrorchis nigricans	0.02	0.05	Ground	Herbs
Scaevola repens	0.15	0.1	Ground	Shrubs
Schoenus clandestinus	0.1	0.05	Ground	Sedges
Stirlingia latifolia	0.7	1.5	Ground	Shrubs
Stylidium calcaratum	0.15	0.05	Ground	Herbs
Stylidium repens	0.1	0.1	Ground	Herbs
Styphelia propinqua	0.3	0.1	Ground	Shrubs
Trachymene pilosa	0.1	0.2	Ground	Herbs
Xanthorrhoea preissii	1.6	3	Middle	Shrubs
Xanthosia huegelii	0.2	0.2	Ground	Herbs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q15	05/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Excellent	Weeds	Young (1-10)	EmBaBm
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Flat	East	0.1
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sandy loam	N/A	0
Easting		**Northing**	
393354		6485085	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Avena barbata*	0.05	0.05	Ground	Grasses
**Briza maxima*	0.3	0.5	Ground	Grasses
**Ehrharta calycina*	1	0.5	Ground	Grasses
**Gladiolus caryophyllaceus*	0.8	0.1	Ground	Herbs
**Pelargonium capitatum*	0.6	0.3	Ground	Herbs
**Pentameris airoides*	0.2	0.1	Ground	Grasses
**Ursinia anthemoides*	0.2	0.1	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Adenanthos cygnorum	3	5	Middle	Shrubs
Alexgeorgea nitens	0.15	0.2	Ground	Sedges
Amphipogon turbinatus	0.4	0.5	Ground	Grasses
Austrostipa flavescens	0.8	0.1	Ground	Grasses
Banksia attenuata	6	12	Upper	Trees
Banksia ilicifolia	5	1	Upper	Trees
Banksia menziesii	5	4	Upper	Trees
Burchardia congesta	0.6	0.1	Ground	Herbs
Caesia micrantha	0.4	0.2	Ground	Herbs
Calectasia narragara	0.5	0.5	Ground	Shrubs
Calytrix flavescens	0.3	1	Ground	Shrubs
Conospermum stoechadis	1	0.2	Middle	Shrubs
Conostephium pendulum	0.3	0.1	Ground	Shrubs
Conostylis aculeata subsp. *aculeata*	0.3	0.2	Ground	Herbs
Daviesia divaricata	1	0.5	Middle	Shrubs
Daviesia nudiflora	1	0.5	Middle	Shrubs
Daviesia triflora	0.5	0.2	Ground	Shrubs
Desmocladus flexuosus	0.15	0.5	Ground	Sedges
Drosera micrantha	CL	0.02	Ground	Herbs
Gompholobium tomentosum	0.5	0.2	Ground	Shrubs
Haemodorum laxum	1	0.05	Middle	Herbs
Hemiandra linearis	0.15	0.2	Ground	Shrubs
Hibbertia huegelii	0.3	0.2	Ground	Shrubs
Hibbertia hypericoides	0.5	0.5	Ground	Shrubs
Hovea trisperma	0.3	0.1	Ground	Shrubs
Lepidobolus preissianus	0.1	0.1	Ground	Sedges
Lomandra hermaphrodita	0.15	0.05	Ground	Herbs
Lyginia imberbis	0.4	0.1	Ground	Sedges
Macrozamia fraseri	1.5	0.3	Middle	Trees
Melaleuca seriata	0.5	0.2	Ground	Shrubs
Mesomelaena pseudostygia	0.7	15	Ground	Sedges
Patersonia occidentalis	0.5	0.5	Ground	Herbs
Petrophile linearis	0.4	1.5	Ground	Shrubs
Petrophile macrostachya	0.5	10	Ground	Shrubs
Pigea calycina	0.4	0.1	Ground	Herbs
Scaevola repens	0.15	0.1	Ground	Shrubs
Schoenus clandestinus	0.05	0.05	Ground	Sedges
Stylidium araeophyllum	0.2	0.05	Ground	Herbs
Stylidium brunonianum	0.3	0.05	Ground	Herbs
Stylidium repens	0.1	0.2	Ground	Herbs
Styphelia propinqua	0.4	0.1	Ground	Shrubs
Thysanotus manglesianus	CL	0.02	Ground	Herbs
Trachymene pilosa	0.1	0.2	Ground	Herbs
Tricoryne elatior	0.4	0.2	Ground	Herbs
Xanthorrhoea preissii	1.8	2	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q16	04/11/2025	10 x 10	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Excellent	Weeds, tracks (rubbish)	Old (>20)	EmBaBm
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Slope	West	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sandy loam	Limestone	0
Easting		**Northing**	
392992		6486158	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Briza maxima*	0.3	1	Ground	Grasses
**Ehrharta calycina*	0.8	0.01	Ground	Grasses
**Gladiolus caryophyllaceus*	0.5	0.01	Ground	Herbs
**Ursinia anthemoides*	0.3	0.01	Ground	Grasses
Acacia pulchella var. *glaberrima*	1.5	4	Middle	Shrubs
Adenanthos cygnorum	0.4	0.01	Ground	Shrubs
Banksia attenuata	6	5	Upper	Trees

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Banksia menziesii	4	2	Upper	Trees
Bossiaea eriocarpa	0.3	0.1	Ground	Shrubs
Burchardia congesta	0.4	0.01	Ground	Herbs
Calectasia narragara	0.2	0.5	Ground	Herbs
Conostylis aurea	0.3	0.01	Ground	Herbs
Conostylis juncea	0.2	0.01	Ground	Herbs
Corynotheca micrantha	0.3	4	Ground	Herbs
Dampiera linearis	0.2	0.01	Ground	Shrubs
Dasypogon bromeliifolius	0.4	1	Ground	Herbs
Daviesia divaricata subsp. *divaricata*	1.3	2	Middle	Shrubs
Desmocladus flexuosus	0.2	10	Ground	Sedges
Eucalyptus marginata	8	25	Upper	Trees
Gompholobium tomentosum	0.4	0.1	Ground	Shrubs
Hibbertia hypericoides	0.4	4	Ground	Shrubs
Hovea trisperma	0.4	2	Ground	Shrubs
Hyalosperma cotula	0.1	0.01	Ground	Herbs
Hypocalymma robustum	0.3	0.01	Ground	Shrubs
Jacksonia floribunda	1.5	1	Middle	Shrubs
Lagenophora huegelii	0.1	0.5	Ground	Herbs
Laxmannia squarrosa	0.2	0.01	Ground	Herbs
Lepidosperma scabrum	0.4	0.25	Ground	Sedges
Levenhookia stipitata	0.05	0.01	Ground	Herbs
Lomandra micrantha subsp. *micrantha*	0.2	0.01	Ground	Herbs
Lomandra sp.	0.2	0.01	Ground	Herbs
Macrozamia fraseri	0.2	0.01	Ground	Trees
Mesomelaena pseudostygia	0.5	5	Ground	Sedges
Monotaxis grandiflora var. *grandiflora*	0.1	0.01	Ground	Herbs
Patersonia occidentalis	0.5	3	Ground	Herbs
Petrophile linearis	0.3	0.1	Ground	Shrubs
Philotheca spicata	0.6	1	Ground	Shrubs
Pyrorchis nigricans	0.01	0.01	Ground	Herbs
Stirlingia latifolia	1	1.5	Ground	Shrubs
Stylidium calcaratum	0.1	0.01	Ground	Herbs
Stylidium neurophyllum	0.4	0.01	Ground	Herbs
Styphelia pallida	0.1	0.2	Ground	Shrubs
Xanthorrhoea preissii	1.6	10	Middle	Shrubs
Xanthosia huegelii	0.1	0.1	Ground	Herbs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q17	04/11/2025	10 x 10	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Excellent	Weeds, tracks (rubbish)	Old (>20)	EmBaBm
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Flat	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Yellow/brown	Sandy loam	Limestone	0
Easting		**Northing**	
392923		6486196	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Aira cupaniana*	0.1	0.01	Ground	Grasses
**Briza maxima*	0.3	0.1	Ground	Grasses
**Gladiolus caryophyllaceus*	0.8	0.01	Ground	Herbs
**Ursinia anthemoides*	0.2	0.01	Ground	Grasses
Acacia applanata	0.4	0.01	Ground	Shrubs
Acacia sessilis	0.4	0.25	Ground	Shrubs
Amphipogon turbinatus	0.2	0.5	Ground	Grasses

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Austrostipa compressa	0.3	0.01	Ground	Grasses
Banksia attenuata	6	8	Upper	Trees
Banksia ilicifolia	5	2	Upper	Trees
Banksia menziesii	5	5	Upper	Trees
Burchardia congesta	0.25	0.01	Ground	Herbs
Calytrix sp.	0.3	1	Ground	Shrubs
Conospermum stoechadis	1	5	Middle	Shrubs
Conostylis aurea	0.3	0.1	Ground	Herbs
Dasypogon bromeliifolius	0.5	1	Ground	Herbs
Daviesia divaricata subsp. *divaricata*	0.6	1	Ground	Shrubs
Desmocladus flexuosus	0.2	10	Ground	Sedges
Drosera sp.	0.3	0.01	Ground	Herbs
Hemiandra linearis	0.4	0.01	Ground	Shrubs
Hibbertia huegelii	0.3	0.25	Ground	Shrubs
Hibbertia hypericoides	0.8	12	Ground	Shrubs
Hyalosperma cotula	0.1	1	Ground	Herbs
Hypocalymma robustum	1	1	Middle	Shrubs
Jacksonia sericea	0.4	2	Ground	Shrubs
Laxmannia squarrosa	0.1	0.01	Ground	Herbs
Lepidosperma scabrum	0.4	0.01	Ground	Sedges
Levenhookia stipitata	0.05	0.01	Ground	Herbs
Lomandra sp.	0.3	0.01	Ground	Herbs
Lyginia barbata	0.4	1	Ground	Sedges
Mesomelaena pseudostygia	0.5	10	Ground	Sedges
Petrophile linearis	0.4	0.5	Ground	Shrubs
Pigea calycina	0.3	0.01	Ground	Shrubs
Pimelea sulphurea	0.5	0.01	Ground	Shrubs
Scaevola repens	0.2	2	Ground	Shrubs
Schoenus clandestinus	0.02	3	Ground	Sedges
Stirlingia latifolia	0.3	0.01	Ground	Shrubs
Stylidium calcaratum	0.1	0.01	Ground	Herbs
Stylidium cygnorum	0.1	0.01	Ground	Herbs
Stylidium neurophyllum	0.3	0.01	Ground	Herbs
Synaphea spinulosa	0.7	3	Ground	Shrubs
Xanthorrhoea preissii	1.2	0.5	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q18	07/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Excellent	Weeds	Moderate (10-20)	EmBaBm
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Flat	N/A	0
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Fine sand	N/A	0
Easting		**Northing**	
392819		6486203	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Briza maxima*	0.4	0.1	Ground	Grasses
**Bromus diandrus*	0.3	0.5	Ground	Grasses
**Carpobrotus edulis*	0.15	1.5	Ground	Herbs
**Ehrharta calycina*	1.2	0.05	Ground	Grasses
**Gladiolus caryophyllaceus*	0.5	0.05	Ground	Herbs
**Pentameris airoides*	0.2	0.05	Ground	Grasses
**Ursinia anthemoides*	0.15	0.2	Ground	Herbs
Acacia sessilis	0.3	0.2	Ground	Shrubs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Alexgeorgea nitens	0.15	0.5	Ground	Sedges
Amphipogon turbinatus	0.5	1.5	Ground	Grasses
Anigozanthos manglesii	0.3	0.2	Ground	Herbs
Banksia attenuata	4	1	Upper	Trees
Banksia menziesii	3	0.5	Upper	Trees
Bossiaea eriocarpa	0.4	1	Ground	Shrubs
Burchardia congesta	0.4	0.1	Ground	Herbs
Calytrix flavescens	0.3	0.5	Ground	Shrubs
Chaetospora curvifolia	0.3	0.05	Ground	Sedges
Conospermum stoechadis	1.2	0.2	Middle	Shrubs
Conostylis aculeata subsp. *aculeata*	0.2	0.5	Ground	Herbs
Corynotheca micrantha	0.4	0.5	Ground	Herbs
Daviesia divaricata	1	0.5	Middle	Shrubs
Desmocladus flexuosus	0.1	0.1	Ground	Sedges
Diuris sp.	0.4	0.02	Ground	Herbs
Eremaea pauciflora	1	0.5	Middle	Shrubs
Eucalyptus marginata	20	45	Trees	Trees
Gastrolobium capitatum	0.4	0.2	Ground	Shrubs
Gompholobium tomentosum	0.4	0.1	Ground	Shrubs
Haemodorum laxum	1	0.1	Middle	Herbs
Hibbertia huegelii	0.3	0.1	Ground	Shrubs
Hibbertia hypericoides	0.7	5	Ground	Shrubs
Hyalosperma cotula	0.2	0.05	Ground	Herbs
Hypocalymma robustum	0.5	0.5	Ground	Shrubs
Jacksonia floribunda	1.8	1	Middle	Shrubs
Lepidosperma leptostachyum	0.5	0.5	Ground	Sedges
Levenhookia stipitata	0.1	0.05	Ground	Herbs
Lomandra sp.	0.2	0.2	Ground	Herbs
Lyginia imberbis	0.5	0.2	Ground	Sedges
Macarthuria australis	0.3	0.5	Ground	Shrubs
Mesomelaena pseudostygia	0.6	8	Ground	Sedges
Patersonia occidentalis	0.45	1	Ground	Herbs
Persoonia saccata	0.5	0.2	Ground	Shrubs
Petrophile linearis	0.6	1	Ground	Shrubs
Petrophile macrostachya	0.5	0.5	Ground	Shrubs
Phyllangium paradoxum	0.15	0.05	Ground	Shrubs
Pimelea sulphurea	0.45	0.1	Ground	Shrubs
Scaevola repens	0.15	0.1	Ground	Shrubs
Schoenus clandestinus	0.1	0.1	Ground	Sedges
Stylidium brunonianum	0.4	0.05	Ground	Herbs
Stylidium repens	0.15	0.1	Ground	Herbs
Styphelia propinqua	0.4	0.1	Ground	Shrubs
Trachymene pilosa	0.1	0.05	Ground	Herbs
Xanthorrhoea preissii	1.1	2	Middle	Shrubs
Xanthosia huegelii	0.15	0.2	Ground	Herbs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q19	03/11/2025	10 x 10	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Excellent	Weeds, tracks (rubbish)	Old (>20)	EmBaBm
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Crest/hill	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sandy loam	Limestone	0
Easting		**Northing**	
393219		6486579	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Aira cupaniana*	0.2	1	Ground	Grasses
**Briza maxima*	0.3	6	Ground	Grasses
**Disa bracteata*	0.3	0.01	Ground	Herbs
**Ehrharta calycina*	0.7	1	Ground	Grasses
**Gladiolus caryophyllaceus*	0.7	0.01	Ground	Herbs
**Ursinia anthemoides*	0.2	0.01	Ground	Grasses
Acacia pulchella var. *glaberrima*	0.5	1	Ground	Shrubs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Anigozanthos manglesii	0.5	0.01	Ground	Herbs
Austrostipa compressa	0.4	0.01	Ground	Grasses
Banksia attenuata	5	5	Upper	Trees
Banksia menziesii	5	18	Upper	Trees
Bossiaea eriocarpa	0.3	0.25	Ground	Shrubs
Burchardia congesta	0.5	0.01	Ground	Herbs
Calytrix sp.	0.3	0.2	Ground	Shrubs
Chordifex sinuosus	0.4	0.5	Ground	Sedges
Conostephium pendulum	0.8	1	Ground	Shrubs
Conostylis aculeata subsp. *aculeata*	0.2	1	Ground	Herbs
Corynotheca micrantha	0.4	2	Ground	Herbs
Dampiera linearis	0.3	2	Ground	Shrubs
Daviesia divaricata subsp. *divaricata*	0.4	0.25	Ground	Shrubs
Desmocladus flexuosus	0.2	5	Ground	Sedges
Dianella revoluta	0.5	0.3	Ground	Herbs
Diuris sp.	0.5	0.01	Ground	Herbs
Eremaea pauciflora	1	7	Middle	Shrubs
Haemodorum spicatum	0.8	0.01	Ground	Herbs
Hemiandra pungens	0.2	1.5	Ground	Shrubs
Hibbertia hypericoides	0.7	15	Ground	Shrubs
Hibbertia subvaginata	0.1	0.01	Ground	Shrubs
Hyalosperma cotula	0.2	1	Ground	Herbs
Hypocalymma robustum	0.6	2	Ground	Shrubs
Jacksonia floribunda	2	2	Middle	Shrubs
Lepidosperma scabrum	0.4	0.01	Ground	Sedges
Levenhookia stipitata	0.01	0.01	Ground	Herbs
Lomandra micrantha subsp. *micrantha*	0.2	0.01	Ground	Herbs
Mesomelaena pseudostygia	1	3	Middle	Sedges
Microlaena stipoides	0.3	0.01	Ground	Grasses
Opercularia vaginata	0.2	0.1	Ground	Herbs
Patersonia occidentalis	0.4	1	Ground	Herbs
Petrophile linearis	1	0.5	Middle	Shrubs
Pigea calycina	0.3	0.01	Ground	Shrubs
Pyrorchis nigricans	0.01	0.01	Ground	Herbs
Scaevola repens	0.1	4	Ground	Shrubs
Schoenus clandestinus	0.05	0.01	Ground	Sedges
Stylidium brunonianum	0.3	0.01	Ground	Herbs
Stylidium crossocephalum	0.1	0.01	Ground	Herbs
Stylidium cygnorum	0.1	0.01	Ground	Herbs
Styphelia xerophylla	0.3	2	Ground	Shrubs
Synaphea spinulosa subsp. *spinulosa*	0.3	0.5	Ground	Shrubs
Verticordia densiflora	1	3	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q20	04/11/2025	10 x 10	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Excellent	Weeds, tracks, clearing	Old (>20)	MpNfAc
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Flat, open depression	West	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Dark grey	Sandy loam	Limestone	0
Easting		**Northing**	
392355		6486663	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Aira cupaniana*	0.2	0.01	Ground	Grasses
**Gladiolus caryophyllaceus*	1	0.1	Ground	Herbs
**Hypochaeris glabra*	0.1	0.01	Ground	Herbs
**Ursinia anthemoides*	0.3	0.01	Ground	Grasses
Adenanthos cygnorum	1.8	12	Ground	Shrubs
Allocasuarina fraseriana	0.5	1	Ground	Shrubs
Austrostipa compressa	0.2	0.01	Ground	Grasses

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Banksia attenuata		+	Ground	Trees
Banksia menziesii		+	Ground	Trees
Burchardia congesta	0.4	0.01	Ground	Herbs
Caladenia flava	0.2	0.01	Ground	Herbs
Dampiera linearis	0.3	0.01	Ground	Shrubs
Dasypogon bromeliifolius	0.5	0.01	Ground	Herbs
Euchilopsis linearis	0.5	0.01	Ground	Shrubs
Hibbertia subvaginata	0.3	2	Ground	Shrubs
Hyalosperma cotula	0.1	0.01	Ground	Herbs
Hypocalymma angustifolium	1.5	9	Middle	Shrubs
Hypolaena exsulca	0.5	0.25	Ground	Sedges
Juncus sp.	0.6	0.01	Ground	Sedges
Levenhookia stipitata	0.05	0.01	Ground	Herbs
Lomandra caespitosa	0.3	0.5	Ground	Herbs
Melaleuca preissiana	5	5	Upper	Trees
Nuytsia floribunda	5	3	Upper	Trees
Patersonia occidentalis	0.6	0.25	Ground	Herbs
Pericalymma ellipticum	0.7	0.25	Ground	Shrubs
Regelia ciliata	1.5	15	Middle	Shrubs
Siloxerus humifusus	0.02	4	Ground	Herbs
Stylidium brunonianum	0.3	0.01	Ground	Herbs
Stylidium repens	0.1	5	Ground	Herbs
Trachymene pilosa	0.2	0.01	Ground	Herbs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q21	07/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Very Good	Weeds	Moderate (10-20)	EmBaBm
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Flat	North	1
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Fine Sand	N/A	0
Easting		**Northing**	
392672		6486761	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Briza maxima*	0.4	1.5	Ground	Grasses
**Gladiolus caryophyllaceus*	0.5	0.1	Ground	Herbs
**Pentameris airoides*	0.2	0.5	Ground	Grasses
Acacia pulchella	0.1	0.5	Ground	Shrubs
Adenanthos cygnorum	3	3.5	Upper	Shrubs
Alexgeorgea nitens	0.2	2	Ground	Sedges
Amphipogon turbinatus	0.6	0.1	Ground	Grasses

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Anigozanthos humilis	0.3	0.05	Ground	Herbs
Austrostipa flavescens	0.8	0.05	Ground	Grasses
Banksia attenuata	6	1.5	Upper	Trees
Banksia menziesii	3	0.5	Upper	Trees
Bossiaea eriocarpa	0.4	0.1	Ground	Shrubs
Burchardia congesta	0.8	0.05	Ground	Herbs
Calothamnus sanguineus	0.6	0.2	Ground	Shrubs
Calytrix flavescens	0.3	0.2	Ground	Shrubs
Conospermum stoechadis	1.1	0.2	Middle	Shrubs
Conostylis aculeata subsp. *aculeata*	0.3	0.2	Ground	Herbs
Daviesia divaricata	1.2	0.5	Middle	Shrubs
Desmocladus flexuosus	0.2	0.2	Ground	Sedges
Eremaea pauciflora	0.8	0.5	Ground	Shrubs
Eucalyptus marginata	12	10	Upper	Trees
Gompholobium tomentosum	0.4	0.3	Ground	Shrubs
Haemodorum laxum	0.6	0.05	Ground	Herbs
Haemodorum spicatum	1	0.02	Middle	Herbs
Hibbertia huegelii	0.3	0.2	Ground	Shrubs
Hibbertia hypericoides	0.5	0.5	Ground	Shrubs
Hibbertia subvaginata	0.3	0.1	Ground	Shrubs
Hyalosperma cotula	0.15	1	Ground	Herbs
Hypocalymma robustum	0.8	0.5	Ground	Shrubs
Jacksonia floribunda	1.2	0.2	Middle	Shrubs
Jacksonia sternbergiana	2	1	Middle	Shrubs
Levenhookia stipitata	0.1	0.05	Ground	Herbs
Lomandra sp.	0.2	0.05	Ground	Herbs
Lyginia imberbis	0.5	0.2	Ground	Sedges
Mesomelaena pseudostygia	0.5	5	Ground	Sedges
Patersonia occidentalis	0.4	0.2	Ground	Herbs
Persoonia saccata	1	0.5	Middle	Shrubs
Petrophile linearis	0.4	0.5	Ground	Shrubs
Scaevola repens	0.2	0.1	Ground	Shrubs
Schoenus clandestinus	0.1	0.1	Ground	Sedges
Stylidium brunonianum	0.3	0.05	Ground	Herbs
Stylidium calcaratum	0.1	0.05	Ground	Herbs
Stylidium crossocephalum	0.2	0.05	Ground	Herbs
Stylidium repens	0.1	0.1	Ground	Herbs
Styphelia propinqua	0.4	0.1	Ground	Shrubs
Styphelia xerophylla	0.8	3	Ground	Shrubs
Xanthorrhoea preissii	2.2	20	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q22	03/11/2025	10 x 10	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Good	Weeds, tracks and clearing	Old (>20)	EPP_ErMpNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Flat	Southeast	
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sandy loam	Limestone	0
Easting		**Northing**	
393252		6486932	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Avena barbata*	0.5	2	Ground	Grasses
**Briza maxima*	0.3	3	Ground	Grasses
**Briza minor*	0.2	0.25	Ground	Grasses
**Bromus diandrus*	0.3	3	Ground	Grasses
**Carpobrotus edulis*	0.01	0.01	Ground	Herbs
**Ehrharta calycina*	0.8	15	Ground	Grasses
**Euphorbia terracina*	0.2	0.5	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Ficinia marginata*	0.5	0.01	Ground	Sedges
**Hypochaeris glabra*	0.2	0.01	Ground	Herbs
**Leontodon rhagadioloides*	0.1	0.01	Ground	Herbs
**Lysimachia arvensis*	0.5	0.01	Ground	Herbs
**Pelargonium capitatum*	0.2	0.25	Ground	Shrubs
**Sonchus oleraceus*	0.1	0.01	Ground	Herbs
**Urospermum picroides*	0.2	0.25	Ground	Herbs
**Ursinia anthemoides*	0.3	0.5	Ground	Grasses
**Wahlenbergia capensis*	0.2	0.01	Ground	Herbs
**Wahlenbergia gracilenta*	0.1	0.01	Ground	Herbs
Acacia pulchella var. *glaberrima*	0.3	0.01	Ground	Shrubs
Astartea scoparia	1.6	2	Middle	Shrubs
Cyanothamnus ramosus subsp. *anethifolius*	0.2	0.01	Ground	Shrubs
Dianella revoluta	0.4	0.5	Ground	Herbs
Eucalyptus rudis	15	25	Upper	Trees
Gompholobium tomentosum	0.3	0.1	Ground	Shrubs
Haloragis sp.	0.15	0.01	Ground	Herbs
Kunzea glabrescens	1	1	Middle	Shrubs
Lechenaultia floribunda	0.2	0.5	Ground	Shrubs
Melaleuca preissiana	4	30	Upper	Trees
Opercularia vaginata	0.1	0.01	Ground	Herbs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q23	03/11/2025	10 x 10	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Good	Grazing, weeds, tracks and clearing	Old (>20)	MpNfAc
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Flat	South	-
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sandy loam	Limestone	0
Easting		**Northing**	
393243		6487514	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Asphodelus fistulosus*	0.1	0.01	Ground	Herbs
**Brachypodium distachyon*	1.4	0.01	Ground	Grasses
**Briza maxima*	0.2	1	Ground	Grasses
**Carpobrotus edulis*	0.1	0.01	Ground	Herbs
**Ehrharta calycina*	1	4	Ground	Grasses
**Gladiolus caryophyllaceus*	0.5	0.25	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Hypochaeris glabra*	0.1	0.01	Ground	Herbs
**Lysimachia arvensis*	0.1	0.1	Ground	Herbs
**Pentameris pallida*	0.2	15	Ground	Grasses
**Ursinia anthemoides*	0.3	5	Ground	Herbs
Acacia pulchella var. *glaberrima*	0.4	2	Ground	Shrubs
Adenanthos cygnorum	3	2	Upper	Shrubs
Anigozanthos manglesii	0.5	0.5	Ground	Herbs
Austrostipa tenuifolia	0.8	0.01	Ground	Grasses
Burchardia congesta	0.5	0.01	Ground	Herbs
Comesperma calymega	0.4	0.01	Ground	Herbs
Conostylis setigera	0.15	0.01	Ground	Herbs
Cyanothamnus ramosus subsp. *anethifolius*	0.2	0.01	Ground	Shrubs
Dasypogon bromeliifolius	0.5	2	Ground	Herbs
Daviesia physodes	0.3	0.01	Ground	Shrubs
Dianella revoluta	0.4	0.01	Ground	Herbs
Gompholobium tomentosum	0.5	1	Ground	Shrubs
Gonocarpus pithyoides	0.2	9	Ground	Herbs
Haemodorum spicatum	1.2	0.01	Middle	Herbs
Hibbertia subvaginata	0.4	1	Ground	Shrubs
Hovea pungens	0.4	0.01	Ground	Shrubs
Hypocalymma balbakiae	0.3	2	Ground	Shrubs
Johnsonia acaulis	0.05	0.01	Ground	Herbs
Juncus sp.	1	0.1	Middle	Sedges
Kunzea glabrescens	1	0.01	Middle	Shrubs
Lechenaultia floribunda	0.2	0.01	Ground	Shrubs
Levenhookia stipitata	0.05	0.01	Ground	Herbs
Lobelia rhytidosperma	0.2	0.01	Ground	Herbs
Lomandra caespitosa	0.2	0.5	Ground	Sedges
Melaleuca preissiana	6	17	Upper	Trees
Melaleuca sp.	0.2	0.01	Ground	Shrubs
Patersonia occidentalis	0.5	1	Ground	Herbs
Schoenus griffinianus	0.1	0.01	Ground	Sedges
Siloxerus humifusus	0.01	2	Ground	Herbs
Stylidium brunonianum	0.3	0.01	Ground	Herbs
Stylidium cygnorum	0.1	0.01	Ground	Herbs
Styphelia xerophylla	0.6	2	Ground	Herbs
Thysanotus multiflorus	0.2	0.01	Ground	Herbs
Trachymene pilosa	0.1	0.1	Ground	Herbs
Tripterococcus brunonis	0.4	0.2	Ground	Herbs
Xanthorrhoea preissii	1	0.5	Middle	Shrubs
Xanthosia huegelii	0.1	0.1	Ground	Herbs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q24	03/11/2025	10 x 10	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely Degraded	Grazing, weeds, tracks and clearing	Old (>20)	PP
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Pine plantation	Slope	South	
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sandy loam	Limestone	0
Easting		**Northing**	
393317		6487579	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Aira cupaniana*	0.2	5	Ground	Grasses
**Avena barbata*	0.6	0.01	Ground	Grasses
**Briza maxima*	0.3	0.5	Ground	Grasses
**Bromus diandrus*	0.3	0.01	Ground	Grasses
**Ehrharta calycina*	0.5	0.01	Ground	Grasses
**Gladiolus caryophyllaceus*	0.3	0.01	Ground	Herbs
**Petrorhagia dubia*	0.3	10	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Pinus pinaster*	20	40	Upper	Trees
**Sonchus oleraceus*	0.5	0.01	Ground	Herbs
**Trifolium arvense*	0.1	3	Ground	Herbs
**Trifolium campestre*	0.1	15	Ground	Herbs
**Ursinia anthemoides*	0.3	0.1	Ground	Grasses
**Vulpia fasciculata*	0.3	0.01	Ground	Grasses
**Vulpia myuros*	0.2	1	Ground	Grasses
Burchardia congesta	0.4	0.01	Ground	Herbs
Gompholobium tomentosum	0.2	0.01	Ground	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q25	03/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Very Good	Weeds	Moderate (10-20)	BaBmBi
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland	Flat	Northeast	1
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Sand	N/A	0
Easting		**Northing**	
390544		6487667	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Avena barbata*	1.2	0.5	Ground	Grasses
**Briza maxima*	0.3	0.2	Ground	Grasses
**Crassula colorata*	0.05	0.05	Ground	Herbs
**Ehrharta calycina*	1	0.5	Ground	Grasses
**Gladiolus caryophyllaceus*	0.5	0.1	Ground	Herbs
**Hypochaeris glabra*	0.02	0.5	Ground	Herbs
**Pentameris airoides*	0.3	0.2	Ground	Grasses

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Sonchus oleraceus*	0.15	0.5	Ground	Herbs
**Urospermum picroides*	0.3	0.1	Ground	Herbs
**Ursinia anthemoides*	0.3	1	Ground	Herbs
**Wahlenbergia capensis*	0.3	0.02	Ground	Herbs
Acacia pulchella	0.4	0.1	Ground	Shrubs
Alexgeorgea nitens	0.15	10	Ground	Sedge
Austrostipa flavescens	0.5	0.1	Ground	Grasses
Banksia attenuata	5	3	Upper	Trees
Banksia ilicifolia	4.5	1	Upper	Trees
Banksia menziesii	5	1	Upper	Trees
Bossiaea eriocarpa	0.4	0.1	Ground	Shrubs
Chaetospora curvifolia	0.4	0.3	Ground	Sedges
Dasypogon bromeliifolius	0.4	1	Ground	Herbs
Desmocladus flexuosus	0.1	0.1	Ground	Sedges
Drosera micrantha	CL	0.05	Ground	Climber
Eremaea asterocarpa	0.5	5	Ground	Shrubs
Gompholobium tomentosum	0.3	0.5	Ground	Shrubs
Hemiandra pungens	0.4	0.2	Ground	Shrubs
Hypocalymma robustum	0.4	0.2	Ground	Shrubs
Hypolaena exsulca	0.3	0.1	Ground	Sedges
Jacksonia furcellata	2.5	0.2	Middle	Trees
Lyginia imberbis	0.445	2	Ground	Sedges
Macrozamia fraseri	1.2	0.5	Middle	Trees
Melaleuca seriata	0.5	0.5	Ground	Shrubs
Nuytsia floribunda	4	1	Upper	Trees
Patersonia occidentalis	0.4	2	Ground	Herbs
Petrophile linearis	0.4	0.5	Ground	Shrubs
Stylidium araeophyllum	0.5	0.5	Ground	Herbs
Stylidium calcaratum	0.15	0.2	Ground	Herbs
Stylidium repens	0.1	0.2	Ground	Herbs
Styphelia propinqua	0.3	0.2	Ground	Herbs
Trachymene pilosa	0.1	0.1	Ground	Herbs
Xanthorrhoea preissii	1.8	10	Middle	Trees

