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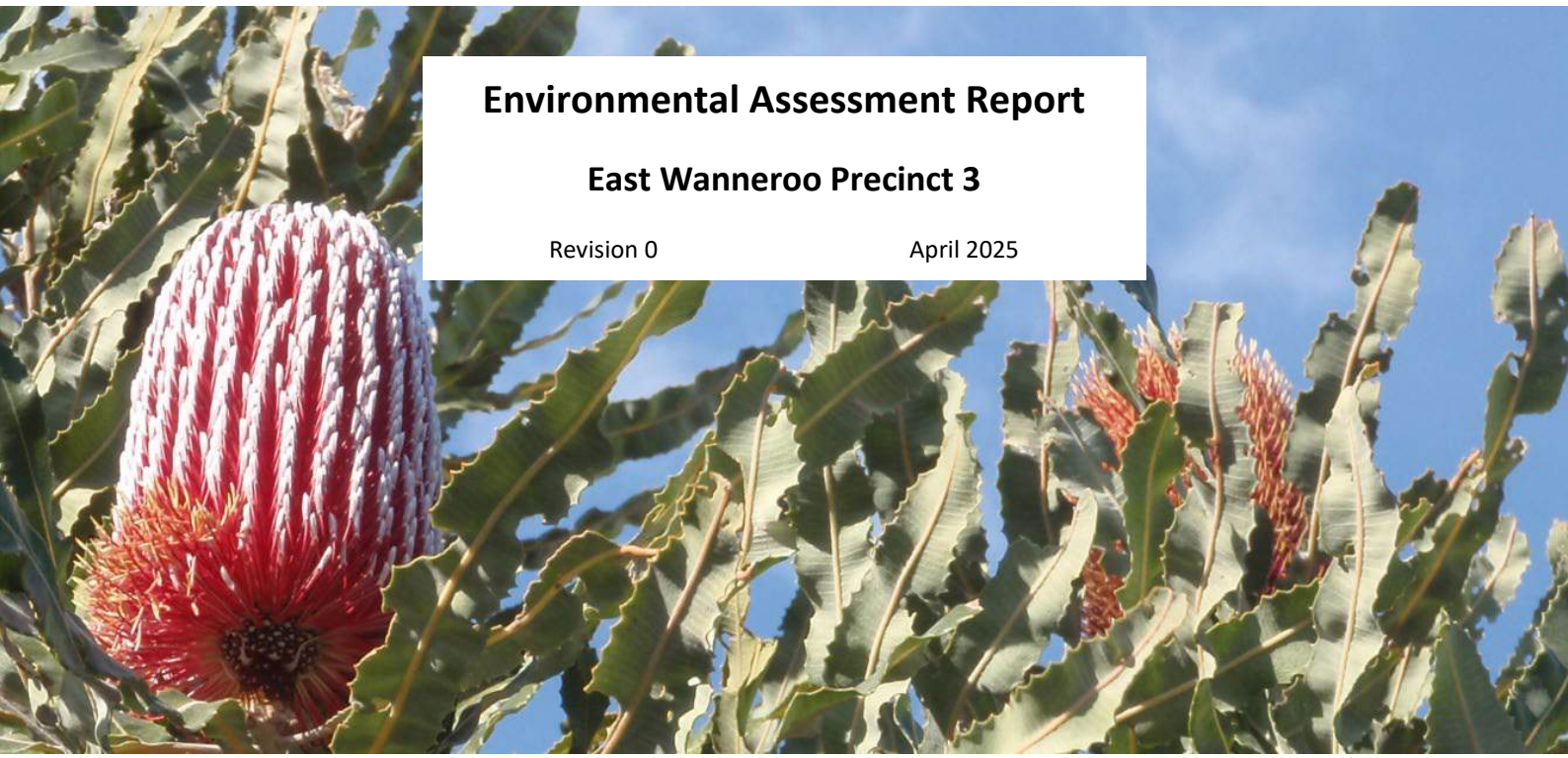

Environmental Assessment Report

East Wanneroo Precinct 3

Revision 0 April 2025

CALIBRE | COMMITMENT | COLLABORATION

This report was prepared by:	Coterra Pty Ltd trading as COTERRA ENVIRONMENT	This report was prepared for:
ABN:	ABN: 92 143 411 456	Satterley Level 3, 27-31 Troode Street West Perth WA 6005
Our Ref:	SATWAN01	
Author(s):	K Choo and K Watts	
Reviewer:	K Choo	
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Executive Summary

The East Wanneroo District Structure Plan (DSP) was prepared by the Western Australian Planning Commission (WAPC) to guide the progressive urbanisation of East Wanneroo, with the DSP extending over approximately 8,300 ha, and divided into 28 precincts (Appendix 1).

Satterley Property Group (Satterley) is progressing structure planning within Precinct 3 (the site), which is located in the southwestern portion of the DSP area and extends over approximately 135 ha (Figure 1). This precinct is proposed to be developed as a suburban neighbourhood and is identified to form part of the DSP Stage 1 development area.

The landholdings within Precinct 3 are currently zoned Urban Deferred and Rural under the Metropolitan Region Scheme (MRS) and Rural under the City of Wanneroo District Planning Scheme No 2 (DPLH, 2025a).

A Local Structure Plan (LSP) has been prepared by Burgess Design Group which presents the development layout for the landholdings within Precinct 3 and addresses the requirements of the East Wanneroo DSP (Appendix 2).

Environmental factors which have been identified to be relevant to the environmental impact assessment of the LSP include:

- Terrestrial Environmental Quality
- Inland Waters
- Flora and Vegetation
- Terrestrial Fauna
- Social Surroundings.

Other environmental matters relevant to the proposal include:

- Bushfire.

Key Environmental Values of the Site

Desktop review and site surveys have identified that the site has the following key environmental values:

Terrestrial Environmental Quality

- Topography at the site ranges between 52 metres Australian Height Datum (m AHD) in the northeastern corner to 84 mAHD to the southwestern corner of the site.
- Soils within the site are mapped as comprising Sand derived from Tamala Limestone (Unit: S7).
- Soils at the site are predominantly identified as posing no known Acid Sulfate Soils (ASS) risk. A small area within the north eastern corner of the site is mapped as overlapping a moderate to high ASS risk area.
- The site is mapped by the City of Wanneroo as having a Low cave risk.
- No known contaminated sites are located within the site or in the surrounding area.
- Precinct 3 is a rural area which is used for purposes including rural lifestyle living, market gardening, equestrian activities, etc. There is potential that soil and/or groundwater quality could be impacted by current and historical land uses.
- Development of the site can be managed to ensure potential contamination is appropriately assessed and remediated, if required, prior to development. Potential dust generation can be managed through the preparation and implementation of Construction Environmental Management Plan or similar, which will include best practice construction techniques and management practices.

Inland Waters

- Regional mapping by the Department of Water and Environmental Regulation (DWER) indicates that the maximum groundwater level in this location is ranges from approximately 40 to 42 mAHD, with superficial aquifer groundwater flow direction being westerly towards the coast (DWER, 2024a).
- Based on topographic elevations this indicates that depth to groundwater varies from approximately 10m below ground level (BGL) to 44 mBGL (DWER, 2024a).
- There are no Public Drinking Water Source Areas (PDWSAs) located within the site.
- There are no surface water features present within the site.
- There are no geomorphic wetlands mapped within the site, with the closest wetland being located approximately 280 m east of the site.
- In comparison to the current rural land uses, implementation of the LSP to facilitate future urban development will result in the following predicted outcomes for inland waters:
    - The existing conductions which are conducive the infiltration through the sandy subsurface profile, together with a large separation distance to groundwater will remain
    - Reduction in nutrient inputs and groundwater abstraction across the site
    - Avoidance of impacts to groundwater quality
    - Stormwater can be managed and infiltrated onsite and can operate independently of other surrounding East Wanneroo development precincts.

Flora and Vegetation

- The site is located within the mapped extent of vegetation association's Spearwood 6 and Bassendean 949, and Karrakatta Complex- Central and South. The site contains approximately 32.9 ha of native vegetation.
- The detailed flora and vegetation survey undertaken in spring 2024 by Ecoscape (2025) for the site identified two vegetation types:
    - BaLOF: *Banksia attenuata*, *Allocasuarina fraseriana* and *Banksia menziesii* low open forest, occupying 14.8%
    - EmmLW: *Eucalyptus marginata* subsp. *marginata*, *Banksia prionotes* and *Allocasuarina fraseriana* low woodland, occupying 9.6%
- The condition of the vegetation ranged from Completely Degraded to Very Good condition, with the majority of native vegetation in Good or Very Good condition.
- No threatened flora species listed under the *Biodiversity Conservation Act 2016* (BC Act) and/or under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) were recorded during the field survey.
- One Priority 2 flora, *Poranthera moorokatta*, was recorded during the field survey.
- The floristic community type (FCT) analysis indicated that both vegetation types are most likely FCT 28 - Spearwood *Banksia attenuata* or *B. attenuata*-Eucalyptus woodlands.
- One federally listed Threatened Ecological Community (TEC), the Banksia Woodlands of the Swan Coastal Plain ecological community (Banksia WL SCP ecological community) was mapped within site, totalling 17.9 ha (13.3%).
- The LSP proposes to retain 13.0 ha (39.5%) of native vegetation within Parks and Recreation reserve, which comprises 5.8 ha of the EmmLW vegetation unit and 7.2 ha of the BaLOF vegetation unit. The

portion of this vegetation which is representative of the Banksia WL SCP ecological community is 9.4 ha (52.2%).

- Areas of retained vegetation in identified Parks and Recreation reserve will be subject to vegetation management, including weed control and targeted revegetation. The details of these works will be outlined within a Conservation Area Management Plan, or similar, proposed to be prepared at subdivision stage
- Based on the extent of clearing of Banksia WL SCP vegetation onsite, development proposals would be referred to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The EPBC Act referral review and assessment process will allow for further assessment of impacts to Banksia WL SCP vegetation and for environmental offsets to be provide, where required.

Fauna and Habitat

- The fauna survey undertaken in February 2025 by Ecoscape (2025) recorded the following conservation listed species:
    - Carnaby's Cockatoo (*Zanda latirostris;* Endangered under the BC Act and EPBC Act)
    - Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso;* Vulnerable under the BC Act and EPBC Act)
    - Quenda (*Isoodon fusciventer;* Priority 4 as listed by the DBCA).
- One fauna habitat occurs within the survey area, described as Banksia Woodland (occupying 24.4% or 32.9 ha) with the remainder not native vegetation or cleared for rural/rural residential land uses.
- The Banksia Woodland habitat type is high-quality foraging habitat for Carnaby's Cockatoos and moderate quality foraging habitat for Forest Red-tailed Black Cockatoos, according to the Bamford scale, and high quality habitat for both species according to the Commonwealth Black Cockatoo referral guidelines habitat scoring tool.
- 95 Black Cockatoo habitat trees were recorded to have suitable diameters (>500 mm), of which 84 were Jarah (*Eucalyptus marginata*), 5 were Tuart (*Eucalyptus gomphocephala*), 7 were dead and 2 were other.
- No trees were identified within the site as having hollows with active nests or showing previous use as a Black Cockatoo nest.
- One Jarrah was recorded within the eastern extent of Lot 40 as having potentially suitable hollows without evidence of use.
- 30 trees were classified as trees with large hollows that weren't suitable for Black Cockatoos and 64 as trees currently without large hollows.
- No known roost locations are registered within the site, with the closest recorded roost being approximately 530 m east of the site.
- The LSP proposed to retain approximately 13.0 ha (39.5%) of Black Cockatoo habitat within Parks and Recreation, which comprise of:
    - high value Carnaby's Cockatoo foraging habitat
    - moderate value Forest Red-tailed Black Cockatoo foraging habitat
    - 38 Black Cockatoo habitat trees with suitable diameter.
- Areas of retained fauna and Black Cockatoo habitat in identified Parks and Recreation reserve, will be subject to vegetation management including weed control and targeted revegetation. The details of these works will be outlined within a Conservation Area Management Plan, or similar, proposed to be prepared at subdivision stage.

- A Vegetation and Fauna Management Plan will be prepared and implemented at subdivision stage to prevent damage to fauna habitats being retained, and ensure fauna is appropriately trapped and relocate. It will also include protocols for dealing with displaced/injured animals during clearing and subdivisional works.
- Future development proposals proposing to clear Black Cockatoo habitat will require referral under the Commonwealth EBPC Act. The EPBC Act referral and assessment process will require further evaluation of impacts to Black Cockatoo and for environmental offsets to be provided, where required.

Social Surroundings

- There are no known registered Aboriginal cultural heritage sites or other heritage places within or in proximity to the site.
- There are no known European heritage sites within the site.
- The Department of Mines, Industry, Regulation and Safety (DMIRS) GeoView database does not indicate the presence of any SPP 2.4 Basic Raw Materials extraction sites or exclusions areas within the landholdings.
- The site is not mapped within any strategic freight and/or major traffic routes as identified by State Planning Policy 5.4 Road and Rail Noise.
- Market gardening and other intensive primary industry activities exist with the site and surrounding areas. The interface between these land uses and future development need to take into consideration how these land uses are separated.
- Preparation and implementation of a Construction Environmental Management Plan or similar for future subdivisional works, which will include key obligations under the *Aboriginal Heritage Act 1972* (AH Act) regarding potential finds of cultural significance, and dust management requirements to prevent loss of surface soils and soil stabilisation requirements.

Local Structure Plan

A Local Structure Plan has been prepared for Precinct 3 (Appendix 1). The Local Structure Plan will inform future subdivision plans through detailed engineering and planning design phases, as the environmental and planning approvals processes progress. Key features of the Local Structure Plan include:

- Retention of 13.0 ha of vegetation within Parks and Recreation reserves
- Development of 19.9 ha of land within Urban Development and Public Open Space areas
- Retention of Banksia Woodlands TEC
- Retention of Black Cockatoo foraging habitat and habitat trees.

Future Actions

To ensure the detailed project design and implementation achieves appropriate environmental outcomes, the following reports and management plans will be prepared at future subdivision and/or development stages:

- Urban Water Management Plan(s)
- Bushfire Management Plan(s)
- Conservation Area Management Plan(s)
- Vegetation and Fauna Management Plan(s)
- Construction Environmental Management Plan
- ASS Assessment and Dewatering Management Plan, if required

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Appendix 2 Proposed Local Structure Plan
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1 Introduction

1.1 Background

The East Wanneroo District Structure Plan (DSP) was prepared by the Western Australian Planning Commission (WAPC) to guide the progressive urbanisation of East Wanneroo, with the DSP extending over approximately 8,300 ha, and divided into 28 precincts (Appendix 1).

Satterley Property Group (Satterley) is progressing structure planning within Precinct 3 (the site), which is located in the southwestern portion of the DSP area and extends over approximately 135 ha (Figure 1). Details regarding the landholdings within this precinct are provided in Table 1-1. This precinct is proposed to be developed as a suburban neighbourhood and is identified to form part of the DSP Stage 1 development area.

The landholdings within Precinct 3 are currently zoned Urban Deferred and Rural under the Metropolitan Region Scheme (MRS) and Rural under the City of Wanneroo District Planning Scheme No 2 (DPLH, 2025a).

A Local Structure Plan (LSP) has been prepared by Burgess Design Group which presents the development layout for the landholdings within Precinct 3 and addresses the requirements of the East Wanneroo DSP (Appendix 2).

Table 1-1: Lot identification details

Lot Details	Certificate of Title	Address	Area (ha) [approximate]
Lot 700 Elliott Road	2779/365	171 Elliott Road, Wanneroo	3.828
Lot 29 Elliott Road	1174/500	179 Elliott Road, Wanneroo	4.371
Lot 30 Elliott Road	36/98A	191 Elliott Road, Wanneroo	4.371
Lot 31 Elliott Road	36/99A, 1652/776	207 Elliott Road, Wanneroo	4.371
Lot 32 Elliott Road	1164/832	215 Elliott Road, Wanneroo	4.371
Lot 33 Elliott Road	1168/406	223 Elliott Road, Wanneroo	4.371
Lot 34 Elliott Road	1464/818	239 Elliott Road, Wanneroo	4.371
Lot 35 Elliott Road	1274/190	249 Elliott Road, Wanneroo	4.371
Lot 36 Elliott Road	1274/191	259 Elliott Road, Wanneroo	4.171
Lot 37 Benmuni Road	1158/744	98 Benmuni Road, Wanneroo	4.504
Lot 38 Elliott Road	1934/287	248 Elliott Road, Wanneroo	4.371
Lot 11 Elliott Road	1438/245	238 Elliott Road, Wanneroo	2.185
Lot 10 Elliott Road	1438/244	232 Elliott Road, Wanneroo	2.185
Lot 40 Elliott Road	1335/979	232 Elliott Road, Wanneroo	4.246
Lot 12 Elliott Road	2619/498	224 Elliott Road, Wanneroo	0.125
Lot 41 Elliott Road	2/41A	220 Elliott Road, Wanneroo	4.371
Lot 42 Elliott Road	1277/946	220 Elliott Road, Wanneroo	4.371
Lot 43 Elliott Road	1158/745	194 Elliott Road, Wanneroo	4.371
Lot 4 Elliott Road	1834/1000	186 Elliott Road, Wanneroo	2.186
Lot 3 Elliott Road	1226/524	178 Elliott Road, Wanneroo	2.186
Lot 10 Elliott Road	2759/533	176 Elliott Road, Wanneroo	3.506
Lot 100 Nicholas Road	2760/986	96 Nicholas Road, Wanneroo	2.748
Lot 60 Nicholas Road	1237/861	84 Nicholas Road, Wanneroo	3.436

Lot Details	Certificate of Title	Address	Area (ha) [approximate]
Lot 61 Nicholas Road	1250/943	78 Nicholas Road, Wanneroo	3.436
Lot 62 Nicholas Road	1205/703	62 Nicholas Road, Wanneroo	3.436
Lot 63 Nicholas Road	1237/860	50 Nicholas Road, Wanneroo	3.436
Lot 64 Nicholas Road	1308/931	40 Nicholas Road, Wanneroo	3.436
Lot 65 Nicholas Road	1785/655	30 Nicholas Road, Wanneroo	3.436
Lot 66 Nicholas Road	1225/717	18 Nicholas Road, Wanneroo	3.436
Lot 67 Nicholas Road	1254/578	8 Nicholas Road, Wanneroo	3.762
Lot 68 Nicholas Road	1282/701	7 Nicholas Road, Wanneroo	2.965
Lot 69 Nicholas Road	1827/427	19 Nicholas Road, Wanneroo	2.585
Lot 70 Nicholas Road	1266/118	31 Nicholas Road, Wanneroo	2.586
Lot 71 Nicholas Road	1897/286	39 Nicholas Road, Wanneroo	2.586
Lot 72 Nicholas Road	1639/376	51 Nicholas Road, Wanneroo	2.587
Lot 73 Nicholas Road	2063/354	61 Nicholas Road, Wanneroo	2.588
Lot 74 Nicholas Road	1236/913	73 Nicholas Road, Wanneroo	2.588
Lot 75 Nicholas Road	1299/865	87 Nicholas Road, Wanneroo	2.589
Lot 300 Lenore Road	2762/907	145 Lenore Road, Wanneroo	2.050

1.2 Purpose and scope of this report

This Environmental Assessment Report (EAR) was prepared to accompany the LSP documentation package and address:

- the environmental values of the site
- potential environmental impacts associated with the proposed development
- the design, management and mitigation strategies proposed to address these impacts.