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q26	03/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Very good	Weeds	Moderate (10-20)	BaBmBi
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland	Flat	Northeast	0.1
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Sand	N/A	0
Easting		**Northing**	
391896		6487669	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Asparagus asparagoides*	CL	0.1	Ground	Herbs
**Avena barbata*	1.2	0.5	Ground	Grasses
**Briza maxima*	0.3	10	Ground	Grasses
**Carpobrotus edulis*	0.15	0.5	Ground	Herbs
**Ehrharta calycina*	1	4	Ground	Grasses
**Gladiolus caryophyllaceus*	0.5	0.1	Ground	Herbs
**Hypochaeris glabra*	0.02	0.1	Ground	Herbs
**Pelargonium capitatum*	0.1	0.1	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Pentameris airoides*	0.3	0.2	Ground	Grasses
**Sonchus oleraceus*	0.3	0.1	Ground	Herbs
**Urospermum picroides*	0.3	0.1	Ground	Herbs
**Ursinia anthemoides*	0.3	2	Ground	Herbs
**Watsonia meriana*	1.3	3	Ground	Herbs
Acacia pulchella	0.8	0.2	Ground	Shrubs
Alexgeorgea nitens	0.2	1	Ground	Sedges
Austrostipa flavescens	0.4	0.1	Ground	Grasses
Banksia attenuata	6	30	Trees	Trees
Banksia ilicifolia	4	1	Trees	Trees
Banksia menziesii	6	15	Trees	Trees
Bossiaea eriocarpa	0.4	0.5	Ground	Shrubs
Calytrix flavescens	0.2	0.1	Ground	Shrubs
Chaetospora curvifolia	0.4	2	Ground	Sedges
Cyanothamnus ramosus subsp. *anethifolius*	0.4	0.1	Ground	Shrubs
Dampiera linearis	0.2	0.1	Ground	Shrubs
Dasypogon bromeliifolius	0.4	5	Ground	Herbs
Eremaea asterocarpa	0.6	2	Ground	Shrubs
Gompholobium tomentosum	0.3	0.2	Ground	Shrubs
Hibbertia subvaginata	0.2	0.5	Ground	Shrubs
Hovea trisperma	0.2	0.05	Ground	Shrubs
Hypocalymma angustifolium	0.4	0.1	Ground	Shrubs
Hypocalymma robustum	0.4	0.2	Ground	Shrubs
Hypolaena exsulca	0.3	0.1	Ground	Sedges
Jacksonia furcellata	2	0.2	Middle	Trees
Lechenaultia floribunda	0.2	0.1	Ground	Shrubs
Melaleuca seriata	1	0.5	Middle	Shrubs
Patersonia occidentalis	0.4	2	Ground	Herbs
Petrophile linearis	0.3	0.5	Ground	Shrubs
Podotheca gnaphalioides	0.15	0.02	Ground	Herbs
Stylidium calcaratum	0.1	0.05	Ground	Herbs
Stylidium repens	0.1	0.1	Ground	Herbs
Styphelia conostephioides	0.2	3	Ground	Herbs
Styphelia propinqua	0.4	0.2	Ground	Herbs
Thysanotus thyrsoideus	0.2	0.05	Ground	Herbs
Xanthorrhoea preissii	1.8	8	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q27	03/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Very good	Weeds	Young (1-20)	BsppEtAf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Hill, slope	Southeast	1
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Fine sand	N/A	0
Easting		**Northing**	
391542		6487670	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Briza maxima*	0.3	2	Ground	Grasses
**Ehrharta calycina*	0.8	2	Ground	Grasses
**Hypochaeris glabra*	0.02	1	Ground	Herbs
**Sonchus oleraceus*	0.6	0.5	Ground	Herbs
**Urospermum picroides*	0.3	0.2	Ground	Herbs
**Ursinia anthemoides*	0.2	1	Ground	Herbs
Acacia huegelii	0.4	0.5	Ground	Shrubs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Acacia pulchella	0.5	0.1	Ground	Shrubs
Adenanthos cygnorum	2.5	0.5	Middle	Shrubs
Alexgeorgea nitens	0.15	2	Ground	Sedges
Allocasuarina fraseriana	6	1	Upper	Trees
Banksia attenuata	4.5	3	Upper	Trees
Banksia menziesii	6	1	Upper	Trees
Bossiaea eriocarpa	0.4	0.5	Ground	Shrubs
Calytrix flavescens	0.5	0.5	Ground	Shrubs
Conostylis aculeata subsp. *aculeata*	0.3	0.1	Ground	Herbs
Corynotheca micrantha	0.3	0.5	Ground	Herbs
Dampiera linearis	0.1	0.05	Ground	Shrubs
Desmocladus flexuosus	0.15	5	Ground	Sedges
Eremaea pauciflora	0.5	0.5	Ground	Shrubs
Eucalyptus todtiana	4.5	2	Upper	Trees
Gompholobium tomentosum	0.3	0.2	Ground	Shrubs
Haemodorum spicatum	1.1	0.5	Middle	Herbs
Hibbertia hypericoides	0.4	4	Ground	Shrubs
Hibbertia subvaginata	0.4	0.5	Ground	Shrubs
Hovea pungens	0.3	0.1	Ground	Shrubs
Hypocalymma robustum	0.5	0.2	Ground	Shrubs
Lechenaultia floribunda	0.2	0.1	Ground	Shrubs
Lyginia imberbis	0.3	6	Ground	Sedges
Macrozamia fraseri	2.5	1	Middle	Trees
Nuytsia floribunda	5	1.5	Upper	Trees
Patersonia occidentalis	0.5	0.2	Ground	Herbs
Podotheca gnaphalioides	0.2	0.1	Ground	Herbs
Trachymene pilosa	0.1	0.2	Ground	Herbs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q28	04/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Good	Weeds	Old (>20)	BsppEtAf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Flat	Northeast	0.1
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Sand	N/A	0
Easting		**Northing**	
393310		6487902	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Avena barbata*	1.2	0.2	Ground	Grasses
**Briza maxima*	0.3	0.5	Ground	Grasses
**Crassula colorata*	0.1	0.05	Ground	Herbs
**Ehrharta calycina*	1.2	5	Ground	Grasses
**Ficinia marginata*	0.1	0.05	Ground	Sedges
**Hypochaeris glabra*	0.02	0.1	Ground	Herbs
**Pentameris airoides*	0.25	0.5	Ground	Grasses

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Petrorhagia dubia*	0.3	0.1	Ground	Herbs
**Urospermum picroides*	0.3	0.1	Ground	Herbs
**Wahlenbergia capensis*	0.4	0.02	Ground	Herbs
Acacia pulchella	0.3	0.1	Ground	Shrubs
Alexgeorgea nitens	0.2	0.5	Ground	Sedges
Austrostipa flavescens	0.9	0.1	Ground	Grasses
Banksia attenuata	5	4	Upper	Trees
Banksia menziesii	6	2	Upper	Trees
Beaufortia elegans	0.2	0.5	Ground	Shrubs
Bossiaea eriocarpa	0.3	0.2	Ground	Shrubs
Burchardia congesta	0.6	0.05	Ground	Herbs
Calytrix flavescens	0.3	0.2	Ground	Shrubs
Centrolepis aristata	0.1	0.05	Ground	Herbs
Chaetospora curvifolia	0.4	0.1	Ground	Sedges
Corynotheca micrantha	0.2	0.1	Ground	Herbs
Daviesia triflora	0.7	0.5	Ground	Shrubs
Desmocladus flexuosus	0.2	0.5	Ground	Sedges
Eremaea pauciflora	0.8	0.1	Ground	Shrubs
Gompholobium tomentosum	0.5	0.2	Ground	Shrubs
Haemodorum spicatum	1	0.2	Ground	Herbs
Hibbertia huegelii	0.3	0.2	Ground	Shrubs
Hibbertia hypericoides	0.7	0.5	Ground	Shrubs
Hibbertia subvaginata	0.4	0.5	Ground	Shrubs
Hypocalymma robustum	0.6	0.5	Ground	Shrubs
Jacksonia floribunda	2.1	5	Middle	Shrubs
Laxmannia squarrosa	0.1	0.05	Ground	Herbs
Lomandra sp.	0.2	0.05	Ground	Herbs
Lyginia imberbis	0.5	0.5	Ground	Sedges
Melaleuca seriata	0.6	0.5	Ground	Shrubs
Mesomelaena pseudostygia	0.5	0.2	Ground	Sedges
Nuytsia floribunda	5	1	Upper	Trees
Patersonia occidentalis	0.5	0.3	Ground	Herbs
Persoonia saccata	0.4	0.5	Ground	Shrubs
Petrophile linearis	0.3	2	Ground	Shrubs
Scaevola repens	0.15	0.5	Ground	Shrubs
Stirlingia latifolia	0.6	0.2	Ground	Shrubs
Styphelia conostephioides	0.3	0.2	Ground	Shrubs
Styphelia propinqua	0.4	0.2	Ground	Shrubs
Tricoryne elatior	0.3	0.2	Ground	Herbs
Xanthorrhoea preissii	1.8	0.5	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q29	03/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Very good	Weeds	Moderate (10-20)	BsppEtAf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Slope, flat	Northwest	1
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sand	N/A	0
Easting		**Northing**	
391404		6487905	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Briza maxima*	0.3	1	Ground	Grasses
**Ehrharta calycina*	0.6	0.2	Ground	Grasses
**Gladiolus caryophyllaceus*	0.5	0.1	Ground	Herbs
**Hypochaeris glabra*	0.02	0.5	Ground	Herbs
**Pentameris airoides*	0.3	0.1	Ground	Grasses
**Wahlenbergia capensis*	0.3	0.01	Ground	Herbs
Acacia pulchella	0.8	0.5	Ground	Shrubs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Adenanthos cygnorum	2	0.5	Middle	Shrubs
Alexgeorgea nitens	0.1	12	Ground	Sedges
Allocasuarina fraseriana	7	4	Upper	Trees
Anigozanthos humilis	0.3	0.05	Ground	Herbs
Banksia attenuata	5	0.5	Upper	Trees
Banksia menziesii	4.5	2	Upper	Trees
Bossiaea eriocarpa	0.4	0.5	Upper	Shrubs
Calytrix flavescens	0.5	0.2	Ground	Shrubs
Conostylis aculeata subsp. *aculeata*	0.3	0.2	Ground	Herbs
Corynotheca micrantha	0.3	0.5	Ground	Herbs
Dampiera linearis	0.2	0.1	Ground	Shrubs
Daucus glochidiatus	0.1	0.05	Ground	Herbs
Desmocladus flexuosus	0.1	2	Ground	Sedges
Eremaea pauciflora	0.5	0.5	Ground	Shrubs
Eucalyptus marginata	7	0.5	Upper	Trees
Eucalyptus todtiana	6	0.5	Upper	Trees
Gompholobium tomentosum	0.4	0.2	Ground	Shrubs
Haemodorum spicatum	1	0.5	Middle	Herbs
Hibbertia hypericoides	0.4	4	Ground	Shrubs
Hovea pungens	0.4	0.2	Ground	Shrubs
Hypocalymma robustum	0.5	0.5	Ground	Shrubs
Laxmannia squarrosa	0.1	0.05	Ground	Herbs
Lechenaultia floribunda	0.3	0.1	Ground	Shrubs
Lyginia imberbis	0.4	15	Ground	Sedges
Macrozamia fraseri	1.8	0.5	Middle	Trees
Nuytsia floribunda	6	1	Upper	Trees
Patersonia occidentalis	0.4	1.5	Ground	Herbs
Petrophile linearis	0.5	1	Ground	Shrubs
Podotheca gnaphalioides	0.2	0.1	Ground	Herbs
Stylidium araeophyllum	0.3	0.05	Ground	Herbs
Styphelia propinqua	0.6	0.2	Ground	Herbs
Xanthorrhoea preissii	1.1	0.5	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q30	04/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Good	Weeds	Moderate (10-20)	BsppEtAf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Flat	North	0.2
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sand	N/A	0
Easting		**Northing**	
392689		6487993	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Avena barbata*	1.2	0.5	Ground	Grasses
**Briza maxima*	0.4	2	Ground	Grasses
**Ehrharta calycina*	1.3	18	Ground	Grasses
**Euphorbia terracina*	0.4	0.05	Ground	Herbs
**Lysimachia arvensis*	0.1	0.05	Ground	Herbs
**Pelargonium capitatum*	0.2	0.05	Ground	Herbs
**Pentameris airoides*	0.3	0.5	Ground	Grasses
**Trifolium campestre*	0.1	0.4	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Urospermum picroides*	0.3	0.1	Ground	Herbs
**Ursinia anthemoides*	0.3	0.5	Ground	Herbs
**Wahlenbergia capensis*	0.3	0.05	Ground	Herbs
Acacia pulchella	1	0.2	Middle	Shrubs
Alexgeorgea nitens	0.2	0.5	Ground	Sedges
Banksia attenuata	5	4	Upper	Trees
Banksia menziesii	6	8	Upper	Trees
Beaufortia elegans	0.2	0.5	Ground	Shrubs
Bossiaea eriocarpa	0.4	0.2	Ground	Shrubs
Calothamnus sanguineus	0.8	1	Ground	Shrubs
Calytrix flavescens	0.4	0.2	Ground	Shrubs
Cassytha flava	CL	0.1	Ground	Climber
Conostylis aurea	0.4	0.5	Ground	Herbs
Daviesia triflora	0.8	1	Ground	Shrubs
Desmocladus flexuosus	0.2	0.5	Ground	Sedges
Eremaea pauciflora	1	5	Middle	Shrubs
Eucalyptus todtiana	5.5	11	Upper	Trees
Haemodorum spicatum	1.1	0.5	Middle	Herbs
Hibbertia hypericoides	0.5	3	Ground	Shrubs
Hibbertia subvaginata	0.3	0.5	Ground	Shrubs
Hypocalymma robustum	0.6	0.5	Ground	Shrubs
Jacksonia floribunda	1	0.5	Middle	Shrubs
Lechenaultia floribunda	0.3	0.2	Ground	Shrubs
Lyginia imberbis	0.5	0.5	Ground	Sedges
Melaleuca seriata	0.6	0.5	Ground	Shrubs
Nuytsia floribunda	5	1	Upper	Trees
Patersonia occidentalis	0.4	0.5	Ground	Herbs
Persoonia saccata	0.8	0.4	Ground	Shrubs
Petrophile linearis	0.4	6	Ground	Shrubs
Scaevola repens	0.15	0.4	Ground	Shrubs
Stirlingia latifolia	1.2	0.5	Middle	Shrubs
Stylidium crossocephalum	0.15	0.05	Ground	Herbs
Styphelia propinqua	0.4	0.2	Ground	Shrubs
Tricoryne elatior	0.4	0.2	Ground	Herbs
Xanthorrhoea preissii	1	0.2	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q31	04/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Good	Weeds, rubbish	Moderate (10-20)	BsppEtAf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Slope	Southeast	2
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Sand	N/A	0
Easting		**Northing**	
392010		6488078	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Avena barbata*	1.5	0.5	Ground	Grasses
**Briza maxima*	0.4	5	Ground	Grasses
**Bromus diandrus*	0.5	0.2	Ground	Grasses
**Ehrharta calycina*	1.2	10	Ground	Grasses
**Euphorbia terracina*	0.3	1.5	Ground	Herbs
**Ficinia marginata*	0.1	0.05	Ground	Sedges

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Fumaria capreolata*	0.2	0.1	Ground	Herbs
**Gladiolus caryophyllaceus*	0.6	0.1	Ground	Herbs
**Hypochaeris glabra*	0.02	0.2	Ground	Herbs
**Lysimachia arvensis*	0.1	0.2	Ground	Herbs
**Pelargonium capitatum*	0.2	0.1	Ground	Herbs
**Pentameris airoides*	0.3	0.1	Ground	Grasses
**Sonchus oleraceus*	0.3	0.1	Ground	Herbs
**Trifolium campestre*	0.1	0.1	Ground	Herbs
**Urospermum picroides*	0.3	0.1	Ground	Herbs
**Ursinia anthemoides*	0.25	1	Ground	Herbs
**Vulpia bromoides*	0.25	0.5	Ground	Grasses
**Wahlenbergia capensis*	0.4	0.1	Ground	Herbs
Acacia pulchella	1	0.2	Middle	Shrubs
Allocasuarina humilis	1.4	1	Middle	Shrubs
Banksia attenuata	6	20	Upper	Trees
Banksia menziesii	6	15	Upper	Trees
Beaufortia elegans	0.25	0.2	Ground	Shrubs
Burchardia congesta	0.4	0.05	Ground	Herbs
Calothamnus sanguineus	0.5	0.2	Ground	Shrubs
Calytrix flavescens	0.3	0.2	Ground	Shrubs
Conostylis aurea	0.4	0.1	Ground	Herbs
Dampiera linearis	0.3	0.1	Ground	Shrubs
Daviesia triflora	0.6	0.2	Ground	Shrubs
Desmocladus flexuosus	0.15	1	Ground	Sedges
Eremaea pauciflora	1	15	Middle	Shrubs
Gompholobium tomentosum	0.6	0.2	Ground	Shrubs
Hemiandra pungens	0.2	0.2	Ground	Shrubs
Hibbertia huegelii	0.2	0.1	Ground	Shrubs
Hibbertia hypericoides	0.8	5	Ground	Shrubs
Hypocalymma robustum	0.5	0.2	Ground	Shrubs
Jacksonia floribunda	2	0.5	Middle	Shrubs
Lyginia imberbis	0.6	0.5	Ground	Sedges
Macrozamia fraseri	2	2	Middle	Trees
Melaleuca seriata	0.6	0.5	Ground	Shrubs
Nuytsia floribunda	6	3	Upper	Trees
Patersonia occidentalis	0.5	0.2	Ground	Herbs
Petrophile linearis	0.4	0.2	Ground	Shrubs
Scaevola repens	0.2	0.2	Ground	Shrubs
Stirlingia latifolia	0.8	0.2	Ground	Shrubs
Stylidium calcaratum	0.1	0.05	Ground	Herbs
Styphelia propinqua	0.4	0.1	Ground	Shrubs
Xanthorrhoea preissii	1.5	5	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q32	03/11/2025	10 x 10	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Good	Weeds, herbivory	Moderate (10-20)	BsppEtAf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Slope	North	2
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Sand	N/A	0
Easting		**Northing**	
391550		6488132	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Avena barbata*	1.2	0.3	Ground	Grasses
**Briza maxima*	0.4	5	Ground	Grasses
**Ehrharta calycina*	1	5	Ground	Grasses
**Gladiolus caryophyllaceus*	0.5	0.1	Ground	Herbs
**Hypochaeris glabra*	0.2	0.2	Ground	Herbs
**Lactuca serriola*	0.2	0.1	Ground	Herbs
**Lysimachia arvensis*	0.15	0.1	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Pentameris airoides*	0.2	0.2	Ground	Grasses
**Petrorhagia dubia*	0.4	0.1	Ground	Herbs
**Sonchus oleraceus*	0.2	0.05	Ground	Herbs
**Urospermum picroides*	0.3	0.2	Ground	Herbs
**Ursinia anthemoides*	0.2	1	Ground	Herbs
**Wahlenbergia capensis*	0.3	0.05	Ground	Herbs
Acacia pulchella	0.6	0.1	Ground	Shrubs
Adenanthos cygnorum	1.8	0.2	Middle	Shrubs
Alexgeorgea nitens	0.2	1	Ground	Sedges
Allocasuarina fraseriana	7	4	Upper	Trees
Allocasuarina humilis	1.1	0.5	Middle	Shrubs
Banksia attenuata	4	1	Upper	Trees
Banksia menziesii	5	3	Upper	Trees
Beaufortia elegans	0.4	0.2	Ground	Shrubs
Bossiaea eriocarpa	0.4	0.4	Ground	Shrubs
Burchardia congesta	0.6	0.1	Ground	Herbs
Calandrinia liniflora	0.15	0.01	Ground	Herbs
Conostylis aculeata subsp. *aculeata*	0.3	0.1	Ground	Herbs
Corynotheca micrantha	0.3	0.2	Ground	Herbs
Daviesia triflora	0.5	0.5	Ground	Shrubs
Desmocladus flexuosus	0.2	0.5	Ground	Sedges
Eremaea pauciflora	0.6	0.5	Ground	Shrubs
Eucalyptus todtiana	7	2	Upper	Trees
Gompholobium tomentosum	0.4	0.2	Ground	Shrubs
Haemodorum spicatum	1	0.1	Middle	Herbs
Hibbertia huegelii	0.2	0.1	Ground	Shrubs
Hibbertia hypericoides	0.5	10	Ground	Shrubs
Hibbertia subvaginata	0.5	0.5	Ground	Shrubs
Hypocalymma robustum	0.5	0.2	Ground	Shrubs
Jacksonia floribunda	2	1	Middle	Shrubs
Lobelia tenuior	0.2	0	Ground	Herbs
Lyginia imberbis	0.5	6	Ground	Sedges
Macrozamia fraseri	1.5	0.5	Middle	Trees
Melaleuca seriata	0.8	1	Ground	Shrubs
Nuytsia floribunda	6	4	Upper	Trees
Petrophile linearis	0.4	1.5	Ground	Shrubs
Philotheca spicata	0.4	0.1	Ground	Shrubs
Scaevola repens	0.15	0.1	Ground	Shrubs
Stylidium repens	0.1	0.02	Ground	Herbs
Styphelia conostephioides	0.4	0.2	Ground	Herbs
Styphelia propinqua	0.5	0.2	Ground	Herbs
Xanthorrhoea preissii	2	5	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q33	07/11/2025	10 x 10	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Degraded	Weeds, tracks, clearing	Young (1-10)	EPP_ErMpNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Slope, open depression	Southeast	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sandy Loam	Limestone	0
Easting		**Northing**	
391239		6489397	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Aira cupaniana*	0.3	4	Ground	Grasses
**Arctotheca calendula*	0.3	0.01	Ground	Herbs
**Avena barbata*	0.15	1	Ground	Grasses
**Brachypodium distachyon*	2	5	Middle	Grasses
**Briza maxima*	0.4	1	Ground	Grasses
**Bromus diandrus*	0.4	1	Ground	Grasses
**Carpobrotus edulis*	0.2	0.01	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Crassula glomerata*	0.05	0.01	Ground	Herbs
**Ehrharta calycina*	1	45	Ground	Grasses
**Ficinia marginata*	0.05	0.01	Ground	Sedges
**Gladiolus caryophyllaceus*	1	0.1	Ground	Herbs
**Lysimachia arvensis*	0.1	0.01	Ground	Herbs
**Pelargonium capitatum*	0.2	0.01	Ground	Herbs
**Sonchus oleraceus*	0.4	2	Ground	Herbs
**Ursinia anthemoides*	0.3	0.5	Ground	Grasses
Acacia applanata	0.3	0.1	Ground	Shrubs
Acacia pulchella var. *glaberrima*	0.5	1	Ground	Shrubs
Adenanthos cygnorum	0.3	0.01	Ground	Shrubs
Astartea scoparia	1	0.25	Middle	Shrubs
Dianella revoluta	0.4	0.01	Ground	Herbs
Gompholobium tomentosum	0.3	0.01	Ground	Shrubs
Hypocalymma angustifolium	0.5	0.25	Ground	Shrubs
Jacksonia furcellata	1.8	2	Middle	Shrubs
Lepidosperma scabrum	0.6	0.01	Ground	Sedges
Melaleuca preissiana	6	35	Upper	Trees

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q34	07/11/2025	10 x 10	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Very Good	Weeds, tracks, clearing	Old (>20)	EPP_ErMpNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Flat, Closed depression	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Dark Grey/brown	Loam	Limestone	0
Easting		**Northing**	
391076		6490567	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Briza maxima*	0.3	0.01	Ground	Grasses
**Ehrharta calycina*	1	4	Ground	Grasses
**Freesia leichtlinii* subsp. *alba × leichtlinii* subsp. *Leichtlinii*	0.1	0.01	Ground	Herbs
**Gladiolus caryophyllaceus*	0.3	0.01	Ground	Herbs
**Lysimachia arvensis*	0.1	0.01	Ground	Herbs
**Ornithopus compressus*	0.1	0.01	Ground	Grasses
**Sonchus oleraceus*	0.1	0.01	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Trifolium campestre*	0.1	0.01	Ground	Herbs
**Wahlenbergia capensis*	0.2	0.01	Ground	Herbs
Dasypogon bromeliifolius	0.5	0.01	Ground	Herbs
Dianella revoluta	0.2	0.01	Ground	Herbs
Hypocalymma angustifolium	0.5	0.3	Ground	Shrubs
Hypolaena exsulca	0.4	2	Ground	Sedges
Kunzea glabrescens	4	60	Middle	Shrubs
Melaleuca preissiana	8	25	Upper	Trees
Xanthorrhoea preissii	0.4	0.01	Ground	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q35	07/11/2025	10 x 10	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Very Good	Weeds, tracks, clearing	Old (>20)	BsppEtAf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Flat	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sandy loam	Limestone	0
Easting		**Northing**	
391110		6492098	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Aira cupaniana*	0.3	0.01	Ground	Grasses
**Asparagus asparagoides*	0.3	0.01	Ground	Herbs
**Briza maxima*	0.3	2	Ground	Grasses
**Ehrharta calycina*	1	3	Ground	Grasses
**Gladiolus caryophyllaceus*	0.5	0.01	Ground	Herbs
**Ursinia anthemoides*	0.3	0.1	Ground	Herbs
Acacia pulchella var. *glaberrima*	1	0.01	Middle	Shrubs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Adenanthos cygnorum	3	5	Middle	Shrubs
Banksia ilicifolia	4	0.01	Upper	Trees
Banksia menziesii	4	3	Upper	Trees
Bossiaea eriocarpa	0.2	0.01	Ground	Shrubs
Chaetospora curvifolia	0.4	0.01	Ground	Sedges
Chordifex microcodon	0.4	0.01	Ground	Sedges
Cyanothamnus ramosus subsp. *anethifolius*	0.3	0.01	Ground	Shrubs
Dampiera linearis	0.3	0.1	Ground	Shrubs
Dasypogon bromeliifolius	0.5	1	Ground	Herbs
Eucalyptus todtiana	5	6	Upper	Trees
Gastrolobium capitatum	0.1	1	Ground	Shrubs
Gompholobium tomentosum	0.3	0.01	Ground	Shrubs
Hibbertia subvaginata	0.4	1	Ground	Shrubs
Jacksonia floribunda	1	0.01	Middle	Shrubs
Kunzea glabrescens	3	16	Middle	Shrubs
Laxmannia ramosa subsp. *ramosa*	0.1	1	Ground	Herbs
Lomandra micrantha subsp. *micrantha*	0.3	0.1	Ground	Herbs
Lyginia imberbis	0.4	0.5	Ground	Sedges
Petrophile linearis	0.4	1	Ground	Shrubs
Scholtzia involucrata	0.2	5	Ground	Shrubs
Xanthorrhoea preissii	1	0.5	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q36	05/11/2025	10 x 10	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely degraded	Weeds, tracks, clearing	Moderate (10-20)	PP
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Pine plantation	Flat	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Sandy loam	Limestone	0
Easting		**Northing**	
390414		6493260	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Ehrharta calycina*	0.8	0.01	Ground	Grasses
**Ornithopus compressus*	0.1	30	Ground	Grasses
**Pinus pinaster*	20	30	Upper	Trees
**Tolpis barbata*	0.3	0.01	Ground	Grasses
**Vulpia myuros*	0.1	0.01	Ground	Grasses
**Wahlenbergia capensis*	0.4	0.01	Ground	Herbs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q37	05/11/2025	10 x 10	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely degraded	Pine plantation	Moderate (10-20)	PP
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Pine plantation	Crest/hill	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sandy loam	Limestone	0
Easting		**Northing**	
390294		6493821	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Aira cupaniana*	0.2	0.01	Ground	Grasses
**Avena barbata*	0.4	1	Ground	Grasses
**Briza maxima*	0.4	0.01	Ground	Grasses
**Ehrharta calycina*	0.4	0.01	Ground	Grasses
**Gladiolus caryophyllaceus*	0.3	0.01	Ground	Herbs
**Pinus pinaster*	15	40	Upper	Trees
**Sonchus oleraceus*	0.1	0.01	Ground	Herbs
Acacia sessilis	0.3	0.01	Ground	Shrubs
Calytrix sp.	0.2	0.01	Ground	Shrubs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Desmocladus flexuosus	0.2	0.01	Ground	Sedges
Jacksonia floribunda	0.5	0.1	Ground	Shrubs
Lomandra micrantha subsp. *micrantha*	0.2	0.01	Ground	Herbs
Stirlingia latifolia	1.2	0.25	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q38	06/11/2025	10 x 10	DB/RT
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Good	Weeds, tracks, clearing (rubbish)	Old (>20)	EPP_PpEmNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Flat	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/Brown	Sandy Loam	Laterite	0
Easting		**Northing**	
390123		6494167	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Aira cupaniana*	0.3	5	Ground	Grasses
**Briza maxima*	0.2	3	Ground	Grasses
**Disa bracteata*	0.1	0.01	Ground	Herbs
**Ehrharta calycina*	1.2	0.01	Ground	Grasses
**Gladiolus caryophyllaceus*	0.5	0.2	Ground	Herbs
**Ornithopus compressus*	0.1	0.5	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Pelargonium capitatum*	0.1	0.01	Ground	Herbs
**Pinus pinaster*	10	4	Upper	Trees
**Ursinia anthemoides*	0.3	0.01	Ground	Herbs
Adenanthos cygnorum	3	35	Middle	Shrubs
Austrostipa compressa	0.3	0.01	Ground	Grounds
Eucalyptus marginata	5	8	Upper	Trees
Gompholobium tomentosum	0.3	1	Ground	Shrubs
Hibbertia subvaginata	0.4	3	Ground	Shrubs
Jacksonia furcellata	2	0.2	Middle	Shrubs
Lyginia barbata	0.6	0.01	Ground	Sedges
Patersonia occidentalis	0.3	0.2	Ground	Herbs
Scholtzia involucrata	0.3	1	Ground	Shrubs
Stylidium rigidulum	0.1	0.01	Ground	Herbs
Styphelia conostephioides	0.2	0.5	Ground	Shrubs
Xanthorrhoea preissii	1.5	3	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q39	06/11/2025	10 x 10	DB/RT
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Degraded	Weeds, tracks, clearing	Old (>20)	EPP_ErMpNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Slope	West	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Brown	Sandy Loam	Limestone	0
Easting		**Northing**	
389117		6494175	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Avena barbata*	0.3	0.01	Ground	Grasses
**Carpobrotus edulis*	0.2	0.5	Ground	Herbs
**Ehrharta calycina*	1	20	Ground	Grasses
**Sonchus oleraceus*	0.4	0.01	Ground	Herbs
**Ursinia anthemoides*	0.3	0.01	Ground	Herbs
Banksia menziesii	6	3	Upper	Trees
Eucalyptus rudis	10	16	Upper	Trees

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Hypocalymma robustum	0.5	1	Ground	Shrubs
Melaleuca preissiana	5	20	Upper	Trees
Nuytsia floribunda	5	1.5	Upper	Trees

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q40	06/11/2025	10 x 10	DB/RT
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Degraded	Weeds, tracks, clearing (rubbish)	Old (>20)	EPP_PpEmNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Slope	North	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/Brown	Sandy Loam	Limestone	0
Easting		**Northing**	
390065		6494183	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Aira cupaniana*	0.2	1	Ground	Grasses
**Avena barbata*	0.4	0.5	Ground	Grasses
**Briza maxima*	0.3	2	Ground	Grasses
**Disa bracteata*	0.3	0.01	Ground	Herbs
**Gladiolus caryophyllaceus*	0.3	0.1	Ground	Herbs
**Hypochaeris glabra*	0.3	0.01	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Ornithopus compressus*	0.2	1	Ground	Grasses
**Petrorhagia dubia*	0.2	0.01	Ground	Herbs
**Pinus pinaster*	10	1	Upper	Trees
**Sonchus oleraceus*	0.1	0.01	Ground	Herbs
**Trifolium campestre*	0.1	5	Ground	Herbs
**Urospermum picroides*	0.2	0.01	Ground	Herbs
**Ursinia anthemoides*	0.4	0.01	Ground	Herbs
**Vulpia myuros*	0.2	12	Ground	Grasses
Acacia pulchella var. *glaberrima*	0.4	4	Ground	Shrubs
Adenanthos cygnorum	3	40	Middle	Shrubs
Eucalyptus todtiana	5	4	Upper	Trees
Gastrolobium capitatum	0.4	0.25	Ground	Shrubs
Gompholobium tomentosum	0.3	0.01	Ground	Shrubs
Hibbertia subvaginata	0.4	0.01	Ground	Shrubs
Lechenaultia floribunda	0.4	0.01	Ground	Shrubs
Microtis media	0.2	0.01	Ground	Herbs
Nuytsia floribunda	4	2	Upper	Trees
Xanthorrhoea preissii	1.5	0.01	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q41	06/11/2025	10 x 10	DB/RT
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Degraded	Weeds, tracks, clearing (rubbish)	Old (>20)	EPP_PpEmNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Flat	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Sand	Laterite	0
Easting		**Northing**	
389759		6494185	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Aira cupaniana*	0.2	1	Ground	Grasses
**Brachypodium distachyon*	0.4	0.01	Ground	Grasses
**Bromus diandrus*	0.3	1	Ground	Grasses
**Carpobrotus edulis*	0.2	8	Ground	Herbs
**Ehrharta calycina*	1	15	Ground	Grasses
**Ficinia marginata*	0.05	0.5	Ground	Sedges

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Lysimachia arvensis*	0.1	0.01	Ground	Herbs
**Ornithopus compressus*	0.1	6	Ground	Herbs
**Trifolium arvense*	0.1	0.01	Ground	Herbs
**Wahlenbergia capensis*	0.4	1	Ground	Herbs
**Wahlenbergia preissii*	0.1	0.01	Ground	Herbs
Adenanthos cygnorum	3	8	Middle	Shrubs
Bossiaea eriocarpa	0.4	1	Ground	Shrubs
Daviesia divaricata subsp. *divaricata*	3	9	Middle	Shrubs
Gastrolobium capitatum	0.4	4	Ground	Shrubs
Haemodorum spicatum	0.1	0.01	Ground	Herbs
Jacksonia floribunda	1	4	Middle	Shrubs
Lyginia barbata	0.3	0.01	Ground	Sedges
Mesomelaena pseudostygia	0.4	0.25	Ground	Sedges
Scholtzia involucrata	0.4	0.5	Ground	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q42	07/11/2025	10 x 10	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Good	Weeds, tracks, clearing	Old (>20)	EPP_ErEtBspp
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Slope/flat	South	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sandy loam	Limestone	0
Easting		**Northing**	
388450		6494193	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Ehrharta calycina*	1	0.01	Ground	Grasses
**Ornithopus compressus*	0.1	0.01	Ground	Grasses
**Tolpis barbata*	0.3	0.01	Ground	Grasses
**Wahlenbergia capensis*	0.4	0.01	Ground	Herbs
Acacia pulchella var. *glaberrima*	1	0.01	Middle	Shrubs
Banksia attenuata	2	0.01	Upper	Trees
Banksia menziesii	3	3	Upper	Trees

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Bossiaea eriocarpa	0.6	2	Ground	Shrubs
Calothamnus quadrifidus	0.6	3	Ground	Shrubs
Eremaea pauciflora	1	5	Middle	Shrubs
Eucalyptus rudis	8	25	Upper	Trees
Eucalyptus todtiana	6	0.01	Upper	Trees
Gastrolobium capitatum	0.3	0.5	Ground	Shrubs
Gompholobium scabrum	0.4	0.01	Ground	Shrubs
Jacksonia floribunda	0.4	0.01	Ground	Shrubs
Jacksonia furcellata	3	2	Middle	Shrubs
Kunzea glabrescens	3	30	Middle	Shrubs
Regelia ciliata	1.5	10	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q43	06/11/2025	10 x 10	DB/RT
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Good	Weeds, tracks, clearing	Old (>20)	EPP_PpEmNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Flat	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/Brown	Sandy Loam	Laterite	0
Easting		**Northing**	
390226		6494205	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Aira cupaniana*	0.3	5	Ground	Grasses
**Avena barbata*	0.7	1	Ground	Grasses
**Briza maxima*	0.3	2	Ground	Grasses
**Briza minor*	0.3	0.01	Ground	Grasses
**Bromus diandrus*	0.3	2	Ground	Grasses
**Carpobrotus edulis*	0.1	0.01	Ground	Herbs
**Disa bracteata*	0.4	0.01	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Ehrharta calycina*	1	0.01	Ground	Grasses
**Gladiolus caryophyllaceus*	0.3	0.01	Ground	Herbs
**Ornithopus compressus*	0.1	4	Ground	Herbs
**Pinus pinaster*	7	0.01	Upper	Trees
**Sonchus oleraceus*	0.2	0.01	Ground	Herbs
**Trifolium arvense*	0.1	0.5	Ground	Herbs
**Trifolium campestre*	0.1	0.01	Ground	Herbs
**Vulpia myuros*	0.1	3	Ground	Grasses
**Wahlenbergia capensis*	0.1	0.01	Ground	Herbs
Acacia pulchella var. *glaberrima*	0.4	0.25	Ground	Shrubs
Adenanthos cygnorum	3	40	Middle	Shrubs
Austrostipa compressa	0.5	0.1	Ground	Grasses
Chamaescilla corymbosa	0.1	0.01	Ground	Herbs
Dasypogon bromeliifolius	0.5	1	Ground	Herbs
Eucalyptus marginata	5	4	Upper	Trees
Gompholobium tomentosum	0.5	0.5	Ground	Shrubs
Haloragis sp.	0.3	0.01	Ground	Herbs
Hibbertia subvaginata	0.3	1	Ground	Shrubs
Hypocalymma robustum	0.5	1	Ground	Shrubs
Nuytsia floribunda	6	8	Upper	Trees
Philotheca spicata	0.3	0.01	Ground	Shrubs
Scholtzia involucrata	0.3	0.1	Ground	Shrubs
Styphelia conostephioides	0.2	1	Ground	Shrubs
Xanthorrhoea preissii	1.2	5	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q44	06/11/2025	10 x 10	DB/RT
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Good	Weeds, tracks, clearing	Old (>20)	EPP_PpEmNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Flat	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/Brown	Sandy Loam	Laterite	0
Easting		**Northing**	
390226		6494205	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Aira cupaniana*	0.2	5	Ground	Grasses
**Avena barbata*	0.4	0.25	Ground	Grasses
**Briza maxima*	0.4	4	Ground	Grasses
**Bromus diandrus*	0.4	2	Ground	Grasses
**Carpobrotus edulis*	0.1	1	Ground	Herbs
**Ehrharta calycina*	0.5	0.1	Ground	Grasses
**Gladiolus caryophyllaceus*	0.5	0.01	Ground	Herbs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Ornithopus compressus*	0.2	4	Ground	Herbs
**Pelargonium capitatum*	0.6	2	Ground	Herbs
**Sonchus oleraceus*	0.2	0.01	Ground	Herbs
**Trifolium arvense*	0.2	1	Ground	Herbs
**Trifolium campestre*	0.1	2	Ground	Herbs
**Ursinia anthemoides*	0.3	0.01	Ground	Herbs
**Wahlenbergia capensis*	0.3	0.01	Ground	Herbs
Adenanthos cygnorum	3	35	Ground	Shrubs
Austrostipa compressa	0.3	0.01	Ground	Grasses
Dasypogon bromeliifolius	0.5	5	Ground	Herbs
Haloragis sp.	0.3	1.5	Ground	Herbs
Hibbertia subvaginata	0.3	1	Ground	Shrubs
Hypocalymma robustum	0.5	2	Ground	Shrubs
Melaleuca preissiana	5	19	Ground	Shrubs
Stylidium brunonianum	0.4	0.01	Ground	Herbs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q45	07/11/2025	10 x 10	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Good	Weeds, tracks, clearing	Old (>20)	EPP_ErEtBspp
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Slope/flat	Southwest	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Sandy loam	Limestone	0
Easting		**Northing**	
388502		6494252	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Carpobrotus edulis*	0.3	1	Ground	Herbs
**Ehrharta calycina*	1	0.01	Ground	Grasses
**Eragrostis curvula*	1.5	5	Ground	Grasses
**Ornithopus compressus*	0.1	0.01	Ground	Grasses
**Pelargonium capitatum*	1	1	Ground	Herbs
**Tolpis barbata*	0.5	1	Ground	Grasses
Acacia pulchella var. *glaberrima*	1.6	1	Middle	Shrubs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Bossiaea eriocarpa	0.3	1	Ground	Shrubs
Calothamnus quadrifidus	1	1	Middle	Shrubs
Eucalyptus rudis	6	7	Upper	Trees
Eucalyptus todtiana	4	4	Upper	Trees
Jacksonia furcellata	1	0.01	Middle	Shrubs
Kennedia prostrata	0.1	0.25	Ground	Herbs
Kunzea glabrescens	3	16	Middle	Shrubs
Regelia ciliata	1.5	20	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q46	06/11/2025	10 x 10	DB/RT
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Good	Weeds, tracks, clearing (ex-pine plantation)	Old (>20)	EPP_PpEmNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Flat	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/Brown	Sandy Loam (Pine mulch)	Laterite	0
Easting		**Northing**	
389179		6494262	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Aira cupaniana*	0.2	0.5	Ground	Grasses
**Briza maxima*	0.3	4	Ground	Grasses
**Disa bracteata*	0.2	0.01	Ground	Herbs
**Ehrharta calycina*	1	3	Ground	Grasses
**Ornithopus compressus*	0.2	0.01	Ground	Grasses
**Pinus pinaster*	6	2	Upper	Trees

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Tolpis barbata*	0.2	0.01	Ground	Grasses
**Urospermum picroides*	0.1	0.01	Ground	Herbs
**Ursinia anthemoides*	0.3	0.5	Ground	Herbs
**Wahlenbergia capensis*	0.2	0.01	Ground	Herbs
Adenanthos cygnorum	3	50	Middle	Shrubs
Banksia attenuata	0.4	0.2	Ground	Trees
Bossiaea eriocarpa	0.4	0.3	Ground	Shrubs
Eucalyptus todtiana	6	5	Upper	Trees
Gompholobium tomentosum	0.2	0.01	Ground	Shrubs
Hardenbergia comptoniana	3	1	Middle	Climber
Macrozamia fraseri	1.2	0.5	Middle	Trees
Nuytsia floribunda	6	5	Upper	Trees

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q47	07/11/2025	10 x 10	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Good	Weeds, tracks, clearing	Old (>20)	EPP_ErEtBspp
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Slope/flat	Southwest	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Sandy loam	Limestone	0
Easting		**Northing**	
388502		6494252	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Carpobrotus edulis*	0.2	5	Ground	Herbs
**Ehrharta calycina*	1	1	Ground	Grasses
**Eragrostis curvula*	1	0.5	Ground	Grasses
**Pelargonium capitatum*	0.5	0.5	Ground	Herbs
**Tolpis barbata*	0.4	0.1	Ground	Herbs
Acacia pulchella var. *glaberrima*	0.5	3	Ground	Shrubs
Banksia attenuata	5	3	Upper	Trees

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Banksia grandis	4	1	Upper	Trees
Bossiaea eriocarpa	0.4	1	Ground	Shrubs
Eremaea pauciflora	0.3	0.1	Ground	Shrubs
Eucalyptus rudis	7	50	Upper	Trees
Eucalyptus todtiana	6	2	Upper	Trees
Gompholobium scabrum	0.5	0.2	Ground	Shrubs
Kennedia prostrata	0.3	1	Ground	Herbs
Kunzea glabrescens	4	20	Middle	Shrubs
Regelia ciliata	1.5	6	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_Q48	06/11/2025	10 x 10	DB/RT
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Degraded	Weeds, tracks, clearing	Old (>20)	EPP_PpEmNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Flat	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/Brown	Sandy Loam	Laterite	0
Easting		**Northing**	
388649		6494382	

Species Name	Height (m)	Cover (%)	Stratum	Growth form
**Carpobrotus edulis*	0.2	2	Ground	Herbs
**Ehrharta calycina*	1	35	Ground	Grasses
**Ornithopus compressus*	0.1	0.01	Ground	Grasses
**Pelargonium capitatum*	0.5	1	Ground	Herbs
**Pinus pinaster*	15	4	Upper	Trees
**Tolpis barbata*	0.4	0.5	Ground	Grasses
Adenanthos cygnorum	2	4	Middle	Shrubs

Species Name	Height (m)	Cover (%)	Stratum	Growth form
Eucalyptus marginata	3	25	Upper	Trees
Hardenbergia comptoniana	3	2	Middle	Climber
Kennedia prostrata	0.1	0.01	Ground	Herbs
Macrozamia fraseri	1.6	1	Middle	Trees
Xanthorrhoea preissii	1.3	2	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R01	05/11/2025	Releve	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely degraded	Weeds (Euc plantation)	Old (>20)	MXP
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Slope	North	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Brown/grey	Sandy loam	N/A	0
Easting		**Northing**	
393635		6485238	

Species Name	Cover (%)	Stratum	Growth form
**Briza maxima*	10	Ground	Grasses
**Ehrharta calycina*	50	Ground	Grasses
**Eucalyptus camaldulensis*	20	Upper	Trees (<10m)
**Gladiolus caryophyllaceus*	0.5	Ground	Herbs
**Lupinus cosentinii*	40	Ground	Herbs
**Trifolium campestre*	1	Ground	Herbs
**Ursinia anthemoides*	1	Ground	Herbs

Species Name	Cover (%)	Stratum	Growth form
Corymbia calophylla	5	Trees	Trees (<10m)
Eucalyptus marginata	10	Trees	Trees (<10m)
Mesomelaena pseudostygia	0.1	Ground	Sedges

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R02	06/11/2025	Releve	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely degraded	Weeds and clearing	Old (>20)	MG
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Managed gardens and roadside treelines	Flat	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Sand	N/A	0
Easting		**Northing**	
392372		6482814	

Species name	Cover (%)	Stratum	Life form
**Eucalyptus camaldulensis*	20	Upper	Trees (10-30m)
Eucalyptus gomphocephala	5	Upper	Trees (>30m)
Eucalyptus rudis	10	Upper	Trees (10-30m)
Melaleuca preissiana	0.5	Ground	Trees (<10m)
Poaceae spp.	-	Ground	Grasses
Xanthorrhoea preissii	0.5	Ground	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R03	06/11/2025	Releve	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely degraded	Weeds	Old (>20)	Rehabilitation/regrowth
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Rehabilitation	Slope	South	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Brown/Grey	Fine Sand	N/A	0
Easting		**Northing**	
391686		6481975	

Species name	Cover (%)	Stratum	Life form
**Avena barbata*		Ground	Grasses
**Brassica tournefortii*		Ground	Herbs
**Ehrharta calycina*		Ground	Grasses
**Euphorbia terracina*		Ground	Herbs
**Oenothera drummondii*		Ground	Herbs
Acacia cyclops		Upper	Shrubs (>2m)
Acacia rostellifera		Upper	Shrubs (>2m)
Calothamnus quadrifidus		Middle	Shrubs (1-2m)

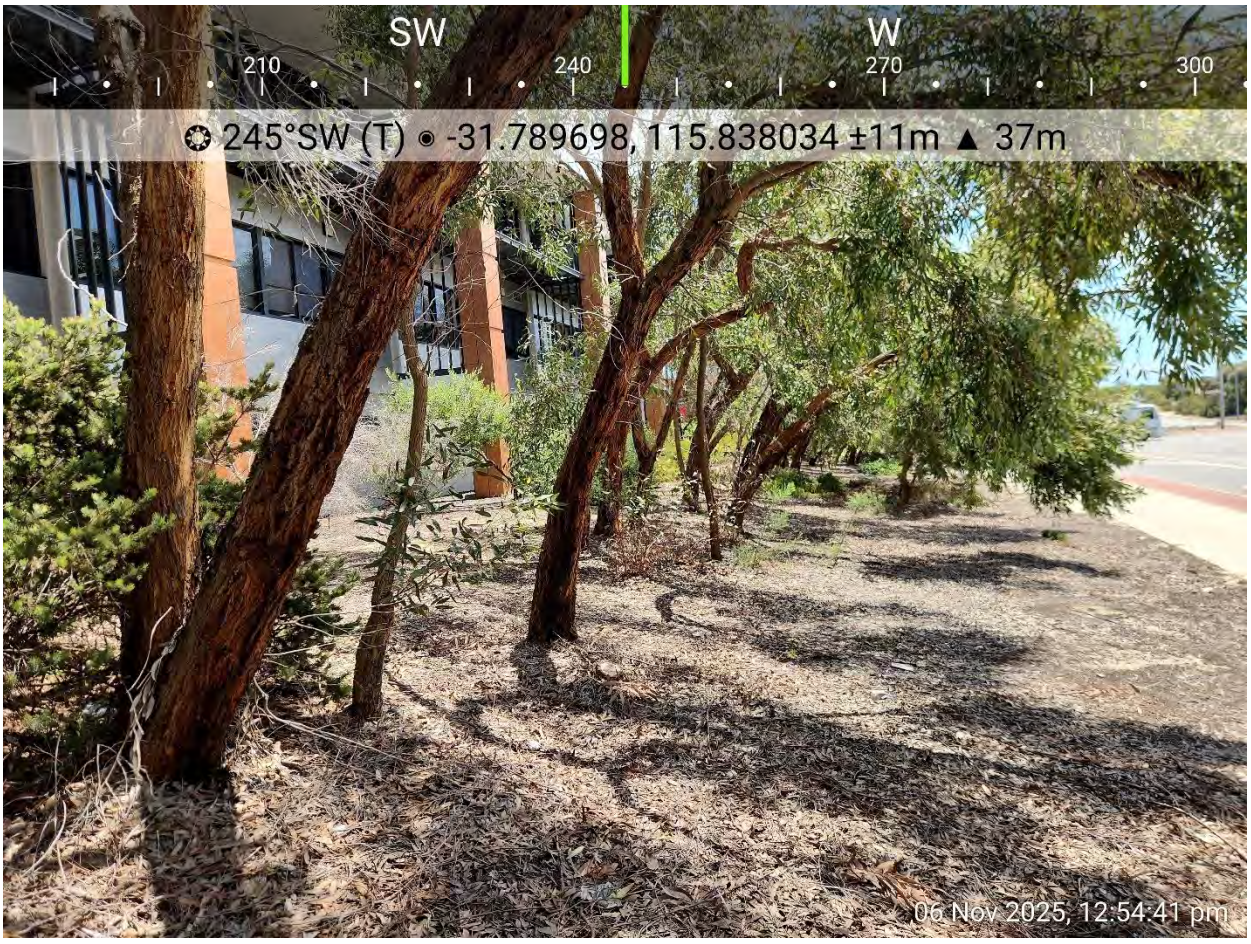
Species name	Cover (%)	Stratum	Life form
Eremophila glabra		Midde	Shrubs (1-2m)
Hakea trifurcata		Middle	Shrubs (1-2m)
Kunzea glabrescens		Middle	Shrubs (>2m)
Melaleuca systena		Middle	Shrubs (1-2m)
Nicotiana sp.		Middle	Shrubs (>2m)

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R04	06/11/2025	Releve	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely degraded	Weeds (weed matting)	Old (>20)	Rehabilitation/regrowth
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Rehabilitation	Slope	South	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Brown	Fine Sand	N/A	0
Easting		**Northing**	
391205		6482247	

Species name	Cover (%)	Stratum	Life form
**Chamelaucium uncinatum*		Middle	Shrubs (1-2m)
**Ehrharta calycina*		Ground	Grasses
**Gaudium laevigatum*		Middle	Shrubs (>2m)
**Lactuca serriola*		Ground	Herbs
**Ursinia anthemoides*		Ground	Herbs
Acacia rostellifera		Middle	Shrubs (>2m)
Adenanthos cygnorum		Middle	Shrubs (>2m)
Banksia attenuata		Upper	Trees (<10m)

Species name	Cover (%)	Stratum	Life form
Banksia menziesii		Upper	Trees (<10m)
Calothamnus quadrifidus		Middle	Shrubs (1-2m)
Eucalyptus marginata		Upper	Trees (<10m)
Hakea ruscifolia		Middle	Shrubs (1-2m)
Hakea trifurcata		Middle	Shrubs (>2m)

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R05	06/11/2025	Releve	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely degraded	Weeds	Moderate (10-20)	MG
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Managed gardens and roadside treelines	Slope	North	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Black, grey	Fine Sand	N/A	0
Easting		**Northing**	
389996		6482300	



Species name	Cover (%)	Stratum	Life form
**Bromus diandrus*		Ground	Grasses
**Ehrharta calycina*		Ground	Grasses
Adenanthos cygnorum		Middle	Shrubs (>2m)
Banksia attenuata		Upper	Trees (<10m)
Eremophila glabra		Ground	Shrubs (<1m)
Eucalyptus todtiana		Upper	Trees (<10m)
Grevillea olivacea		Middle	Shrubs (>2m)
Jacksonia furcellata		Middle	Shrubs (1-2m)

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R06	06/11/2025	Releve	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely degraded	Weeds	Old (>20)	MG
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Managed gardens and roadside treelines	Flat	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Black	Fine sandy loam	N/A	0
Easting		**Northing**	
390159		6482317	

Species name	Cover (%)	Stratum	Life form
Acacia rostellifera		Middle	Shrubs (>2m)
Grevillea olivacea		Middle	Shrubs (1-2m)

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R07	06/11/2025	Releve	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely degraded	Weeds	Old (>20)	MG
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Managed gardens and roadside treelines	Slope	North	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Fine sand	N/A	0
Easting		**Northing**	
389670		6482329	

Species name	Cover (%)	Stratum	Life form
**Acacia iteaphylla*		Middle	Shrubs (>2m)
**Avena barbata*		Ground	Grasses
**Ehrharta calycina*		Ground	Grasses
**Eucalyptus camaldulensis*		Upper	Trees (10-30m)
**Lavandula stoechas*		Middle	Shrubs (1-2m)
**Lolium rigidum*		Ground	Grasses
Eucalyptus gomphocephala		Upper	Trees (10-30m)
Grevillea preissii		Middle	Shrubs (>2m)

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R08	06/11/2025	Releve	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely degraded	Weeds	Old (>20)	Rehabilitation/regrowth
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Rehabilitation	Slope/flat	North	3
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Fine sand	N/A	0
Easting		**Northing**	
389464		6482387	

Species name	Cover (%)	Stratum	Life form
**Arctotheca calendula*		Ground	Herbs
**Avena barbata*		Ground	Grasses
**Brassica tournefortii*		Ground	Herbs
**Chamelaucium uncinatum*		Middle	Shrubs (1-2m)
**Ehrharta calycina*		Ground	Grasses
**Gaudium laevigatum*		Middle	Shrubs (1-2m)
**Hypochaeris glabra*		Ground	Herbs
Adenanthos cygnorum		Middle	Shrubs (>2m)

Species name	Cover (%)	Stratum	Life form
Banksia attenuata		Upper	Shrubs (>2m)
Banksia menziesii		Upper	Shrubs (>2m)
Calothamnus quadrifidus		Middle	Shrubs (1-2m)
Dianella revoluta		Ground	Sedges
Regelia ciliata		Middle	Shrubs (1-2m)

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R09	06/11/2025	Releve	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely degraded	Weeds	Old (>20)	Rehabilitation/regrowth
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Rehabilitation	Slope/flat	North	4
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Brown/Grey	Fine sand	N/A	0
Easting		**Northing**	
389240		6482463	

Species name	Cover (%)	Stratum	Life form
**Avena barbata*		Ground	Grasses
**Bromus diandrus*		Ground	Grasses
**Ehrharta calycina*		Ground	Grasses
**Silene gallica*		Ground	Herbs
**Sonchus oleraceus*		Ground	Herbs
Acacia saligna		Middle	Shrubs (1-2m)
Adenanthos cygnorum		Middle	Shrubs (>2m)
Banksia attenuata		Upper	Shrubs (>2m)

Species name	Cover (%)	Stratum	Life form
Calothamnus quadrifidus		Middle	Shrubs (1-2m)
Hakea prostrata		Middle	Shrubs (1-2m)
Jacksonia furcellata		Middle	Shrubs (>2m)

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R10	06/11/2025	Relevé	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely degraded	Weeds	Old (>20)	MG
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Managed gardens and roadside treelines	Slope	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Fine sand	N/A	0
Easting		**Northing**	
387350		6482889	

Species name	Cover (%)	Stratum	Life form
**Avena barbata*		Ground	Grasses
**Cynodon dactylon*		Ground	Grasses
**Eucalyptus camaldulensis*		Upper	Trees (<10m)
**Lactuca serriola*		Ground	Herbs
**Lupinus cosentinii*		Ground	Herbs
**Misopates orontium*		Ground	Herbs
Acacia lasiocarpa		Middle	Shrubs (<1m)

Species name	Cover (%)	Stratum	Life form
Acacia rostellifera		Upper	Shrubs (>2m)
Acacia saligna		Middle	Shrubs (1-2m)
Agonis flexuosa		Middle	Shrubs (1-2m)
Eremophila glabra		Middle	Shrubs (<1m)
Grevillea preissii		Middle	Shrubs (<1m)

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R11	06/11/2025	Releve	JC/ME
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely degraded	Weeds	Old (>20)	Rehabilitation/regrowth
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Rehabilitation	Slope	South	30
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey	Fine sand	N/A	0
Easting		**Northing**	
3908911		6482340	

Species name	Cover (%)	Stratum	Life form
**Avena barbata*	0.1	Ground	Grasses
**Briza maxima*	0.1	Ground	Grasses
**Chamelaucium uncinatum*	10	Middle	Shrubs (1-2m)
**Ehrharta calycina*	0.1	Ground	Grasses
Acacia saligna	0.5	Middle	Shrubs (1-2m)
Adenanthos cygnorum	2	Middle	Shrubs (1-2m)
Anigozanthos manglesii	0.1	Ground	Herbs
Banksia attenuata	2	Upper	Shrubs (>2m)

Species name	Cover (%)	Stratum	Life form
Banksia menziesii	0.5	Upper	Shrubs (>2m)
Conospermum stoechadis	0.2	Middle	Shrubs (1-2m)
Eucalyptus todtiana	0.5	Upper	Trees (<10m)
Gompholobium tomentosum	0.1	Ground	Shrubs (<1m)
Hakea prostrata	5	Middle	Shrubs (>2m)
Hibbertia hypericoides	0.1	Middle	Shrubs (<1m)
Jacksonia sternbergiana	1	Middle	Shrubs (>2m)
Laxmannia squarrosa	0.1	Ground	Herbs
Lyginia imberbis	0.1	Ground	Sedges
Mesomelaena pseudostygia	0.1	Ground	Sedges
Stirlingia latifolia	0.1	Ground	Shrubs (<1m)

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R12	04/11/2025	Releve	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Degraded	Weeds, tracks and clearing	Old (>20)	EmBaBm
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Banksia woodland with emergent trees	Slope	North	
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Pale Grey	Sand	Limestone	0
Easting		**Northing**	
393208		6486737	

Species name	Cover (%)	Stratum	Life form
**Aira cupaniana*	2	Ground	Grasses
**Briza maxima*	4	Ground	Grasses
**Ehrharta calycina*	4	Ground	Grasses
**Gladiolus caryophyllaceus*	0.01	Ground	Herbs
**Pelargonium capitatum*	1	Ground	Herbs
**Ursinia anthemoides*	3	Ground	Herbs
**Wahlenbergia capensis*	0.01	Ground	Herbs

Species name	Cover (%)	Stratum	Life form
Acacia pulchella	0.01	Middle	Shrubs
Adenanthos cygnorum	40	Middle	Shrubs
Anigozanthos manglesii	0.01	Ground	Herbs
Banksia attenuata	2	Upper	Trees
Banksia menziesii	5	Upper	Trees
Conostylis aurea	1	Ground	Herbs
Dampiera linearis	0.01	Ground	Shrubs
Dianella revoluta	0.5	Ground	Herbs
Eremaea pauciflora	0.01	Ground	Shrubs
Haemodorum spicatum	0.01	Ground	Herbs
Hovea trisperma	0.5	Ground	Shrubs
Laxmannia squarrosa	0.01	Ground	Herbs
Lechenaultia floribunda	0.01	Ground	Shrubs
Levenhookia stipitata	0.01	Ground	Herbs
Lyginia barbata	0.01	Ground	Sedges
Petrophile linearis	0.01	Ground	Shrubs
Scholtzia involucrata	1	Ground	Shrubs
Styphelia sp.	0.01	Ground	Shrubs
Styphelia xerophylla	1	Ground	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R13	07/11/2025	Releve	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely Degraded	Weeds, tracks and clearing (planted tree lines)	Young (1-10)	MXP
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Slope	South	
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sandy loam	Limestone	0
	Easting	**Northing**	
	391036	6489756	

Species name	Cover (%)	Stratum	Life form
**Aira cupaniana*	2	Ground	Grasses
**Avena barbata*	5	Ground	Grasses
**Brachypodium distachyon*	1	Ground	Grasses
**Carpobrotus edulis*	0.01	Ground	Herbs
**Ehrharta calycina*	25	Ground	Grasses
**Euphorbia terracina*	0.01	Ground	Herbs
**Gladiolus caryophyllaceus*	0.01	Ground	Herbs

Species name	Cover (%)	Stratum	Life form
**Hypochaeris glabra*	0.01	Ground	Herbs
**Ornithopus compressus*	5	Ground	Herbs
**Pelargonium capitatum*	0.01	Ground	Herbs
**Trifolium arvense*	0.01	Ground	Herbs
**Wahlenbergia capensis*	0.01	Ground	Herbs
Acacia pulchella var. glaberrima	0.5	Ground	Shrubs
Acacia saligna	0.01	Ground	Trees
Adenanthos cygnorum	0.01	Middle	Shrubs (>2m)
Conostylis aurea	0.01	Ground	Herbs
Corymbia calophylla	12	Upper	Trees
Eucalyptus gomphocephala	2	Upper	Trees (>30m)
Eucalyptus rudis	5	Upper	Trees
Gompholobium tomentosum	0.2	Ground	Shrubs
Jacksonia furcellata	0.01	Middle	Shrubs
Lomandra micrantha subsp. *micrantha*	0.01	Ground	Herbs
Macrozamia fraseri	2	Middle	Trees
Xanthorrhoea preissii	2	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R14	07/11/2025	Releve	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Degraded	Weeds, tracks and clearing (highly modified, soil dumped here)	Old (>20)	EPP_Ec
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Flat		
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Dark brown	Loam	Limestone	0
	Easting	**Northing**	
	391135	6491154	

Species name	Cover (%)	Stratum	Life form
**Bambusa vulgaris*	2	Ground	Herbs
**Bromus diandrus*	0.01	Ground	Grasses
**Cynodon dactylon*	1	Ground	Grasses
**Ehrharta calycina*	15	Ground	Grasses
**Eragrostis curvula*	20	Ground	Grasses
**Eucalyptus camaldulensis*	25	Upper	Trees (<10m)
**Fumaria capreolata*	5	Ground	Herbs

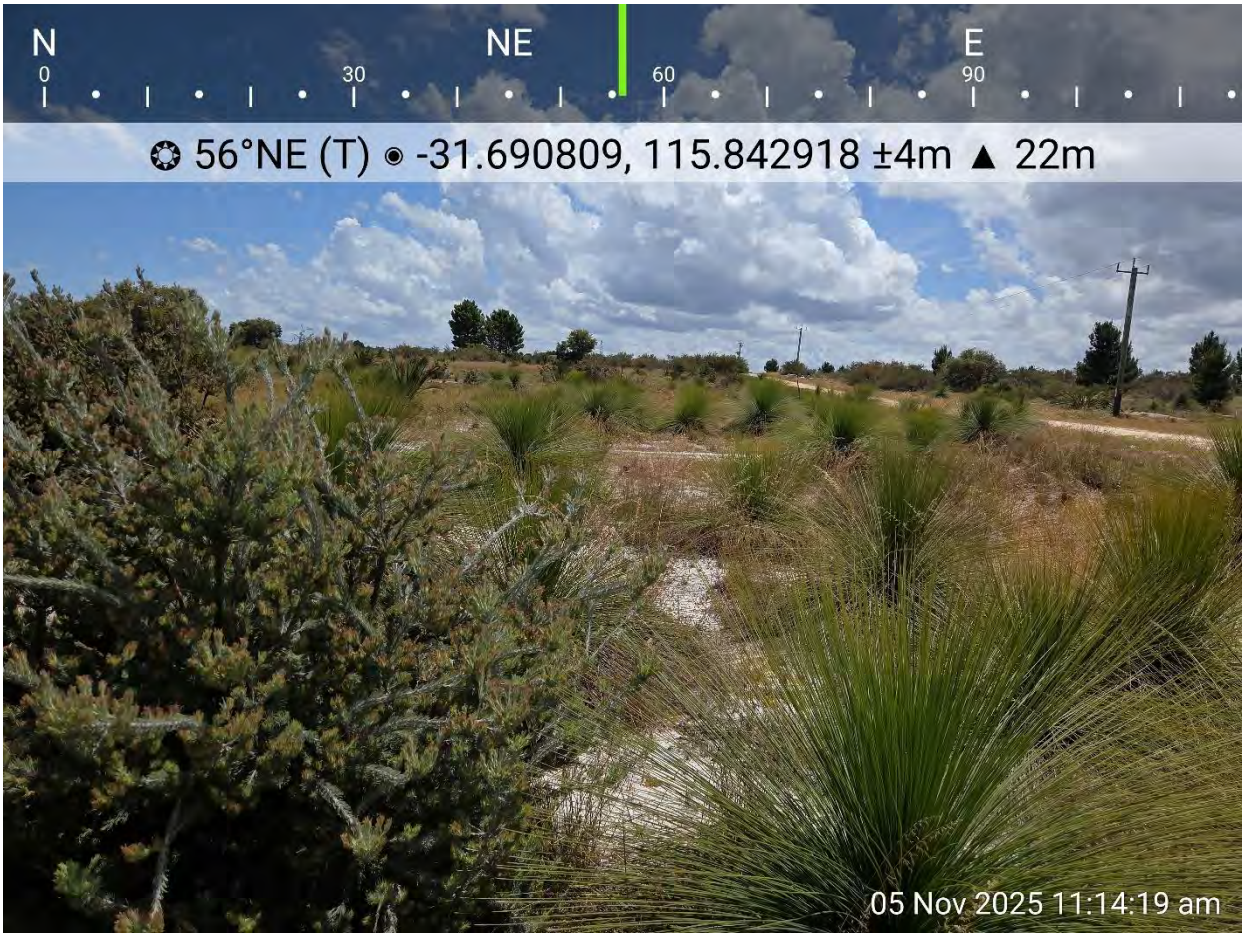
Species name	Cover (%)	Stratum	Life form
**Lysimachia arvensis*	0.01	Ground	Herbs
**Ornithopus compressus*	0.01	Ground	Herbs
**Osteospermum ecklonis*	0.01	Ground	Herbs
**Pinus pinaster*	1	Upper	Trees
**Urospermum picroides*	0.01	Ground	Herbs
Acacia saligna	8	Ground	Trees
Adenanthos cygnorum	5	Middle	Shrubs (>2m)
Jacksonia furcellata	3	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R15	05/11/2025	Releve	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Degraded	Weeds, tracks and clearing (ex-pine plantation, overhead powerlines)	Old (>20)	EPP_PpEmNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Flat	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/Brown	Sandy loam	Limestone	0
	Easting	**Northing**	
	390367	6493070	

Species name	Cover (%)	Stratum	Life form
**Aira cupaniana*	0.01	Ground	Grasses
**Avena barbata*	0.01	Ground	Grasses
**Briza maxima*	0.01	Ground	Grasses
**Bromus diandrus*	0.01	Ground	Grasses
**Bromus rubens*	0.01	Ground	Grasses
**Carpobrotus edulis*	0.01	Ground	Herbs
**Crassula glomerata*	0.5	Ground	Herbs

Species name	Cover (%)	Stratum	Life form
**Ehrharta calycina*	3	Ground	Grasses
**Euphorbia terracina*	0.01	Ground	Herbs
**Leontodon rhagadioloides*	0.01	Ground	Herbs
**Lysimachia arvensis*	0.01	Ground	Herbs
**Pelargonium capitatum*	0.01	Ground	Herbs
**Pinus pinaster*	1	Upper	Trees
**Wahlenbergia capensis*	0.01	Ground	Herbs
Adenanthos cygnorum	25	Middle	Shrubs
Bossiaea eriocarpa	1	Ground	Shrubs
Dasypogon bromeliifolius	0.01	Ground	Herbs
Daviesia divaricata subsp. *divaricata*	2	Ground	Shrubs
Desmocladus flexuosus	5	Ground	Sedges
Eremaea pauciflora	5	Ground	Shrubs
Hibbertia subvaginata	0.01	Ground	Shrubs
Lechenaultia floribunda	1	Ground	Shrubs
Lomandra micrantha subsp. *micrantha*	0.01	Ground	Herbs
Nuytsia floribunda	1	Upper	Trees
Patersonia occidentalis	1	Ground	Herbs
Petrophile linearis	0.5	Middle	Shrubs
Scholtzia involucrata	3	Ground	Shrubs
Stylidium repens	0.01	Ground	Herbs
Tricoryne elatior	0.01	Ground	Herbs
Xanthorrhoea preissii	15	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R16	04/11/2025	Releve	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Degraded	Weeds, tracks and clearing	Old (>20)	EPP_PpEmNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Flat	N/A	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/Brown	Sand	Limestone	0
Easting		**Northing**	
390336		6493257	



Species name	Cover (%)	Stratum	Life form
**Aira cupaniana*	1	Ground	Grasses
**Avena barbata*	2	Ground	Grasses
**Brachypodium distachyon*	3	Ground	Grasses
**Briza maxima*	0.01	Ground	Grasses
**Bromus diandrus*	0.01	Ground	Grasses
**Bromus rubens*	5	Ground	Grasses
**Carpobrotus edulis*	8	Ground	Herbs