2 Planning and Environmental Assessment Context

2.1 East Wanneroo District Structure Plan

In response to the *North-West Sub-Regional Planning Framework 2018*, the East Wanneroo DSP was developed to guide the progressive urbanisation of the East Wanneroo area (WAPC 2021). The DSP was finalised in July 2021 and approved by the Minister for Planning in August 2021.

The DSP area includes a mix of mainly rural land uses such as market gardens, equestrian activities and rural lifestyle properties surrounding regional parks, state forests and wetlands, many of which have significant environmental values (WAPC, 2021a). Balanced with the elements required to create functional and attractive neighbourhoods that are serviced by high schools, activity centres and future employment opportunities, the DSP seeks to protect the natural, historical and cultural values within the East Wanneroo area (WAPC, 2021a).

The DSP identifies that Precinct 3 is to contain the following land uses:

- Suburban neighbourhood
- Parklands
- Parklands (subject to confirmation)
- Parkland link
- Centre
- Transport corridor
- Service corridor

With regard to the areas designated as Parklands within the DSP, these include the following (WAPC, 2021a):

- Parks and Recreation reserves under the MRS
- Local reserves vested within the City of Wanneroo
- Conservation Category Wetlands.

In addition to the existing reserves listed above, the DSP proposes the creation of new Parks and Recreation reserves from the following two categories (WAPC, 2021a):

1. **New Parks and Recreation reserves**: As the responsible authority the WAPC will prepare and initiate the MRS amendments to create these new reserves
2. **Potential Parks and Recreation reserves subject to confirmation**: Proponents undertaking LSPs for any precincts containing these potential reserves will be responsible for carrying out detailed flora and fauna surveys to confirm the appropriate configuration of these new reserves.

The DSP has identified both of the above categories within Precinct 3, as well as one portion of Bush Forever Site 327 (Lot 66 and Part Lot 67 Nicholas Road) which has been identified as suitable for a negotiated planning outcome in accordance with WAPCs (2008) State Planning Policy (SPP) 2.8 – Bushland Policy for the Perth Metropolitan Region.

2.2 Zonings and Reserves

2.2.1 Metropolitan Region Scheme

As a first step towards the urbanisation of East Wanneroo, the WAPC initiated MRS amendment 1308/41 to rezone 2,099.80 ha in the East Wanneroo DSP area from Rural to Urban Deferred. As part of this MRS

amendment, the majority of Precinct 3 was zoned Urban Deferred under the Metropolitan Region Scheme (MRS) with some vegetated areas remaining within the Rural zone. The areas zoned Rural align with areas designated as Parklands and Parklands (subject to confirmation) under the DSP.

The WAPC will consider lifting of urban deferment for Precinct 3 in line with their Lifting of Urban Deferment Guidelines and the DSP which requires preparation of a LSP, confirmation that water and wastewater services can be provided and any other requirements specific to Precinct 3 (as set out in the DSP).

2.2.2 City of Wanneroo District Planning Scheme No. 2

Under the City of Wanneroo District Planning Scheme No. 2 (DPS 2) the site is zoned Rural, and it is expected that a concurrent amendment to rezone Precinct 3 under the City's DPS 2 will take place.

2.3 Land Use Planning Process

The following sets out the land use planning process that will be applied to facilitate future urban development:

- Submit request to lift urban deferment and rezone the site to Urban
- Reserve Part Lots 29, 30, 31, 32, 33, 34, 43, 66 and 67 to Parks and Recreation under the MRS to ensure the most significant environmental values of the site are conserved and retained for the long term.
- Concurrent LPS amendment to rezone the land from Rural to Residential Development under DPS 2.
- LSP to be prepared and approved for Precinct 3 for the urban area.
- Subdivision and development, including addressing any relevant subdivision conditions (e.g. preparation of management plans as conditions of subdivision).

2.4 Precinct 3 Local Structure Plan

The proposed LSP has been developed for Precinct 3 and comprises the following attributes:

- Suburban neighbourhood residential
- Public Open Space
- Parklands Reserve
- Childcare centre
- Primary School
- Group Dwelling.

2.5 Environmental Assessment

2.5.1 State legislation

The *Planning and Development Act 2005* (PD Act) requires all proposed schemes and scheme amendments to be referred to the Environmental Protection Authority (EPA) by the Responsible Authority (in this instance the WAPC) for the scheme. Following referral of a scheme amendment, and in accordance with Section 48A of the *Environmental Protection Act 1986* (EP Act), the EPA will determine whether the referred scheme amendment:

- should not be assessed (with advice and recommendations potentially provided)
- should be assessed (i.e. environmental review of the scheme with instructions issued by the EPA concerning the scope and content of the environmental review)
- is by its nature incapable of being made environmentally acceptable.

MRS amendment 1308/41 was referred to the EPA for its consideration and in February 2016, the EPA determined that the scheme amendment should not be assessed under Part IV of the EP Act.

2.5.2 Federal legislation

Any proposed action which is likely to result in significant impacts to Matters of National Environmental Significance (MNES) listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is required to be referred to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) to determine whether it requires assessment under the EPBC Act.

The timing of EPBC Act referrals is not directly linked to the state planning processes. In an urban development context, EPBC Act referrals are typically undertaken once detailed design been undertaken and the development layout has been determined (for example, at the LSP stage).

2.6 Associated Technical Reports

The following technical reports have been prepared to support the LSP. Key information from these documents is referenced in this EAR where relevant:

- Local Water Management Strategy (Hyd2o, 2025)
- Bushfire Management Plan (Emerge Associates, 2025)

3 Terrestrial Environmental Quality

3.1 Key Policies and Guidance

Relevant policy and guidance documents for terrestrial environmental quality, which have been used to assess potential impacts, include:

- Environmental Factor Guideline – Terrestrial Environmental Quality (EPA, 2016e)
- Acid Sulphate Soils Planning Guidelines (WAPC, 2008)
- Managing Urban Development in Acid Sulfate Soil Areas (DER, 2015a)
- Identification and Investigation of Acid Sulfate Soils and Acidic Landscapes (DER, 2015b)
- Treatment and Management of Soil and Water in Acid Sulfate Soil Landscapes (DER, 2015c)
- Identification, Reporting and Classification of Contaminated Sites in Western Australia (DWER, 2025)
- Assessment and Management of Contaminated Sites (DWER, 2021).

3.2 Receiving Environment

3.2.1 Topography

Topography at the site ranges between 52 metres Australian Height Datum (mAHD) in the northeastern corner to 84 mAHD to the southwestern corner of the site (Landgate, 2024b) (Figure 3).

3.2.2 Geology and Soils

Soils within the site are mapped as comprising Sand derived from Tamala Limestone (Unit: S7), which is described as 'Sand - pale and olive yellow, medium to coarse-grained, sub-angular quartz with a trace of feldspar, moderately sorted, of residual origin' (Gozzard, 1982) (Figure 3). A small portion of the site (<0.1% of the site area) is mapped as Peaty Clay (Unit: Cps) which is described as 'dark grey and black soft variable organic content some quartz sand in places of lacustrine origin' (Gozzard, 1982).

The Department of Primary Industries and Regional Development (DPIRD) soil landscape mapping identifies that the site comprises the Karrakatta Sand Yellow Phase (DPIRD, 2024; Landgate, 2024a). This system is described in Table 3-1. Table 3-2 lists the land degradation risk categories for this land system mapping unit.

Table 3-1: Land Systems

Mapping Units	Land System	Description
211Sp__Ky	Karrakatta Sand Yellow phase	Low hilly to gently undulating terrain. Yellow sand over limestone at 1-2 m. Banksia spp. woodland with scattered emergent *Eucalyptus gomphocephala* and *Eucalyptus marginata* and a dense shrub layer

Source: DPIRD, 2024; Landgate, 2024

Table 3-2: Land degradation risk categories

Land Degradation Risk Category	211Sp__Ky
Water Erosion	<3% of map unit has a very high to extreme hazard
Wind Erosion	>70% of map unit has a high to extreme hazard
Flood Hazard	<3% of the map unit has a moderate to high hazard
Salinity Risk	<3% of map unit has a moderate hazard
Waterlogging and Inundation	<3% of map unit has a moderate to very high risk

Source: DPIRD, 2024

Soils at the site are predominantly identified as posing no known Acid Sulfate Soils (ASS) risk. A small area within the north eastern corner if the site (Unit Cps) is mapped as overlapping a moderate to high ASS risk area (Landgate, 2024b) (Figure 3).

The site is mapped by the City of Wanneroo as having a Low cave risk (CoW, 2025).

3.2.3 Land Use

Precinct 3 is a rural area which is used for purposes including rural lifestyle living, market gardening, equestrian activities, place of worship, as well as containing areas of native vegetation (Figure 2). The site is not connected to the Water Corporation sewer network and instead, the existing premises are serviced by septic tanks or Alternative Treatment Units.

Surrounding land uses include:

- Hocking residential area to the west
- Benmuni Park Parks and Recreation reserve to the immediate north
- Rural residential landholdings to the north (beyond the Parks and Recreation reserve) and to the south
- Rural landholdings to the north east
- Nanovich Park Parks and Recreation reserve to the south east.

Review of historical aerial photography (Landgate, 2025b) indicates the following general historical land uses across the site:

- Subdivision of individual lots and clearing of portions of the site commenced prior to 1965. Market gardening and orchard establishment has also commenced on a number of lots.
- Further vegetation clearing and development of the site for predominantly agricultural purposes (including market gardening and potentially poultry farming) continued between 1965 and 2000s, with these land uses continuing to present time on many of the lots.
- The St Mark and St George Coptic Orthodox Church was constructed on Lot 11 Elliot Road in the mid-2000s.

3.2.4 Potential Contamination

A search of the Department of Water and Environmental Regulation (DWER) contaminated sites database did not identify the presence of known contaminated sites within or immediately surrounding Precinct 3 (DWER, 2024b).

The DWER guidance for assessment and management of contaminated sites (DWER, 2021) identifies the land uses which have the potential to result in contamination of the soil or underlying groundwater. Examples of land uses which may be relevant to the site include:

- Asbestos products, manufacture, use or disposal
- Fertiliser manufacture or storage
- Intensive agriculture
- Market gardens, orchards, poly tunnels, plant nurseries and viticulture.

Based on the above, there is potential that soil and/or groundwater quality could be impacted by current and historical land uses.

3.3 Potential Impact Identification and Assessment

3.3.1 Potential Contamination

It is possible that soil or groundwater contamination may have been impacted by current or historical land uses undertaken onsite.

Initial investigations relating to potential contamination have commenced on a number of lots across the site with preliminary findings indicating common rural lot conditions are present including evidence of surface rubbish in some locations, localised surface potential Asbestos Containing Material (ACM) presence in some locations and minor concentrations of pesticides being detected in some soils.

Further investigations are proposed in accordance with the DWER Contaminated Sites Guideline for 'Assessment and management of contaminated sites' (DWER, 2021) at the subdivision stage of the project.

Future site contractors will also be provided with an unexpected finds procedure which will guide notification and management requirements should any areas or sources of potential contamination be identified during the site works program that have not been previously uncovered.

3.3.2 Acid Sulfate Soils

As noted above, the site is not mapped as posing an ASS risk. There is a small area of moderate to high risk ASS mapped generally north of the site, with a small intrusion into Lots 35 and 36 Elliot Road. Table 3-3 outlines the ASS investigation trigger criteria as provided by DWER (DER, 2015b).

Table 3-3: ASS Investigation Trigger Criteria Assessment

Criteria	Comment
Acid sulfate soil disturbing subdivision or development that is subject to conditional approval requiring the investigation and management of acid sulfate soils	No subdivision or development approvals have been granted for Precinct 3 at this time.
Soil or sediment disturbance of 100 m3 or more in an area depicted on an ASS risk map as Class I 'high to moderate risk of ASS occurring within 3 m of natural soil surface' (e.g., construction of roads, foundations, installation of underground infrastructure, drainage works, land forming works, dams and aquaculture ponds or sand or gravel extraction)	Unlikely to occur. To be confirmed once engineering designs for this portion of the site are available.
Soil or sediment disturbance of 100 m3 or more with excavation from below the natural water table in an area depicted on an ASS risk map as Class II 'moderate to low risk of ASS occurring within 3m of natural soil surface but high to moderate risk of ASS beyond 3 m of natural soil surface'	Not Class II areas are present onsite.
Lowering of the water table, whether temporary or permanent (e.g., for groundwater abstraction, dewatering, installation of new drainage, modification to existing drainage), in areas depicted in an ASS risk map as Class I 'high to moderate risk of AASS or PASS occurrence' or Class II 'moderate to low risk of AASS or PASS occurrence within 3m of natural soil surface'	Unlikely to occur given separation distance to groundwater in the Class I area is approximately 9m below ground level.
Any dredging operations	No dredging is proposed.
Extractive industry works (e.g., mineral sand mining) in any of the areas listed in Table 1*	No extractive industries works are proposed.
Flood mitigation works, including construction of levees and flood gates, in any of the areas listed in Table 1*	No flood mitigation works are required.

*Source: DER (2015b); *refer to Table 1 in DER (2015b)*

Based on the above, it is unlikely that assessment of ASS will be required for the site.

3.4 Impact Mitigation

The proposed development will manage impacts to terrestrial environmental quality in accordance with the mitigation hierarchy (Table 3-4).

Table 3-4: Terrestrial Environmental Quality Mitigation Hierarchy

Mitigation Hierarchy	Assessment and Proposed Actions
Impact	
Terrestrial Environmental Quality	• Intercepting areas of potential contamination • Potential disturbance to ASS • Potential loss of surface soil through wind erosion
Mitigation Hierarchy	
Avoidance	• Areas of high to moderate risk ASS are limited in size and are not likely to require dewatering or disturbance of >100m^3 of soil.
Minimisation	• Preliminary Site Investigation (PSI) for potential contamination is to be undertaken in accordance with DWER guidance for the site prior to subdivision works commencing. Depending on the results of this investigation and Detailed Site Investigation and remediation works may be undertaken, if required. • An ASS assessment will be undertaken prior to subdivision works commencing if the following is to occur within the mapped Class I area on site: ▪ Soil or sediment disturbance of 100m^3 or more ▪ Lowering of the water table, whether temporary or permanent. • An unexpected finds procedure will be provided to site contractors in the case of potential contamination being identified. • A Construction Environmental Management Plan will be prepared for the site. This will contain, amongst other items, unexpected finds protocol for potential contaminants, dust management requirements to prevent loss of surface soils and soil stabilisation requirements.

3.5 Predicted Outcome

Development of the site can be managed to ensure potential contamination is appropriately assessed and remediated, if required, prior to development. Potential dust generation can be managed through the preparation and implementation of Construction Environmental Management Plan, which will include standard construction techniques and management practices.

The risk of ASS presence/disturbance has been identified to be low.

4 Inland Waters

4.1 Key Policies and Guidance

Relevant policy and guidance documents for inland waters, which have informed site-specific investigations and/or have been used to assess potential impacts, include:

- Environmental Factor Guideline – Inland Waters (EPA, 2018)
- State Planning Policy 2.9 Water Resources (WAPC, 2006) and Draft State Planning Policy 2.9 Planning for Water (DPLH, 2021)
- Better Urban Water Management (WAPC, 2008a)
- Stormwater Management Manual for Western Australia (DWER, 2004)
- Interim: Developing a local water management strategy (DoW, 2008)
- City of Wanneroo local planning policies including:
  - Local Planning Policy 4.4 - Urban Water Management
  - Local Planning Policy 5.3 - East Wanneroo

4.2 Receiving Environment

4.2.1 Groundwater

The site is underlain by the Superficial Swan Aquifer, the confined Leederville aquifer and the confined Yarragadee North aquifer (DWER, 2024b).

Regional mapping by the DWER indicates that the maximum groundwater level in this location ranges from approximately 40 to 42 mAHD (Figure 4), with superficial aquifer groundwater flow direction being westerly towards the coast (DWER, 2024a). Based on topographic elevations this indicates that depth to groundwater varies from approximately 10 m below ground level (BGL) to 44 mBGL (DWER, 2024a).

Groundwater monitoring at the site undertaken between September 2022 and November 2023 by consultant hydrologists Hyd2o indicated that minimum groundwater levels for the site bores were recorded mainly in March 2022 and ranged from 40.78 mAHD to 41.40 mAHD. Maximum groundwater levels were recorded mainly in October 2022 ranging from 41.23 mAHD to 42.13 mAHD (Hyd2o, 2025).

Groundwater availability is currently limited within this area, with the Lake Gnangara subareas of the Perth Superficial Swan aquifer, the Wanneroo confirmed subarea of the Perth Leederville aquifer, and the Wanneroo confined subarea of the Perth-Yarragadee North aquifer all identified to be fully allocated (DWER, 2025)

The following groundwater licences are held for properties within the site (Table 4-1):

Table 4-1: Current Groundwater Licences

Lot Number	Licence Number	Licence Volume
Lot 700 Elliot Road	53795	35,000 kL/year
Lot 29 Elliot Road	96251	12,950 kL/year
Lot 32 Elliot Road	180006	163,150 kL/year
Lot 33 Elliot Road	169281	42,008 kL/year
Lot 34 Elliot Road	76456	4,150 kL/year
Lot 37 Benmuni Road	207394	60,000 kL/year

Lot Number	Licence Number	Licence Volume
Lot 38 Elliot Road	203361	57,650 kL/year
Lot 11 Elliot Road	153256	9,815 kL/year
Lot 10 Elliot Road	107897	10,270 kL/year
Lot 60 Nicholas Road	98646	48,650 kL/year
Lot 61 Nicholas Road	152615	43,400 kL/year
Lot 62 Nicholas Road	66050	5,000 kL/year
Lot 63 Nicholas Road	76617	49,950 kL/year
Lot 65 Nicholas Road	71195	48,000 kL/year
Lot 70 Nicholas Road	168640	6,420 kL/year
Lot 72 Nicholas Road	95232	5,150 kL/year
Lot 73 Nicholas Road	63494	12,575 kL/year

There are no Public Drinking Water Source Areas (PDWSA) located within the site, with the Priority 3 Perth Coastal and Gwelup Underground Water Pollution Control Area located approximately 1.5km west of the site (DWER, 2024a).

4.2.2 Surface water

There are no surface water features present within the site (Landgate, 2024b).

No external surface water catchments drain into the site. All rainfall and surface runoff currently infiltrates through the sandy subsurface profile. Even in major events any diffuse overland flow which may occur in localised areas would be infiltrated on site (Hyd2o, 2025).

4.2.3 Geomorphic Wetlands

There are no geomorphic wetlands mapped within site (Landgate, 2024b), with the closest wetland located approximately 280m to the east of the site (UFI 8105) (Landgate, 2024b).

4.3 Potential Impact Identification and Assessment

The following potential impacts and management actions are identified in relation to inland waters.