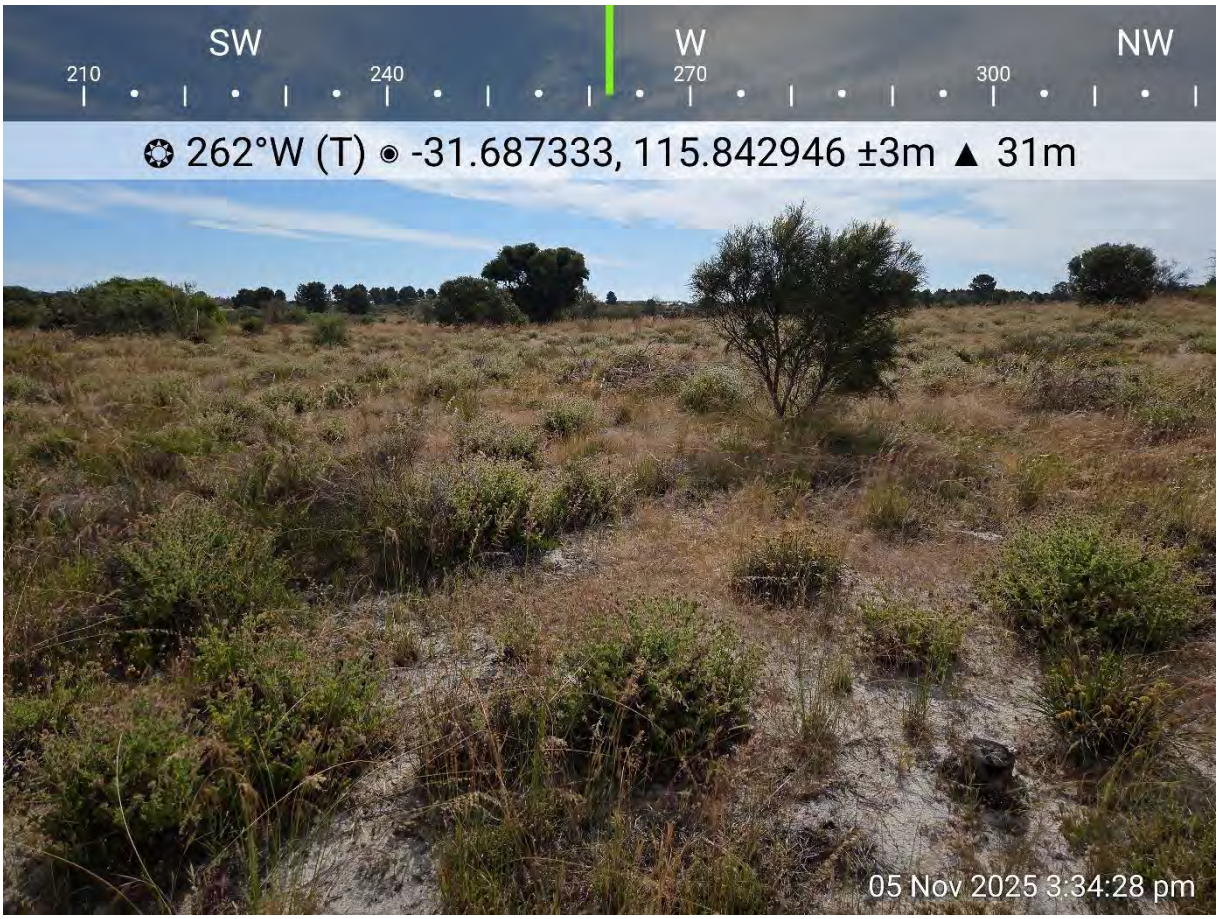
Species name	Cover (%)	Stratum	Life form
**Centaurium pulchellum*	0.01	Ground	Herbs
**Crassula colorata*	0.01	Ground	Herbs
**Crassula glomerata*	0.01	Ground	Herbs
**Ehrharta calycina*	10	Ground	Grasses
**Euphorbia terracina*	0.01	Ground	Herbs
**Ficinia marginata*	0.01	Ground	Sedges
**Leontodon rhagadioloides*	0.01	Ground	Herbs
**Pelargonium capitatum*	3	Ground	Herbs
**Wahlenbergia capensis*	0.01	Ground	Herbs
**Wahlenbergia preissii*	0.01	Ground	Herbs
Adenanthos cygnorum	6	Middle	Shrubs
Austrostipa compressa	2	Ground	Grasses
Eucalyptus todtiana	0.01	Upper	Trees
Haemodorum spicatum	0.01	Ground	Herbs
Lyginia barbata	0.01	Ground	Sedges
Macrozamia fraseri	0.01	Middle	Trees
Nuytsia floribunda	2	Upper	Trees
Patersonia occidentalis	0.5	Ground	Herbs
Petrophile linearis	0.01	Ground	Shrubs
Scholtzia involucrata	1	Ground	Shrubs
Stirlingia latifolia	1	Ground	Shrubs
Xanthorrhoea preissii	15	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R17	05/11/2025	Releve	DB/JH
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Degraded	Weeds, tracks and clearing	Old (>20)	EPP_PpEmNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Crest/hill	Southeast	N/A
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/Brown	Sand	Limestone	0
Easting		**Northing**	
390408		6493437	

Species name	Cover (%)	Stratum	Life form
**Avena barbata*	5	Ground	Grasses
**Briza maxima*	0.01	Ground	Grasses
**Bromus diandrus*	3	Ground	Grasses
**Bromus rubens*	4	Ground	Grasses
**Carpobrotus edulis*	1	Ground	Herbs
**Ehrharta calycina*	8	Ground	Grasses
**Euphorbia terracina*	0.01	Ground	Herbs

Species name	Cover (%)	Stratum	Life form
**Fumaria capreolata*	0.01	Ground	Herbs
**Lysimachia arvensis*	0.01	Ground	Herbs
**Pelargonium capitatum*	20	Ground	Herbs
**Pinus pinaster*	2	Upper	Trees
**Wahlenbergia capensis*	0.01	Ground	Herbs
Acacia rostellifera	0.01	Middle	Shrubs
Acacia sessilis	0.01	Middle	Shrubs
Adenanthos cygnorum	5	Middle	Shrubs
Conostylis aculeata subsp. *aculeata*	0.5	Ground	Herbs
Daviesia divaricata subsp. *divaricata*	20	Ground	Shrubs
Hibbertia hypericoides	0.01	Ground	Shrubs
Kennedia prostrata	0.5	Ground	Herbs
Macrozamia fraseri	0.01	Middle	Trees
Nuytsia floribunda	0.01	Upper	Trees
Rhagodia preissii subsp. *obovata*	0.01	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R18	05/11/2025	Releve	DB
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely Degraded	Weeds, tracks and clearing (ex-pine plantation)	Old (>20)	EPP_PpEmNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Slope	S	
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sandy loam	Ironstone	0
	Easting	**Northing**	
	390341	6493642	



Species name	Cover (%)	Stratum	Life form
**Aira cupaniana*	4	Ground	Grasses
**Brassica tournefortii*	0.01	Ground	Herbs
**Briza maxima*	1	Ground	Grasses
**Carpobrotus edulis*	10	Ground	Herbs
**Ehrharta calycina*	5	Ground	Grasses
**Euphorbia terracina*	0.01	Ground	Herbs
**Ficinia marginata*	1	Ground	Sedges

Species name	Cover (%)	Stratum	Life form
**Leontodon rhagadioloides*	0.01	Ground	Herbs
**Pelargonium capitatum*	20	Ground	Herbs
**Trifolium campestre*	0.01	Ground	Herbs
**Trifolium sp.*	0.01	Ground	Herbs
**Vulpia myuros*	8	Ground	Grasses
**Wahlenbergia capensis*	0.1	Ground	Herbs
**Wahlenbergia preissii*	0.01	Ground	Herbs
Acacia sessilis	0.01	Middle	Shrubs
Banksia ilicifolia	0.01	Upper	Trees
Conostylis aculeata subsp. aculeata	1	Ground	Herbs
Exocarpos sparteus	0.5	Ground	Shrubs
Haemodorum spicatum	0.01	Middle	Herbs
Lyginia barbata	2	Ground	Herbs
Macarthuria australis	0.01	Ground	Shrubs
Macrozamia fraseri	0.01	Middle	Trees
Nuytsia floribunda	0.01	Upper	Trees
Petrophile linearis	0.01	Middle	Shrubs
Scaevola repens	0.5	Ground	Shrubs
Stirlingia latifolia	0.01	Ground	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R19	05/11/2025	Releve	DB
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Degraded	Weeds, tracks and clearing (ex-pine plantation)	Old (>20)	EPP_PpEmNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Slope	SE	
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/Brown	Sandy loam	Limestone	0
	Easting	**Northing**	
	390407	6493755	

Species name	Cover (%)	Stratum	Life form
**Aira cupaniana*	0.01	Ground	Grasses
**Avena barbata*	2	Ground	Grasses
**Briza maxima*	1	Ground	Grasses
**Bromus diandrus*	2	Ground	Grasses
**Carpobrotus edulis*	5	Ground	Herbs
**Ehrharta calycina*	2	Ground	Grasses
**Gladiolus caryophyllaceus*	0.01	Ground	Herbs

Species name	Cover (%)	Stratum	Life form
**Ornithopus compressus*	0.01	Ground	Herbs
**Pelargonium capitatum*	20	Ground	Herbs
**Pinus pinaster*	4	Upper	Trees
**Ursinia anthemoides*	1	Ground	Herbs
**Vulpia myuros*	2	Ground	Grasses
**Wahlenbergia capensis*	0.01	Ground	Herbs
Acacia sessilis	0.01	Middle	Shrubs
Adenanthos cygnorum	1	Middle	Shrubs
Ammothryon grandiflorum	0.5	Ground	Sedges
Conospermum stoechadis	0.01	Middle	Shrubs
Conostylis aculeata subsp. aculeata	2	Ground	Herbs
Corynotheca micrantha	7	Ground	Herbs
Daviesia divaricata subsp. divaricata	15	Ground	Shrubs
Desmocladus flexuosus	0.01	Ground	Sedges
Jacksonia floribunda	0.01	Middle	Shrubs
Macarthuria australis	0.1	Ground	Shrubs
Scaevola repens	0.5	Ground	Shrubs
Xanthorrhoea preissii	1	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R20	05/11/2025	Releve	DB
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Degraded	Weeds, tracks and clearing (ex-pine plantation)	Old (>20)	EPP_PpEmNf
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Flat		
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Brown	Sandy loam	Limestone	0
	Easting	**Northing**	
	390334	6494059	

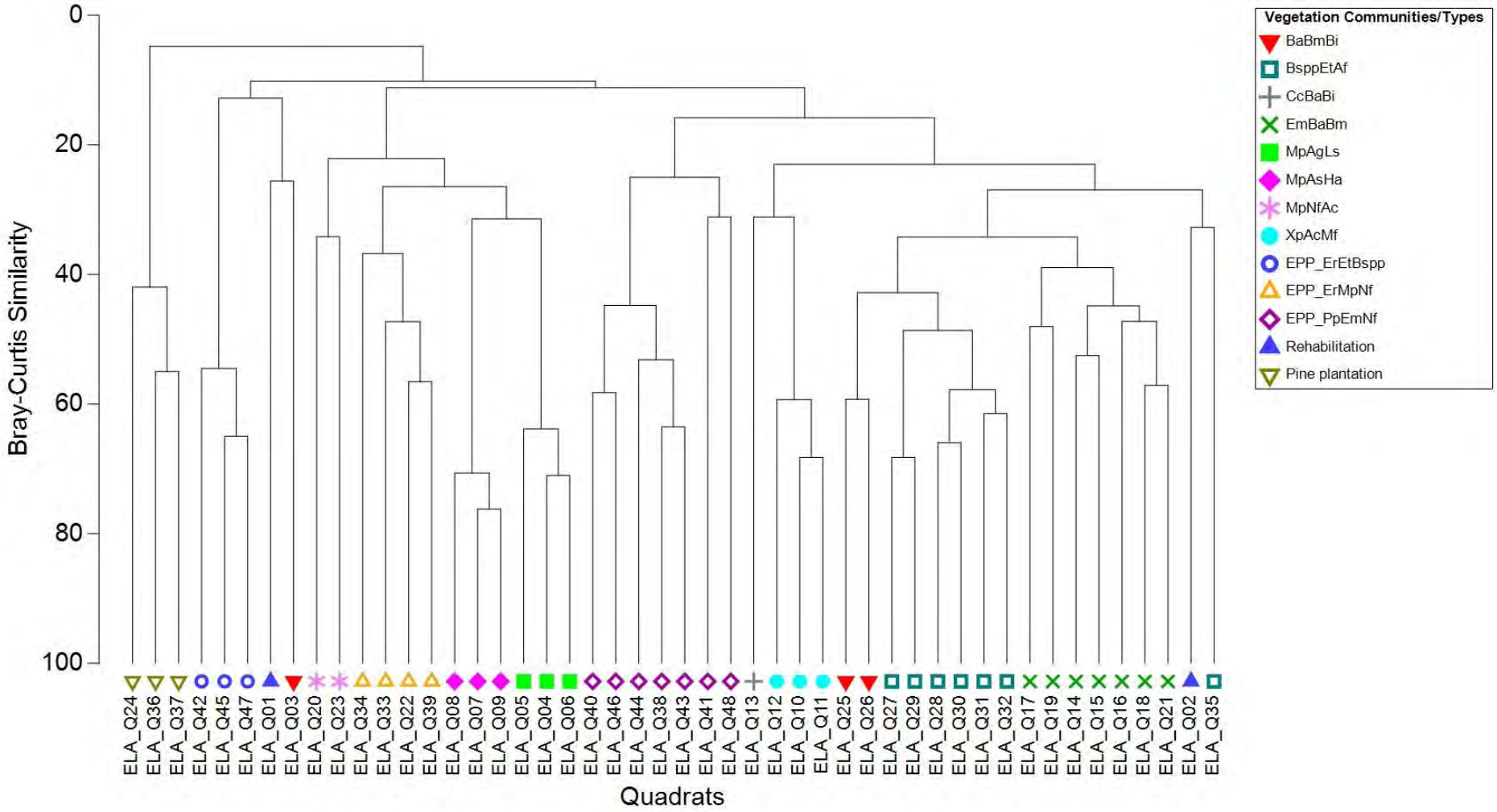
Species name	Cover (%)	Stratum	Life form
**Aira cupaniana*	0.01	Ground	Grasses
**Avena barbata*	5	Ground	Grasses
**Briza maxima*	1	Ground	Grasses
**Bromus diandrus*	0.01	Ground	Grasses
**Bromus rubens*	2	Ground	Grasses
**Carpobrotus edulis*	4	Ground	Herbs
**Crassula glomerata*	0.01	Ground	Herbs

Species name	Cover (%)	Stratum	Life form
**Ehrharta calycina*	0.5	Ground	Grasses
**Gladiolus caryophyllaceus*	0.01	Ground	Herbs
**Lagurus ovatus*	0.01	Ground	Herbs
**Leontodon rhagadioloides*	0.2	Ground	Herbs
**Pinus pinaster*	3	Upper	Trees
**Trifolium campestre*	0.01	Ground	Herbs
**Wahlenbergia capensis*	0.1	Ground	Herbs
Acacia huegelii	0.01	Ground	Shrubs
Adenanthos cygnorum	40	Middle	Shrubs
Austrostipa compressa	0.1	Ground	Grasses
Banksia attenuata	0.01	Upper	Trees
Daviesia divaricata subsp. divaricata	0.5	Ground	Shrubs
Desmocladus flexuosus	1	Ground	Sedges
Eremaea pauciflora	0.01	Ground	Shrubs
Eucalyptus todtiana	0.01	Upper	Trees
Gompholobium tomentosum	0.01	Ground	Shrubs
Haemodorum spicatum	0.01	Middle	Herbs
Jacksonia floribunda	0.01	Middle	Shrubs
Lechenaultia floribunda	5	Ground	Shrubs
Lomandra micrantha subsp. micrantha	0.01	Ground	Herbs
Lyginia barbata	1	Ground	Herbs
Nuytsia floribunda	3	Upper	Trees
Petrophile linearis	0.25	Middle	Shrubs
Scholtzia involucrata	3	Ground	Shrubs
Stirlingia latifolia	0.01	Ground	Shrubs
Styphelia conostephioides	0.01	Ground	Shrubs
Xanthorrhoea preissii	6	Middle	Shrubs

Site Name	Date	Quadrat Dimensions (m)	Observers
ELA_R21	05/11/2025	Releve	DB
Vegetation condition	**Disturbance notes**	**Age since fire (Years)**	**Vegetation community**
Completely Degraded		Old (>20)	MXP
Fauna habitat	**Landform unit**	**Aspect**	**Slope (%)**
Mixed open woodlands and shrublands	Slope	East	
Soil colour	**Soil type**	**Rock type**	**Outcropping (%)**
Grey/brown	Sandy loam		0
Easting		**Northing**	
393160		6486220	

Species name	Cover (%)	Stratum	Life form
**Carpobrotus edulis*	0.2	Ground	Herbs
**Ehrharta calycina*	1	Ground	Grasses
**Pelargonium capitatum*	0.5	Ground	Herbs
**Wahlenbergia capensis*	0.3	Ground	Herbs
Adenanthos cygnorum	2	Middle	Shrubs
Eucalyptus rudis	6	Upper	Trees
Haemodorum spicatum	1	Middle	Herbs
Jacksonia floribunda	2	Middle	Shrubs
Patersonia occidentalis	0.4	Ground	Herbs

Appendix M Hierarchical clustering dendrogram


Bray-Curtis Similarity
0
20
40
60
80
100
ELA_Q24
ELA_Q36
ELA_Q37
ELA_Q42
ELA_Q45
ELA_Q47
ELA_Q01
ELA_Q03
ELA_Q20
ELA_Q23
ELA_Q34
ELA_Q33
ELA_Q22
ELA_Q39
ELA_Q08
ELA_Q07
ELA_Q09
ELA_Q05
ELA_Q04
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ELA_Q40
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ELA_Q44
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ELA_Q12
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ELA_Q11
ELA_Q25
ELA_Q26
ELA_Q27
ELA_Q29
ELA_Q28
ELA_Q30
ELA_Q31
ELA_Q32
ELA_Q17
ELA_Q19
ELA_Q14
ELA_Q15
ELA_Q16
ELA_Q18
ELA_Q21
ELA_Q02
ELA_Q35
Quadrats
Vegetation Communities/Types
BaBmBi
BsppEtAf
CcBaBi
EmBaBm
MpAgLs
MpAsHa
MpNfAc
XpAcMf
EPP_ErEtBspp
EPP_ErMpNf
EPP_PpEmNf
Rehabilitation
Pine plantation

Appendix N Vegetation Communities Maps

Vegetation communities recorded within the survey area (Part 1 of 6)

Survey Area

Vegetation Communities

- Cleared
- EPP_CLPp
- EPP_ErEtBspp
- EPP_ErMpNf
- EPP_PpEmNf
- EmBaBm
- MG
- PP

0 125 250 500
Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 3/03/2026

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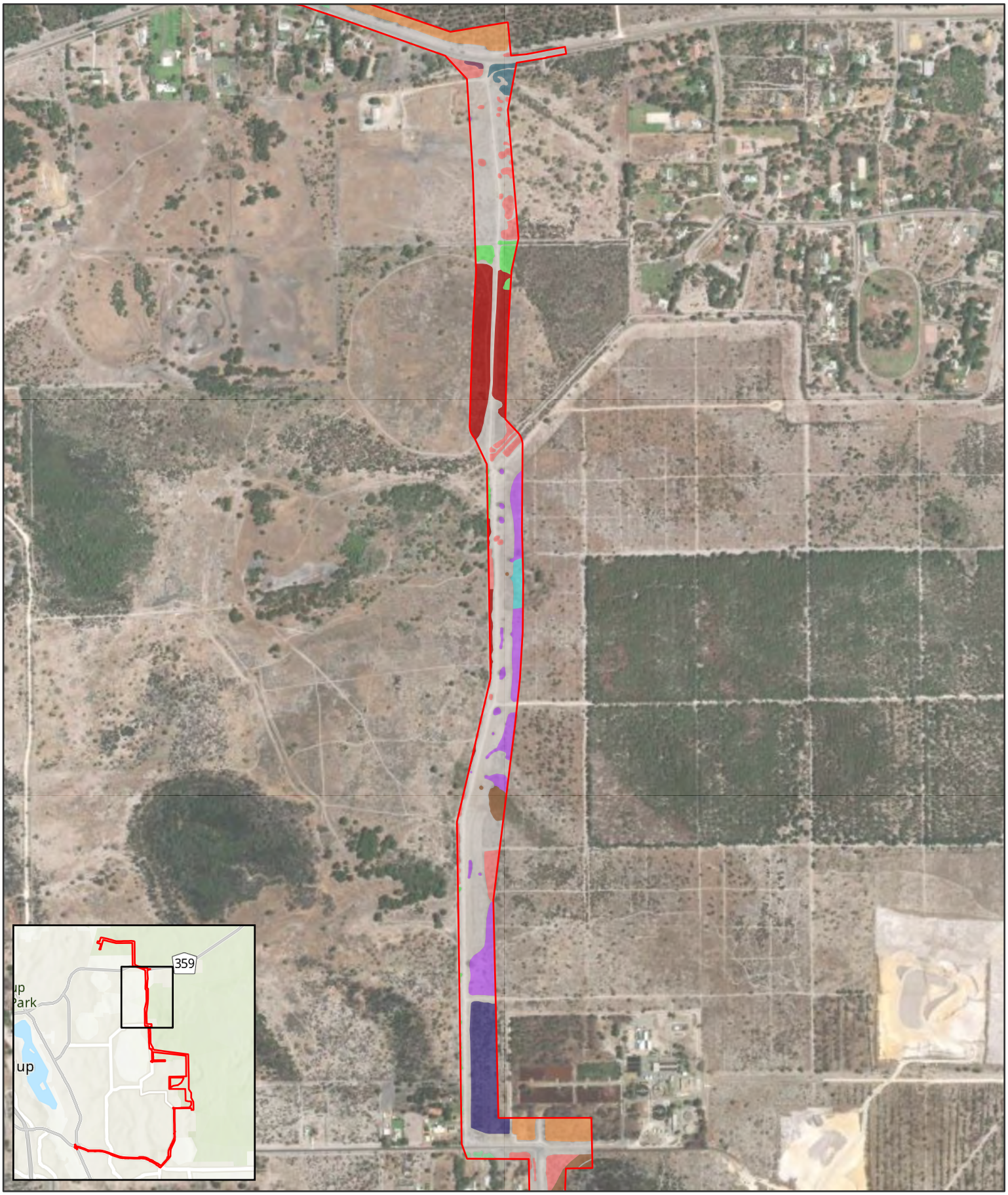

Vegetation communities recorded within the survey area (Part 2 of 6)

Survey Area

Vegetation Communities

- BsppEtAf
- CLXp
- Cleared
- EPP_CLPp
- EPP_Ec
- EPP_ErEtBspp
- EPP_ErMpNf
- EPP_PpEmNf
- EmBaBm
- MG
- MXP
- PP

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 3/03/2026

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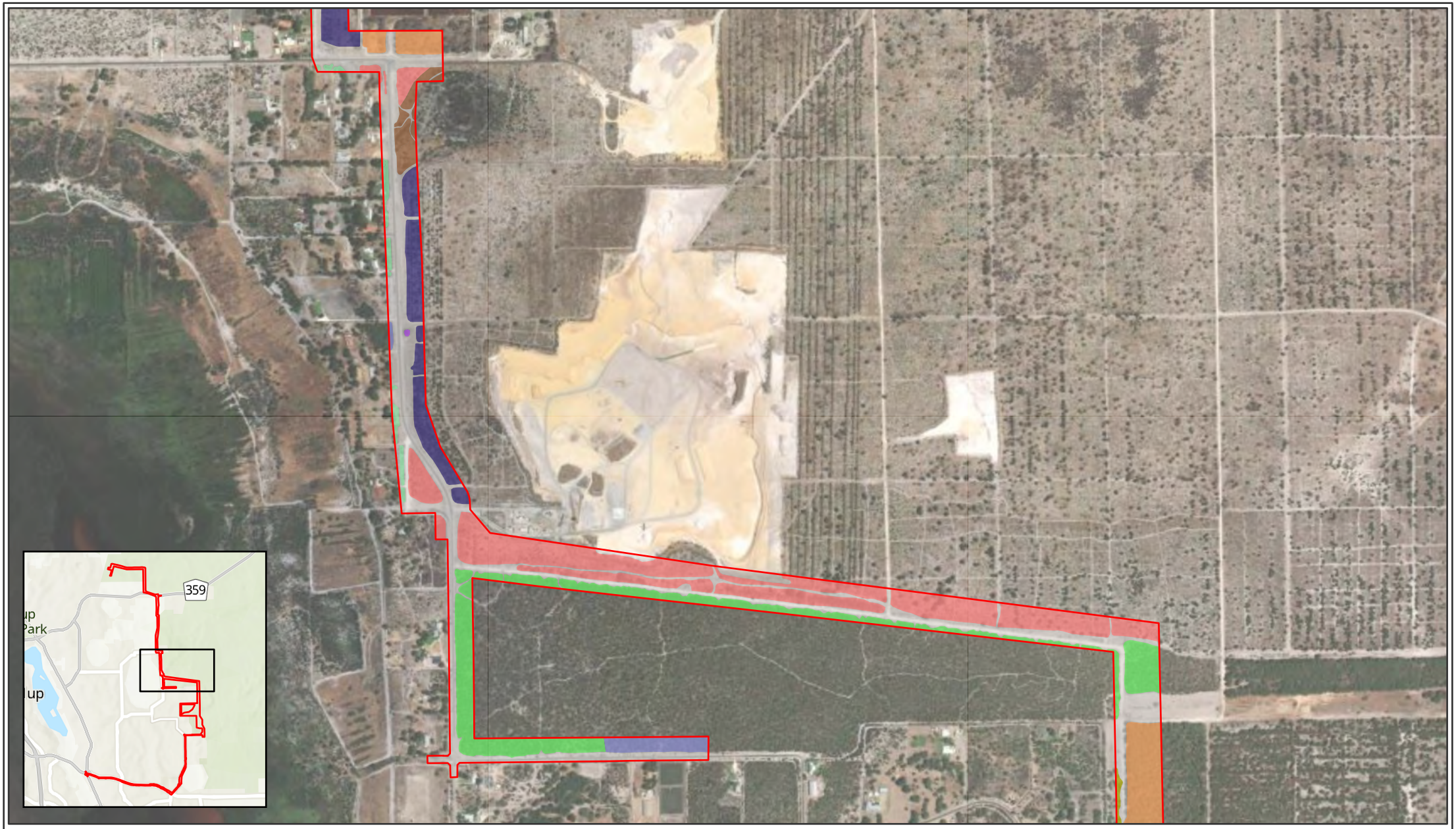
I:\Perth\25PER\25PER10273 WP CELP Eco Survey 2025\Mxds\25PER10273_WP_CEL_Ecological_Assessment\25PER10273_WP_CEL_Ecological_Assessment.aprx



Vegetation communities recorded within the survey area (Part 3 of 6)

Survey Area

Vegetation Communities

- BaBmBi
- BsppEtAf
- Cleared
- EPP_CLPp
- EPP_ErMpNf
- EPP_PpEmNf
- MG
- MXP
- MpNfAc
- PP

0 125 250 500
Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 3/03/2026

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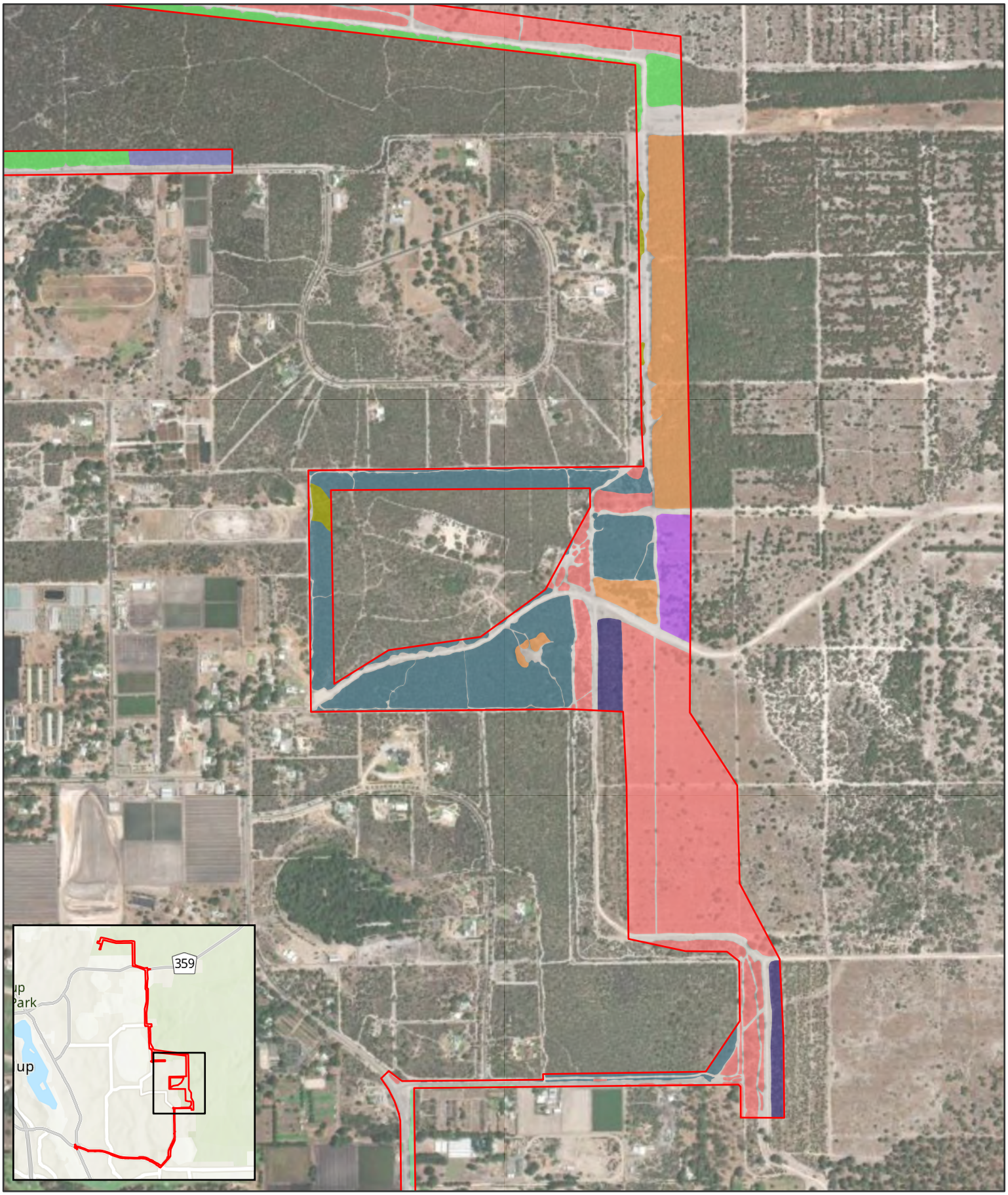

Vegetation communities recorded within the survey area (Part 4 of 6)

Survey Area

Vegetation Communities

- BaBmBi
- BsppEtAf
- Cleared
- EPP_CLPp
- EPP_ErMpNf
- EPP_PpEmNf
- EmBaBm
- MG
- MXP
- MpNfAc
- PP

0 125 250 500
Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 3/03/2026

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Vegetation communities recorded within the survey area (Part 5 of 6)

Survey Area

Vegetation Communities

- BaBmBi
- BsppEtAf
- CcBaBi
- Cleared
- EPP_PpEmNf
- EmBaBm
- MG
- MpAgLs
- MpAsHa
- Rehab
- XpAcMf

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 3/03/2026

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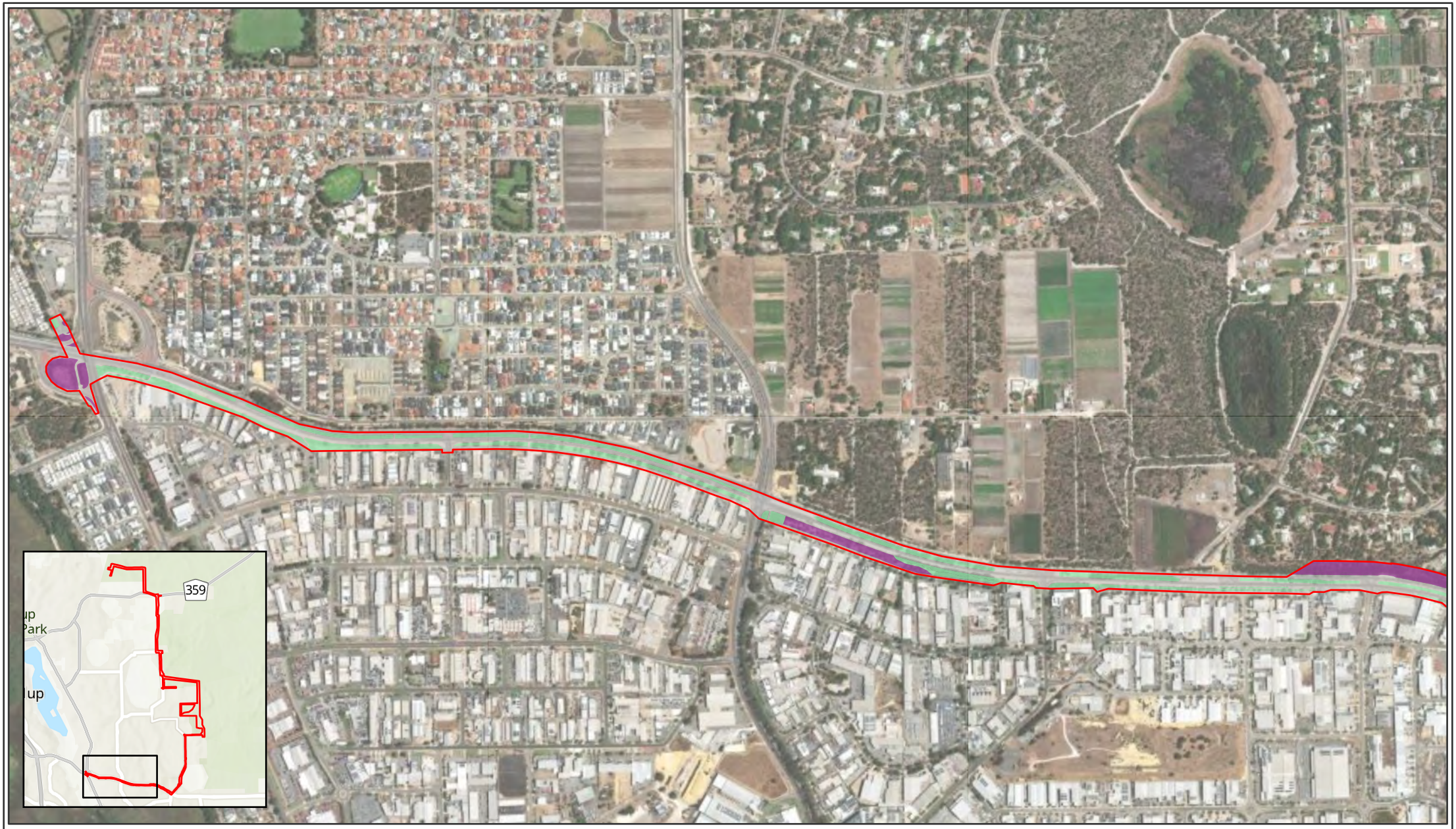

Vegetation communities recorded within the survey area (Part 6 of 6)

Survey Area

Vegetation Communities

- Cleared
- MG
- Rehab

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 3/03/2026

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Appendix O Vegetation Condition Maps

Vegetation condition recorded within the survey area (Part 1 of 6)

Survey Area

Cleared

Vegetation condition

Good

Degraded

Completely Degraded

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 10/04/2026

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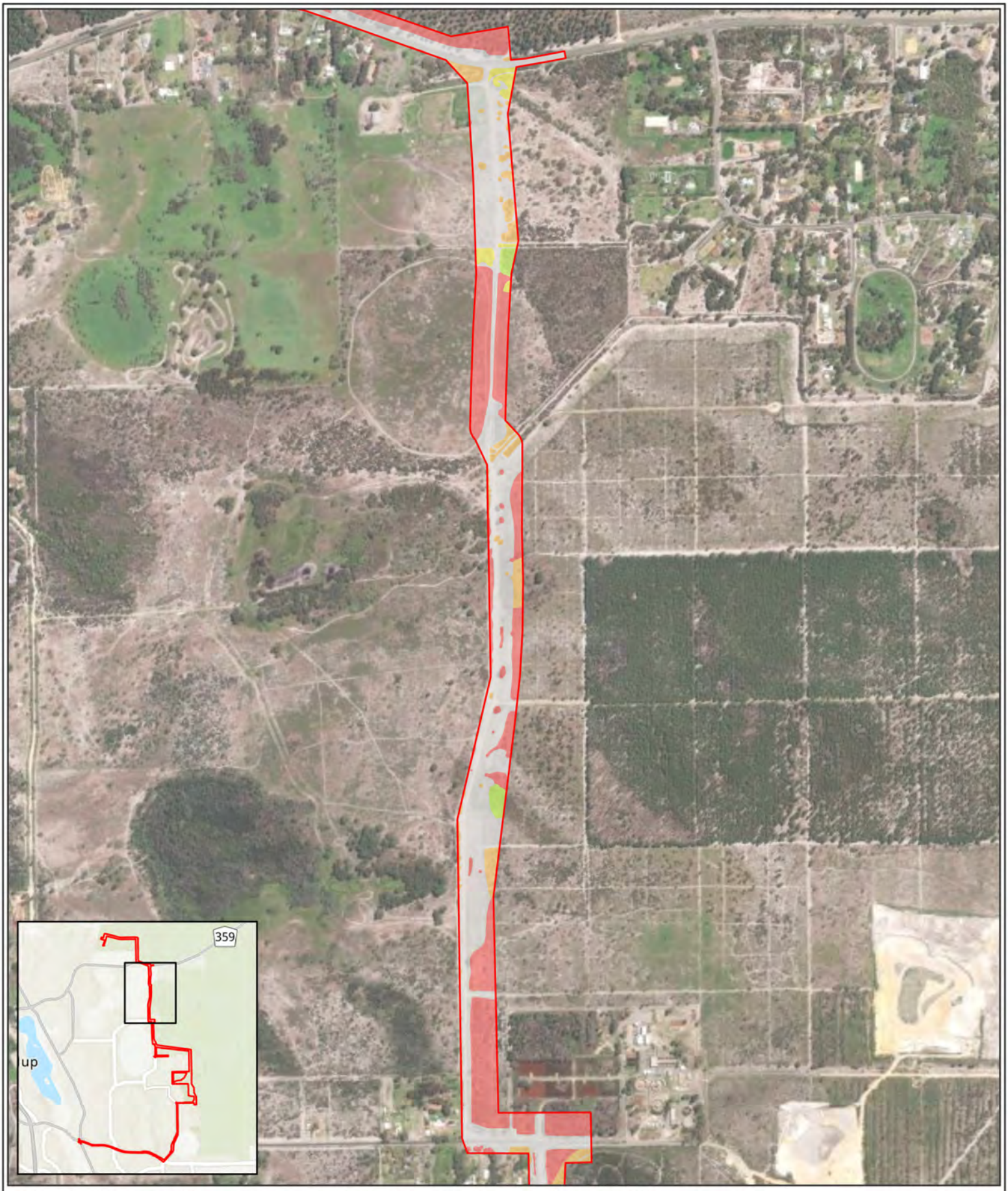

Vegetation condition recorded within the survey area (Part 2 of 6)

Survey Area

Cleared

Vegetation condition

Very Good

Good

Degraded

Completely Degraded

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 10/04/2026

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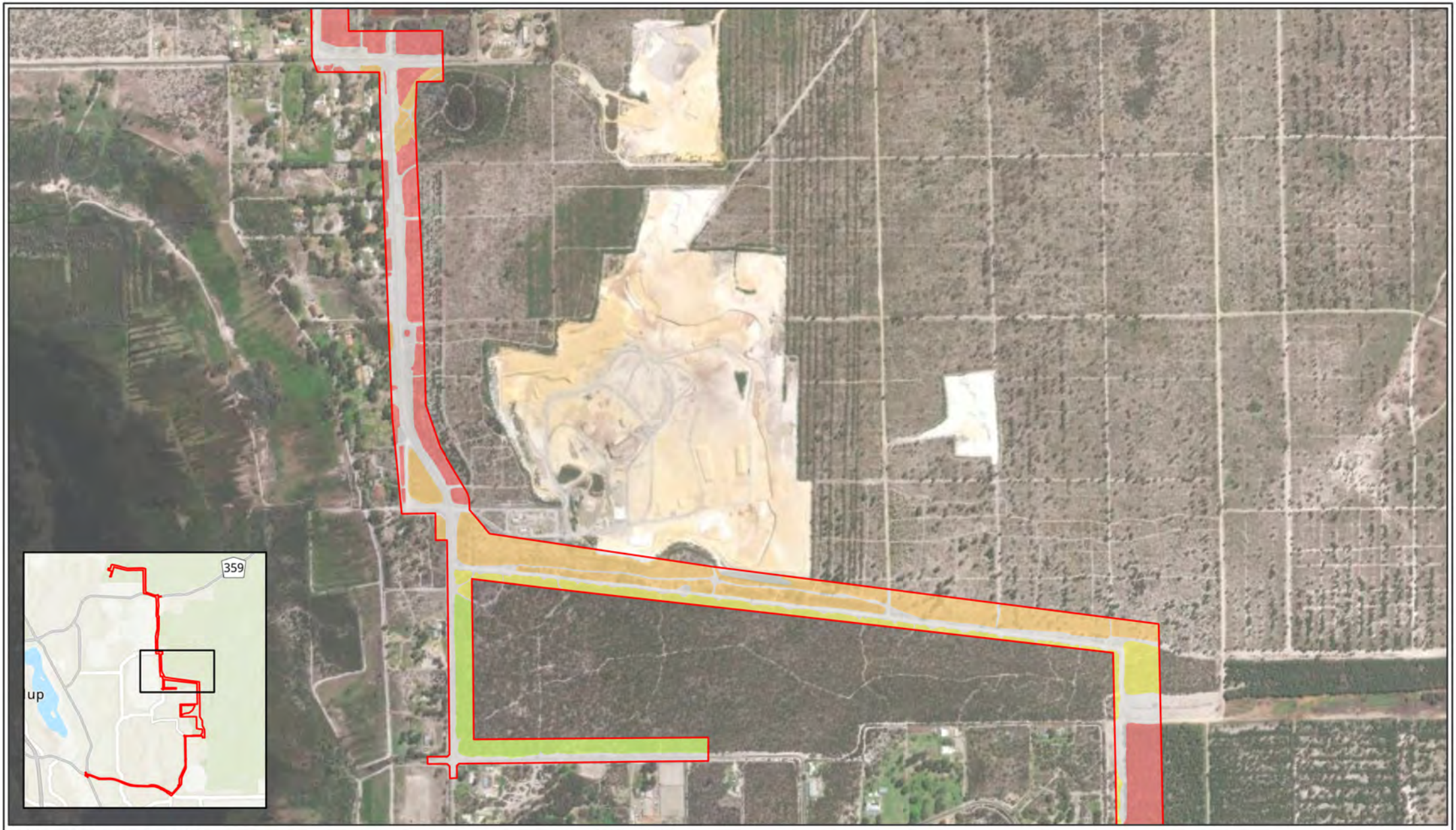
A TETRA TECH COMPANY



Vegetation condition recorded within the survey area (Part 3 of 6)

Survey Area

Cleared

Completely Degraded

Vegetation condition

Very Good

Good

Degraded

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 10/04/2026

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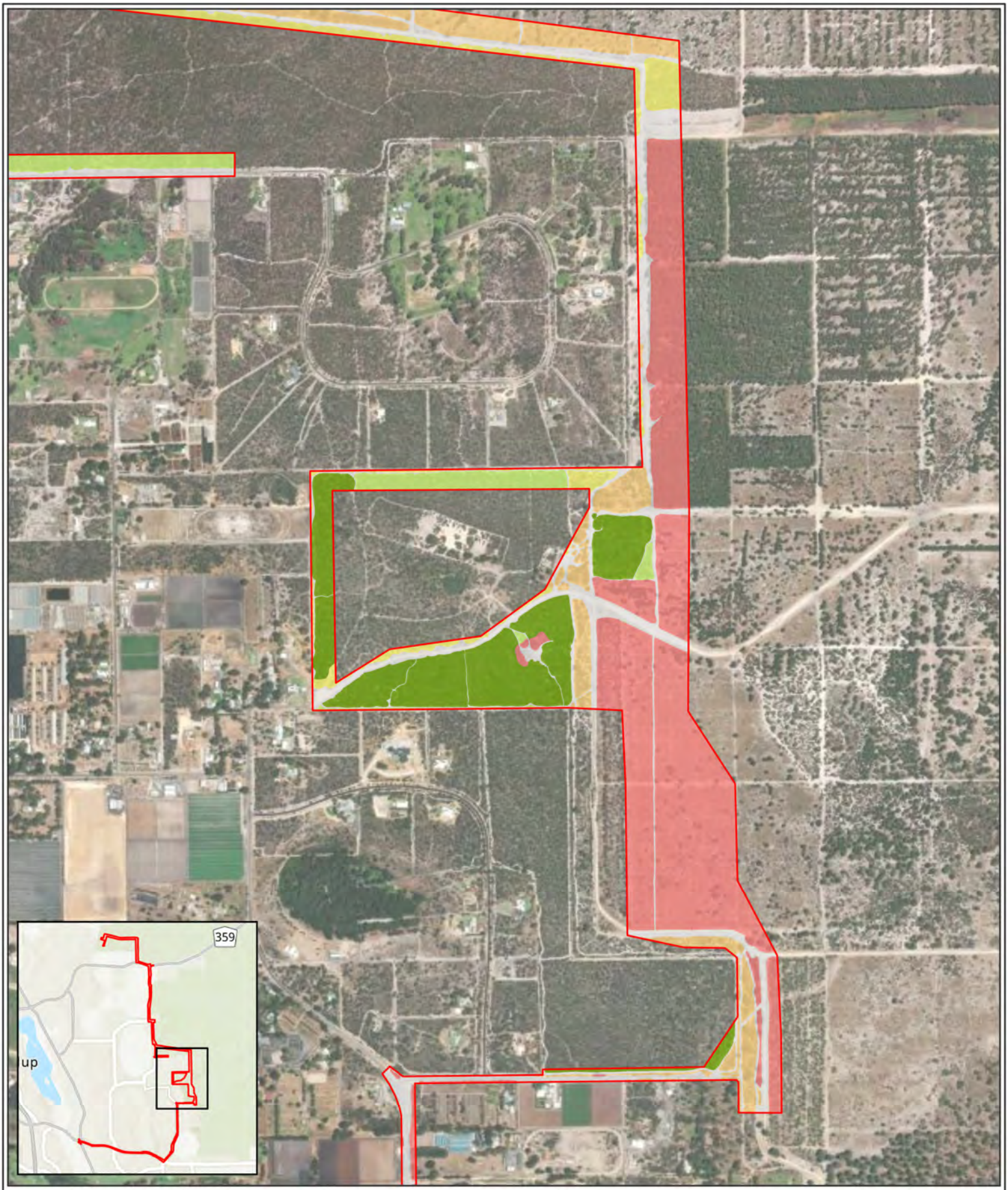
A TETRA TECH COMPANY



Vegetation condition recorded within the survey area (Part 4 of 6)

Survey Area

Cleared

Vegetation condition

- Excellent
- Very Good
- Good
- Degraded
- Completely Degraded

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 10/04/2026

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Vegetation condition recorded within the survey area (Part 5 of 6)

Survey Area

Cleared

Vegetation condition

- Excellent
- Very Good
- Good
- Degraded
- Completely Degraded

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 10/04/2026

N

eco logical AUSTRALIA
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Vegetation condition recorded within the survey area (Part 6 of 6)

Survey Area

Cleared

Vegetation condition

Completely Degraded

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 10/04/2026

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Appendix P Banksia Woodlands TEC assessment

Step	Key diagnostic characteristics	Outcome
1	**Location and physical environment** The Banksia Woodlands ecological community primarily occurs in the Swan Coastal Plain IBRA bioregion	The survey area is located on the Swan Coastal Plain.
	Soil and landform The Banksia Woodlands typically occurs on well drained, low nutrient soils on sandplain landforms particularly deep Bassendean and Spearwood sands and occasionally on Quindalup sands	The survey area is located on the Bassendean, Karrakatta and Spearwood land systems.
	Structure The structure of the Banksia Woodlands is a low woodland to forest with these features: • A distinctive upper sclerophyllous layer of low trees (occasionally large shrubs more than 2m tall), typically dominated or co-dominated by one or more of the *Banksia* species identified under composition • Emergent trees of medium or tall (>10m) height *Eucalyptus* or *Allocasuarina* species may sometimes be present above the Banksia canopy • An often highly species-rich understorey that consists of: o A layer of sclerophyllous shrubs of various heights; and o A herbaceous ground layer of cord rushes, sedges, and perennial and ephemeral forbs that sometimes includes grasses. The development of a ground layer may vary depending on the density of the shrub layer and disturbance history.	Of the eight intact native vegetation communities mapped in the survey area, four conform to this structure, including CcBaBi, BaBmBi, BsppEtAf and EmBaBm. The CcBaBi vegetation community is comprised of *Corymbia calophylla* mid open woodland and *Banksia attenuata*, *Banksia ilicifolia* low woodland over *Xanthorrhoea preissii* tall sparse shrubland and *Calytrix fraseri*, *Acacia pulchella* mid sparse shrubland over *Phlebocarya ciliata*, *Dasypogon bromeliifolius*, *Opercularia vaginata* low sparse forbland. The BaBmBi vegetation community is comprised of *Banksia attenuata*, *Banksia menziesii*, *Banksia ilicifolia* low open woodland over *Xanthorrhoea preissi* tall sparse shrubland and *Eremaea asterocarpa*, *Melaleuca seriata* mid sparse shrubland over *Dasypogon bromeliifolius*, *Patersonia occidentalis*, *Alexgeorgea nitens* low open forbland. The BsppEtAf vegetation community is comprised of *Banksia* spp., *Eucalyptus todtiana*, *Allocasuarina fraseriana*, *Nuytsia floribunda* low open woodland over *Xanthorrhoea preissii* tall sparse shrubland and *Eremaea pauciflora*, *Hypocalymma robustum* mid sparse shrubland over *Hibbertia hypericoides* low open

Step	Key diagnostic characteristics	Outcome
		shrubland and *Lyginia imberbis* low open sedgeland and *Alexgeorgea nitens* low open forbland. The EmBaBm vegetation community is comprised of *Eucalyptus marginata* mid open woodland and *Banksia attenuata*, *Banksia menziesii* low open woodland over *Xanthorrhoea preissii* tall sparse shrubland and *Daviesia divaricata*, *Hypocalymma robustum* mid open shrubland over *Hibbertia hypericoides* low open shrubland, *Mesomelaena pseudostygia* low sparse sedgeland and *Corynotheca micrantha* low sparse forbland.
	Composition • The canopy is most commonly dominated or codominated by *Banksia attenuata* (candlestick banksia, slender banksia) and/or *B. menziesii* (firewood banksia). Other Banksia species that dominate in some examples of the ecological community are *B. prionotes* (acorn banksia) or *B. ilicifolia* (holly-leaved banksia); and • The patch must include at least one of the following species: o *Banksia attenuata* (candlestick banksia) o *Banksia menziesii* (firewood banksia) o *Banksia prionotes* (acorn banksia) o *Banksia ilicifolia* (holly-leaved banksia) • If present, the emergent tree layer often includes *Corymbia calophylla* (marri), *Eucalyptus marginata* (jarrah), or less commonly *E. gomphocephala* (tuart); and • Other trees of a medium height that may be present, and may be co-dominant with the Banksia species across a patch, include *Eucalyptus todtiana* (blackbutt, pricklybark), *Nuytsia floribunda* (WA Christmas Tree), *Allocasuarina fraseriana* (western sheoak), *Callitris arenaria* (sandplain cypress), *Callitris pyramidalis* (swamp cypress), and *Xylomelum occidentale* (woody pear); and • The understorey typically contains a high to very high diversity of shrub and herb species that often vary from patch to patch*** • Contra-indicators: o Patches clearly dominated by *Banksia littoralis* are not part of the Banksia Woodlands ecological community but indicates a different, dampland community is present. o Patches clearly dominated by *Banksia burdettii* are not part of the Banksia Woodlands ecological community but indicates a tall shrubland and not the Banksia Woodlands ecological community.	The canopy of the CcBaBi vegetation community is dominated by *Banksia attenuata/B. ilicifolia* with emergent *Corymbia calophylla.* The floristic composition of quadrats within the CcBaBi vegetation community had floristic affiliations with FCT21c, which is a known subcomponent of the Banksia Woodlands TEC. The canopy of the BaBmBi vegetation community is dominated by *Banksia attenuata, B. menziesiii* and *B. ilicifolia.* The floristic composition of quadrats within the CcBaBi vegetation community had floristic affiliations with FCT21c, which is a known subcomponent of the Banksia Woodlands TEC. The canopy of the BsppEtAf vegetation community is dominated by *Banksia attenuata* and *B. menziesii* with emergent *Eucalyptus todtiana* and *Allocasuarina fraseriana.* The canopy of the EmBaBm vegetation community is dominated by *Banksia attenuata* and *B. menziesii* with emergent *Eucalyptus marginata.* The floristic composition of quadrats within the EmBaBm vegetation community had floristic affiliations with FCTs 21c, 22 and

Step	Key diagnostic characteristics	Outcome
	o FCT 20c – Eastern shrublands and woodlands, corresponds with separate EPBC ecological community listing, Shrublands and Woodlands of the eastern Swan Coastal Plain. Occurrences of this FCT should be considered under that separate listing.	28, which are known subcomponents of the Banksia Woodlands TEC. All three vegetation communities contain highly diverse shrub layers. The contra-indicator species *Banksia littoralis* and *B. burdettii* were not recorded. The communities do not represent FCT20c.
2	**Condition thresholds** • Assessments of a patch should initially be centred on the area of highest native floristic diversity and/or cover, i.e., the best condition area of the patch. • Consideration must be given to the timing of surveys and recent disturbance. Ideally surveys should be undertaken in spring with two sampling periods to capture early and late flowering species. • The surrounding context of a patch must also be taken into account when considering factors that add to the importance of a patch that meets the condition thresholds. • Certain vegetation components of the Banksia Woodlands ecological community merit consideration as critical elements to protect. Three components are recognised as threatened in their own right in WA and, as such, are priorities for protection; refer to Table 1 in the Approved Conservation Advice. • A relevant expert (e.g., ecological consultant, local NRM or environment agency) may be useful to help identify the ecological community and its condition.	BaBmBi and BsppEtAf vegetation was primarily mapped as being in Very Good condition with some areas of Good or Degraded condition vegetation. EmBaBm was primarily mapped as being in Excellent condition, with some Very Good, Good, and limited Degraded condition vegetation. Areas of Degraded vegetation mapped as the Banksia Woodlands TEC are considered extensions of the same patch of vegetation mapped as being in Good or better condition. The survey was undertaken in Spring and the vegetation was sampled in the highest condition representation available.
3	**Minimum patch size** Minimum patch sizes apply for consideration of a patch as part of the listed ecological community for EPBC Act referral, assessment and compliance purposes. Where patches meet different levels of condition, different minimum patch sizes apply: • 'Pristine' – no minimum patch size applies • 'Excellent' – 0.5 ha or 5,000 m2 (e.g. 50 m x 100 m) • 'Very Good' – 1 ha or 10,000 m2 (e.g. 100 m x 100 m) • 'Good' – 2 ha or 20,000 m2 (e.g. 200 m x 100 m). Note: To be considered as part of the EPBC Act ecological community, a patch should meet at least the Good Condition category.	Most areas mapped as Banksia Woodlands TEC within the survey area are large patches or complexes of patches within the greater region in Very Good to Excellent condition that meet the patch size criterion for the Banksia Woodlands TEC. In total, five patches of vegetation (Patches A – E) that meet the patch size and condition criterion for Banksia Woodlands TEC were delineated within the survey area. This included: • Patch A - patch of EmBaBm vegetation in the north of the survey area (adjacent to Neaves Road) in 'Good' condition and inferred via aerial imagery to be at least 3.8 ha in size;

Step	Key diagnostic characteristics	Outcome
		• Patch B – patch of BsppEtAf vegetation in the north of the survey area (along Boundary Rd) in 'Very Good' to 'Good' condition and inferred via aerial imagery to be at least 12 ha in size; • Patch C – large complex of EmBaBm, BsppEtAf and BaBmBi vegetation in the centre of the survey area in 'Excellent' to 'Degraded' condition and inferred via aerial imagery to be at least 150 ha in size; • Patch D – patch of CcBaBi vegetation in the south of the survey area adjacent to Lake Gnangara in 'Good' condition and inferred via aerial imagery to be at least 12 ha in size; and • Patch E – patch of BsppEtAf vegetation in the south of the survey area in 'Good' condition and inferred via aerial imagery to be at least 14 ha in size. Some isolated patches of Degraded condition vegetation, or Good condition vegetation under 2 ha were recorded, and these areas were not considered to be representative of the TEC. This included the following two patches of vegetation: • Patch F – patch of BaBmBi vegetation in the south of the survey area on the corner of Sydney Rd and Fortitude Bvd in 'Degraded' condition and inferred via aerial imagery to be 0.2 ha in size • Patch G – patch of EPPErEtBspp vegetation in the north of the survey area adjacent to the Neerabup Terminal substation in 'Good' condition and inferred via aerial imagery to be 0.8 ha in size.

Step	Key diagnostic characteristics	Outcome
4	Further information to assist in determining the presence of the ecological community and significant impacts • The landscape position of the patch, including its position relative to surrounding vegetation also influences how important it is in the broader landscape. For example, if it enables movement of native fauna or plant material or supports other ecological processes • A patch is a discrete and mostly continuous area of the ecological community. A patch may include small-scale (<30 m) variations, gaps and disturbances, such as tracks, paths or breaks. Where there is a break in native vegetation cover, from the edge of the tree canopy of 30 m or more (e.g. due to permanent artificial structures, wide roads or other barriers; or due to water bodies typically more than 30m wide) then the gap typically indicates that separate patches are present. • Variation in canopy cover, quality or condition of vegetation across a patch should not initially be considered to be evidence of multiple patches. Patches can be spatially variable and are often characterised by one or more areas within a patch that meet the key diagnostic characteristics and condition threshold criteria amongst areas of lower condition. Average canopy cover and quality across the broadest area that meets the general description of the ecological community should be used initially in determining overall canopy cover and vegetation condition. Also note any areas that are either significantly higher or lower in quality, gaps in canopy cover and the condition categories that would apply across different parts of the site respectively. Where the average canopy cover or quality falls below the minimum thresholds, the next largest area or areas that meet key diagnostics (including minimum canopy cover requirements) and minimum condition thresholds should be specified and protected. This may result in multiple patches being identified within the overall area first considered. • A buffer zone is a contiguous area immediately adjacent to a patch of the ecological community that is important for protecting its integrity. The purpose of the buffer zone is to help protect and manage the national threatened ecological community. The edges of a patch are considered particularly susceptible to disturbance and the presence of a buffer zone is intended to act as a barrier to further direct disturbance. • The recommended minimum buffer zone for the ecological community is 20–50 m from the outer edge of a patch, and the appropriate size depends on the nature of the buffer and local context (e.g. slope). A larger buffer zone should be applied, where practical, to protect patches that are of particularly high conservation value, or if patches are down slope of drainage lines or a source of nutrient enrichment, or groundwater drawdown.	A total of 36.9 ha of Banksia Woodlands TEC vegetation was recorded in the survey area.

Appendix Q Tuart Woodlands TEC assessment

Step	Key diagnostic characteristics	Outcome
1	Occurs in the Swan Coastal Plain Bioregion within the state of Western Australia.	The survey area is located on the Swan Coastal Plain in Western Australia.
	Primarily occurs on the Spearwood and Quindalup dune systems but can also occur on the Bassendean dunes and Pinjarra Plain. It can occur on the banks of rivers and wetlands.	The survey area is situated across primarily Bassendean and some Spearwood soil landscapes.
	The primary defining feature is the presence of at least two living established *Eucalyptus gomphocephala* (Tuart) trees in the uppermost canopy layer, although they may co-occur with trees of other species. There is a gap of no more than 60 m between the outer edges of the canopies of adjacent Tuart trees. These trees may occur either as single stemmed trees or as a mallee growth form.	Five individual patches of Tuart woodland (that comprised of two living established *Eucalyptus gomphocephala* trees in the uppermost canopy layer were recorded in the survey area. This included a patch of rehabilitated/planted vegetation on the corner of Townsend Road and Boundary Road (Patch 1), one patch along Hawkins Road (Patch 2), one patch associated with Tuscan Park on the corner of Tuscan Way and Sydney Road (Patch 3), and two patches along Ocean Reef Road (Patches 4 and 5).
	Most often occurs as a woodland but can occur in other structural forms, For example, forest, open forest, woodland, open woodland, and various mallee forms.	
	Other tree species may be present in the canopy or sub-canopy. They commonly include: *Agonis flexuosa* (Peppermint) and *Banksia grandis* (Bull Banksia) (both in the southern part of the range), *Banksia attenuata* (Candlestick Banksia), *Eucalyptus marginata* (Jarrah); and less commonly, *Corymbia calophylla* (Marri), *Banksia menziesii* (Firewood Banksia) and *Banksia prionotes* (Acorn Banksia).	
	An understorey of native plants is typically present, which may include grasses, herbs and shrubs, although this is often modified by disturbance. Some understorey plant species that are most commonly present are listed in Section 2.3.3.	

Step	Key diagnostic characteristics	Outcome
2	Further information to assist in defining a patch of the ecological community Patches of Tuart woodlands and forests may contain areas that vary in structural or biological complexity. One part of a patch may have a larger number of mature trees and more ecological diversity, whereas another part of the same patch may demonstrate fewer mature trees and less groundcover. Areas with soil exposed and/or plant litter can also be expected within this ecological community. Variation in quality or condition of vegetation across a patch should not necessarily be considered to be evidence of multiple patches. Patches of the ecological community can be spatially variable and are often characterised by one or more areas within a patch that meet higher condition thresholds amongst areas of lower condition. If an area meets the key diagnostic characteristics but the average condition across that area falls below the **minimum condition thresholds**, the largest area or areas of at least 0.5 ha that meet minimum condition thresholds on average, should be specified as the patch or patches of the nationally listed ecological community. This may result in multiple patches of the ecological community being identified within the overall area first identified as meeting the key diagnostics.	Patch 1 consists of rehabilitated/planted vegetation on the corner of Townsend Road and Boundary Road, with site ELA_R13 associated and dominated by an understorey of weeds. Patch 2 consists of a line of planted trees along a fence in private property on the western side of Hawkins Rd. No associated sites. Photo indicates surrounding area consists of introduced garden plants or bare areas. Patch 3 had no associated site, however was comprised of native vegetation in association with Tuscan Park. Patch 4 consists of a line of planted roadside trees along the northern side of Ocean Reef road with an addition tree in the median strip. Nearby ELA_Q02 and ELA_R11, located within the same patch of roadside rehabilitation, record a diverse mix of native species with over 30 endemic species with between 15% and 20% foliar cover. ~10% to 17% weedy cover. Patch 5 consists of a line of planted roadside trees along the southern side of Ocean Reef road. Low trees with planted shrubs associated. Represented by ELA_R07. Associated native species consist of *E. camaldulensis* and *Grevillea preissii*, both planted. 2-3% weedy cover.

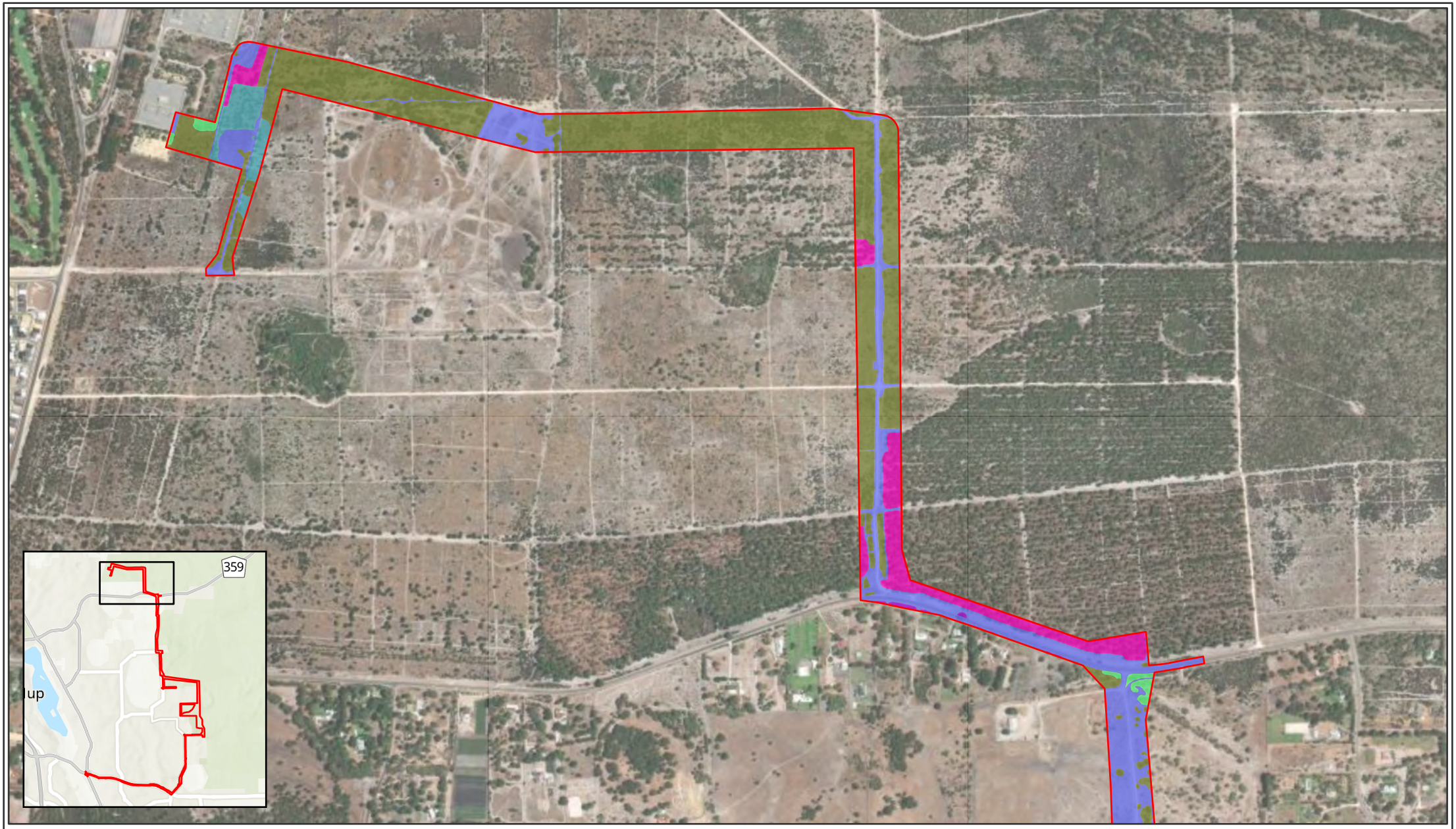
Step	Key diagnostic characteristics	Outcome
3	Relationship with other ecological communities The range of the ecological community overlaps and interacts with other ecological communities of the Swan Coastal Plain, including some listed under the EPBC Act. At some locations more than one ecological community may be present. The following considerations apply to the identification of the ecological community where it is likely to overlap with some other listed ecological communities: • Banksia woodlands of the Swan Coastal Plain: where Tuart occurs as an occasional emergent above a stratum dominated or co-dominated by Banksia species including *Banksia attenuata, B. menziesii, B. prionotes* or *B. ilicifolia* the patch is likely to meet the diagnostic characteristics for the Banksia woodlands of the Swan Coastal Plain. This is not common and most likely on Spearwood formation dunes. • Sedgelands in Holocene Dune Swales: occurs in linear damplands, typically waterlogged in winter. Characteristic species include shrubs such as *Acacia rostellifera, Acacia saligna, Xanthorrhoea preissii* as well as sedges and grasses. Typically the ecological community has a more open structure than Tuart woodlands and forests, but at mature sites a closer tree canopy may develop, including Tuart or *Banksia littoralis* trees, which may meet the diagnostic characteristics for the Tuart woodlands and forests ecological community. This is not common and most likely in the areas between dunes on the Quindalup formation. • Aquatic root mat community of caves of the Swan Coastal Plain: at sites including Yanchep National Park, some groundwater fed streams and pools occurring in caves support dense root mats of Tuart trees. These root mats support a highly diverse and distinctive assemblage of cave fauna. It is likely that this ecological community occurs directly below some occurrences of the Tuart woodlands and forests ecological community. There are strong interactions between the two ecological communities and it is likely also that disturbance to either surface vegetation or groundwater may affect both ecological communities.	The Tuart Woodland vegetation in the survey area does not appear to co-occur with any listed ecological communities.