4.3.1 Groundwater

Based on the site's large depth to groundwater, development will not require installation of infrastructure to control groundwater levels, and dewatering is unlikely to be required for service installation.

Groundwater quality will be protected through the drainage system design and associated controls as discussed in Section 4.3.2. The development will be connected to the Water Corporation reticulated sewer network which will replace the use of septic tanks onsite which currently occurs.

The proposed change of land use to residential development as well as the removal of market gardens and other horticultural land uses will result in a reduction of nutrient input to the site as discussed in Section 4.3.3.

Although groundwater availability is currently limited in this location, acquisition of groundwater licences will occur as part of the purchase of properties for development ensuring that the water requirements for future Public Open Space areas can be met.

4.3.2 Stormwater drainage design and management

Stormwater management is proposed to be undertaken consistent with DWER water sensitive design practices, via a combination of lot soakwells and street scale infiltration, and biofiltration areas and multiple

use flood storage areas within POS to capture and infiltrate all events on site up to the 1% AEP event (Hyd2o, 2025).

The overall key components of stormwater management of the site are as follows (Hyd2o, 2025):

- Land use types and densities to considerably reduce nutrient application and export relative to existing land use.
- Lots to have soakwells/on-site systems to provide 15mm infiltration of stormwater at source.
- Road runoff to be conveyed using piped drainage, with bottomless manholes used (subject to CoW approval) to reduce bottom end infrastructure requirements.
- Treatment of road runoff within each catchment via specified biofiltration areas for water quality, with POS areas designed to be occasionally inundated for flood management in major events.

Water quality treatment for small events (15mm) is proposed to include the following 9Hyd2o, 2025):

- Non-Structural Controls
  - Planning: Lot product and sizing, POS and storage locations and configuration
  - Landscape: Native plantings and bushland retention, WSUD integration
  - Maintenance: Storage areas, street sweeping manhole education
  - Monitoring: Post development program and performance review
- Structural Controls
  - Catchment Scale Infrastructure: Bioretention areas
  - Local Scale Infrastructure: Soakwells at lot scale, bottomless manholes with roads

Bioretention areas will be sized to retain treat and infiltrate 15mm in accordance with agency requirements. Biofiltration systems will be designed consistent with the Adoption Guidelines for Stormwater Biofiltration Systems (CRC for Water Sensitive Cities, 2015).

With respect to disease vector and nuisance insect management, modelling shows stormwater management areas will have a maximum duration for standing water following small events (<15mm) of less than 6 hours, well within WAPC (2008) requirement of 96 hours (Hyd2o, 2025).

Given the sandy soils and high clearance to groundwater that stormwater can be managed and infiltrated onsite up to the 1% AEP event, and operate fully independently of other precincts and without any cross boundary transfers in or out of the precinct being required (Hyd20, 2025).

4.3.3 Nutrient input and export pre and post development

The UNDO (Urban Nutrient Decision Outcomes) model is a conceptual decision support tool developed by DWER that evaluates nutrient reduction decisions for urban developments on the Swan Coastal Plain. This model has been used to assess nutrient impacts associated with the propsed development (Hyd2o, 2025).

The modelling results indicate a post-development reduction in nutrient export from the site of 60% Total Nitrogen and 59% Total Phosphorus annually compared to modelled pre-development levels is predicted. It is noted that the pre-development nutrient export calculations consider soil types, groundwater gradients, and depth to groundwater. They do not however consider the impact of horticultural use which UNDO doesn't include. As such estimates for the existing land use are therefore likely to be considerably underestimated, therefore the percentage reduction is likely to be higher than noted above (Hyd2o, 2025).

4.3.4 Surface Water and Wetlands

Given that there are no wetlands or surface water features within the site or in close proximity, impacts in relation to this matter is not considered likely.

4.4 Impact Mitigation

The proposed development will manage impacts to inland waters in accordance with the mitigation hierarchy (Table 4-2).

Table 4-2: Inland Waters Mitigation Hierarchy

Mitigation Hierarchy	Assessment and Proposed Actions
Potential Impact	
Inland Waters	• Potential for abstraction of groundwater to result in altered groundwater levels • Potential for stormwater drainage system to allow contaminants to enter groundwater
Mitigation Hierarchy	
Avoidance	• The existing conduction which are conducive the infiltration through the sandy subsurface profile, together with a large separation distance to groundwater will remain • Connection to Water Corporation reticulated sewer network to replace existing septic tanks • Land use types and densities to considerably reduce nutrient application and export relative to existing land use • No wetlands or surface water features are within or in close proximity to the site • With respect to disease vector and nuisance insect management, modelling shows stormwater management areas will have a maximum duration for standing water following small events (<15mm) of less than 6 hours, well within WAPC (2008) requirement of 96 hours. • Stormwater can be managed and infiltrated onsite and can operate independently of other surrounding East Wanneroo development precincts.
Minimisation	• Lots to have soakwells/on-site systems to provide 15mm infiltration of stormwater at source. • Road runoff to be conveyed using piped drainage, with bottomless manholes used (subject to CoW approval) to reduce bottom end infrastructure requirements. • Treatment of road runoff within each catchment via specified biofiltration areas for water quality, with POS areas designed to be occasionally inundated for flood management in major events. Biofiltration systems will be designed consistent with the Adoption Guidelines for Stormwater Biofiltration Systems (CRC for Water Sensitive Cities, 2015). • Non-Structural Controls to be applied in relation to water quality treatment include: ▪ Planning: Lot product and sizing, POS and storage locations and configuration ▪ Landscape: Native plantings and bushland retention, WSUD integration ▪ Maintenance: Storage areas, street sweeping manhole education ▪ Monitoring: Post development program and performance review • Structural Controls to be applied in relation to water quality treatment include: ▪ Catchment Scale Infrastructure: Bioretention areas ▪ Local Scale Infrastructure: Soakwells at lot scale, bottomless manholes with roads

4.5 Predicted Outcome

Implementation of the LSP to facilitate future urban development will result in the following predicted outcomes for inland waters:

- The existing conductions which are conducive the infiltration through the sandy subsurface profile, together with a large separation distance to groundwater will remain
- Reduction in nutrient inputs and groundwater abstraction across the site
- Avoidance of impacts to groundwater quality

- Stormwater can be managed and infiltrated onsite and can operate independently of other surrounding East Wanneroo development precincts.

5 Flora and Vegetation

5.1 Key Policies and Guidance

Relevant policy and guidance documents for vegetation and flora, which have informed site-specific investigations and/or have been used to assess potential impacts, include:

- Environmental Factor Guideline – Flora and Vegetation (EPA ,2016a)
- EPA Guidance Statement No. 33 – Environmental Guidance for Planning and Development (EPA, 2008)
- Environmental Factor Guideline – Flora and Vegetation (EPA ,2016a)
- Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016b)
- State Planning Policy 2.8 Bushland Policy for the Perth Metropolitan Region (WAPC, 2010)
- State Planning Policy 3.7 Planning in Bushfire Prone Areas (WAPC, 2015)
- City of Wanneroo local planning policies including:
  - Local Planning Policy 1.1 - Conservation Reserves
  - Local Planning Policy 4.8 - Tree Preservation Policy
  - Local Planning Policy 5.3 - East Wanneroo
  - City of Wanneroo- Local Biodiversity Plan 2018/19-2023/24 (CoW, 2018)

5.2 Receiving Environment

5.2.1 IBRA Region

The Interim Biogeographic Regionalisation for Australia (IBRA) defines 89 regions based on climate, geology, landforms and characteristic vegetation and fauna (DCCEEW, 2022). The site lies within the Swan Coastal Plain (SWA) IBRA region and, at a finer scale, within the Perth subregion (SWA2).

5.2.1.1 Vegetation Associations

Broad scale mapping of pre-European vegetation within the Perth region was undertaken by Beard (1976) which recorded major categories of plants. Shepherd et al. (2002) reassessed and digitised Beard's mapping Based on this mapping there are a total of 819 vegetation associations mapped across the state.

The site is mapped containing the following broad vegetation association (Landgate, 2024b):

- Spearwood_6: Jarrah, marri and wandoo *Eucalyptus marginata, Corymbia calophylla, E. wandoo*
- Bassendean_949: Other acacia, banksia, peppermint, cypress pine, casuarina, York gum *Acacia* spp., *Banksia* spp., *Agonis flexuosa, Callitris* spp., *Allocasuarina* spp., *Eucalyptus loxophleba*.

The status of Spearwood_6 vegetation association at the state, regional and local level is presented in

Table 5-1. The remnant native vegetation of the Spearwood_6 association within the Swan Coastal Plain bioregion is approximately 23.7%, with approximately 21.9% remaining within the City of Wanneroo.

Table 5-1: Spearwood 6 - Vegetation Statistics

Area	Pre-European extent	Current Extent	% Remaining
Western Australia	56,343 ha	13,36 2ha	23.72 %
Swan Coastal Plain (SCP)	56,343 ha	13,362 ha	23.72 %
SCP sub-region - Perth	56,343 ha	13,362 ha	23.72 %
City of Wanneroo	12,662 ha	2,777 ha	21.94 %

Source: GoWA, 2019a

The status of Bassendean_949 vegetation association at the state, regional and local level is presented in Table 5-2 The remnant native vegetation of the Bassendean_949 association within the Swan Coastal Plain bioregion is approximately 57.3%, with approximately 46.3% remaining within the City of Wanneroo.

Table 5-2 Bassendean 949 Vegetation Statistics

Area	Pre-European extent	Current Extent	% Remaining
Western Australia	218,194 ha	123,104 ha	56.4 %
Swan Coastal Plain (SCP)	209,983 ha	120,288 ha	57.3 %
SCP sub-region - Perth	184,476 ha	104,129 ha	56.5 %
City of Wanneroo	37,138 ha	17,196 ha	46.3 %

Source: GoWA, 2019a

5.2.1.2 Vegetation Complexes

Vegetation at the site is identified to be part of the Karrakatta Complex-Central and South which is described as "Predominantly open forest of *Eucalyptus gomphocephala* (Tuart) - *Eucalyptus marginata* (Jarrah) - *Corymbia calophylla* (Marri) and woodland of *Eucalyptus marginata* (Jarrah) - *Banksia* species. *Agonis flexuosa* (Peppermint) is co-dominant south of the Capel River" (Heddle et al., 1980).

Approximately 23.5% of the original extent of the Karrakatta Complex-Central and South remains within the Swan Coastal Plain bioregion with approximately 12.9% remaining within the City of Wanneroo (Table 5-3).

Table 5-3 Karrakatta Complex-Central and South

Area	Pre-European Extent (ha)	Current Extent (ha)	% Remaining
Swan Coastal Plain	53,081 ha	12,467 ha	23.5 %
Perth Metropolitan Region	34,597 ha	4,292 ha	12.4 %
City of Wanneroo	10,539 ha	1,359 ha	12.9 %

Source: GoWA, 2019b

The National Objectives and Targets for Biodiversity Conservation 2001-2005 recognises that retention of 30% or more of the pre-clearing extent of each ecological community is necessary if Australia's biological diversity is to be protected (ANECC, 2000). However, State Planning Policy 2.8 – Bushland policy for the Perth Metropolitan Region (WAPC, 2010) and EPA Guidance Statement 33 (EPA, 2008) recognises the Perth Metropolitan Region as a 'constrained area' and establishes a target of 10% retention for vegetation complexes. The Karrakatta Complex – Central and South has greater than 10% remaining within the Swan Coastal Plain, Perth Metropolitan Region and the City of Wanneroo.

5.2.2 Flora and Vegetation Surveys

Flora and vegetation surveys extending over the site include:

- Preliminary Vegetation Assessment in December 2017 to provide reconnaissance survey level information to inform the DSP. This was undertaken by Emerge Associates (2018).
- Detailed Flora and Vegetation Survey with field work undertaken during spring 2022 by PGV Environmental (2023) of targeted sites over eight lots within Precinct 3 (Lots 3, 11, 29, 30, 40, 42 and 43 Elliott Road and Lot 62 Nicholas Road, Wanneroo).
- Detailed Flora and Vegetation Survey with field work undertaken during spring 2024 by Ecoscape for the entire Precinct 3 area (Ecoscape, 2025).

Key information regarding these surveys is summarised below.

5.2.2.1 Preliminary Vegetation Assessment (2017)

This survey was undertaken to collate available desktop information regarding the flora and vegetation characteristics of the DSP area, with targeted field work undertaken to generally verify the results, where possible. The survey included undertaking targeted investigations to identify vegetation potentially representative of Floristic Community Type 20a which is listed as a Threatened Ecological Community (TEC) under the *Biodiversity Conservation Act 2016* (BC Act) (Emerge Associates, 2018).

Field work for the survey was undertaken between 5-8 December 2017. This included rapid assessment at selected field survey locations. Locations in proximity to Precinct 3 include sites 47, 48, 49, 52 and 53 as shown on Plate 5-1. It is noted that where a sample point was located within public land the botanist could access the vegetation, whereas for sample points in private land the survey was completed from the road reserve (Emerge Associates, 2018).

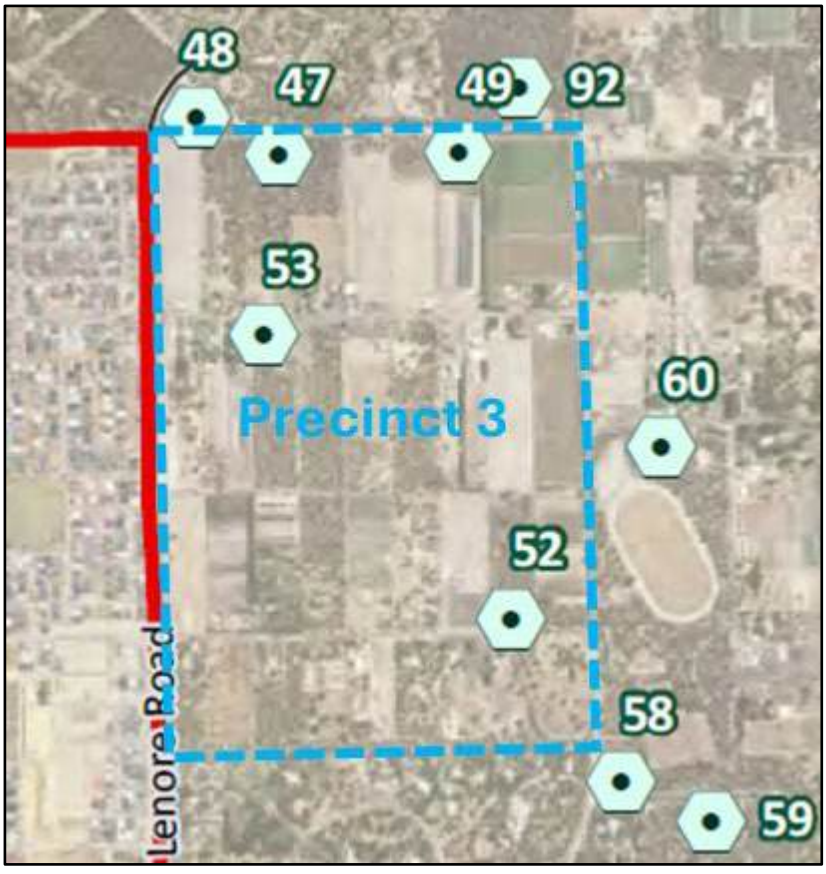

Plate 5-1: Preliminary Vegetation Assessment Survey Locations in Proximity to Precinct 3

Source: Emerge Associates, 2018

5.2.2.2 Detailed Flora and Vegetation Survey (2022)

This survey involved a desktop review, field survey utilising quadrats and a site walkover to record vegetation and flora details, data analysis including floristic community type analysis, and reporting. The field work was undertaken on 26 and 30 September, and 25 October 2022. Landholdings which formed part of this survey included:

- Lots 3, 11, 29, 30, 40, 42 and 43 Elliott Road
- Lot 62 Nicholas Road

Lot locations are highlighted on Plate 5-2. A copy of the PGV Environmental report is provided in Appendix 3.

Plate 5-2: Flora and Vegetation Survey Areas (2022)

Source: PGV Environmental, 2023

5.2.2.3 Detailed Flora and Vegetation Survey (2024)

The field survey was undertaken between 17 to 19 September 2024 which is within the optimal period for a primary survey within the bioregion (EPA, 2016). The survey involved (Ecoscape, 2025):

- Desktop analysis
- Establishment of at least 3 quadrats per vegetation type where there was sufficient extent to do so
- Targeted searches for threatened and Priority flora identified during the desktop analysis
- Recording of introduced species
- Assessment of vegetation type and vegetation condition
- Floristic analysis to identify Floristic Community Types (FCTs)
- Assessment of vegetation potentially representative of the Banksia Woodlands of the Swan Coastal Plain Threatened Ecological Community (TEC)

A copy of the Ecoscape (2025) biological assessment report for Precinct 3 is provided in Appendix 4..

5.2.3 Vegetation Type

5.2.3.1 Preliminary Vegetation Assessment (2017)

Vegetation type within the East Wanneroo DPS area were identified to broadly comprise banksia and eucalypt woodland communities (Emerge Associates, 2018). Data from the Emerge Associates survey points in proximity to Precinct 3 are summarised on Table 5-4.

Table 5-4: Preliminary Vegetation Assessment Sampling Data

Site ID	Dominant Species	Provisional FCT	Condition
47	Bm, Bi, Af, Ba, Dt, Ah, Js, Cm	?20a	Very Good
48	Em, Af, Bm, Ba, Xspp, Ah, Hh, Mp, Dr, Cf, Hr, Hpu, Dd, Sl, Mp, Dfl, An	?20a	Excellent
49	No data provided	No data provided	No data provided
52	Af, Bm, Ba, Xp, Dt, Dn, Js, Em, Sr, Mp, Ap, Db, Hh	?20a	Very Good
53	Em, Af, Ba, Bm, Xp, Ah, Xspp, Dd, Mp, Sl	?20a	Very Good

Notes:

Af=Allocasuarina fraseriana
Ah=Allocasuarina humilis
An=Alexgeorgea nitens
Ap=Acacia pulchella
Ba=Banksia attenuata,
Bi=Banksia ilicifolia
Bm=Banksia menziesii
Cf=Calytrix flavescens
Cm=Corynotheca micrantha
Db=Dasypogon bromeliifolius
Dd= Daviesia divaricata
Dfl=Desmocladus flexuosus
Dn=Daviesia nudiflora
Dr=Dianella revoluta
Dt=Daviesia triflora
Em=Eucalyptus marginata
Hh=Hibbertia hypericoides
Hr=Hypocalymma robustum
Js=Jacksonia sternbergiana
Mp=Mesomelaena pseudostygia
Sl=Stirlingia latifolia
Sr=Scaevola repens var. repens
Xp=Xanthorrhoea preissii
Xsp=Xanthorrhoea spp

5.2.3.2 Detailed Flora and Vegetation Survey (2022)

The 2022 Detailed Flora and Vegetation Survey (Appendix 3) identified 4 vegetation types to be present onsite, with descriptions provided in Table 5-5. The vegetation type mapping from this survey is provided on Plate 5-3.

It was noted that the vegetation types are similar structurally, with all four types being Low Open Woodlands, differing slightly with the dominant tree species. The understorey composition was also similar between the three vegetation types that were in Very Good condition (PGV Environmental, 2023).