Step	Key diagnostic characteristics	Outcome
4	Condition thresholds and categories For confirmed patches of the ecological community, following the key diagnostic characteristics and patch definition above (Step 1), determine the following requirements for information on condition to indicate if they are part of the nationally protected ecological community: If the patch is smaller than 0.5 ha it is not part of the nationally protected ecological community; If the patch is at least 0.5 ha and up to 5 ha in size, conduct on ground surveys to see which condition category applies. Condition categories are outlined in the Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain ecological community approved conservation advice (DotEE 2019). All patches of 5 ha or greater that meet the key diagnostic characteristics are part of the nationally protected ecological community.	Patch 1 was associated with site ELA_R13 and based on the condition thresholds in the conservation advice would be considered to be in 'Poor' condition given that less than 50% of the understorey vegetation cover is native and therefore not representative of the TEC. Patch 2 had no associated site and was 0.8 ha in size. This patch consisted of planted Tuart trees over a bare understorey and as such would be considered to be in 'Poor' condition and therefore not representative of the TEC. Patch 3 had no associated site and was 1.0 ha in size (with 0.1 ha in the survey area), including trees associated with Tuscan Park. It is inferred from aerial imagery that this patch extends further outside of what has been assessed as part of this project and is likely to be at least 2.0 ha in size. Field observations found that this patch is likely to be in 'Moderate' condition. Given patch size and condition this patch of vegetation would be considered representative of the Tuart Woodlands TEC. Patch 4 was associated with site ELA_Q02 and was 1.3 ha in size (with 1.2 ha in the survey area). A diverse mix of understorey species was recorded within this patch and would be considered to be in 'High' or 'Very High' condition. Given patch size and condition this patch of vegetation would be considered representative of the Tuart Woodlands TEC. Patch 5 was associated with site ELA_R07 and was 1.2 ha in size. This patch of vegetation was considered to be in 'Poor' condition and not representative of the TEC. In total, 1.3 ha of vegetation representing the Tuart Woodlands TEC was recorded within the survey area.

Appendix R Fauna species list

Type	Species name	Common name	Listing	Observation type
Bird	*Acanthiza chrysorrhoa*	Yellow-rumped thornbill		Heard
Bird	*Anthochaera carunculata*	Red wattlebird		Directly observed
Bird	*Anthus novaeseelandiae*	Australian pipit		Directly observed
Bird	*Barnardius zonarius*	Australian ringneck		Directly observed
Bird	*Cacatua sanguinea*	Little corella		Directly observed
Bird	*Calyptorhynchus banksii naso*	Forest red-tailed black cockatoo	VU	Directly observed
Bird	*Calyptorhynchus latirostris*	Carnaby's black cockatoo	EN	Directly observed
Bird	*Chrysococcyx basalis*	Horsfield's bronze cuckoo		Heard
Bird	*Colluricincla harmonica*	Grey shrike-thrush		Directly observed
Bird	*Coracina novaehollandiae*	Black-faced cuckoo-shrike		Directly observed
Bird	*Corvus coronoides*	Australian raven		Heard
Bird	*Dacelo novaeguineae*	Laughing kookaburra	*	Heard
Bird	*Dromaius novaehollandiae*	Emu		Directly observed
Bird	*Eolophus roseicapilla*	Galah		Directly observed
Bird	*Gymnorhina tibicen*	Australian magpie		Directly observed
Bird	*Hirundo neoxena*	Welcome swallow		Directly observed
Bird	*Lichmera indistincta*	Brown honeyeater		Heard
Bird	*Malurus splendens*	Splendid fairywren		Directly observed
Bird	*Merops ornatus*	Rainbow bee-eater	M	Directly observed
Bird	*Ocyphaps lophotes*	Crested pigeon		Directly observed
Bird	*Pachycephala pectoralis*	Golden whistler		Heard
Bird	*Petrochelidon nigricans*	Tree martin		Directly observed
Bird	*Phaps chalcoptera*	Common bronzewing		Directly observed
Bird	*Phylidonyris niger*	White-cheeked honeyeater		Directly observed
Bird	*Phylidonyris novaehollandiae*	New Holland honeyeater		Directly observed
Bird	*Rhipidura leucophrys*	Willie wagtail		Directly observed
Bird	*Threskiornis moluccus*	Australian white ibis		Directly observed
Bird	*Trichoglossus moluccanus*	Rainbow lorikeet	*	Heard
Mammal	*Canis familiaris*	Domesticated dog	*	Directly observed
Mammal	*Equus ferus caballus*	Horse	*	Directly observed
Mammal	*Macropus fuliginosus*	Western grey kangaroo		Directly observed
Mammal	*Oryctolagus cuniculus*	European rabbit	*	Directly observed (deceased)
Reptile	*Tiliqua occipitalis*	Western blue-tongued lizard		Directly observed
Reptile	*Tiliqua rugosa*	Bobtail lizard		Directly observed

Appendix S Fauna habitat maps



Conservation significant fauna and fauna habitat recorded within the survey area (Part 1 of 6)

Survey Area

Fauna habitat

- Banksia woodland with emergent trees
- Cleared
- Cleared areas with scattered trees and/or shrubs
- Mixed open woodlands and shrublands
- Managed gardens and roadside treelines
- Pine plantation

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 24/03/2026

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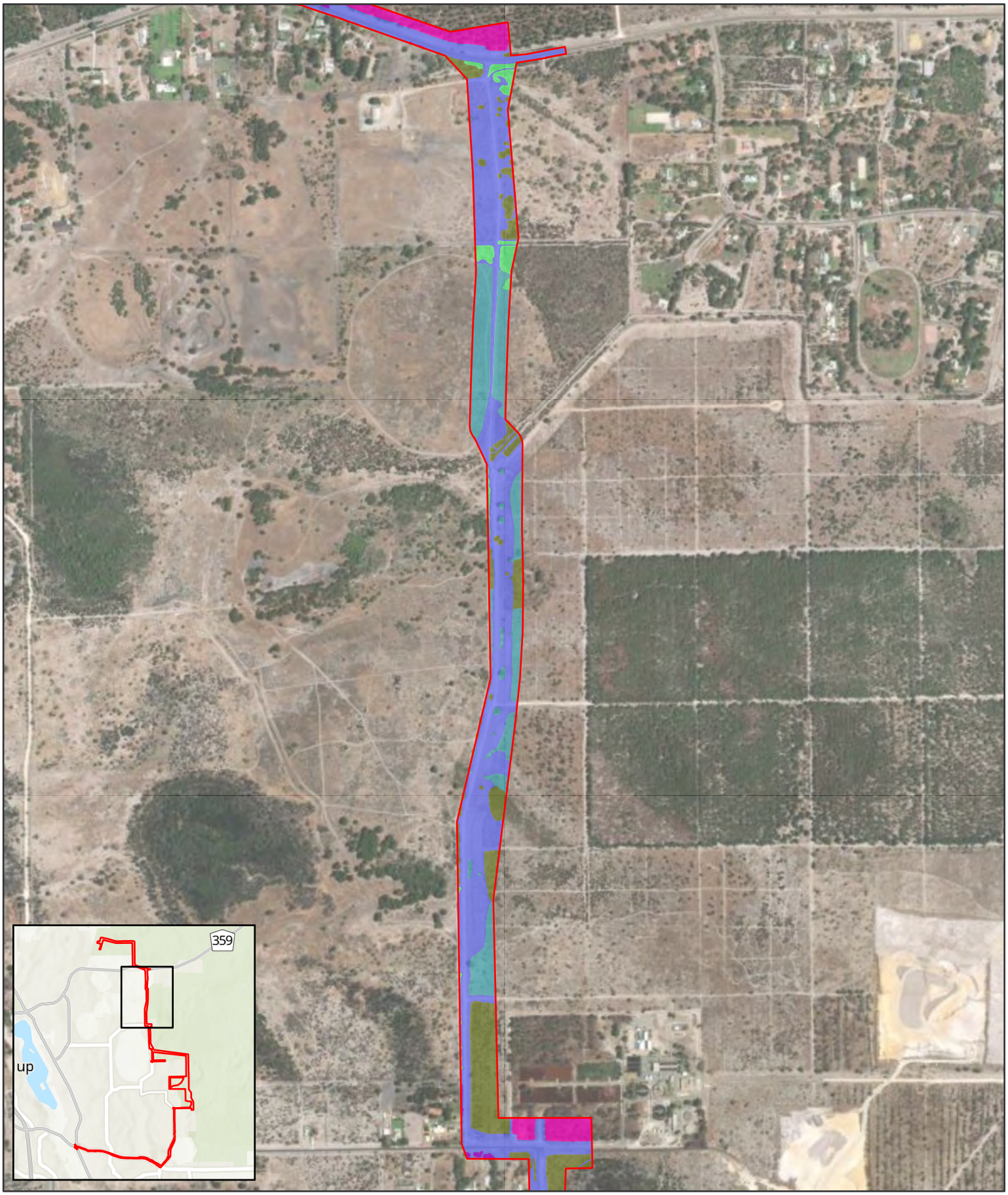

Conservation significant fauna and fauna habitat recorded within the survey area (Part 2 of 6)

Survey Area

Fauna habitat

- Banksia woodland with emergent trees
- Cleared
- Cleared areas with scattered trees and/or shrubs
- Mixed open woodlands and shrublands
- Managed gardens and roadside treelines
- Pine plantation

0 125 250 500
Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 24/03/2026

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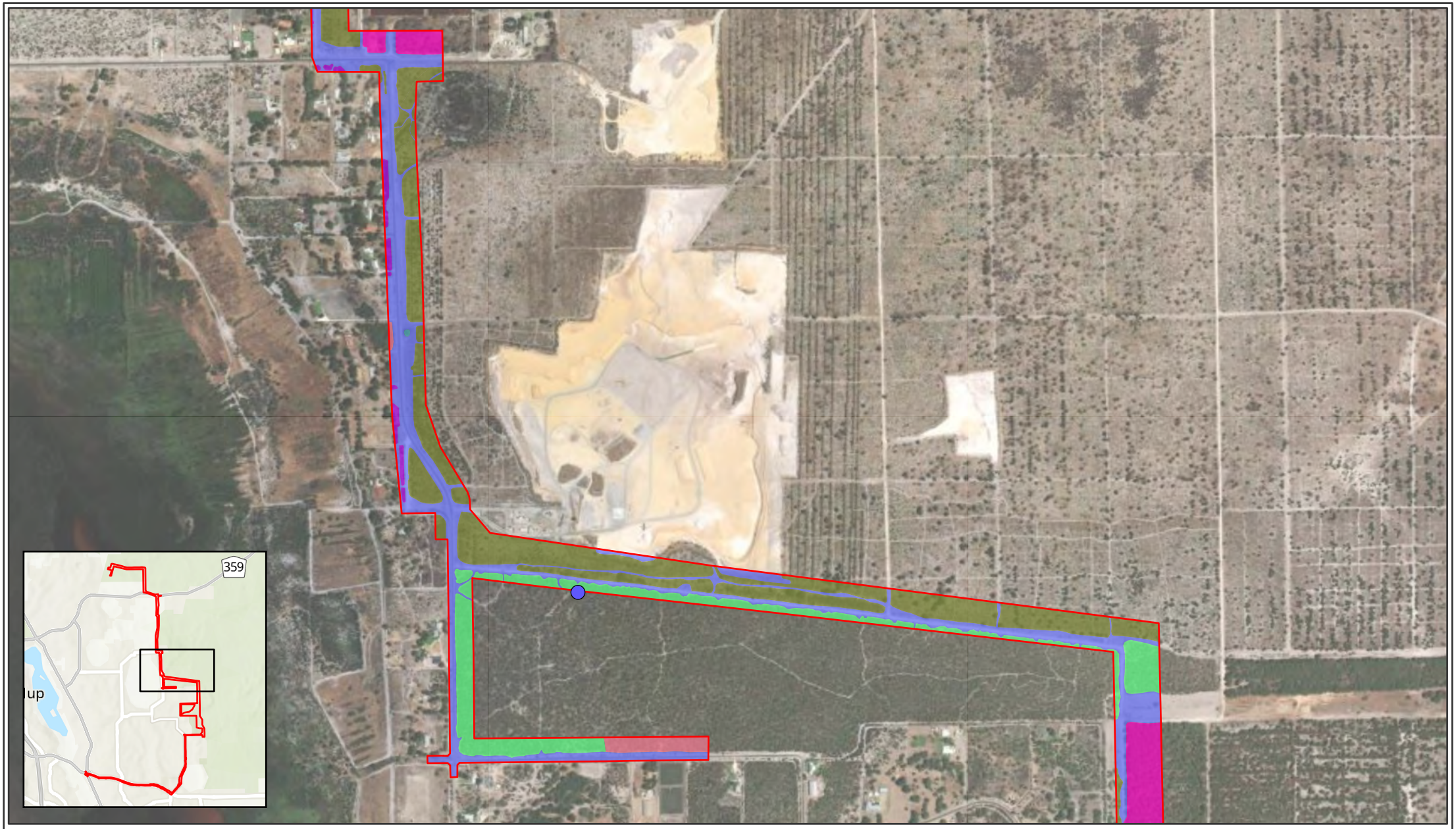

Conservation significant fauna and fauna habitat recorded within the survey area (Part 3 of 6)

Survey Area

Conservation significant fauna

- Rainbow bee-eater (*Merops ornatus*; listed as M under the EPBC Act)

Fauna habitat

- Banksia woodland
- Banksia woodland with emergent trees
- Cleared
- Cleared areas with scattered trees and/or shrubs
- Mixed open woodlands and shrublands
- Managed gardens and roadside treelines
- Pine plantation

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 24/03/2026

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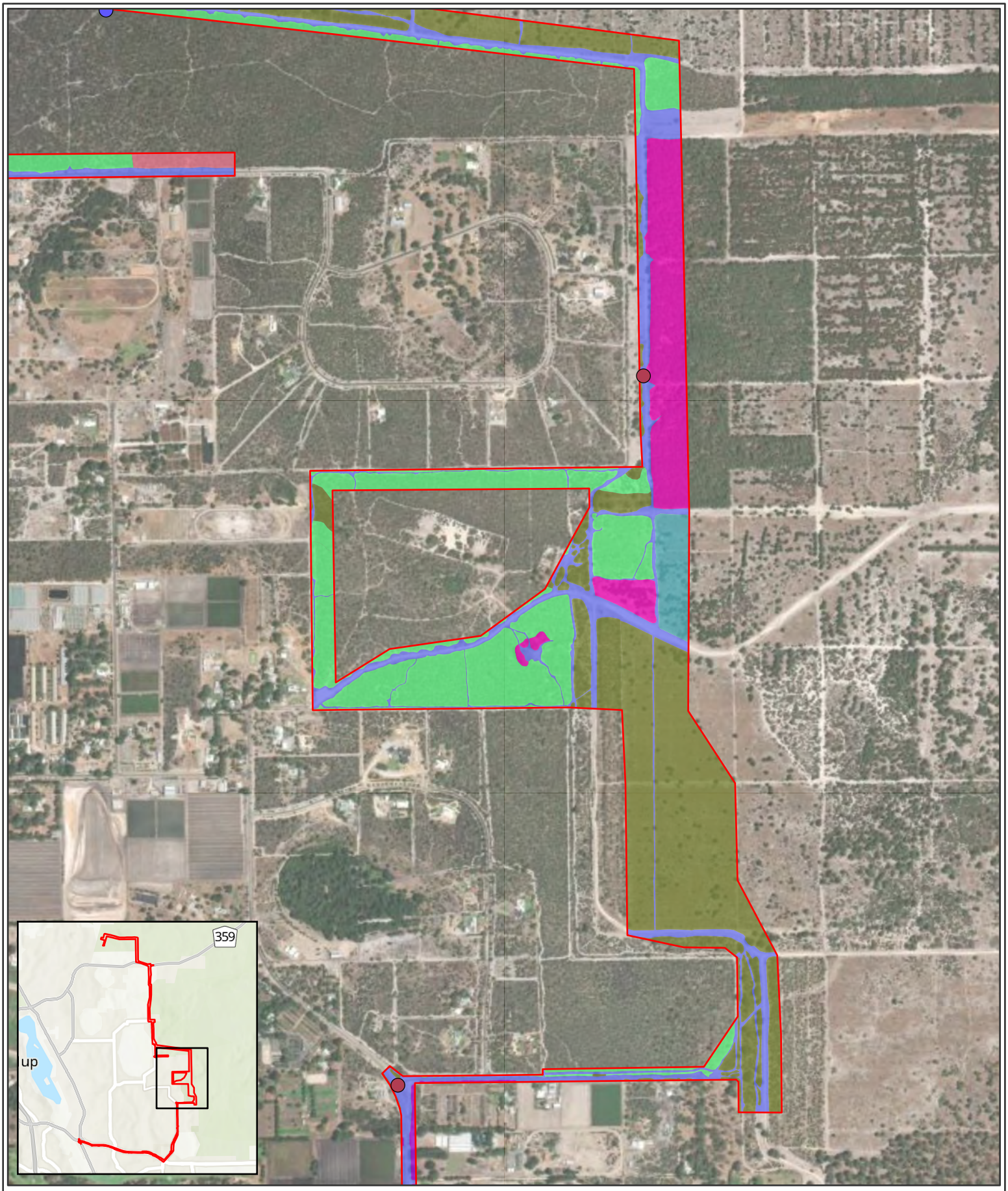

Conservation significant fauna and fauna habitat recorded within the survey area (Part 4 of 6)

Survey Area

Conservation significant fauna

- Carnaby's cockatoo (*Zanda latirostris*; listed as EN under the EPBC Act and BC Act)
- Rainbow bee-eater (*Merops ornatus*; listed as M under the EPBC Act)

Fauna habitat

- Banksia woodland
- Banksia woodland with emergent trees
- Cleared
- Cleared areas with scattered trees and/or shrubs
- Mixed open woodlands and shrublands
- Managed gardens and roadside treelines
- Pine plantation

0 125 250 500
Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 24/03/2026

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Conservation significant fauna and fauna habitat recorded within the survey area (Part 5 of 6)

Survey Area

Conservation significant fauna

- Carnaby's cockatoo (*Zanda latirostris*; listed as EN under the EPBC Act and BC Act)
- Forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*; listed as VU under the EPBC Act and BC Act)

Fauna habitat

- Banksia woodland
- Banksia woodland with emergent trees
- Cleared
- Mixed open woodlands and shrublands
- Managed gardens and roadside treelines
- Melaleuca closed depression
- Rehabilitation
- Mixed open shrublands on sand

0 125 250 500
Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 24/03/2026

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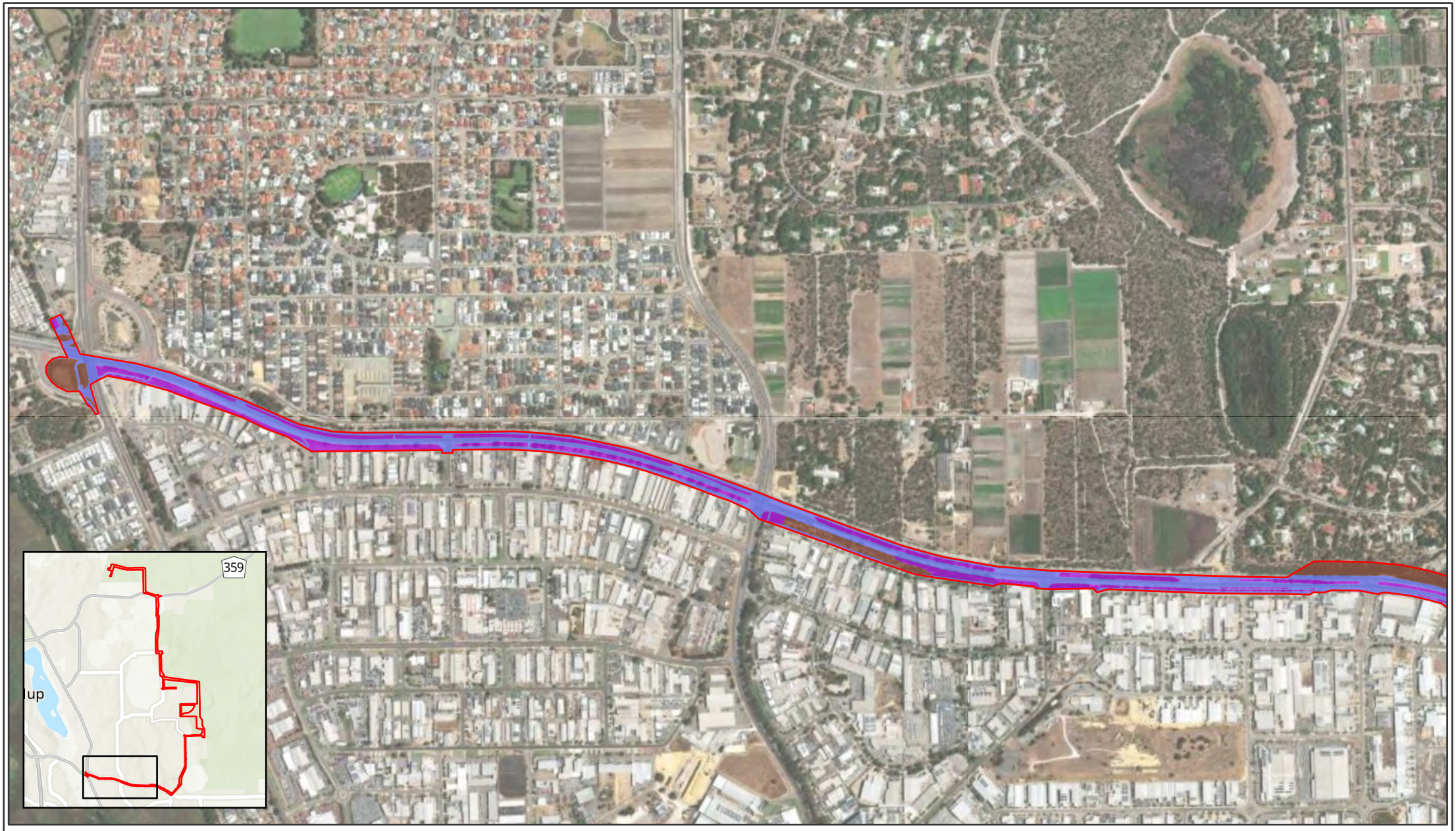

Conservation significant fauna and fauna habitat recorded within the survey area (Part 6 of 6)

Survey Area

Fauna habitat

Cleared

Managed gardens and roadside treelines

Rehabilitation

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 24/03/2026

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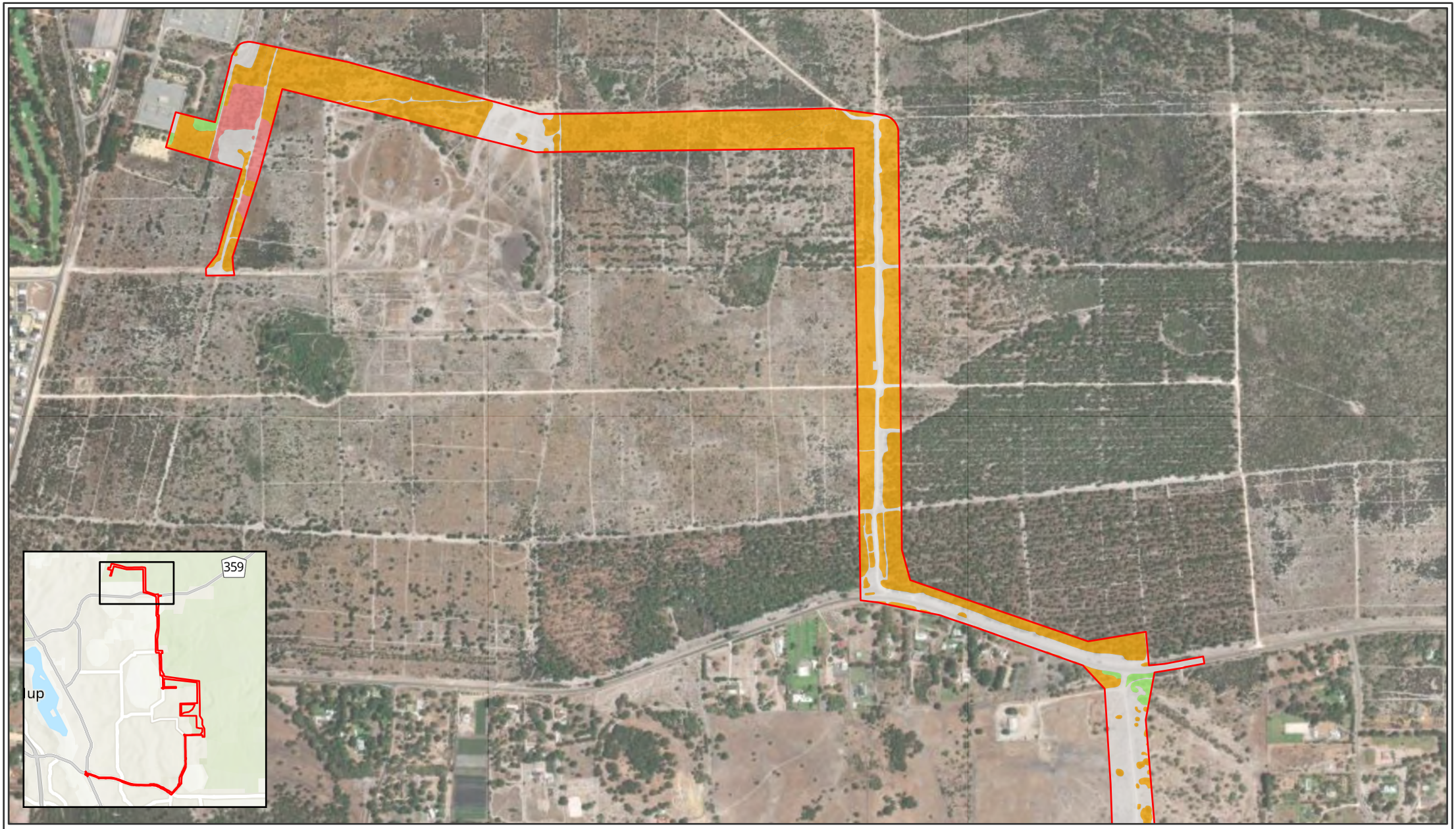
Appendix T Foraging habitat for Carnaby's cockatoo in the survey area



Foraging habitat for Carnaby's cockatoo in the survey area (Part 1 of 6)

Survey Area

Nil

Foraging quality – Carnaby's cockatoo

Moderate

Low

Negligible to low

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 11/03/2026

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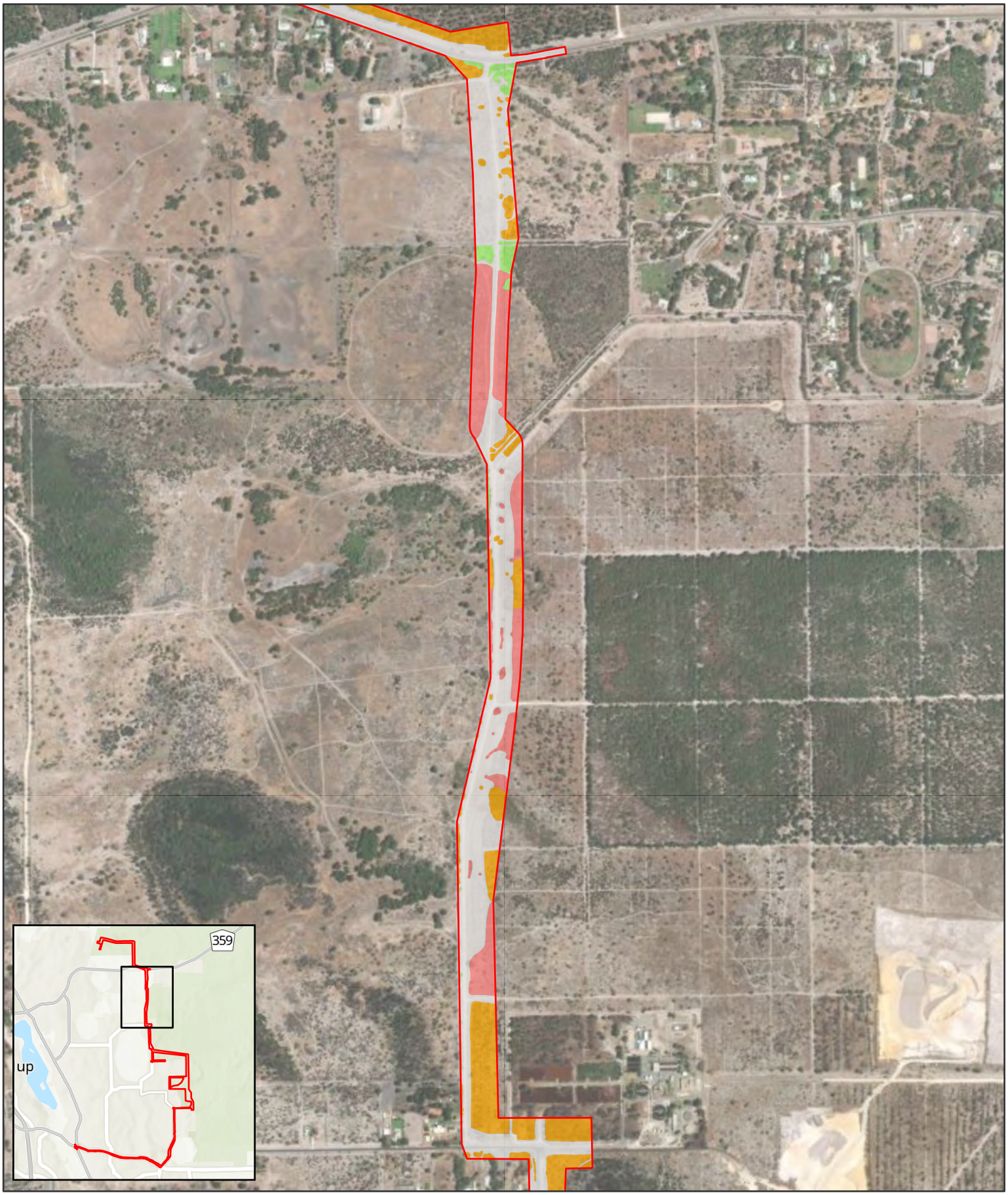

Foraging habitat for Carnaby's cockatoo in the survey area (Part 2 of 6)

Survey Area

Foraging quality – Carnaby's cockatoo

- Moderate
- Low
- Negligible to low
- Nil

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 11/03/2026

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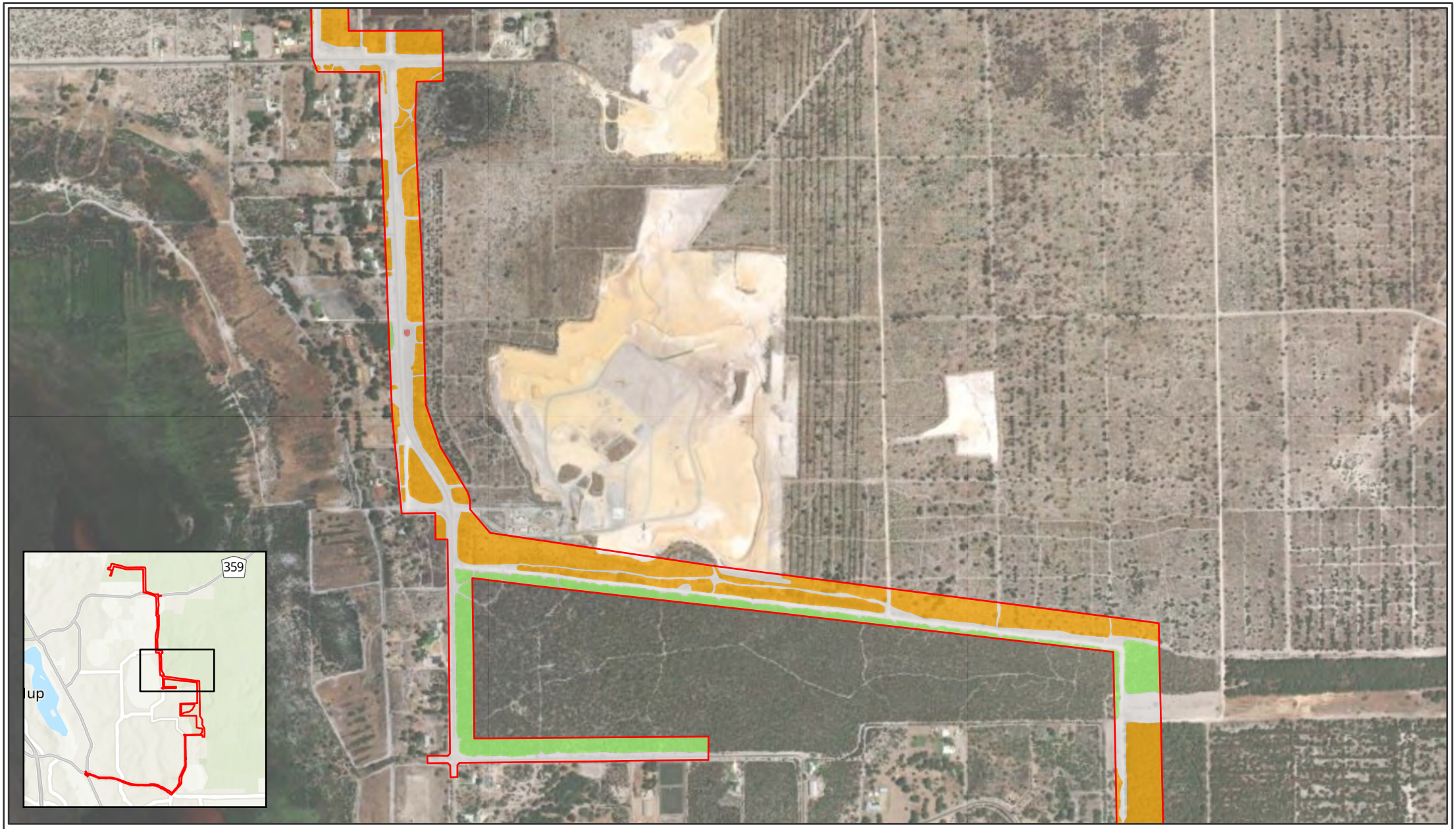

Foraging habitat for Carnaby's cockatoo in the survey area (Part 3 of 6)

Survey Area

Nil

Foraging quality – Carnaby's cockatoo

Moderate

Low

Negligible to low

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 11/03/2026

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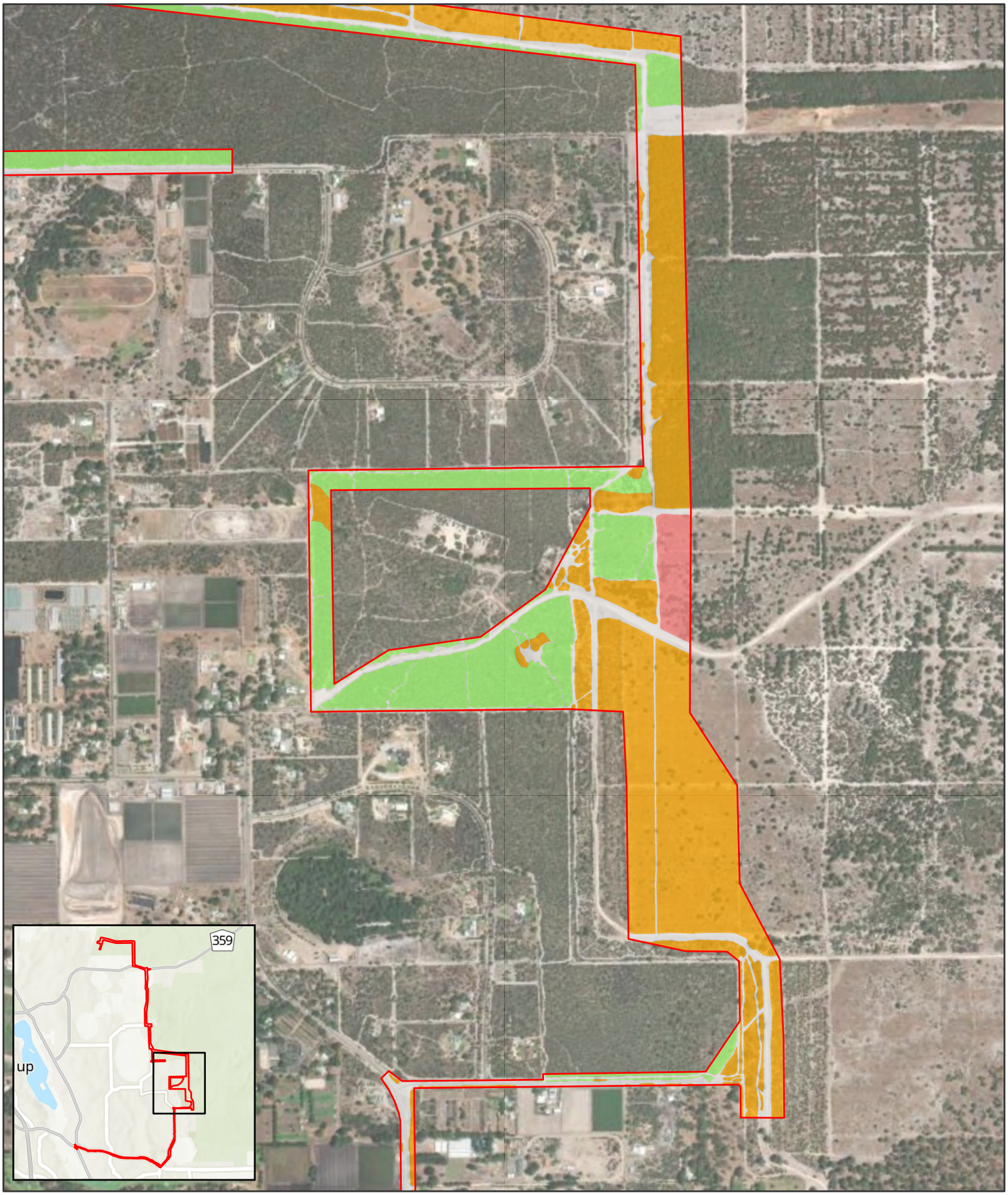

Foraging habitat for Carnaby's cockatoo in the survey area (Part 4 of 6)

Survey Area

Foraging quality – Carnaby's cockatoo

- Moderate
- Low
- Negligible to low
- Nil

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 11/03/2026

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Foraging habitat for Carnaby's cockatoo in the survey area (Part 5 of 6)

Survey Area

Foraging quality – Carnaby's cockatoo

- Moderate
- Low
- Negligible to low
- Nil

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 11/03/2026

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Foraging habitat for Carnaby's cockatoo in the survey area (Part 6 of 6)

Survey Area

Nil

Foraging quality – Carnaby's cockatoo

Moderate

Low

Negligible to low

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 11/03/2026

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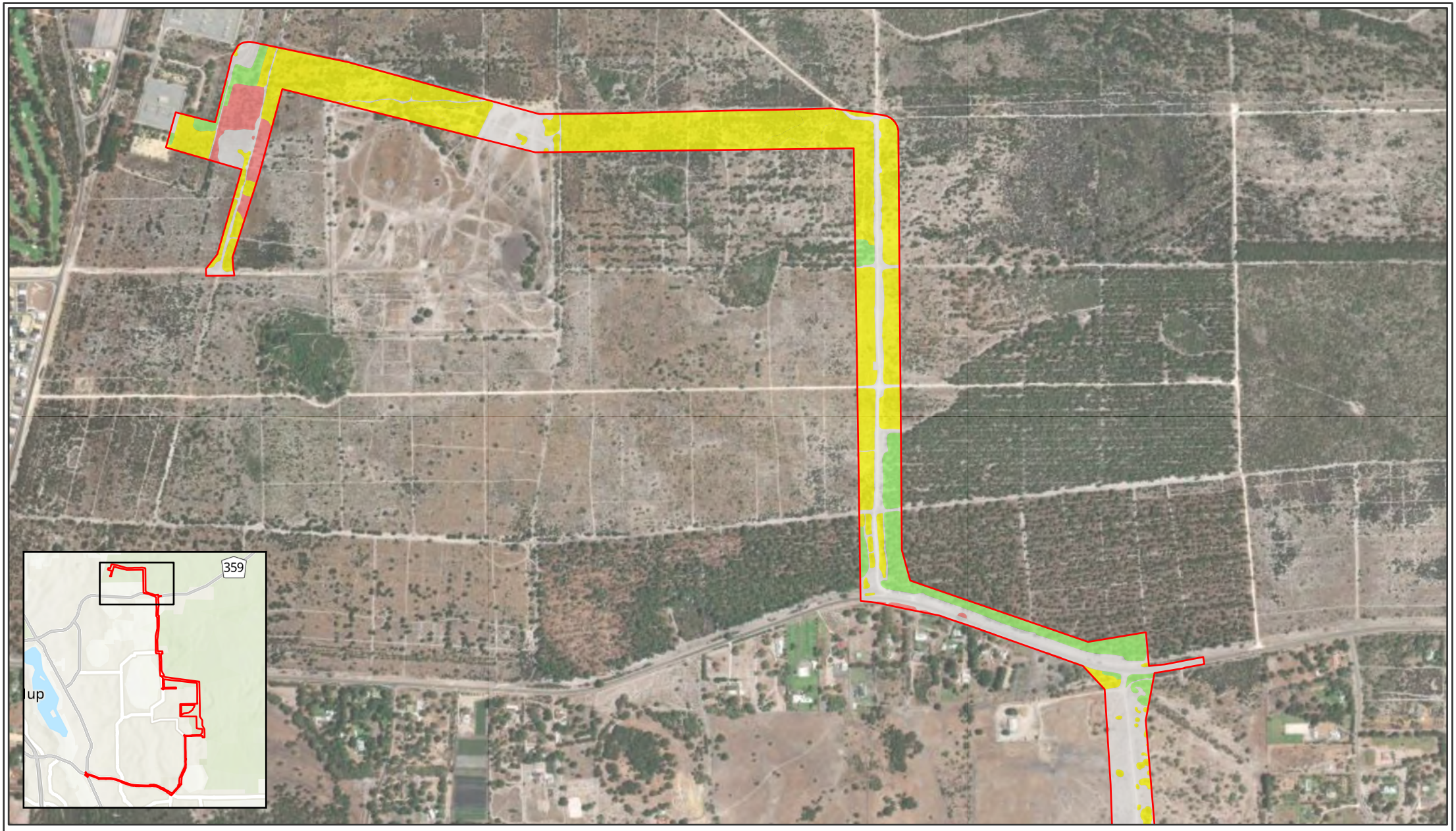
Appendix U Foraging habitat for Baudin's cockatoo in the survey area



Foraging habitat for Baudin's cockatoo in the survey area (Part 1 of 6)

Survey Area

Nil

Foraging quality – Baudin's cockatoo

Moderate

Low to moderate

Negligible to low

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 11/03/2026

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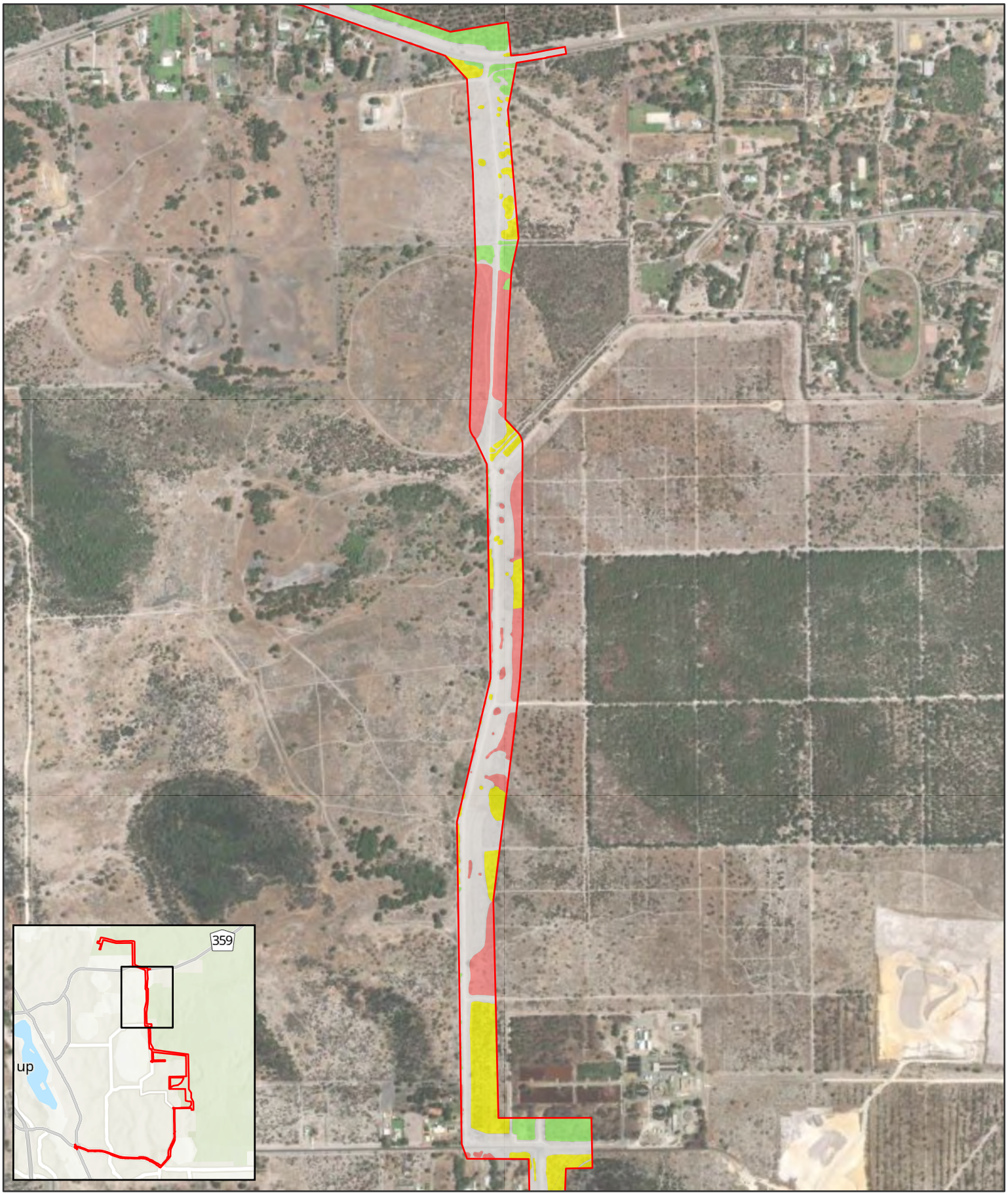

Foraging habitat for Baudin's cockatoo in the survey area (Part 2 of 6)

Survey Area

Foraging quality – Baudin's cockatoo

- Moderate
- Low to moderate
- Negligible to low
- Nil

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 11/03/2026

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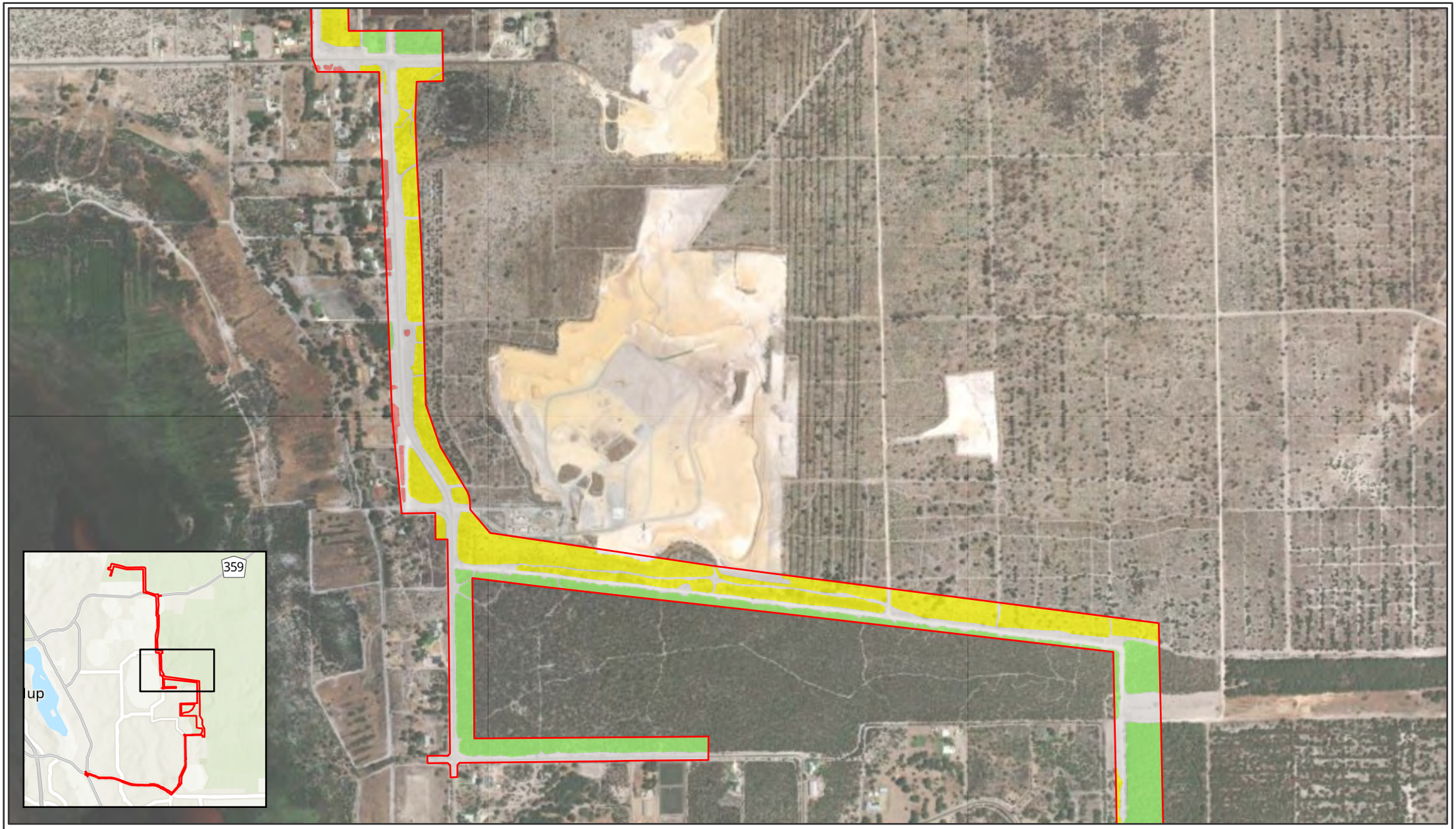

Foraging habitat for Baudin's cockatoo in the survey area (Part 3 of 6)

Survey Area

Nil

Foraging quality – Baudin's cockatoo

- Moderate
- Low to moderate
- Negligible to low

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 11/03/2026

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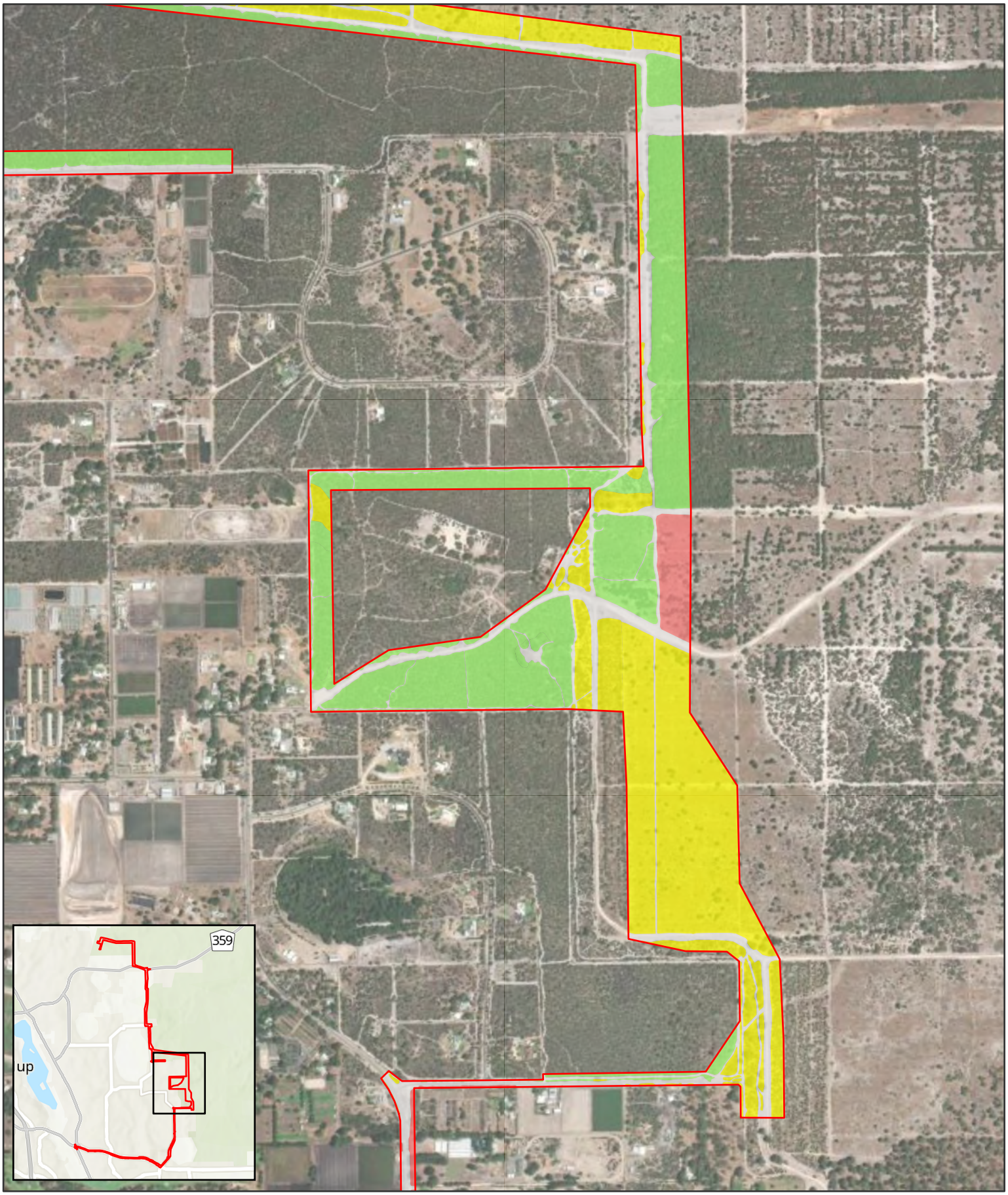

Foraging habitat for Baudin's cockatoo in the survey area (Part 4 of 6)

Survey Area

Foraging quality – Baudin's cockatoo

- Moderate
- Low to moderate
- Negligible to low
- Nil

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 11/03/2026

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Foraging habitat for Baudin's cockatoo in the survey area (Part 5 of 6)

Survey Area

Foraging quality – Baudin's cockatoo

- Moderate
- Low to moderate
- Low
- Negligible to low
- Nil

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 11/03/2026

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Foraging habitat for Baudin's cockatoo in the survey area (Part 6 of 6)

Survey Area

Foraging quality – Baudin's cockatoo

Low

Negligible to low

Nil

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 11/03/2026

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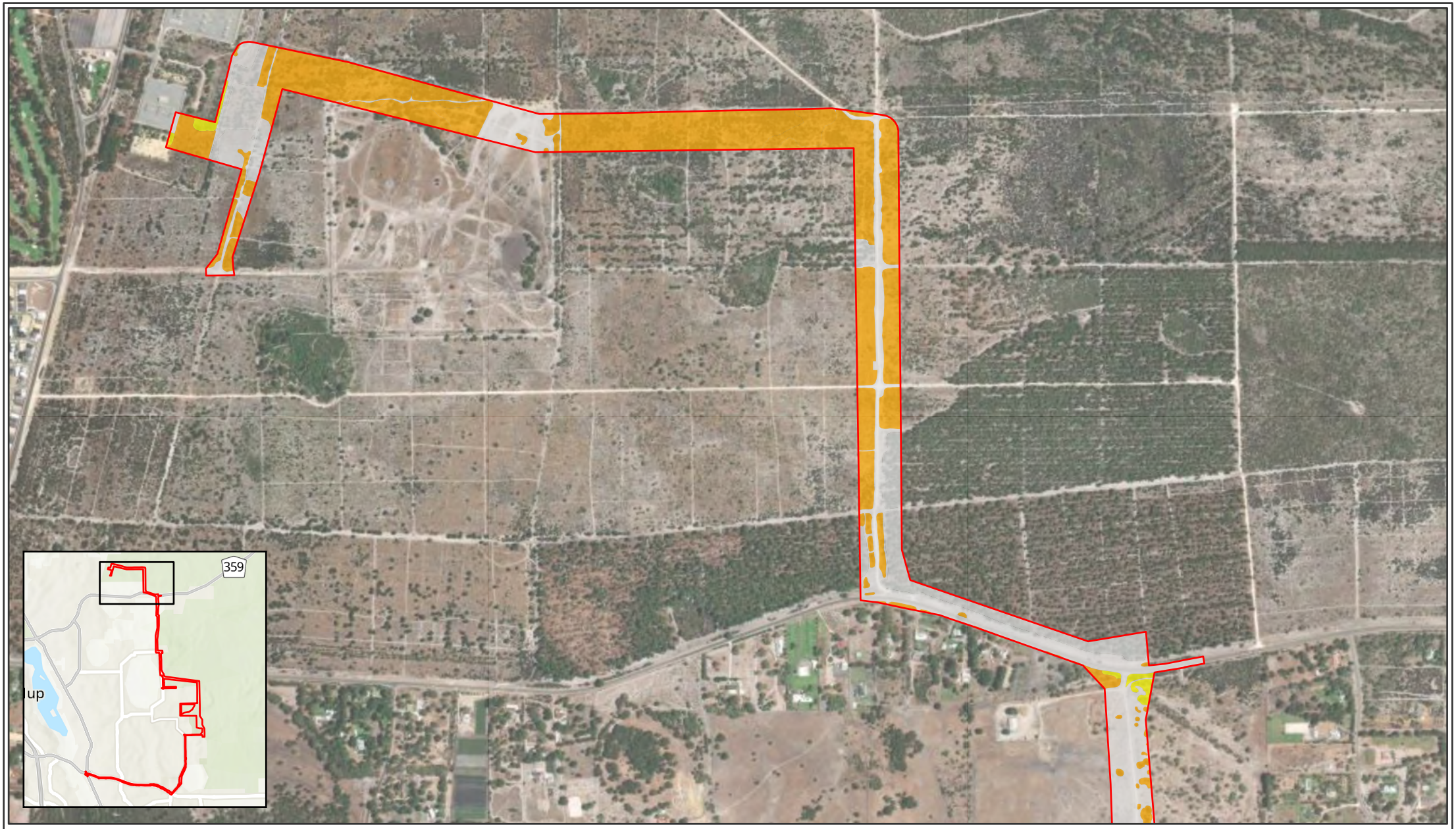
Appendix V Foraging habitat for Forest-red tailed black cockatoo in the survey area



Foraging habitat for Forest-red tailed black cockatoo in the survey area (Part 1 of 6)

Survey Area

Nil

Foraging quality – Forest-red tailed black cockatoo

Low to moderate

Low

Negligible to low

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 11/03/2026

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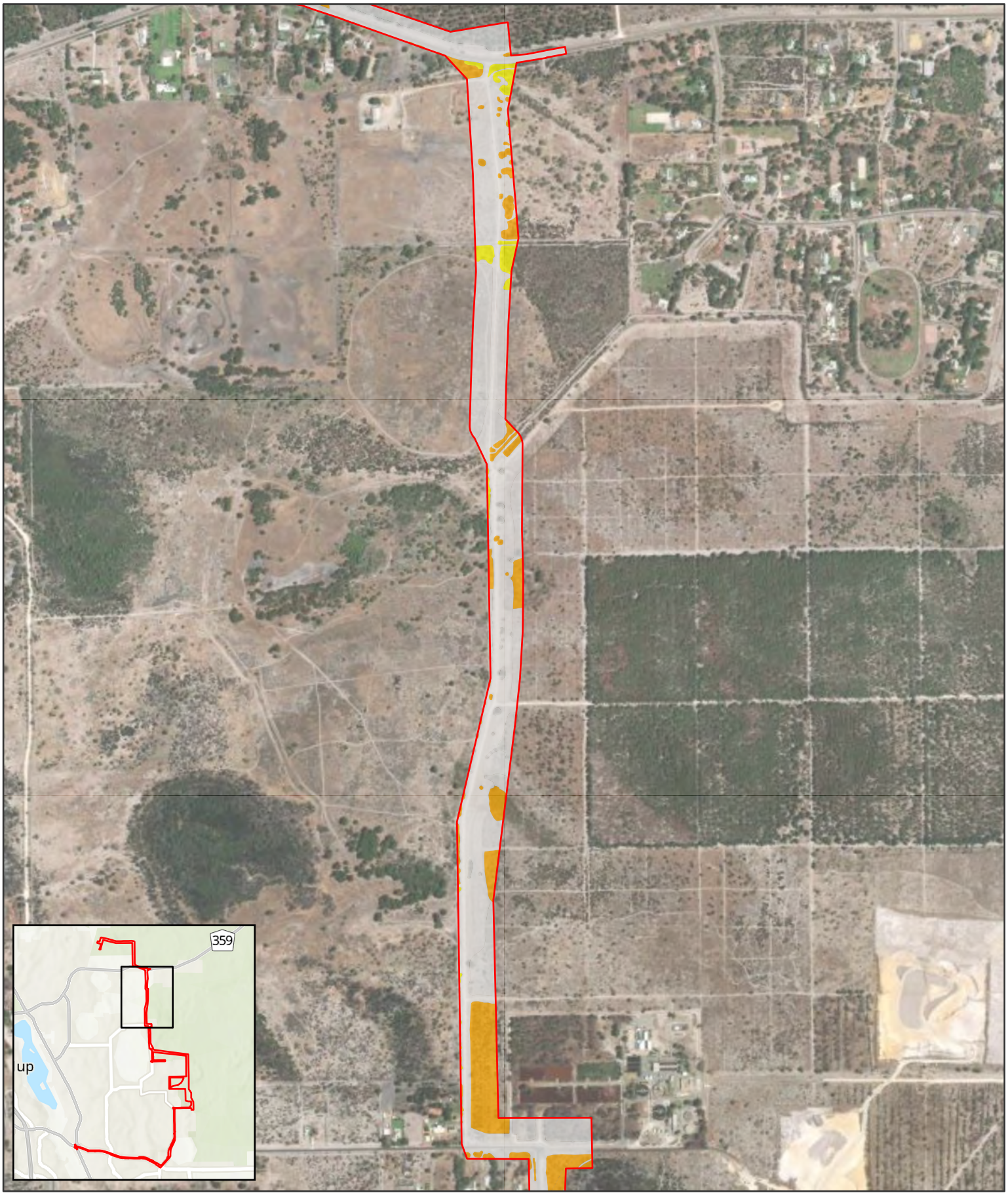

Foraging habitat for Forest-red tailed black cockatoo in the survey area (Part 2 of 6)

Survey Area

Foraging quality – Forest-red tailed black cockatoo

- Low to moderate
- Low
- Nil

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 11/03/2026

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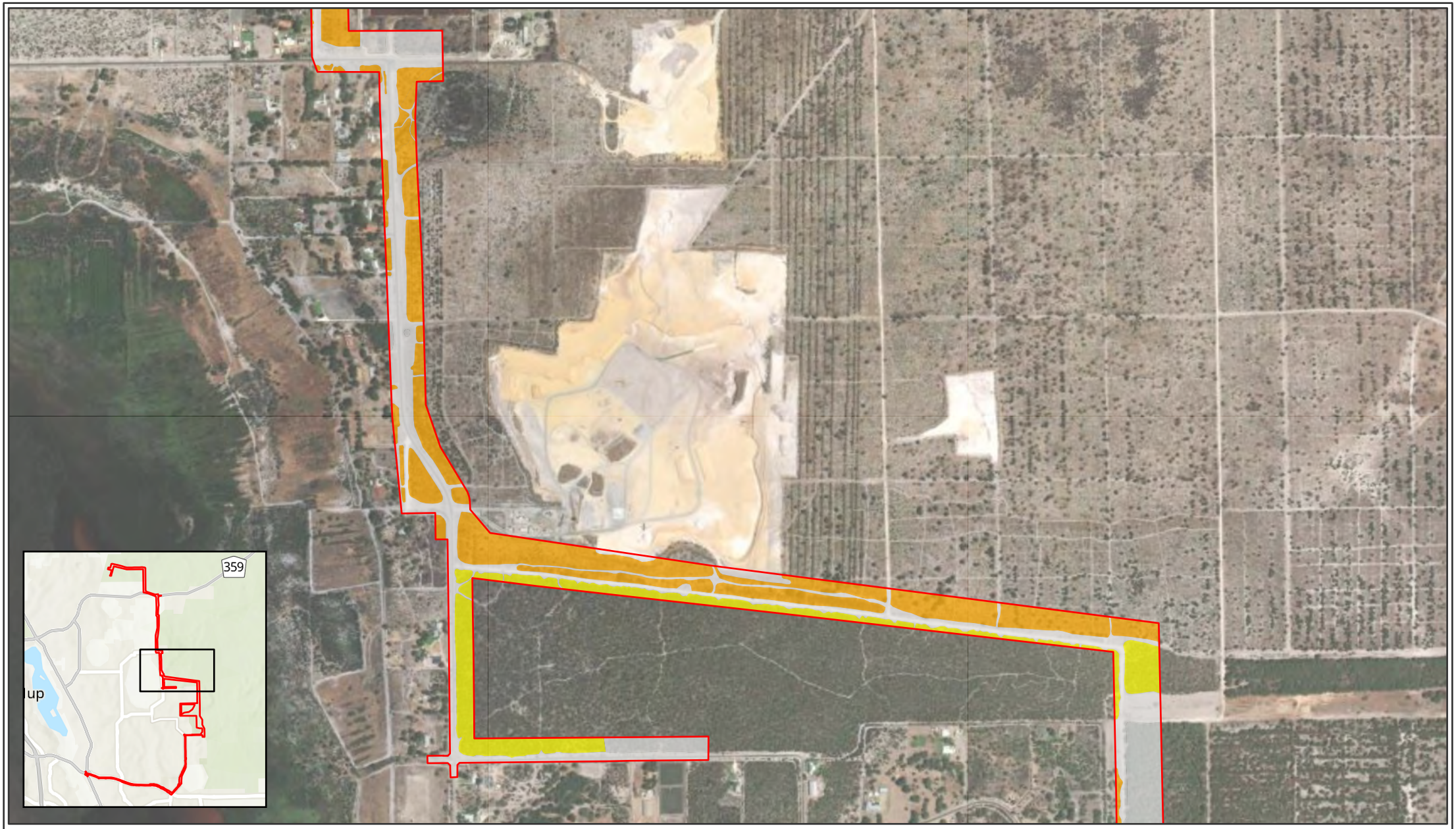

Foraging habitat for Forest-red tailed black cockatoo in the survey area (Part 3 of 6)

Survey Area

Foraging quality – Forest-red tailed black cockatoo

- Low to moderate
- Low
- Nil

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 11/03/2026

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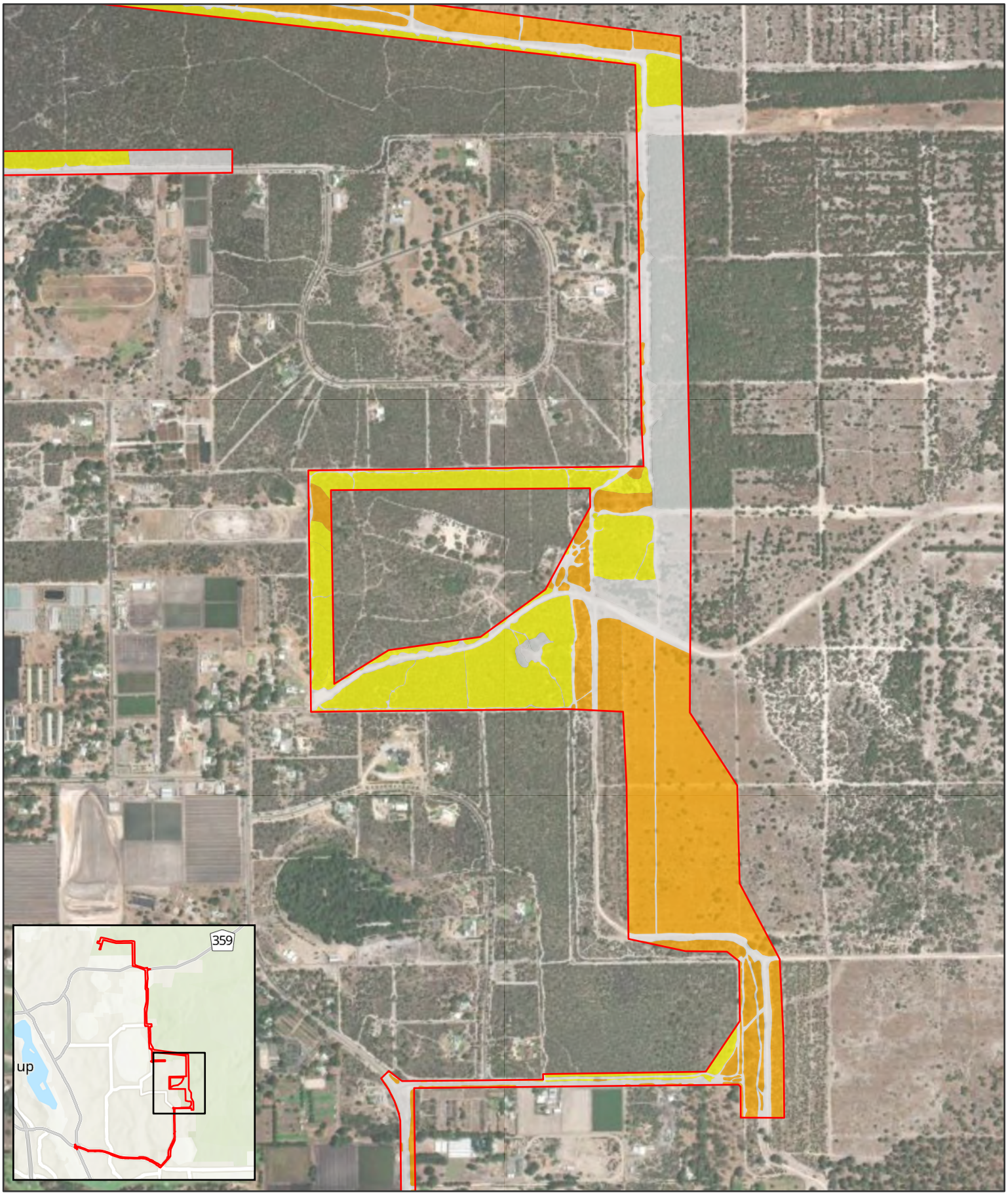