Table 5-5: Vegetation Types (2022)

Type	Description
BaBmAf *Banksia attenuata/B. menziesii/* *Allocasuarina fraseriana* Low Open Woodland over *Hibbertia hypericoides* Open Low Heath	Recorded in two separate locations on the site. *Banksia attenuata, B. menziesii* and *Allocasuarina fraseriana* co-dominated the tree canopy and averaged 5m high. Common understorey species included *Hibbertia hypericoides, Eremaea pauciflora, Xanthorrhoea preissii, Calytrix fraseri, Mesomelaena pseudostygia* and *Desmocladus flexuosus.* The soil type is dark grey-brown sand. Quadrats EW 1 and 3 are representative of this vegetation type.
EmAfBaBm *Eucalyptus marginata/ Allocasuarina fraseriana/Banksia menziesii/B. attenuata* Low Open Woodland over *Calytrix fraseri/ Xanthorrhoea preissii/Hibbertia hypericoides/Mesomelaena pseudostygia* Open Low Heath	Recorded in two separate locations on the site. Jarrah (*Eucalyptus marginata*) was common in this vegetation type but was mostly absent from the others. *Banksia attenuata, B. menziesii* and *Allocasuarina fraseriana* were also common with *B. prionotes* present in some areas. Common understorey species included *Calytrix fraseri, Xanthorrhoea preissii, Hibbertia hypericoides, Mesomelaena pseudostygia* and *Trachymene pilosa*. The soil type is dark orange-brown sand. Quadrats EW 2 and 6 are representative of this vegetation type.
AfBaBm *Allocasuarina fraseriana/Banksia attenuata/ B. menziesii* Low Open Woodland over *Calytrix fraseri/ Hibbertia hypericoides/Lyginia barbata/Mesomelaena pseudostygia* Closed Low Heath	Recorded through the central part of the site on three lots and very similar to the BaBmAf except that *Allocasuarina fraseriana* (Sheoak) is usually taller. Common understorey species included *Calytrix fraseri, Hibbertia hypericoides, Lyginia barbata, Mesomelaena pseudostygia* and *Eremaea pauciflora.* The soil type is orange-brown sand. Quadrats EW 4 and 5 are representative of this vegetation type.
Af *Allocasuarina fraseriana* Low Open Woodland over weeds	One small area of this vegetation type was recorded at the southern end of Lot 62. *Allocasuarina fraseriana* trees were up to 6m high with only a few *Banksia attenuata* trees. The understorey was mainly Perennial Veldtgrass (*Ehrharta calycina*). The soil type is light orange-brown sand. No quadrat was sampled in this small Degraded area.

Source: PGV Environmental, 2023

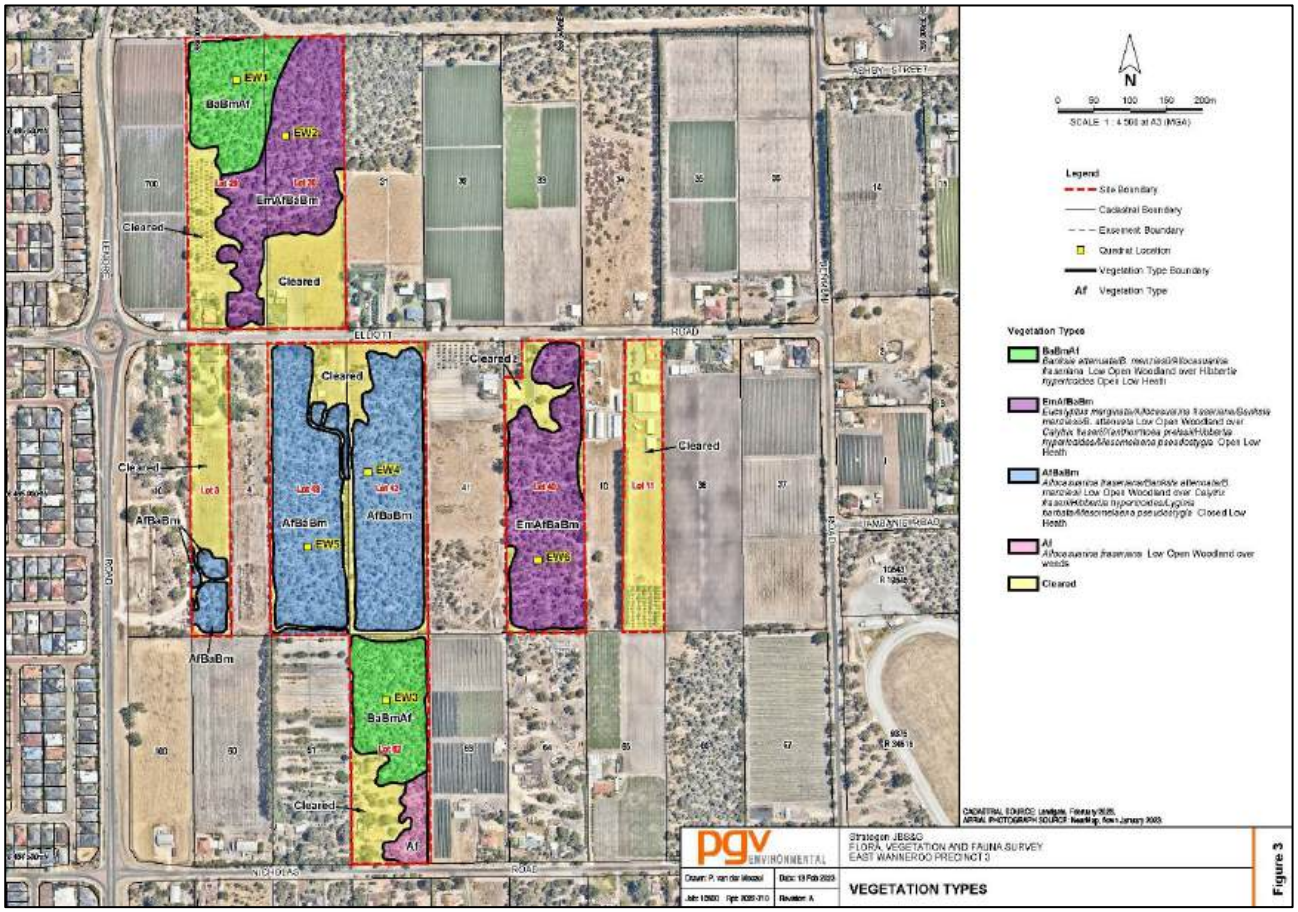

Plate 5-3: Vegetation Units (2022)

Source: PGV Environmental, 2023

5.2.3.3 Detailed Flora and Vegetation Survey (2024)

Two vegetation types were recorded from within the survey area during the 2024 Detailed Flora and Vegetation Survey based on a combination of structural vegetation type as identified in the field, floristic analysis and desktop review (Ecoscape, 2025). The vegetation type descriptions are provided in Table 5-6 with mapping provided on Figure 5.

Table 5-6: Vegetation Types (2024)

Mapping Unit	Description	Area (ha) and extent (%)
BaLOF	*Banksia attenuata, Allocasuarina fraseriana* and *Banksia menziesii* low open forest over *Eremaea pauciflora* var. *pauciflora, Xanthorrhoea brunonis* and *Daviesia divaricata* subsp. *divaricata* mid open shrubland over *Mesomelaena pseudostygia* and *Hibbertia hypericoides* subsp. *hypericoides* low open sedgeland/shrubland on a low undulating sandy plain	19.9 ha (14.8%)
EmmLW	*Eucalyptus marginata* subsp. *marginata, Banksia prionotes* and *Allocasuarina fraseriana* low woodland over *Xanthorrhoea brunonis* and *Daviesia nudiflora* subsp. *nudiflora* mid sparse shrubland over *Hibbertia hypericoides* subsp. *hypericoides* and *Mesomelaena pseudostygia* low sparse shrubland/sedgeland on a low undulating sandy plain	13.0 ha (9.6%)
Not native vegetation/ cleared	Not native vegetation/ cleared	102.0 ha (75.6%)
Total		134.9 ha

The Ecoscape assessment identified 2 vegetation types compared to the 4 mapped by PGV Environmental. This was based on the conclusion that the vegetation was highly similar with slightly different dominant species, but these did not warrant separation.

5.2.4 Vegetation Condition

Vegetation condition within all three surveys was assessed against the Keighery (1994) scale with the vegetation condition description provided as follows (Table 5-7).

Table 5-7: Vegetation Condition Categories

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

Source: EPA, 2016

5.2.4.1 Preliminary Vegetation Assessment (2017)

Observation made by Emerge Associates (2018) relating to vegetation at targeted locations within this precinct was that condition ranged from Very Good to Excellent (Table 5-4).

5.2.4.2 Detailed Flora and Vegetation Survey (2022)

PGV Environmental (2023) identified vegetation within the survey area to range in condition from Very Good to Completely Degraded, with numerous portions of the survey area being cleared. The PGV Environmental vegetation condition mapping is provided on Plate 5-4.

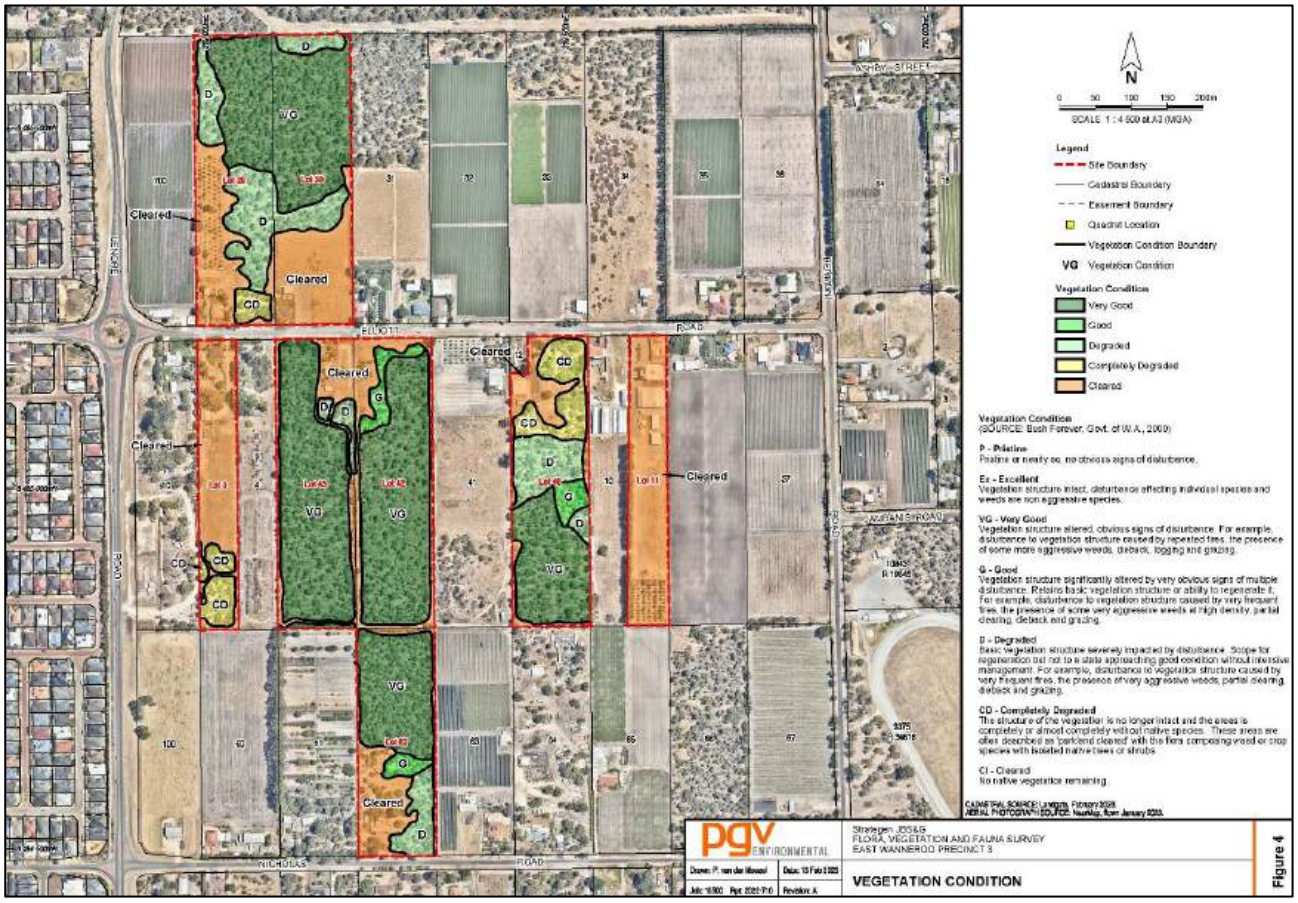

Plate 5-4: Vegetation Condition (2022)

Source: PGV Environmental, 2023

5.2.4.3 Detailed Flora and Vegetation Survey (2024)

The vegetation condition within the survey area was assessed by Ecoscape to range from Completely Degraded to Very Good. The main factors affecting vegetation condition were clearing associated with rural/rural residential land uses and the presence and abundance of weeds. Degraded and Completely Degraded areas mostly occurred adjacent to market gardens, cleared areas or rural dwellings. Cleared areas were also present across the site (Ecoscape, 2025). The mapped vegetation condition extents are presented on Table 5-8.

Table 5-8: Vegetation Condition (2024)

Vegetation Condition	Area (ha)	Extent (%)
Very Good	11.0 ha	8.2%
Good	10.4 ha	7.7%
Degraded	9.1 ha	6.7%
Completely Degraded	2.4 ha	1.8%
Not native vegetation/cleared	102.0 ha	75.6 %
Total	134.9 ha	100%

5.2.5 Floristic Community Types

Desktop review has identified the following Floristic Community Types representing Threatened Ecological Communities (TECs) and Priority Ecological Communities (PECs) as having the potential to occur within the site (Ecoscape, 2025) (Table 5-9).

Table 5-9: FCT Desktop Review Results

Ecological Community	Cth Status	WA Status	Likelihood of occurrence
Assemblages of plants and invertebrate animals of tumulus (organic mound) springs of the Swan Coastal Plain Equivalent to: • Communities of Tumulus Springs (Organic Mound Springs, Swan Coastal Plain)	EN	BCA - CR	Known to occur in 10km buffer area to the site
Banksia Woodlands of the Swan Coastal Plain (Banksia WL SCP) ecological community Incorporates: • *Banksia attenuata* woodlands over species rich dense shrublands (SCP20a as originally described in Gibson *et al.* 1994) • Low lying *Banksia attenuata* woodlands or shrublands (SCP21c) • Swan Coastal Plain *Banksia attenuata - Banksia menziesii* woodlands (SCP23b) • *Banksia ilicifolia* woodlands, southern Swan Coastal Plain (SCP22)	EN	P3 – PEC BCA – CR P3 – PEC P3 – PEC P3 -PEC	Likely
Callitris preissii (or *Melaleuca lanceolata*) forests and woodlands of the Swan Coastal Plain (SCP30a as originally described in Gibson et al. 1994)		BCA - CR	
Coastal shrublands on shallow sands (SCP29a)		P3 - PEC	
Empodisma peatlands of southwestern Australia	EN		May
Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion	CR		Likely to occur in 10km buffer area to the site
Northern Spearwood shrublands and woodlands (SCP24)		P3 – PEC	
Southern *Eucalyptus gomphocephala-Agonis flexuosa* woodlands (SCP25)		P3 – PEC	
Tuart (*Eucalyptus gomphocephala*) Woodlands and Forests of the Swan Coastal Plain ecological community Equivalent to: • Tuart (*Eucalyptus gomphocephala*) woodlands of the Swan Coastal Plain	CR	P3 - PEC	Likely

Source: Ecoscape, 2025

Abbreviations:

- *BCA – Biodiversity Conservation Act 2016*
- *CR – Critically Endangered*
- *EN – Endangered*
- *P3-PEC – Priority Ecological Community (Level P3)*

5.2.5.1 Preliminary Vegetation Assessment (2017)

The preliminary vegetation assessment noted that Floristic Community Type (FCT) 20a is a Banksia Woodland community and is considered 'likely' to 'potentially' to occur within the with East Wanneroo DSP area, including within Precinct 3. This FCT is characterised by a dense species rich shrub layer and understorey species such as *Cyathochaeta equitans, Dasypogon obliquifolius* and *Mesomelaena tetragona*. Broadly speaking FCT 20a is known to occur in two broad areas on the Swan Coastal Plain (SCP), including an area in the northern central SCP within the City of Wanneroo and an area on the eastern SCP roughly centred on the localities of Forrestfield and Wattle Grove (Emerge Associates, 2018).

FCT 28 is a Banksia Woodland community which is also considered to potentially occur within the DSP area. Vegetation considered likely to be FCT 28 often included *Eucalyptus gomphocephala* (tuart) in the canopy layer, which was not recorded in any Keighery et al. (2012) sample sites assigned to FCT 20a. However, the transition boundary between FCT 20a and FCT 28 on the western side of the DSP areas is unclear and a portion of 'FCT 20a/28' was mapped to indicate that an intergrade is expected (Emerge Associates, 2018).

An extract of the provisional FCT mapping provided prepared for the DSP is provided in Plate 5-5.

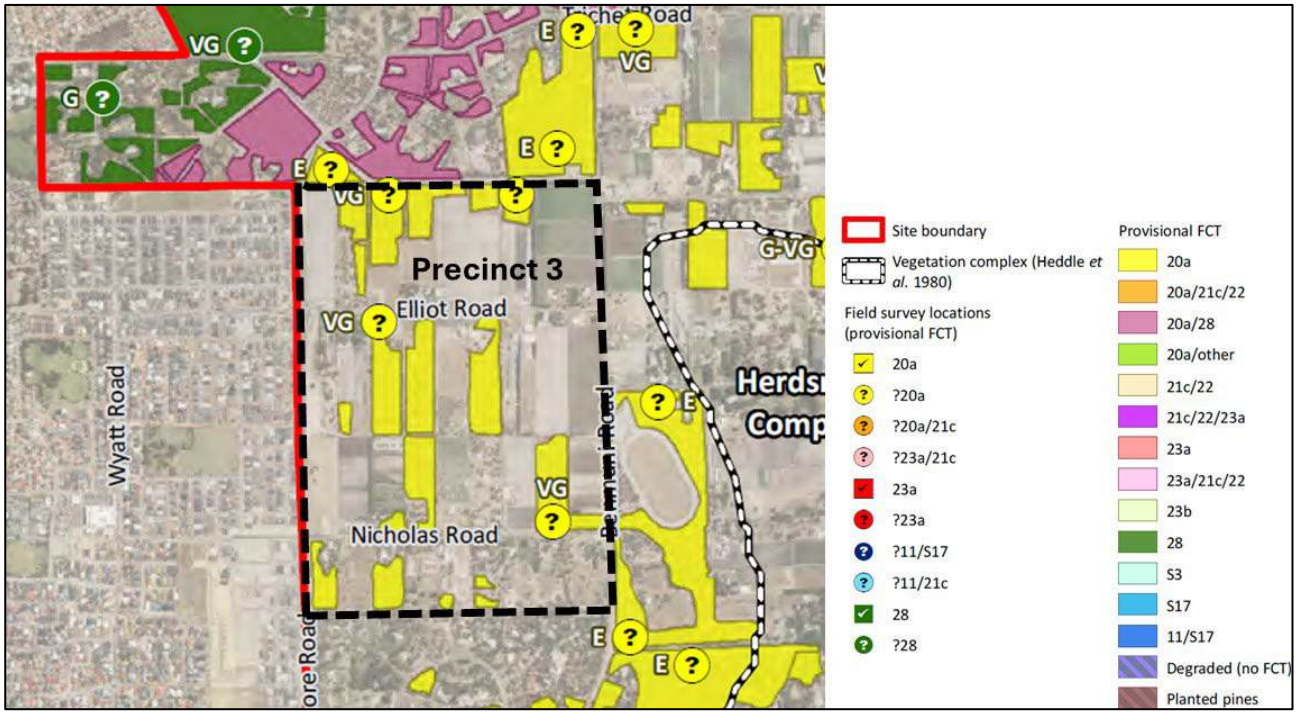

Plate 5-5: East Wanneroo DSP – Provisional FCT mapping

Source: Emerge Associates, 2018

As noted in Table 5-9, FCT 20a is identified as a Threatened Ecological Community (TEC) under the WA BC Act and forms part of the Banksia Woodlands of the Swan Coastal Plain (Banksia WL SCP) TEC under the EPBC Act.

FCT 28 is not listed as a PEC nor a TEC; however, it forms part of the Banksia WL SCP ecological community (TEC under the EPBC Act, and PEC under the BC Act).

5.2.5.2 Detailed Flora and Vegetation Survey (2022)

Six quadrats were analysed to determine the FCT of each quadrat. The details of the analysis are provided in (Appendix 3) with the results described below and summarised on Table 5-10.

- Vegetation on the site most likely corresponds to SCP 28 'Spearwood *Banksia attenuata* or *Banksia attenuata – Eucalyptus marginata* woodlands'.

- It was concluded that is it less likely that SCP 20a occurs on the site.
- The result for Quadrat EW 4 was SCP 6 'Weed dominated wetlands on heavy soils' appears to be an error as the quadrat only contains 6 weeds out of 36 species recorded and the site is not a wetland on heavy soils.

Table 5-10: Floristic Community Type Analysis (2022)

Quadrat	FCT Assigned	Conservation Status State	Conservation Status Cth
EW1, 2, 3, 5 and 6	SCP28 – Spearwood Banksia attenuata or Banksia attenuata – Eucalyptus marginata woodlands	Not listed (Part of Banksia WL SCP – Priority 3	Part of the Endangered Banksia WL SCP
EW4	SCP6 – Weed dominated wetlands on heavy soils	Not Listed	Not Listed

Source: PGV Environmental, 2023

5.2.5.3 Detailed Flora and Vegetation Survey (2024)

FCT analysis was undertaken by Ecoscape (2025) for the vegetation quadrat data from the spring 2024 Detailed Flora and Vegetation Survey. The PGV 2022 survey quadrats were also included in the analysis.

The results indicate that vegetation within the survey area most likely corresponds with SCP28 'Spearwood *Banksia attenuata* or *B. attenuata–Eucalyptus* woodlands'. This concurs with the findings of the 2022 FCT analysis.

5.2.5.4 Floristic Community Type SCP20a

As noted above SCP20a which is listed as a Critically Endangered community under the BC Act and forms part of the Federally listed Banksia WL SCP ecological community listed as Endangered under the EPBC Act was identified through the desktop review undertaken as part of the Preliminary Vegetation Assessment to have the potential to occur in this location.

PATN analysis of vegetation quadrat data from both the 2022 and 2024 detailed flora and vegetation surveys has confirmed that the vegetation appears representative of SCP28 rather than SCP20a. This analysis was performed by 2 separate ecological firms (i.e. Plant Ecology Consulting and Ecoscape) who both came to the same conclusion.

5.2.6 Banksia Woodlands of the Swan Coastal Plain

Banksia WL SCP is identified as a PEC by the DBCA, and a Threatened Ecological Community (TEC) under the Commonwealth EPBC Act. The Banksia WL SCP community is a conglomerate of a number of Banksia-dominated FCTs recognised at the State level.

The 2017 preliminary vegetation assessment identified the potential presence of vegetation representative of the Banksia WL SCP ecological community at the site (Emerge Associates, 2018).

The 2022 Detailed Flora and Vegetation Survey noted that vegetation in Good and Very Good condition would meet the requirements of the Bankia WL SCP community diagnostic criteria (Plate 5-6).

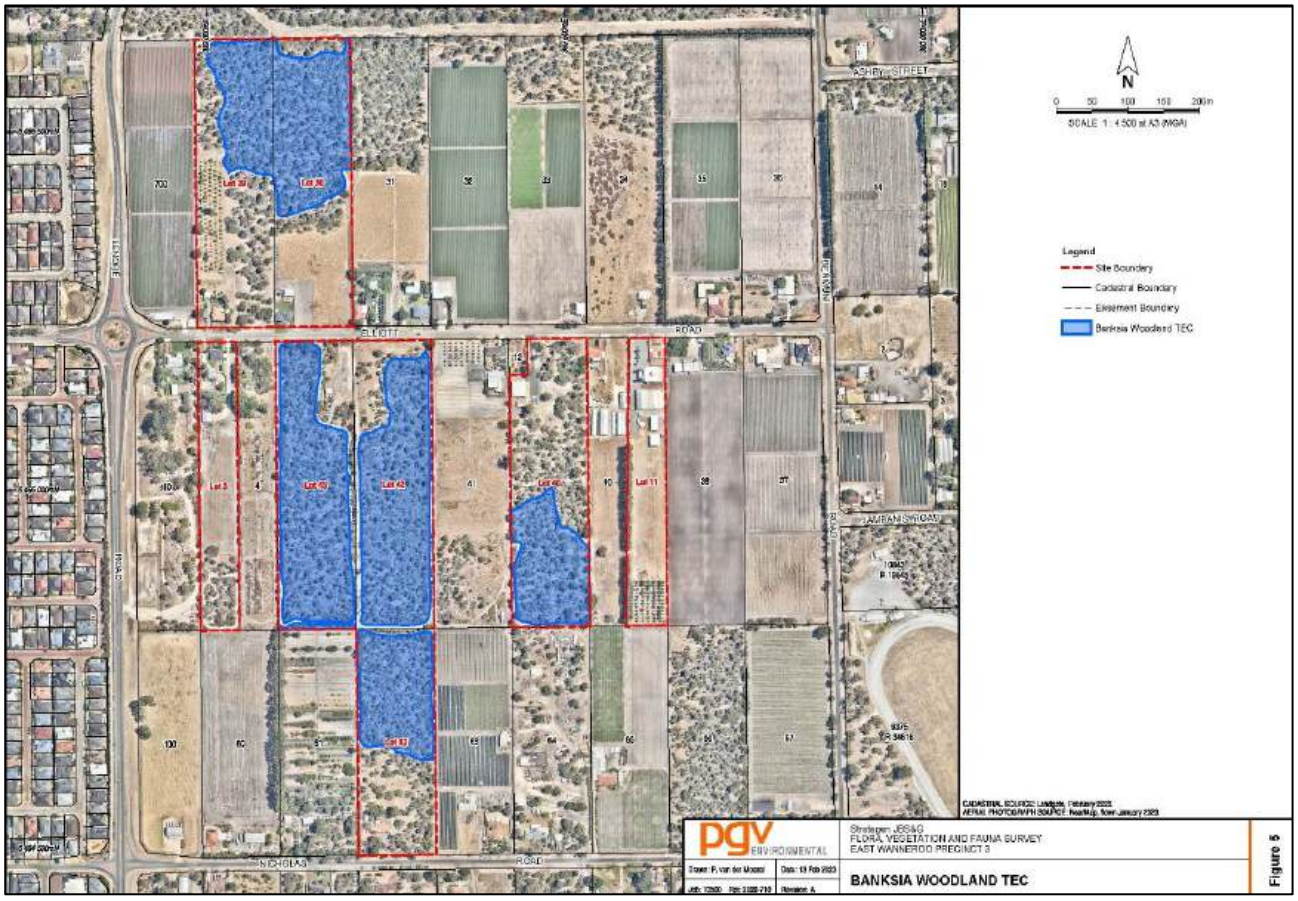

Plate 5-6: Banksia Woodland of the Swan Coastal Plain ecological community – 2022 survey findings

Source: PGV Environmental, 2023

The 2024 Detailed Flora and Vegetation Survey assessed the potential presence of the Banksia WL SCP community across the entire site. The TEC key diagnostic criteria assessment relevant to the site as prepared by Ecoscape (2025) is summarised in Table 5-11.

Table 5-11: TEC Key Diagnostic Criteria Assessment (2024)

Category	Key characteristics (TSSC, 2016)	Assessment
Location and physical environment	The Banksia Woodlands ecological community primarily occurs in the Swan Coastal Plain IBRA bioregion.	Both vegetation types occur in the Swan Coastal Plain IBRA bioregion.
Soils and landform	The Banksia Woodlands ecological community typically occurs on well drained, low nutrient soils on sandplain landforms.	Both vegetation types occur on a low undulating sandy plain with leached grey or pale yellow soil.
Structure and composition	Low woodland to forest with an upper layer dominated or co-dominated by: • *Banksia attenuata* • *Banksia menziesii* • *Banksia prionotes* • *Banksia ilicifolia.*	Vegetation type BaLOF was co-dominated by *Banksia attenuata* and *B. menziesii* in the upper stratum. Vegetation type EmmLW was co-dominated by *Banksia prionotes* in the upper stratum.
	May also include an emergent tree layer with *Corymbia calophylla, Eucalyptus marginata* or less commonly *E. gomphocephala.*	Vegetation type EmmLW was characterised by emergent *Eucalyptus marginata* subsp. *marginata*.

Category	Key characteristics (TSSC, 2016)	Assessment
	Other trees of a medium height may be present and may be codominant with the Banksia species, including: • *Eucalyptus todtiana* • *Nuytsia floribunda* • *Allocasuarina fraseriana* • *Callitris arenaria* • *Callitris pyramidalis* • *Xylomelum occidentale.*	*Allocasuarina fraseriana* was co-dominant with Banksia species in both vegetation types.
	The understorey typically contains a high to very high diversity of shrubs and herbs.	The overall floristic composition was moderate in diversity with an average of 35 understory species per quadrat, including shrubs and herbs. Additional species (particularly ephemerals and herbs) are considered likely to occur during more favourable seasonal conditions.
Vegetation condition	A patch should meet at least the Good Condition category and meet the following minimum patch sizes: • Pristine: no minimum patch size applies • Excellent: 0.5 ha or 5,000 m^2 • Very Good: 1 ha or 10,000 m^2 • Good: 2 ha or 20,000 m^2.	The patches onsite have vegetation in Good or better condition with total extents exceeding the minimum size criteria of 2 ha. Other areas in Good or Very Good condition did not meet the relevant minimum size thresholds and were considered as separate patches due to the distance of separation.

The extent of Banksia WL SCP ecological community mapped onsite is shown on Figure 5 which has a total area of 17.9 ha (7.6 ha EmmLW and 10.3 ha BaLOF).

Patches within both vegetation types are considered to represent the TEC based on floristic composition, structural formation, landform association and vegetation condition. While average floristic diversity was considered moderate (and not high or very high which typically characterises the TEC), high disturbance pressures (particularly from surrounding land uses) combined with decreasing annual rainfall for the region are likely impacting diversity of the native vegetation and, therefore, the floristic diversity of the patches is considered adequate to meet the criteria of the TEC (Ecoscape, 2025).

5.2.7 Conservation Significant Flora

The 2022 Detailed Flora and Vegetation survey recorded a total of 168 flora taxa, including 38 introduced species across the survey area. No Threatened or Priority flora species were recorded (PGV Environmental, 2023).

The Ecoscape desktop review identified 50 conservation significant flora species as having potential to occur at the site. The list of species and a likelihood assessment are provided in Appendix 4.

The 2024 Detailed Flora and Vegetation Survey identified a total of 208 vascular flora taxa from 151 genera and 58 families from the quadrats, opportunistic observations and searches for conservation-listed flora (Ecoscape, 2025).

No Commonwealth EPBC Act nor Western Australian BC Act-listed Threatened Flora were recorded during the 2024 field survey. No taxa that were not identified with certainty resembled any currently described Threatened or Priority Flora (Ecoscape, 2025).

One Priority 2 taxon was recorded during the field survey, *Poranthera moorokatta* (one plant), from Lot 43 (Figure 5) in association with *Allocasuarina fraseriana, Banksia attenuata* and *Eucalyptus marginata* subsp. *marginata* mid woodland vegetation on a low, gently undulating grey sandy plain. This species is a poorly

known herb growing to 2 cm in height. According to Florabase (2024) there are 15 records of this species in the Swan Coastal Plain region with a distribution from Cervantes to Busselton. The majority of known records are located in the Perth metropolitan region (Ecoscape, 2025).

5.2.8 Introduced Flora

64 introduced flora species (weeds) were recorded in the quadrats and opportunistically during traverses through the survey area, representing approximately 31% of the overall flora inventory. Weeds were present in all quadrats and density varied, ranging from a minimum of <1% cover to a maximum of 30% cover. The mean weed cover per quadrat was 10.3% (Ecoscape, 2025).

Two of the weeds recorded (**Asparagus asparagoides* and **Opuntia stricta*) are Weeds of National Significance (WoNS) and Declared Pest plants. **Asparagus asparagoides* (Bridal Creeper) was recorded from Degraded roadside bushland along Nicholas Road (adjacent to Lot 66), totalling one population with three plants. **Opuntia stricta* (Common Prickly Pear) was recorded in Degraded bushland in two plots (within Lots 34 and 40 Elliot Road), totalling two populations with four plants (Ecoscape, 2025).

The Department of Primary Industries and Regional Development (DPIRD) noted that **Asparagus asparagoides* is classified as a s22(2) Declared Pest with the control/keeping category noted to be Exempt. **Opuntia stricta* is classified by DPIRD as s22(2) with the control/keeping category being C3. Based on these DPIRD categories the **Opuntia stricta* require management to prevent the spread of seed or plant parts (DPIRD, 2025).

5.2.9 Bush Forever

Two Bush Forever (BF) sites intersect Precinct 3 being (Landgate, 2024b):

- BF Site 471 – High Road Bushland, Wanneroo
- BF Site 327 – Badgerup Lake and Adjacent Bushland, Wanneroo

The location of these site is shown on Plate 5-7.

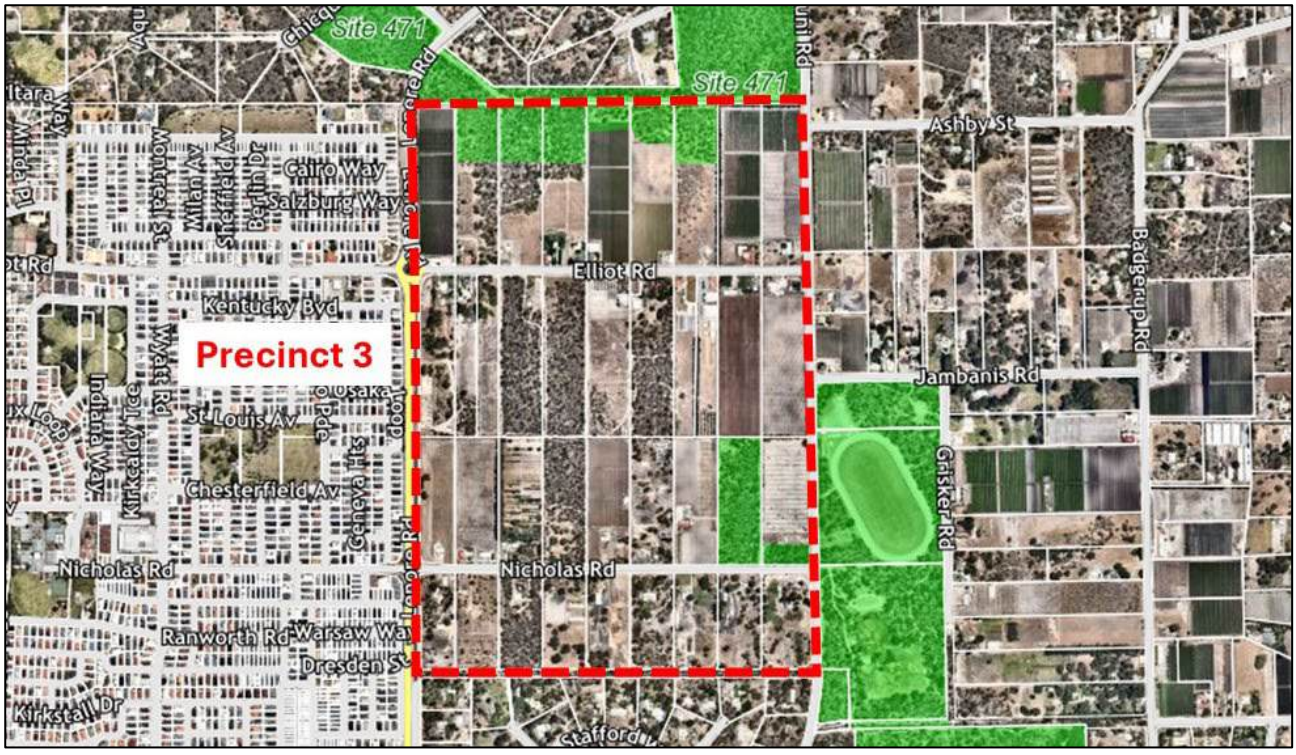

Plate 5-7: Bush Forever sites

Source: MNG, 2025; after GoWA, 2000

BF site 471 is shown as Regional Open Space under the East Wanneroo DSP and BF Site 327 is identified as 'Parklands – Subject to Confirmation' (Appendix 1).

5.2.10 Local Natural Areas and Ecological Linkages

The City of Wanneroo Local Biodiversity Plan identifies that Precinct 3 contains a number of Local Natural Areas (LNAs) associated with remnant vegetation as shown on Plate 5-8. These areas are defined as all unprotected natural areas over which the City of Wanneroo can exercise the most control through its decision-making powers, policies and reserve management. Local Natural Areas include (CoW, 2018):

- Natural areas located on private property, which the City has some control over through Policy and decision making (such as planning approvals)
- Natural areas located in public or regional open space, managed by the City of Wanneroo but not fully recognised as being managed for the purpose of conservation
- State Government freehold land not zoned Parks and Recreation under the Metropolitan Region Scheme.

The Perth Biodiversity Project, supported by the Western Australia Local Government Association, has identified and mapped regional ecological linkages within the Perth Metropolitan Region (PBP, 2007). The intent of these linkages is to provide connectivity across the landscape through protecting existing natural areas as stepping stones within broad bands (linkages) that connect the larger, more viable natural areas (Del Marco et al., 2004). A regional ecological linkage is mapped traversing the site as shown on Plate 5-8 (Emerge Associates, 2018).