Foraging habitat for Forest-red tailed black cockatoo in the survey area (Part 4 of 6)

Survey Area

Foraging quality – Forest-red tailed black cockatoo

- Low to moderate
- Low
- Nil

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 11/03/2026

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Foraging habitat for Forest-red tailed black cockatoo in the survey area (Part 5 of 6)

Survey Area

Foraging quality – Forest-red tailed black cockatoo

- Low to moderate
- Low
- Negligible to low
- Nil

0 125 250 500
Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 11/03/2026

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Foraging habitat for Forest-red tailed black cockatoo in the survey area (Part 6 of 6)

Survey Area

Foraging quality – Forest-red tailed black cockatoo

Low

Negligible to low

Nil

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 11/03/2026

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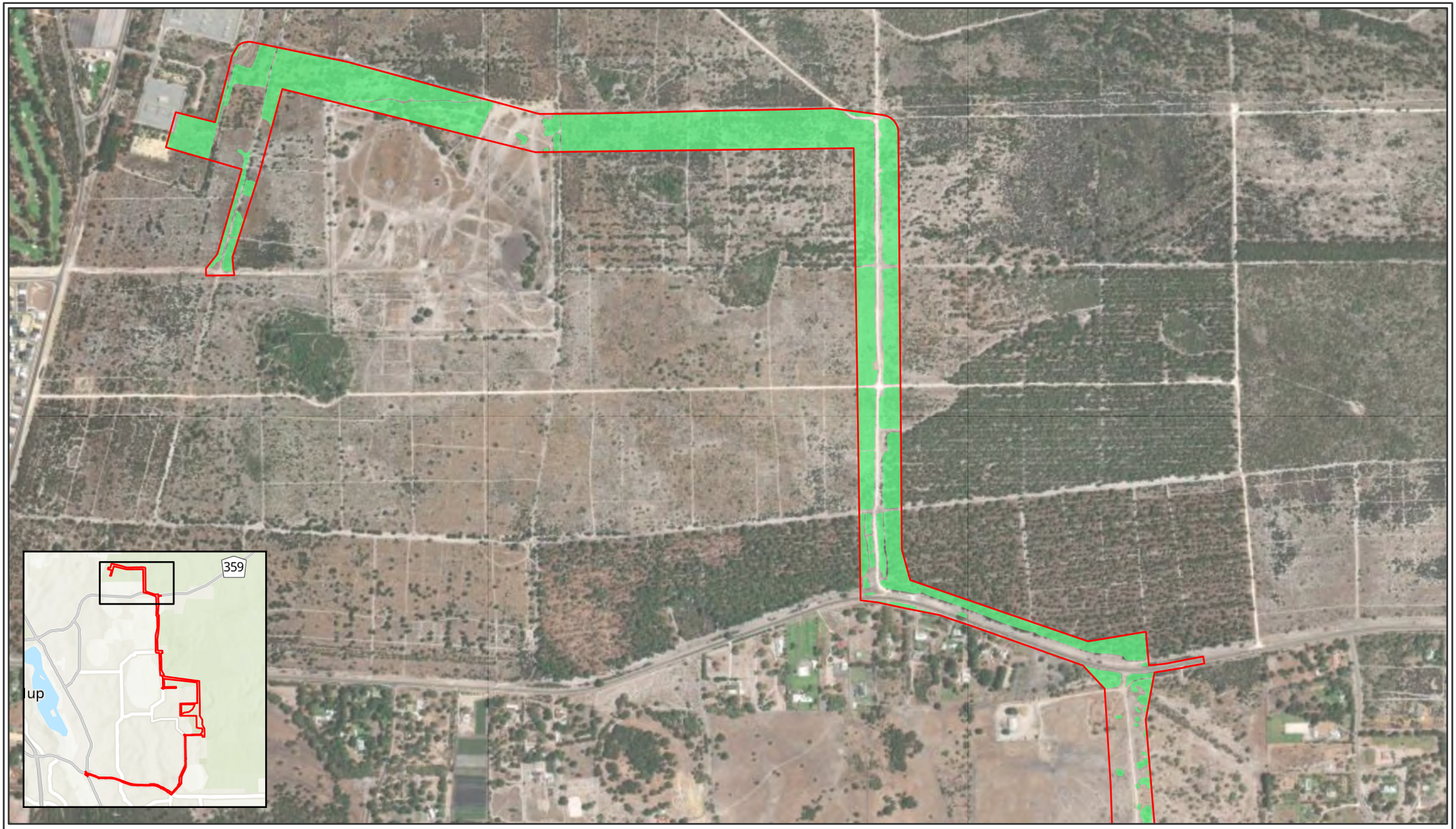
Appendix W Potential black cockatoo breeding and roosting habitat within the survey area



Potential black cockatoo breeding and roosting habitat within the survey area (Part 1 of 6)

Survey Area

Potential roosting habitat

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 24/03/2026

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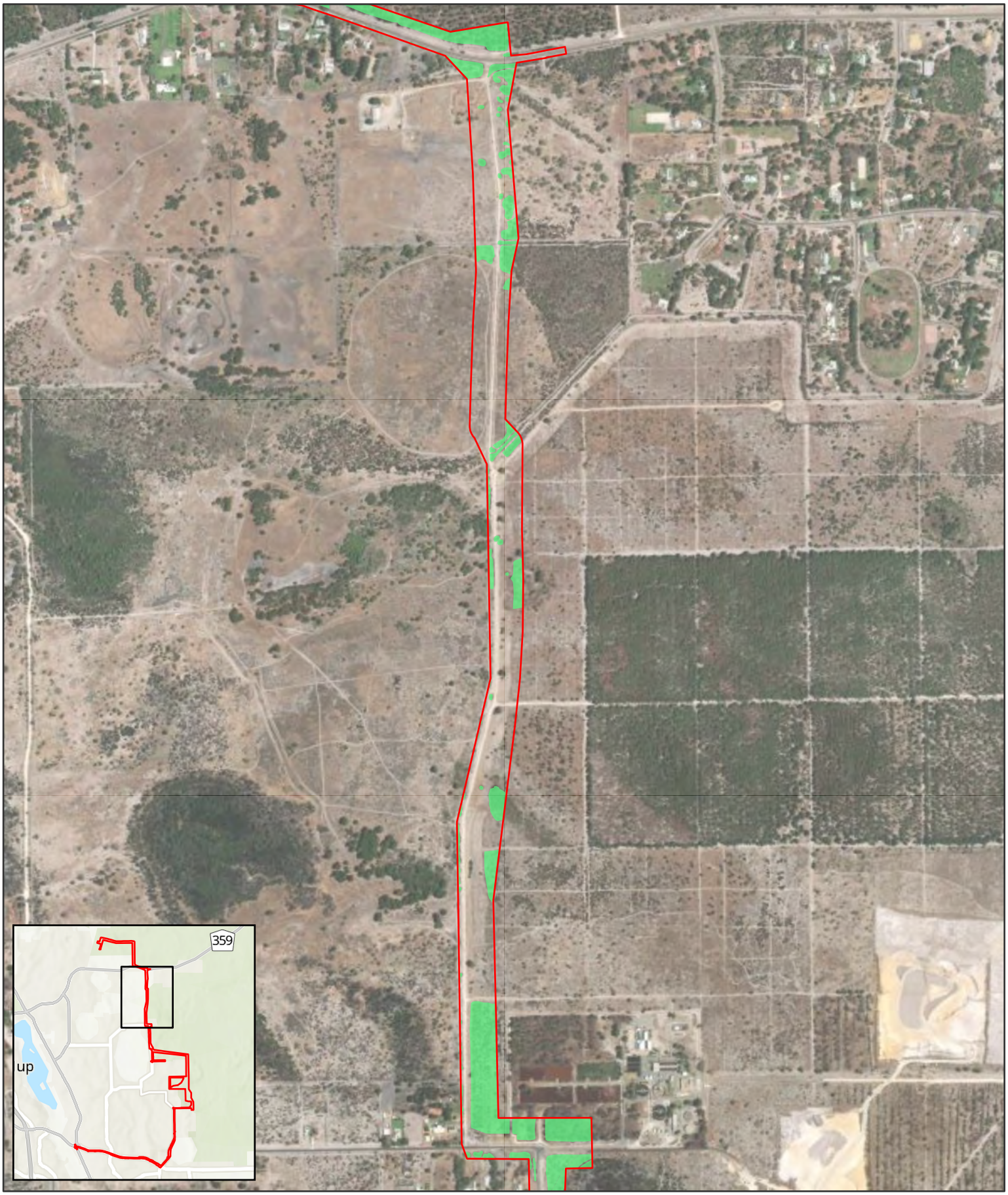

Potential black cockatoo breeding and roosting habitat within the survey area (Part 2 of 6)

Survey Area

Fauna habitat

Potential roosting habitat

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 24/03/2026

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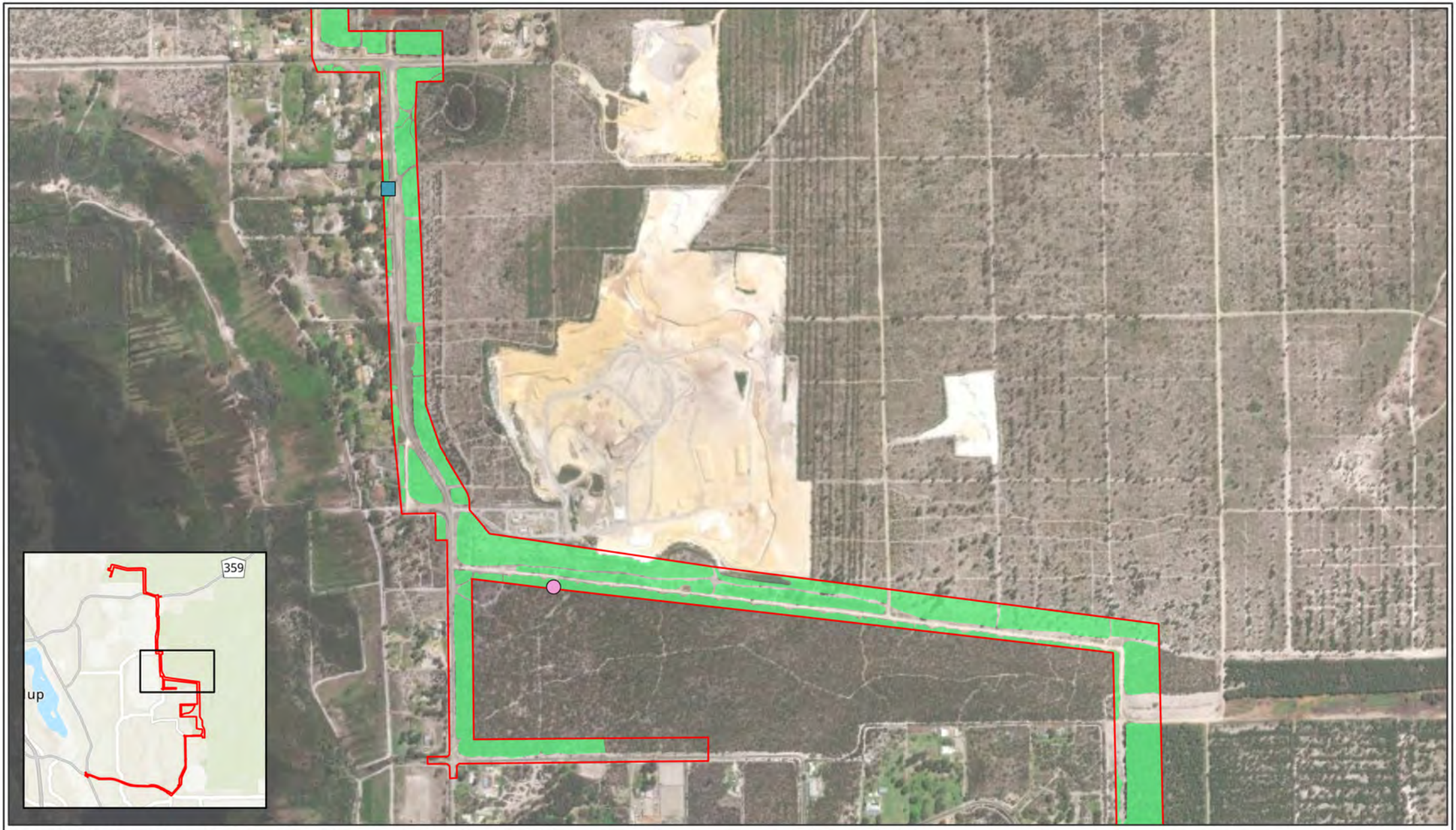

Potential black cockatoo breeding and roosting habitat within the survey area (Part 3 of 6)

Survey Area

Fauna habitat

Potential roosting habitat

Potential breeding tree

Jarrah (*Eucalyptus marginata*) – 500-600mm DBH (Rank 5)

Marri (*Corymbia calophylla*) – 500-600mm DBH (Rank 3)

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 22/04/2026

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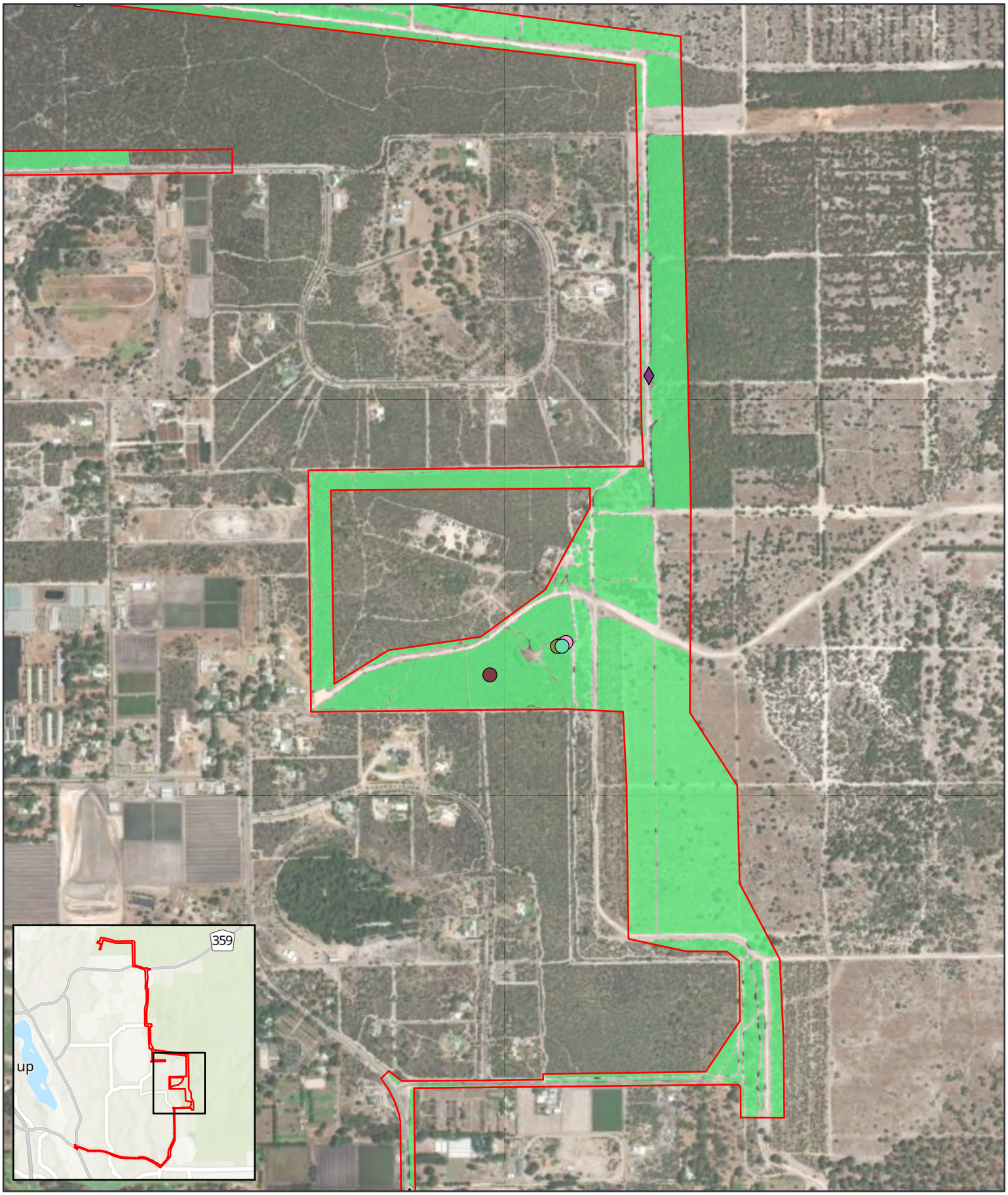

Potential black cockatoo breeding and roosting habitat within the survey area (Part 4 of 6)

Survey Area

Fauna habitat

Potential roosting habitat

Potential breeding tree

- Jarrah (*Eucalyptus marginata*) – 500-600mm DBH (Rank 5)
- Jarrah (*Eucalyptus marginata*) – 600-1000mm DBH (Rank 5)
- Jarrah (*Eucalyptus marginata*) – >1000mm DBH (Rank 3)
- Jarrah (*Eucalyptus marginata*) – >1000mm DBH (Rank 5)
- Flooded Gum (*Eucalyptus rudis*) – 500-600mm DBH (Rank 5)
- Flooded Gum (*Eucalyptus rudis*) – 600-1000mm DBH (Rank 5)

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 24/03/2026

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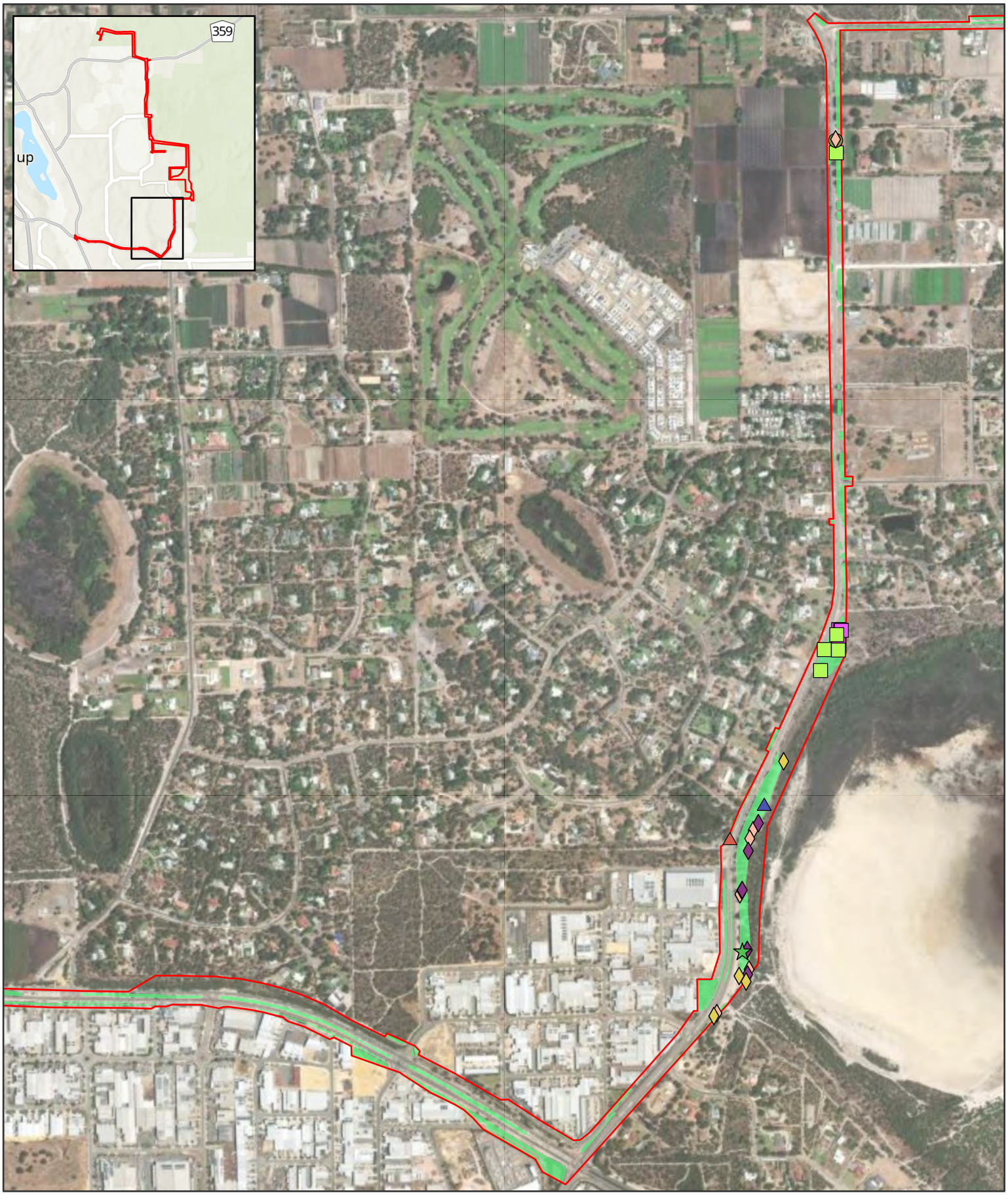

Potential black cockatoo breeding and roosting habitat within the survey area (Part 5 of 6)

Survey Area

Fauna habitat

Potential roosting habitat

Potential breeding tree

- Marri (*Corymbia calophylla*) – 500-600mm DBH (Rank 5)
- Marri (*Corymbia calophylla*) – 600-1000mm DBH (Rank 5)
- Tuart (*Eucalyptus gomphocephala*) – 600-1000mm DBH (Rank 5)
- Tuart (*Eucalyptus gomphocephala*) – >1000mm DBH (Rank 5)
- Jarrah (*Eucalyptus marginata*) – 600-1000mm DBH (Rank 5)
- Flooded Gum (*Eucalyptus rudis*) – 500-600mm DBH (Rank 5)
- Flooded Gum (*Eucalyptus rudis*) – 600-1000mm DBH (Rank 5)
- Flooded Gum (*Eucalyptus rudis*) - >1000mm DBH (Rank 5)
- Stag– >1000mm DBH (Rank 3)

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50

Project: 25PER10273-SP Date: 24/03/2026

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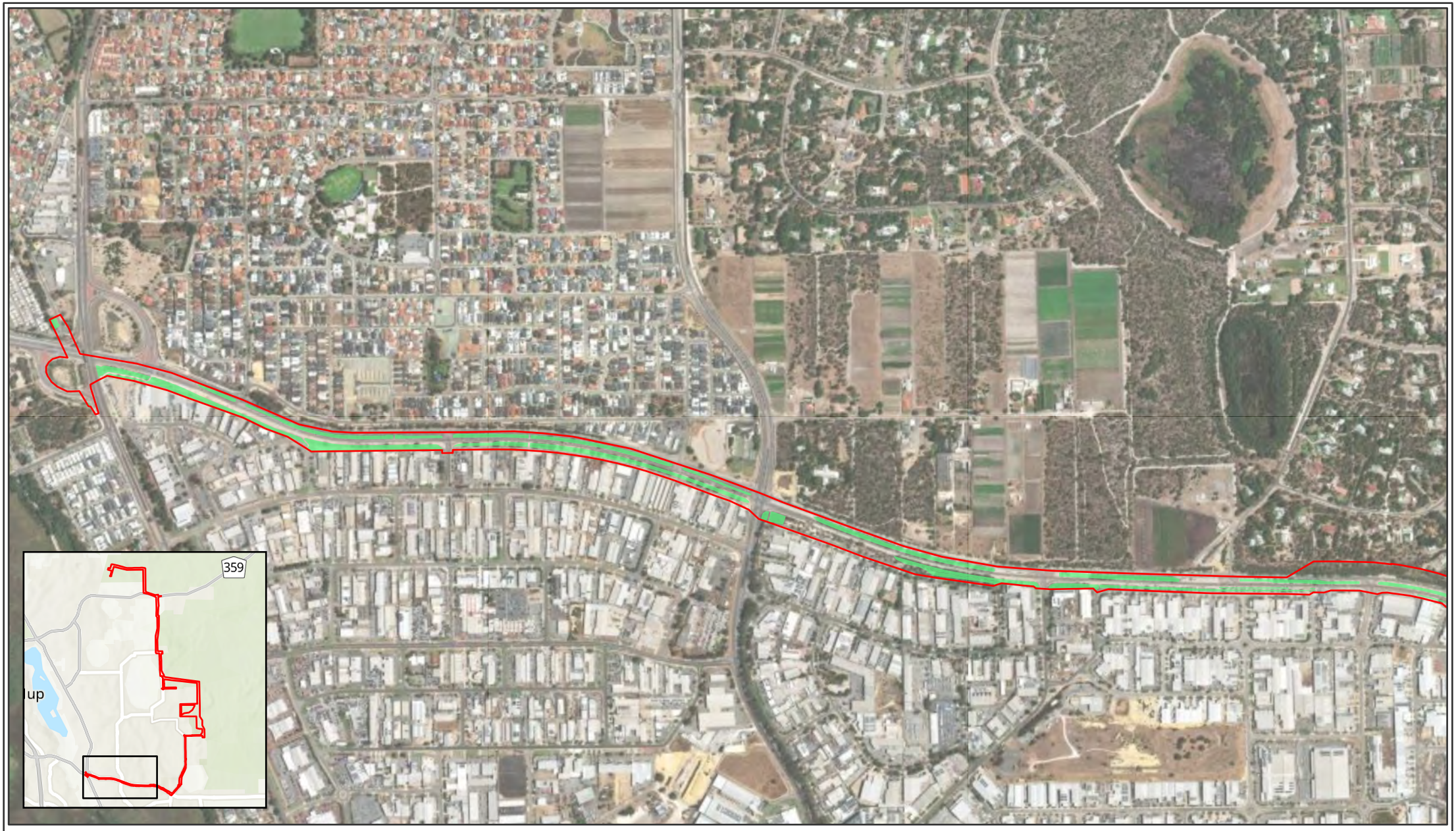

Potential black cockatoo breeding and roosting habitat within the survey area (Part 6 of 6)

Survey Area

Fauna habitat

Potential roosting habitat

0 125 250 500

Metres

Datum/Projection:
GDA2020 MGA Zone 50
Project: 25PER10273-SP Date: 24/03/2026

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Appendix X DAWE (2022) Black Cockatoo foraging scoring tool

Starting score	Baudin's black cockatoo		
10	**Start at a score of 10** if your site is native eucalypt woodlands and forest, and proteaceous woodland and heath, particularly Marri, within the range of the species, including along roadsides and parkland cleared areas. Can include planted vegetation. **This tool only applies to sites equal to or larger than 1 hectare in size.**		
Attribute	**Subtractions**	**Context adjustor (attributes reducing functionality of foraging habitat)**	**Evidence from field survey**
Foraging potential	-2	Subtract 2 from your score if there is no evidence of feeding debris on your site.	No evidence observed.
Connectivity	0	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.	There are multiple patches of potential foraging habitat within 12 km of the survey area.
Proximity to breeding	-2	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat.	No confirmed breeding sites within 12 km of the survey area.
Proximity to roosting	0	Subtract 1 if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat.	A total of 16 confirmed white-tailed (Carnaby's and/or Baudin's) roosts and 10 joint (white-tailed and forest red-tailed) roost occur within 12 km of the survey area.
Impact from significant plant disease	0	Subtract 1 if your site has disease present (e.g. *Phytophthora* spp. or Marri canker) and the disease is affecting more than 50% of the preferred food plants present.	Disease was not observed during the field survey.
Total score	**6**		
Appraisal	A total of 127.7 ha within the survey area is considered Moderate-quality habitat for Baudin's black cockatoo (Score of 6).		

Starting score	Carnaby's cockatoo		
10	**Start at a score of 10** if your site is native shrubland, kwongan heathland or woodland, dominated by proteaceous plant species such as *Banksia* spp. (including *Dryandra* spp.), *Hakea* spp. and *Grevillea* spp., as well as native eucalypt woodland and forest that contains foraging species, within the range of the species, including along roadsides and parkland cleared areas. Also includes planted native vegetation. **This tool only applies to sites equal to or larger than 1 hectare in size.**		
Attribute	**Subtractions**	**Context adjustor (attributes reducing functionality of foraging habitat)**	**Evidence from field survey**
Foraging potential	-2	Subtract 2 from your score if there is no evidence of feeding debris on your site.	No evidence observed.
Connectivity	0	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.	There are multiple patches of potential foraging habitat within 12 km of the survey area.
Proximity to breeding	0	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat.	One confirmed breeding in a natural hollow within 6-9 km, 12 confirmed breeding within an artificial hollow within 6-9 km.
Proximity to roosting	0	Subtract 1 if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat.	A total of 16 confirmed white-tailed (Carnaby's and/or Baudin's) roosts and 10 joint (white-tailed and forest red-tailed) roost occur within 12 km of the survey area.
Impact from significant plant disease	0	Subtract 1 if your site has disease present (e.g. *Phytophthora* spp. or Marri canker) and the disease is affecting more than 50% of the preferred food plants present.	Disease was not observed during the field survey.
Total score	**8**		
Appraisal	A total of 37.7 ha within the survey area is considered High-quality habitat for Carnaby's cockatoo (Score of 8).		

Starting score	Forest red-tailed black cockatoo		
10	**Start at a score of 10** if your site is Jarrah or Marri woodland and/or forest, or if it is on the edge of Karri forest, or if Wandoo and Blackbutt occur on the site, within the range of the subspecies, including along roadsides and parkland cleared areas. **This tool only applies to sites equal to or larger than 1 hectare in size.**		
Attribute	**Subtractions**	**Context adjustor (attributes reducing functionality of foraging habitat)**	**Evidence from field survey**
Foraging potential	-2	Subtract 2 from your score if there is no evidence of feeding debris on your site.	No evidence observed.
Connectivity	0	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.	There are multiple patches of potential foraging habitat within 12 km of the survey area.
Proximity to breeding	-2	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat.	No confirmed breeding sites within 12 km of the survey area.
Proximity to roosting	0	Subtract 1 if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat.	A total of four confirmed Forest-red tail black cocaktoo roosts and ten joint (white-tailed and forest red-tailed) roost occur within 12 km of the survey area.
Impact from significant plant disease	0	Subtract 1 if your site has disease present (e.g. *Phytophthora* spp. or Marri canker) and the disease is affecting more than 50% of the preferred food plants present.	Disease was not observed during the field survey.
Total score	**6**		
Appraisal	A total of 36.3 ha within the survey area is considered Moderate-quality habitat for Forest red-tailed black cockatoo (Score of 6).		

Appendix Y Black Cockatoo potential breeding trees recorded in the survey area

Tree ID	Species	DBH	Number of stems	Foraging evidence	Hollow y/n	Hollow rank	Hollow type	Hollow size	Comment
1	*Corymbia calophylla*	500-600	1	Nil	Y	3	Trunk	15	
2	*Corymbia calophylla*	500-600	1	Yes	Nil	5			
3	*Corymbia calophylla*	500-600	1	Yes	Nil	5			
4	*Corymbia calophylla*	500-600	1	Yes	Nil	5			
5	*Corymbia calophylla*	500-600	1	Yes	Nil	5			
6	*Corymbia calophylla*	600-1000	1	Nil	Nil	5			
7	*Corymbia calophylla*	600-1000	2	Yes - old	Nil	5			
8	*Corymbia calophylla*	600-1000	1	Yes	Nil	5			
9	*Corymbia calophylla*	600-1000	1	Yes	Nil	5			
10	*Corymbia calophylla*	600-1000	1	Yes	Nil	5			
11	*Eucalyptus gomphocephala*	>1000	1		Y	5	Trunk	5	
12	*Eucalyptus gomphocephala*	600-1000	3	Nil	Nil	5			
13	*Eucalyptus gomphocephala*	600-1000	1	Nil	Nil	5			
14	*Eucalyptus marginata*	>1000	1	Nil	Y	3	Spout	15	Spout hollow with bees
15	*Eucalyptus marginata*	>1000	1	Nil	Nil	5			
16	*Eucalyptus marginata*	500-600	2	Nil	Nil	5			
17	*Eucalyptus marginata*	500-600	1	Nil	Nil	5			
18	*Eucalyptus marginata*	500-600	1	Nil	Nil	5			
19	*Eucalyptus marginata*	500-600	1	Nil	Nil	5			
20	*Eucalyptus marginata*	600-1000	2	Nil	Nil	5			
21	*Eucalyptus marginata*	600-1000	1	Nil	Nil	5			
22	*Eucalyptus rudis*	>1000	1	Nil	Nil	5			
23	*Eucalyptus rudis*	>1000	1	Nil	Nil	5			
24	*Eucalyptus rudis*	>1000	1	Nil	Nil	5			
25	*Eucalyptus rudis*	>1000	1	Nil	Nil	5			
26	*Eucalyptus rudis*	500-600	1	Nil	Nil	5			
27	*Eucalyptus rudis*	500-600	4	Nil	Nil	5			
28	*Eucalyptus rudis*	500-600	2	Nil	Nil	5			
29	*Eucalyptus rudis*	500-600	1	Nil	Nil	5			
30	*Eucalyptus rudis*	500-600	2	Nil	Nil	5			
31	*Eucalyptus rudis*	500-600	1	Nil	Nil	5			
32	*Eucalyptus rudis*	500-600	1	Nil	Nil	5			
33	*Eucalyptus rudis*	600-1000	1	Nil	Nil	5			
34	*Eucalyptus rudis*	600-1000	4	Nil	Nil	5			

Tree ID	Species	DBH	Number of stems	Foraging evidence	Hollow y/n	Hollow rank	Hollow type	Hollow size	Comment
35	*Eucalyptus rudis*	600-1000	1	Nil	Nil	5			
36	*Eucalyptus rudis*	600-1000	1	Nil	Nil	5			
37	*Eucalyptus rudis*	600-1000	1	Nil	Nil	5			
38	*Eucalyptus rudis*	600-1000	1	Nil	Nil	5			
39	Stag	>1000	1	Nil	Y	3	Trunk	15