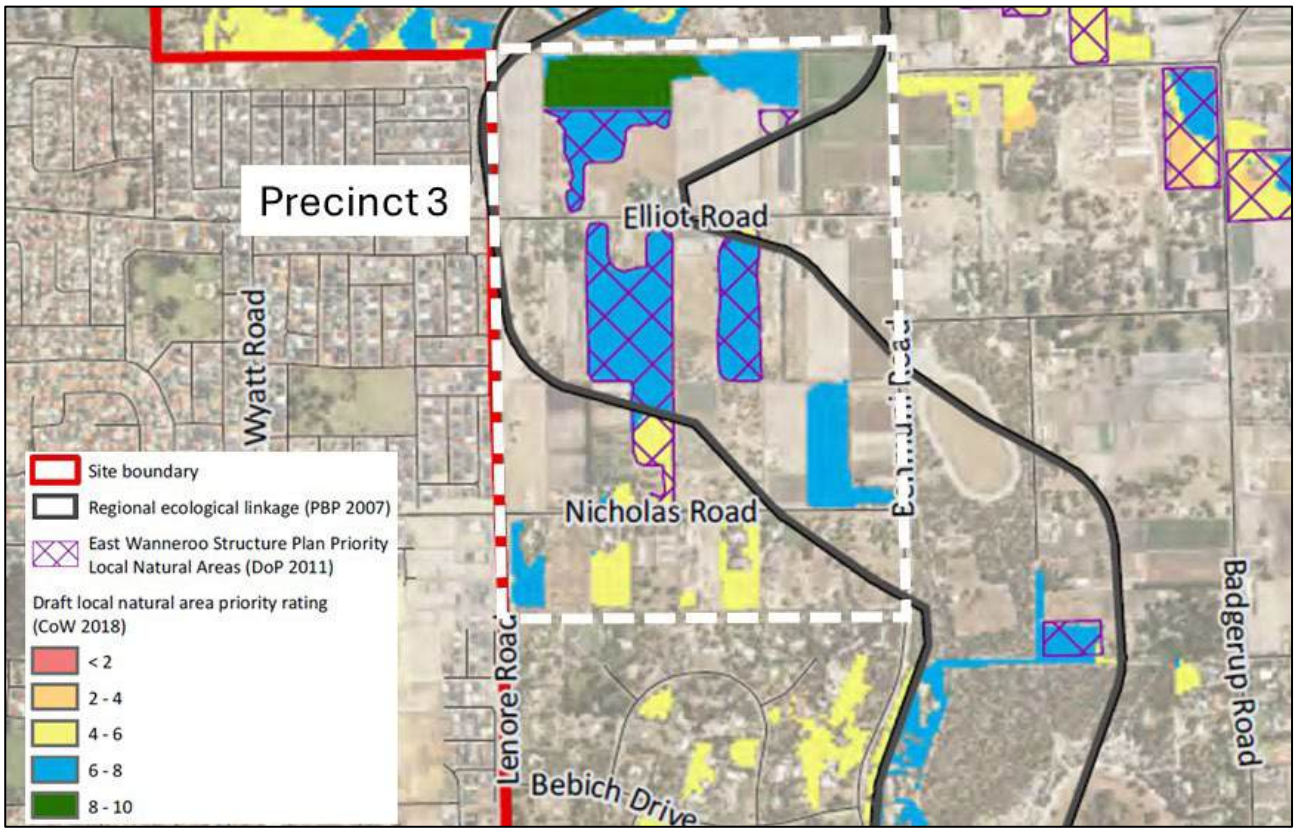

Plate 5-8: Local Natural Areas and Regional Ecological Linkages

Source: Emerge Associates, 2018

It is noted that since the Local Biodiversity Strategy (CoW, 2018) and Perth Biodiversity Project documents (PBP, 2007) were prepared, the DSP was progressed which provides refined 'Parkland' and 'Parkland (subject to confirmation)' areas where vegetation retention is proposed (Appendix 1).

The DSP also identifies a network of linear 'Parkland links' with the DSP proposing integration of ecological and movement functions within these links, in the form of linear parklands or landscape boulevards. The DSP outlines that the specific environmental features to be retained as part of 'Parkland links' will be confirmed at the future local structure planning stage (Emerge Associates, 2018). The EWDSP identifies 'Parkland Links' along the northern and eastern boundary of Precinct 3 (Appendix 1).

5.3 Potential Impact Identification and Assessment

Potential impacts to flora and vegetation associated with future urban development have been identified as follows:

- Direct loss of flora and vegetation through land clearing, including vegetation representative the Banksia WL SCP ecological community
- Increased presence of non-native flora species (i.e. weeds) through disturbance, edge effects, altered fire regimes or hydrological changes
- Altered hydrology impacting existing ecological conditions
- Potential spread of disease-causing organisms (e.g., *Phytophthora cinnamomi*)
- Fragmentation of vegetation.

Potential impacts and the associated design and management response are discussed further below.

5.3.1 Vegetation Retention and Clearing

Implementation of the LSP will result in impacts to native vegetation including clearing for lot creation and infrastructure installation.

The LSP has considered the siting and extent of the Parks and Recreation reserve within Precinct 3 in the context of impact minimisation to significant vegetation, particularly vegetation representative of the Banksia WL SCP ecological community (Figure 9). Vegetation retention may also be possible in other parts of the site i.e. road verges, drainage sumps etc., subject to detailed design.

The LSP proposes to retain 13.0 ha (39.5%) of native vegetation within Parks and Recreation reserve (Table 5-12), which comprises 5.8 ha of the EmmLW vegetation unit and 7.2 ha of the BaLOF vegetation unit. The portion of this vegetation which is representative of the Banksia WL SCP ecological community is 9.4 ha (52.2%).

Retention may also be possible in portions of the Public Open Space areas onsite. The extent of native vegetation in these areas is 3.1 ha (9.4%), with 0.6 ha (3.3%) representative of the Banksia WL SCP ecological community (Table 5-12).

Areas of retained vegetation in identified Parks and Recreation reserve will be subject to vegetation management, including weed control and targeted revegetation. The details of these works will be outlined within a Conservation Area Management Plan, or similar, proposed to be prepared at subdivision stage (Section 9).

The LSP proposes to clear between 16.8 ha (51.1%) to 19.9 ha (60.5%) of native vegetation within the site overall, demarcated by clearing the entirety of the Urban development area plus potential clearing within the Public Open Space (Table 5-12).

Table 5-12: Vegetation type within Parks and Recreation, Public Open Space and Urban Areas

Vegetation Type	Total Extent (ha)	Park and Recreation Area		Public Open Space Areas		Urban Area	
		Area (ha)	% of total	Area (ha)	% of total	Area (ha)	% of total
Native Vegetation							
EmmLW	13.0	5.8	44.6	0.4	3.1	6.8	52.3
BaLOF	19.9	7.2	36.2	2.7	13.6	10.0	50.3
Sub-Total	32.9	13.0	39.5	3.1	9.4	16.8	51.1
Not native vegetation/cleared							
Non-native /cleared	102.0	1.2	1.2	8.8	8.6	92.0	90.2
Precinct 3 Total	134.9	14.2	10.5	11.9	8.8	108.8	80.7
Banksia WL SCP ecological community							
Banksia WL	18.0	9.4	52.2	0.6	3.3	8.0	44.4

The identification of areas for vegetation retention has considered the locations of higher condition vegetation and looked to maximise retention of Very Good and Good condition vegetation, where possible. As can be seen from Table 5-13, a minimum of 47.3% of Very Good condition vegetation, and a minimum of 41.3% of Good condition vegetation is proposed for retention as part of the Parks and Recreation reserves. Additional vegetation retention may be possible in POS areas, subject to detailed design.

Table 5-13: Vegetation condition within Parks and Recreation, Public Open Space and Urban Areas

Vegetation Condition	Total Extent (ha)	Park and Recreation Area		Public Open Space Areas		Urban Area	
		Area (ha)	% of total	Area (ha)	% of total	Area (ha)	% of total
Very Good	11.0	5.2	47.3	1.5	13.6	4.3	39.1
Good	10.4	4.3	41.3	0.7	6.7	5.4	51.9
Degraded	9.1	3.3	36.3	0.8	8.8	5.0	54.9
Completely Degraded	2.4	0.3	12.5	0.1	4.2	2.0	83.3
Sub-total	32.9	13.1	39.8	3.1	9.4	16.7	50.8
Non-native/ cleared	102.0	1.2	1.2	8.8	8.6	92.0	90.2
Precinct 3 Total	134.9	14.3	10.6	11.9	8.8	108.7	80.6

The Priority 2 flora specimens found within Lot 43 Elliot Road will be retained within the Parks and Recreation zone proposed within the area (Figure 9). As such impacts to this P2 flora occurrence will be avoided.

The proposed vegetation retention extent differs slightly from the 'Parklands (subject to confirmation)' areas shown in the DSP, with the key difference being Parks and Recreation reserve not being proposed within Lot 42 Elliot Road and Lot 52 Nicholson Road. The balanced outcome proposed through the LSP design achieves retention of a minimum of 40% of the native vegetation present onsite, including a minimum of 52% of the Banksia WL SCP ecological community. The northern Parks and Recreation reserve connects to Benmuni Park, increasing the size of this protected vegetation patch. The eastern Parks and Recreation reserve will also provide a link to Nanovich Park to the east of the site.

5.3.2 Threatened Ecological Communities

5.3.2.1 Floristic Community Type SCP20a

Based on the potential presence of FCT SCP20a as identified in the DSP environmental reporting (Emerge Associates, 2018) the botanical surveys undertaken for the site included specific review of the potential presence of this FCT.

PATN analysis undertaken on plot data from both Detailed Flora and Vegetation surveys undertaken within the site, as assessed by 2 separate specialists, identified that the banksia vegetation onsite appears most likely to be representative of FCT SCP28 and not FCT SCP20a.

5.3.2.2 Banksia Woodlands of the Swan Coastal Plain Ecological Community

The mapped extent of Banksia WL SCP ecological community was similar between the spring 2022 survey (PGV Environmental, 2023; Plate 5-6) and the spring 2024 survey (Ecoscape, 2025; Figure 5). The key difference in mapping extent are noted as follows:

- Lot 40 Elliot Road – presence of Banksia WL TEC was identified as occurring in the 2022 survey , but not the 2024 survey. The reason for this not being included in the more recent 2024 survey is due to a decline in the vegetation condition, which resulted in the patch not meeting the relevant minimum size thresholds.
- Lots 29 and 30 Elliot Road – presence of Banksia WL TEC was identified in the 2022 survey, but the 2024 survey mapped a larger extent on these two sites. This reason for this is due to the extent of Good condition vegetation increasing , which resulted in the extent of the patch area increasing.

As noted above, the LSP design provides for a minimum of 9.4 ha (52%) of the vegetation representing the Banksia WL SCP ecological community present onsite. This vegetation will be retained within Parks and Recreation reserves, therefore providing greater protection than may occur within Public Open Space areas.

Based on the extent of clearing of Banksia WL SCP vegetation onsite, development proposals would be referred to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the EBPC Act. The EPBC Act referral review and assessment process will allow for further assessment of impacts to Banksia WL SCP vegetation and for environmental offsets to be provide, where required.

5.3.3 Regional Context Analysis

At a regional level clearing of 19.9 ha (worst case clearing scenario based on vegetation retention in the Parks and Recreation reserves only) of native vegetation represents approximately 0.16% of the current extent of the Karrakatta Complex – central and south vegetation complex remaining on the Swan Coastal Plain. The proposed clearing will not reduce the extent of this vegetation complex below EPAs modified objective retain at least 10% of the preclearing extent within defined constrained areas including the Perth Metropolitan Region (EPA 2015).

The current extent of the Banksia Woodlands TEC is not known; however, it was estimated at the time of its listing under the EPBC Act in 2016 that approximately 336,490 ha was present, with 81,800 ha (24%) located within reserves (TSSC 2016; Ecoscape, 2025). The occurrence of approximately 18 ha of vegetation representing the Banksia WL SCP ecological community onsite would represent approximately 0.005% of the estimated 2016 occurrence and 0.02% of the extent within reserves.

In the context of the surrounding environment, it is noted that there is 1,526 ha of native vegetation present within 5 km of the site and 17,387 ha present within 15 km of the site. This includes the following nearby reserves and regional parks:

- Benmuni Park local reserve (part of Bush Forever Site 471) – immediately north of the site

- Jambanis Park/Nanovich Park/Estrel Park (part of Bush Forever Site 327) – immediately east of the site
- Badgerup Reserve (part of Bush Forever Site 327) – approximately 400m south east of the site
- Jandabup Nature Reserve (Bush Forever Site 324) – approximately 900m north east
- Yellagonga Regional Park, including Lake Joondalup Nature Reserve (Bush Forever Site 299) – approximately 2.4km west
- Lake Gnangara Park (Bush Forever Site 193) – approximately 2.8km south east of the site
- State Forest 65 (Gnangara-Moore River State Forest) – approximately 3km east
- Neerabup National Park (Bush Forever Site 383) – approximately 7.5km north west of the site

The vegetation present onsite is therefore not an isolated remnant, but rather a small portion of the existing local vegetation.

5.3.4 Additional Considerations

The Bushfire Management Plan prepared as part of the LSP technical documents identifies that appropriate bushfire protection can be achieved without the need to impact any proposed areas of vegetation retention or revegetation (see Section 8.1).

Stormwater infiltration is incorporated into a number of the open space areas which has the potential to result in clearing of vegetation. The proposed 15 mm biofiltration/1% AEP storage area locations are shown on Plate 5-9. Where possible, these areas have been located in cleared portions of the site. In locations where this has not been able to be achieved, the configuration of these areas at detailed design stage will aim to minimise impacts to higher quality vegetation patches.

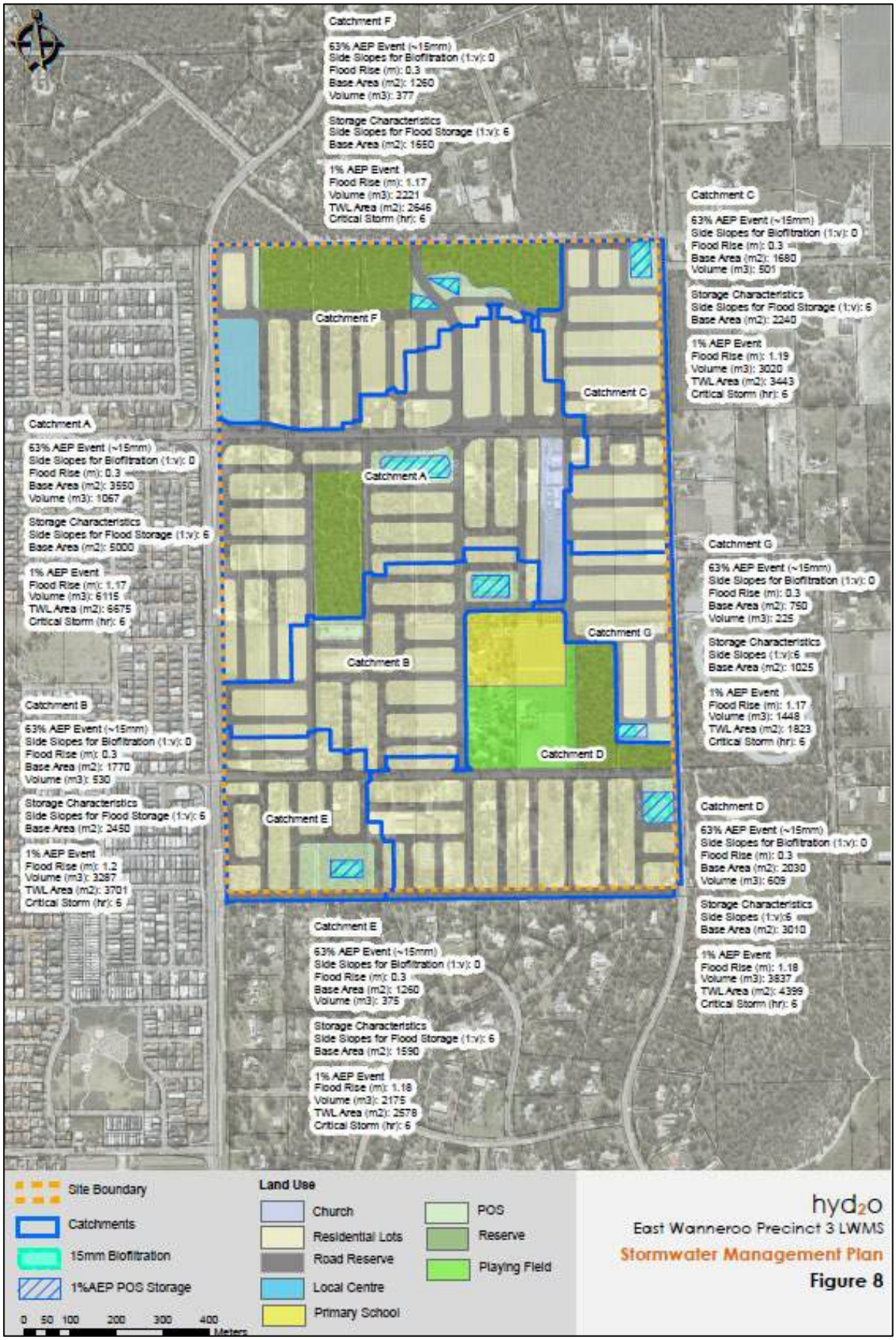

Plate 5-9: Indicative Stormwater Infiltration Areas

Source: Hyd2o, 2025

Further detail on the proposed stormwater drainage is provided within the Local Water Management Strategy (Hyd2o, 2025) with additional design detail to be presented within the future Urban Water Management Plans (UWMPs) prepared at subdivision stage.

Site hydrology considerations are discussed in Section 4. The key conclusions in relation to this matter and potential impact to vegetation within and surrounding the site are:

- The existing conductions which are conducive the infiltration through the sandy subsurface profile, together with a large separation distance to groundwater will remain
- Land use types, densities, and water quality treatment areas will be managed to considerably reduce nutrient application and output, and improve water quality relative to current conditions

If not appropriately managed, weeds can spread into and within areas of retained vegetation onsite and adjacent to the development. Weed spread can be facilitated by inappropriate access into native vegetation, dumping of waste such as organic matter into areas of native vegetation, weed ingress from private properties, weed movement in drainage infrastructure and soil disturbance allowing the growth/colonisation of weed species in the disturbed area. Interface management and weed control can be an effective tool to minimise weed spread.

The presence of Declared Weed species onsite, particularly **Opuntia stricta* (Common Prickly Pear), will require management. Recommended control actions as advised by DBCA (2025) for these species include (Table 5-14):

Table 5-14: Declared Weed Management

Species	Suggested Method of Control	Timing
*Opuntia stricta	Spray 0.2 g metsulfuron methyl + Pulse® in 15 L water (or 2.5 - 5g /ha + Pulse®). Best results achieved when flowering.	Flowing occurs during August and September
*Asparagus asparagoides	Spray 0.2 g metsulfuron methyl + Pulse® in 15 L water (or 2.5 - 5g /ha + Pulse®). Best results achieved when flowering.	Floring occurs during August and September

Source: DBCA, 2025

The observed locations of **Opuntia stricta* and **Asparagus asparagoides* are in proximity to areas of future Parks and Recreation reserve retained vegetation as well as potential POS vegetation retention areas. The current owners of these lots will be advised of the presence of this species onsite and the need for control to be undertaken. Once ownership of these lots transfers to property developers, additional searches for the presence of these species will be undertaken and control undertaken, as required.

The potential presence of these weeds onsite will be noted in the proposed Conservation Area Management Plan(s) and/or Construction Environmental Management Plan(s), to ensure ongoing review for potential presence and control, if found onsite, is undertaken.

5.4 Impact Mitigation

The proposed development will manage impacts to flora and vegetation in accordance with the mitigation hierarchy (Table 5-15).

Table 5-15: Flora and Vegetation Mitigation Hierarchy

Mitigation Hierarchy	Assessment and Proposed Actions
Potential Impact	
Flora and Vegetation	• Clearing of between 16.8 ha (51.1%) to 19.9 ha (60.5%) of the native vegetation present within the LSP area. This includes clearing of between: ▪ 6.8 ha (52.3%) to 7.2 ha (55.4%) of the EmmLW vegetation unit ▪ 10.0 ha (50.3%) to 12.7 ha (63.9%) of the BaLOF vegetation unit ▪ 4.3 ha (39.1%) to 5.8 ha (52.7%) of vegetation in Very Good condition ▪ 5.4 ha (51.9%) to 6.1 ha (58.6%) of vegetation in Good condition • Clearing of between 8.0 ha (44.4% and 8.6 ha (47.7%) of vegetation representing Banksia WL SCP ecological community. • Potential for increased weed invasion • Potential for altered hydrology to impact existing ecological conditions and associated vegetation health • Potential for spread of disease causing organisms • Potential for fragmentation of vegetation
Mitigation Hierarchy	
Avoidance	• Identification of key vegetation retention areas as Parks and Recreation reserve to afford greater protection to the retained vegetation. • The LSP has been designed to avoid vegetation disturbance within the Parks and Recreation Areas proposed onsite. This allows for retention of 13 ha (29.5%) of the native vegetation onsite comprising: ▪ 5.8 ha (44.6%) vegetation from the EmmLW vegetation unit ▪ 7.2 ha (36.2%) of vegetation from the BaLOF vegetation unit ▪ 9.4 ha (52.2%) of vegetation representing the Banksia WL SCP ecological community ▪ 5.2 ha (47.3%) vegetation in Very Good condition ▪ 4.3 ha (41.3%) vegetation in Good condition • Retention of the Priority 2 flora occurrence within proposed Parks and Recreation reserve located within Lot 43 Elliot Road. • Bushfire risk management can be undertaken without impact to areas of retained vegetation • Vegetation retention in general Public Open Space areas and within road reserve will be undertaken where possible. • Avoidance of spread of Declared Weed species through targeted removal and management
Minimisation	• Approximately 3.1ha (9.4%) of native vegetation is located within Public Open Space areas, separate to the Parks and Recreation reserves. Vegetation retention in these areas will be maximised, where possible. • Clearing boundaries will be clearly demarcated on the ground to avoid unauthorised clearing to protect the retained vegetation. • Areas of native vegetation are separated from development areas by a road interface to provide a hard edge which will assist with environmental management, including minimisation of weed spread. • Undertake weed control along the boundary of the Parks and Recreation reserve and Urban Development Areas, to avoid ingress into areas of retained vegetation. These

Mitigation Hierarchy	Assessment and Proposed Actions
	management measures will be detailed in the Conservation Area Management Plan, or similar. • Vegetation and Fauna Management Plan(s), or similar will be prepared in accordance with the City of Wanneroo Environmental Management Plan Guidelines and LPP 3.3 to ensure best practice management is undertaken during clearing and subdivision works, prevent damage to vegetation retention areas and appropriately trap and relocate fauna prior to and during clearing. • Conservation Area Management Plan(s), or similar, will be prepared in accordance with the City of Wanneroo Environmental Management Plan Guidelines for areas of retained vegetation onsite. These plans will provide guidance relating to vegetation retention, revegetation zones, revegetation species and density, weed and disease control, drainage and nutrient management, access control, signage and bushfire prevention/risk management. • Construction Environmental Management Plan(s) will be prepared for the site. This will contain, amongst other items, hygiene protocols to prevent the spread of disease or weeds to retained and adjoining native vegetation areas.
Revegetation	• Native vegetation retained onsite will be subject to management and revegetation including weed control and targeted revegetation planting, where appropriate, to improve the condition and ecological value of these areas. The details of the weed control and revegetation works will be outlined within Conservation Area Management Plan(s), or similar.
Offsets	• Future development proposals proposing to clear Banksia WL SCP vegetation will require referral under the Commonwealth EBPC Act. The EPBC Act referral and assessment process will require further evaluation of impacts to Banksia WL SCP vegetation and for environmental offsets to be provided, where required.

5.5 Predicted Outcome

The predicated outcomes for flora and vegetation include:

- Retention of a minimum of 13.0 ha (39.5%) of native vegetation onsite, including 9.4 ha (52.2%) of vegetation representative of the Banksia WL SCP ecological community.
- Key areas of vegetation retention are to be located within Parks and Recreation reserves, which will provide additional security of tenure.
- Loss of up to 19.9 ha (60.5%) of native vegetation onsite, including 8.6 ha (47.7%) of vegetation representative of the Banksia WL SCP ecological community.
- Retention of all Priority 2 flora occurrences present onsite.
- Improvement in condition of the retained vegetation areas onsite through implementation of weed control and revegetation actions which will be detailed in the proposed Conservation Area Management Plan(s).
- Environmental offsets for clearing of vegetation representative of the Banksia WL SCP ecological community to be addressed through the DCCEEW EPBC Act referral and assessment process.

6 Terrestrial Fauna

6.1 Key Policies and Guidance

Relevant policy and guidance documents for terrestrial fauna, which have informed site-specific investigations and/or have been used to assess potential impacts, include:

- Environmental Factor Guideline – Terrestrial Fauna (EPA, 2016c)
- Technical Guidance – Sampling Methods for Terrestrial Vertebrate Fauna (EPA, 2016d)
- Technical Guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment (EPA, 2020)
- 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 banksii naso*) (DAWE, 2022).
- City of Wanneroo local planning policies including:
  - Local Planning Policy 1.1 - Conservation Reserves
  - Local Planning Policy 4.8 - Tree Preservation Policy
  - Local Planning Policy 5.3 - East Wanneroo
  - City of Wanneroo- Local Biodiversity Plan 2018/19-2023/24 (CoW, 2018)

6.2 Receiving Environment

6.2.1 Fauna surveys

Fauna surveys extending over the site include:

- Fauna Survey and Black Cockatoo Assessment with field work undertaken during spring 2022 by PGV Environmental (2023), including targeted sites over eight lots within Precinct 3 (Lots 3, 11, 29, 30, 40, 42 and 43 Elliott Road and Lot 62 Nicholas Road, Wanneroo) (Plate 5-2) (Appendix 3)
- Fauna Survey and Black Cockatoo Assessment with field work undertaken during February 2025 by Ecoscape for the entire Precinct 3 area (Ecoscape, 2025) (Appendix 4)

6.2.1.1 Fauna Survey and Black Cockatoo Habitat Assessment (2022)

6.2.1.1.1 Fauna Survey

This basic fauna survey was done in accordance with EPA Technical Guidance *Fauna Surveys for Environmental Impact Assessment* (EPA, 2020). It involved a desktop review and field survey involving a site walkover to record and assess fauna habitats. The field work was undertaken on 26 and 30 September 2022. Landholdings which formed part of this survey are highlighted on Plate 6-1.

6.2.1.1.2 Black Cockatoo Habitat Assessment

The Black Cockatoo habitat assessment was done in accordance with *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 banksii naso)* (DAWE, 2022) (Black Cockatoo Referral Guidelines) and the methodology that is outlined in the SPRAT Database for each of the Black Cockatoo species for Black Cockatoo Habitat Assessments.

The assessment involved (PGV Environmental, 2023):

- traversing the site on foot and assessing information on Black Cockatoo foraging, roosting and breeding habitat
- investigating the extent, type and quality of the vegetation present, which included the presence and extent of plants known to be used by Black Cockatoos.

6.2.1.2 Fauna Survey and Black Cockatoo Habitat Assessment (2025)

6.2.1.2.1 Fauna Survey

This basic fauna survey was done in accordance with EPA Technical Guidance *Fauna Surveys for Environmental Impact Assessment* (EPA, 2020). The survey was conducted on 3, 10 and 12 February 2025, and involved (Ecoscape 2025):

- Desktop analysis
- Field work which incorporated a number of survey techniques, including habitat assessment, active searches, raking of spoil heaps and leaf litter, searches for secondary evidence such as scats and tracks, as well as opportunistic searches
- Targeted searches for conservation listed fauna identified during desktop analysis
- Bird surveys conducted as 20-minute point searches by an experienced ornithologist during peak periods of bird activity (early morning, as per Birdlife Australia standard methodology)
- Assessment and mapping of fauna habitats.

6.2.1.2.2 Black Cockatoo Habitat Assessment

Potential and active (actual) Black Cockatoo breeding trees were assessed by Ecoscape on 3, 10 and 12 February 2025 as per *Black Cockatoo Referral Guidelines* (DAWE, 2022), Bamford Consulting Ecologist (BCE) (2016) tree classification methods, and BCE (2020) habitat value scoring method.

The suitability of the survey area for breeding (additional to the specific tree survey), roosting and foraging was also assessed and mapped.

6.2.2 Fauna habitats

6.2.2.1 Fauna Survey (2022)

Within the lots that were surveyed, PGV Environmental (2023) recorded two fauna habitat types, described as Open Woodland Habitat and Cleared/Developed Habitat (Appendix 3).

6.2.2.2 Fauna Survey (2025)

One fauna habitat type, Banksia Woodland, was recorded within survey area from six habitat assessment points and covers 32.09 ha (24.40%) (Figure 7); however, due to the remaining areas of rural/rural residential land (including market gardens) lacking vegetative structure and frequent disturbance from human activity these were not considered as habitat (Ecoscape, 2023). The remaining area mapped as cleared/not native vegetation covers 101.95 ha (75.6%) (Figure 7).

The Banksia Woodland fauna habitat is described as open woodland dominated by Banksia species with *Allocasuarina fraseriana* (Sheoak), emergent *Eucalyptus marginata* subsp. *marginata* (Jarrah), and occasional *Eucalyptus gomphocephala* (Tuart) over mid-level shrubs with low grass trees on a grey sandy plain. This habitat provides suitable shelter and foraging resources for a common assemblage of vertebrate fauna species, reptiles and bush birds. It provides foraging resources for the conservation-listed Carnaby's and Forest Red-tailed Black Cockatoos and Quenda.

6.2.3 Fauna Assemblage

6.2.3.1 Fauna Survey (2025)

Ecoscape (2025) recorded 33 vertebrate fauna species during the survey, from two ornithological surveys and opportunistic observations, consisting of:

- mammals, of which two are introduced
- 29 birds, of which 4 are introduced
- 2 reptiles.

Ornithological survey sites and locations of conservation-listed fauna, including evidence of presence including foraging observations, are shown on Figure 7.

6.2.4 Conservation Significant Fauna

6.2.4.1 Fauna Survey (2022)

PGV Environmental (2023) identified the areas surveyed may provide habitat for two marine bird species, Cattle Egret (*Ardea* (*Bubulcus*) *ibis*) and the Rainbow Bee-eater (*Merops ornatus*), the Spiny Katydid (Swan Coastal Plain) (*Austrosagaspinifer*) (Priority 2) and the Woolybush Bee (*Hylaeus globuliferus*) (Priority 3). The Quenda (*Isoodon fusciventer*) (Priority 4) could potentially occur on the site.

Habitat on the site was identified for three listed species of Black Cockatoos being:

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

It is worth noting that PGV Environmental (2023) stated that the site is just outside the modelled 'Predicted Breeding Area' distribution for Baudin's Black Cockatoo.

6.2.4.2 Fauna Survey (2025)

Ecoscape (2025) identified survey area may provide habitat for the Peregrine falcon (*Falco peregrinus*), and Black-striped snake (*Neelaps calonotos*) (Priority 3). Further, the Quenda (Priority 4) is known to occur within the survey area along with Carnaby's Cockatoo and Forest Red-tailed Black Cockatoo.

It is worth noting that Ecoscape (2025) determined Baudin's cockatoo as being unlikely to occur within the survey area, given it is located outside of their mapped distribution (DAWE 2020).

6.2.4.2.1 Quenda (Priority 4)

The Banksia Woodland habitat contains low shrubs, grass trees and grassy understorey that are used by Quenda for shelter along with the presence of sandy soils for foraging (Ecoscape, 2025). Whilst no live individual were observed during Ecoscape's (2025) survey, evidence of Quenda was found in the form of diggings and apparent tunnelling in long grass. The Quenda diggings ranged in age which suggests persistence in the survey area over time.

6.2.5 Black Cockatoo Habitat

6.2.5.1 Black Cockatoo Habitat Assessment (2022)

6.2.5.1.1 Potential Breeding Habitat

Within the lots that were surveyed by PGV Environmental (2023), a total of 16 Jarrah trees were recorded that had a DBH of greater than 500mm, however one tree had a large base but was sheared and coppiced

and would not form a suitable hollow so a total of fifteen trees on the site meet the definition of potential breeding habitat (Plate 6-1). None of the trees had suitable hollows for breeding (PGV Environmental, 2023).

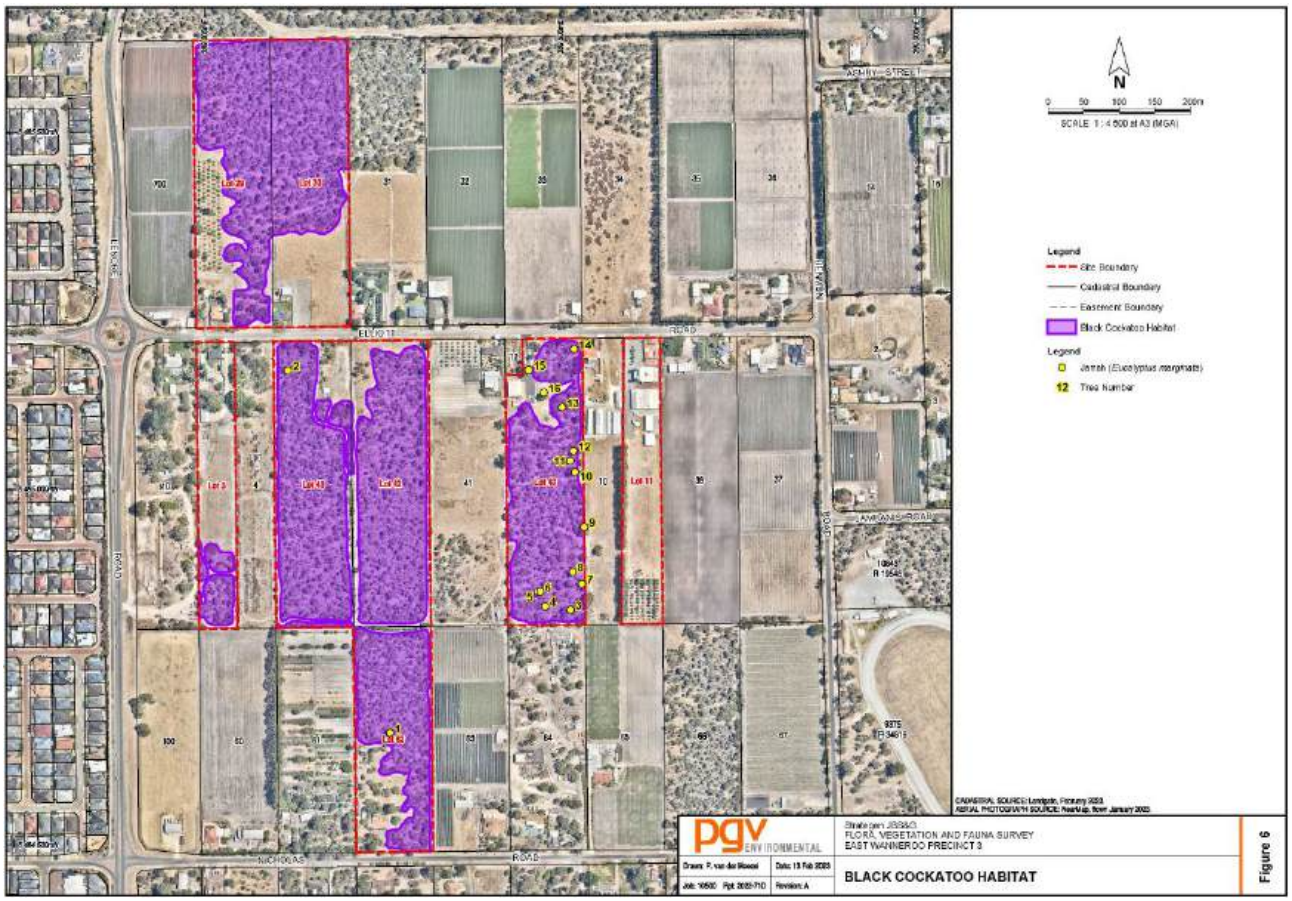

Plate 6-1: Black Cockatoo Habitat – 2022 survey findings

6.2.5.1.2 Roosting Habitat

PGV Environmental (2023) did not record any roosting within the survey area and determined the survey area had limited roosting habitat for Black Cockatoos. Further, roosting has not been recorded within the survey area (DoP, 2011; Peck *et al.,* 2019; National Map, 2022, as cited in PGV Environmental, 2023). The nearest roosting sites are reported to be from around 700 m to the north-east (National Map, 2022), and a number of roost sites are reported within 20km (PGV Environmental, 2023).

6.2.5.1.3 Foraging Habitat

PGV Environmental (2023) recorded thirteen species that are recognised as foraging habitat for Black Cockatoos within the survey area (Table 6-1).

Table 6-1: Forage species for Black Cockatoos

Tree Species	Common Name	Carnaby's Cockatoo	Forest Red-tailed Black Cockatoo	Baudin's Cockatoo
Acacia saligna	Orange Wattle	✓		
Allocasuarina fraseriana	Sheoak		✓	✓
Banksia attenuata	Candlestick Banksia	✓		
Banksia dallanneyi	Couch Honeypot	✓		
Banksia menziesii	Firewood Banksia	✓		

Tree Species	Common Name	Carnaby's Cockatoo	Forest Red-tailed Black Cockatoo	Baudin's Cockatoo
Bankia prionotes	Acorn Banksia	✓		
Banksia sessilis	Parrot Bush	✓		✓
Callitris preissii	Rottnest Island Pine	✓		
Eucalyptus marginata	Jarrah	✓	✓	✓
Hakea prostrata	Harsh Hakea	✓		✓
Hakea ruscifolia	Candle Hakea	✓		✓
Melia azedarach	Cape Lilac	✓	✓	
Xanthorrhoea preissii	Balga	✓	✓	

Source: (Davies, 1966; Saunders, 1980; Johnstone and Storr, 1998; Johnstone and Kirkby, 1999; Valentine and Stock,2008; Groom, 2011; Johnstone et al., 2011; SEWPaC, 2012; Bamford, 2013; Johnstone, et al., 2013; Johnstone et al., 2016 as cited in PGV Environmental, 2023)

The Black Cockatoo foraging habitat values was determined by PGV Environmental (2023) using the habitat scoring tool in the Commonwealth Black Cockatoo referral guideline (DAWE, 2022).

Table 6-2: Foraging habitat scoring tool (DAWE, 2022)

Attribute	Context Adjustor	Carnaby's Cockatoo	Forest Red-tailed Black Cockatoo	Baudin's Cockatoo
Starting score:		**10**	**10**	**10**
Foraging potential	**Subtract 2** from your score if there is no evidence of feeding debris on your site.	0	0	-2
Connectivity	**Subtract 2** from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.	0	0	0
Proximity to breeding	**Subtract 2** if you have evidence to conclude that your site is more than 12 km from breeding habitat.	0	0	0
Proximity to roosting	**Subtract 1** if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat.	0	0	0
Impact from significant plant disease	**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.	0	0	0
Final Score		10	10	8

Source: (PGV Environmental, 2023)

6.2.5.2 Black Cockatoo Habitat Assessment (2025)

6.2.5.2.1 Potential Breeding Habitat

Ecoscape (2025) assessed potential breeding habitat in accordance with the criteria outlined in the Commonwealth Black Cockatoo referral guideline (DAWE, 2022), with additional information recorded using the grading classifications outlined by BCE (2016) when determining the potential suitability of trees to be used for nesting based on the presence, size and orientation of hollows.

A total of 95 trees were recorded to have suitable diameters (>500 mm) to be Black Cockatoo habitat trees, of which 84 were Jarah (Eucalyptus marginata), 5 were Tuart (*Eucalyptus gomphocephala*), 7 were dead and

2 were other (Figure 8) (Ecoscape, 2025). Photographs of all trees are provided in Appendix 9 of Ecoscape's (2025) report (Appendix 4).

Based on BCE's grading classifications, no trees were identified within the site as Class 1 (trees having hollows with active nests) or Class 2 (trees having hollows showing previous use as a Black Cockatoo nest but not currently occupied). One Jarrah was recorded within the eastern extent of Lot 40 as being Class 3 (trees having potentially suitable hollows without evidence of use) (Figure 8) (Ecoscape, 2025).

Class 4 and 5 trees do not have hollows suitable for Black Cockatoos but are of sufficient size that they may develop them in the future. 30 trees were classified as Class 4 (trees with large hollows that weren't suitable for Black Cockatoos) and 64 as Class 5 (trees currently without large hollows) (Figure 8) (Ecoscape, 2025).

6.2.5.3 Roosting Habitat

No known roost locations are registered within the site (Ecoscape, 2025). The closest recorded roost is approximately 530 m east of the site, which was last documented as being used in 2022 during the Great Cocky Count (Pryor, Barrett and Williams, 2023 as cited in Ecoscape 2025).

Whilst Ecoscape (2025) did note that the Banksia Woodland habitat type, which is mapped across the site, includes emergent Eucalyptus species that is mostly Jarrah with occasional Tuart that have potential as roosting habitat, no evidence of roosting was found during the survey. Ecoscape (2025) did observe one pair and one single Carnaby's Cockatoo perching in the site.

6.2.5.4 Foraging Habitat

The foraging habitat within the site is comprised of mixed Banksia species (*Banksia attenuata*, *Banksia prionotes*, *Banksia menziesii*) utilised by Carnaby's, *Allocasuarina fraseriana* utilised by Forest Red-tailed Black Cockatoos and *Eucalyptus marginata* subsp. marginata (Jarrah) utilised by both Black Cockatoo species (Ecoscape, 2025).

Ecoscape (2025) found evidence of previous foraging in the form of chewed Banksia cones. Two Forest Red-tailed Black Cockatoos were observed foraging in *Allocasuarina* trees. Based on field observations and detailed flora quadrat data, it was estimated that the Black Cockatoo foraging species ranged from approximately 20-40% coverage (Ecoscape, 2025).

The total extent of suitable foraging habitat within the site is 32.90 ha. To determine the habitat quality scores for Carnaby's Cockatoo and Forest Red-tailed Black Cockatoo, Ecoscape (2025) utilised the DAWE (2022) foraging habitat scoring tool (Table 6-3).

Table 6-3: Foraging habitat scoring tool (DAWE, 2022)

Habitat Summary for Black Cockatoo Foraging Habitat		Score
Carnaby's Cockatoo		
Starting Score	10 if the site is >1 ha in extent, is within the usual range of the species, and is: • native shrubland, kwongan heathland or woodland dominated by proteaceous species • native woodland or forest containing foraging species, including roadsides, parkland cleared areas and planted native vegetation.	+10
Context adjustor (subtractions)	None applicable.	0
Final Score		**10 (High Quality)**
Forest Red-tailed Black Cockatoo		
Starting Score	10 if the site is >1 ha in extent, is within the usual range of the species, and is: • Jarrah or Marri woodland and/or forest • on the edge of Karri forest • Wandoo and Blackbutt occur on the site • includes the above if along roadsides and parkland cleared areas.	+10
Context adjustor (subtractions)	No known breeding areas are within 12 km of the survey area	-2
Final Score		**8 (High Quality)**

Source: Ecoscape (2025)

Ecoscape (2025) also applied the BCE (2020) scoring system, which takes into consideration the following components:

- site condition (vegetation composition, condition and structure)
- site context (the site in relation to other native vegetation within a 15 km radius of the site)
- species density (stocking rate: frequency and abundance of Black Cockatoos at the site)
- modification, if needed, for vegetation with little or no foraging value and for pine plantations that provide valuable food sources.

Table 6-4 presents the foraging values calculated for Carnaby's Cockatoo and Forest Red-tailed Black Cockatoo using BCE (2020) scoring system.

Table 6-4: Black cockatoo foraging value (BCE, 2020)

Component	Carnaby's Cockatoo	Forest Red-tailed Black Cockatoo
Site condition	**4**: 20-40% *Banksia*	**3**: 5-20% foraging
Site context	**3**: in vicinity of known breeding area, >5% native habitat in 15 km radius	**2**: Breeding site unlikely, 5-10% native habitat within 15 km radius
Species density/ stocking rate	**1**: foraging evidence	**1**: sightings, foraging
Total Score	8	6

Source: Ecoscape (2025)

The areas mapped as Banksia Woodland within the site (Figure 7 and Figure 8), scored an 8 out of a possible 10 for Carnaby's Cockatoo (which represents potentially high value foraging habitat), and 6 out of a possible 10 for Forest Red-tailed Black Cockatoo (which represents potentially moderate value foraging habitat).

It is worth noting, the BCE scoring tool is considered to be a more accurate depiction of the foraging habitat value and it's predicted distribution across the site. One of the primary aims of the DAWE (2022) foraging quality scoring tool is to assist proponents with determining whether or not a proposed action requires referral to DCCEEW. Given the 2022 black cockatoo referral guidelines also acknowledges that the scoring tool does not include or require consideration of vegetation quality (i.e Keighery condition scale or other similar methodologies) and that this kind of information may become important when environmental assessment of the proposed action is required, the BCE scoring tool was considered to be more a more appropriate scoring tool to be utilised for the environmental impact assessment of foraging habitat within the site.

6.2.6 Introduced Fauna

The following introduced vertebrate fauna were identified as occurring on site from observations and secondary evidence (Ecoscape, 2025):

- Rainbow Lorikeet (*Trichoglossus moluccanus*); one record, observed at BS01
- Rabbit (*Oryctolagus cuniculus*); one record of deceased remains
- Red Fox (*Vulpes vulpes*); two records of a burrow and deceased remains
- Laughing Kookaburra (*Dacelo novaeguineae*); one record, observed opportunistically
- Laughing Turtle-dove (*Spilopelia senegalensis*); two records, observed at BS01 and BS04
- Spotted Turtle-dove (*Spilopelia chinensis*) one record, observed opportunistically.

In addition to the Red Fox and Rabbit identified above, PGV Environmental (2023) also identified the Feral cat (*Felis catus*), House Mouse (*Mus musculus*) and Black Rat (*Rattus rattus*) as being likely to occur within the site.

6.3 Potential Impact Identification and Assessment

Potential impacts to terrestrial fauna associated with future urban development have been identified as follows:

- Direct loss of habitat through land clearing
- Mortality or displacement of individuals or populations
- Degradation and fragmentation of habitat
- Increased presence of invasive species (i.e., fauna, weeds and diseases)
- Increased frequency of fires.

Implementation of the LSP will result in impacts to some areas of native vegetation which may provide fauna habitat opportunities. The location of Parks and Recreation reserves and public open space areas are shown in Appendix 2.

The proposed development will manage impacts to fauna and fauna habitat in accordance with the mitigation hierarchy (Section 5.4.1).

6.3.1 Black Cockatoo Habitat Retention and Clearing

Implementation of the proposal will result in impacts to some areas of native vegetation which may provide fauna habitat opportunities for lot creation and infrastructure installation.

As previously stated, the development has considered the siting and extent of the Parks and Recreation reserve within Precinct 3 in the context of impact minimisation to Black Cockatoo foraging habitat and habitat trees (Figure 9). Tree retention may also be possible in other parts of the site i.e. road verges, public open space, drainage sumps etc., subject to detailed design.

Approximately 13 ha (39.51%) of Black Cockatoo foraging habitat, which is of moderate value for Forest Red-tailed Black Cockatoos and high value for Carnaby's Black Cockatoo, is proposed for retention in the Parks and Recreation reserve (Table 6-5). Approximately 19.90 ha (60.49%) is proposed to be cleared for development within the Urban Development and Public Open Space areas (Table 6-5).

Table 6-5: Black Cockatoo foraging habitat values within Parks and Recreation, Public Open Space and Urban Development

	Black Cockatoo Foraging Habitat		Cleared/ Not native vegetation	
	Area (ha)	% of Value	Area (ha)	% of Value
Parks and Recreation	13.00	39.51%	1.25	1.22%
Public Open Space	3.15	9.58%	8.82	8.66%
Urban Development	16.75	50.91%	91.88	90.12%
Total	**32.90**	**100.00%**	**101.95**	**100.00%**

A total of 38 Black Cockatoo habitat trees are proposed for retention in the Parks and Recreation reserve (Table 6-6). Of these, 35 are Jarrah and 3 are dead. There are 8 trees within Public Open Space (7 are Jarrah and 1 is Tuart) and 49 within the proposed Urban Development (39 are Jarrah, 4 are Tuart, 4 are dead and 2 are other). As previously stated, tree retention may also be possible in other parts of the site i.e. road verges, public open space, drainage sumps etc., subject to detailed design.

Table 6-6: Black cockatoo habitat trees within Parks and Recreation, Public Open Space and Urban Development

	Jarrah	Tuart	Dead	Other	Total
Parks and Recreation	35	0	3	0	38
Public Open Space	7	1	0	0	8
Urban Development Area	39	4	4	2	49
Total	81	5	7	2	95

Within the Parks and Recreation reserve, there are 27 Black Cockatoo habitat trees classified as Class 5 (trees currently without large hollows) and 11 as Class 4 (trees with large hollows that are not suitable for Black Cockatoos (Table 6-7). Within public open space there are 4 categorised as Class 5 and another 4 as Class 4. The Urban Development area contains 33 as Class 5, and 15 as Class 4. There is only one Class 3 tree (has potentially suitable hollows without evidence of use) which is located in the Urban Development area; however, based on the location of the tree (Figure 9) there may be potential to retain it within the road reserve as part of future development.

Table 6-7: Black cockatoo tree classes within Parks and Recreation, Public Open Space and Urban Development

	Tree classification			
	Class 5 (without large hollows)	Class 4 (not suitable hollows)	Class 3 (potentially suitable hollows, no evidence of us)	Total
Parks and Recreation	27	11	0	38
Public Open Space	4	4	0	8
Urban Development Area	33	15	1	49
Total	64	30	1	95

6.3.2 Regional Context Analysis

Utilising DBCA mapping, PGV Environmental (2023) determined there is 17,973 ha of Black Cockatoo habitat within 12 km of the site, of which 3,635 ha is in DBCA managed land (PGV Environmental, 2023). This would include the following nearby reserves and regional parks:

- Benmuni Park local reserve (part of Bush Forever Site 471) – immediately north of the site
- Jambanis Park/Nanovich Park/Estrel Park (part of Bush Forever Site 327) – immediately east of the site
- Badgerup Reserve (part of Bush Forever Site 327) – approximately 400m south east of the site
- Jandabup Nature Reserve (Bush Forever Site 324) – approximately 900m north east
- Yellagonga Regional Park, including Lake Joondalup Nature Reserve (Bush Forever Site 299) – approximately 2.4km west
- Lake Gnangara Park (Bush Forever Site 193) – approximately 2.8km south east of the site
- State Forest 65 (Gnangara-Moore River State Forest) – approximately 3km east
- Neerabup National Park (Bush Forever Site 383) – approximately 7.5km north west of the site

At a regional level, clearing of 19.9 ha of native vegetation (worst case clearing scenario based on vegetation retention in the Parks and Recreation reserves only) represents approximately 0.11% of Black Cockatoo foraging habitat within 12 km of the site.

6.3.3 Impact Mitigation

Impacts to fauna and fauna habitat have been considered in the context of the EPA's mitigation hierarchy (Table 5-8).

Table 6-8: Terrestrial Fauna Mitigation Hierarchy

Mitigation Hierarchy	Assessment and Proposed Actions
Impact	
Terrestrial Fauna	• Loss of potential fauna habitat vegetation in Urban Development Area. • Loss of approximately 19.90 ha of Banksia Woodland fauna habitat within Public Open Space and Urban Development Area, which comprise of: ▪ 19.90 ha of high value Carnaby's Cockatoo foraging habitat and moderate quality Forest Red-tailed Black Cockatoo foraging habitat ▪ 57 Black cockatoo habitat trees, of which • Fragmentation of habitat.

Mitigation Hierarchy	Assessment and Proposed Actions
	• Potential for degradation of habitat including increased presence of invasive species. • Potential increased frequency of fires leading to habitat changes. • Potential mortality or displacement of individuals or populations.
Mitigation Hierarchy	
Avoidance	• Retention of 13 ha of potential Banksia Woodland fauna habitat within Parks and Recreation reserve, which comprise of: ▪ 13 ha of high value Carnaby's Cockatoo foraging habitat and moderate quality Forest Red-tailed Black Cockatoo foraging habitat. ▪ 38 Black Cockatoo habitat trees, including 1 Class 3 tree (has potentially suitable hollows without evidence of use). • Potential retention of Black Cockatoo habitat trees and potential roosting trees within public open space, road reserves and/or detention basins could provide future habitat for Black Cockatoos. • Bushfire management can be undertaken without impact to areas of retained vegetation or revegetation (see Bushfire Management Plan).
Minimisation	• Tree retention in road reserves, public open space and/or drainage basins may be considered once detailed engineering and planning design has been undertaken. This will be done in accordance with City of Wanneroo's LPP 4.8 – Tree Preservation. • Street tree planting will include native species, with potential foraging Black Cockatoo foraging value, which will be approved by the City of Wanneroo. • Landscape planting within the Parks and Recreation reserve will include areas of native species planting that are acceptable from a bushfire management perspective. Detailed landscape design will be prepared at the subdivision stage of the project to be approved by the City of Wanneroo. • Clearing boundaries will be physically/visibly demarcated to avoid unauthorised clearing to protect the retained vegetation which provides fauna habitat opportunities. • Fauna relocation and management will be undertaken prior to- and during construction to avoid impacts to fauna. In accordance with the City of Wanneroo's Environmental Management Plan Guidelines and LPP 3.3 – Fauna Management, a Vegetation and Fauna Management Plan will be prepared and implemented at subdivision stage to prevent damage to fauna habitats being retained, and ensure fauna is appropriately trapped and relocated. It will also include protocols for dealing with displaced/injured animals during clearing and subdivisional works. • Undertake weed control along the boundary of the Parks and Recreation reserve and Urban Development Areas, to avoid ingress into areas of retained vegetation. These management measures will be detailed in the Conservation Area Management Plan, or similar. • Conservation Area Management Plan(s), or similar, will be prepared in accordance with the City of Wanneroo's Environmental Management Plan Guidelines and LPP 1.1 – Conservation Reserves for areas of retained vegetation and fauna habitat onsite. These plans will provide guidance relating to vegetation and fauna habitat retention, revegetation zones, revegetation species and density, weed and disease control, drainage and nutrient management, access control, signage and bushfire prevention/risk management. • The Construction Environmental Management Plan will contain, amongst other items, hygiene protocols to prevent the spread of disease or weeds into the Parks and Recreation reserve and retained fauna habitat areas.

Mitigation Hierarchy	Assessment and Proposed Actions
	• Bushfire management can be undertaken within the site without impact to areas of retained vegetation and fauna habitat (see Bushfire Management Plan).
Rehabilitation	• Revegetation will occur within the Parks and Recreation reserve, subject to measures outlined in the Conservation Area Management Plan, or similar (Table 4-16).
Offsets	• Future development proposals proposing to clear Black Cockatoo habitat will require referral under the Commonwealth EBPC Act. The EPBC Act referral and assessment process will require further evaluation of impacts to Black Cockatoo and for environmental offsets to be provided, where required.

6.4 Predicted Outcome

The LSP will result in the following predicted outcomes to terrestrial fauna:

- Retention of approximately 13.0 ha (39.5%) of Black Cockatoo habitat within Parks and Recreation, which comprise of:
  - high value Carnaby's Cockatoo foraging habitat
  - moderate value Forest Red-tailed Black Cockatoo foraging habitat
  - 38 Black Cockatoo habitat trees with suitable diameter.
- Key areas of Black Cockatoo habitat retention are to be located within Parks and Recreation reserves, which will provide additional security of tenure.
- Loss of up to 19.9 ha (60.5%) of Black Cockatoo habitat onsite, including 57 Black Cockatoo habitat trees with suitable diameter; However, retention of Black Cockatoo habitat trees within road reserves, public open space and/or drainage basins could provide future habitat opportunities, once detailed engineering and planning design has been undertaken.
- Minimisation of impacts to resident fauna through fauna management and relocation measures prior to- and during construction in the Public Open Space and Urban Development areas, as per the Vegetation and Fauna Management Plan, or similar.
- Improvement in ecological condition and associated fauna habitat value in the Parks and Recreation reserve, through implementation of weed control and revegetation, as per the Conservation Area Management Plan(s), or similar.
- Environmental offsets for clearing of Black Cockatoo foraging habitat to be addressed through the DCCEEW EPBC Act referral and assessment process.

7 Social Surroundings

7.1 Key Policies and Guidance

Relevant policy and guidance documents for social surroundings, which have informed site-specific investigations and/or have been used to assess potential impacts, include:

- Environmental Factor Guideline – Social Surroundings (EPA, 2023)
- EPA Guidance Statement No. 3 Separation Distances between Industrial and Sensitive Land Uses (EPA, 2005)
- State Planning Policy 2.4 Basic Raw Materials (SPP 2.4) (WAPC, 2021b)
- State Planning Policy 5.4 Road and Rail Noise (SPP 5.4) (WAPC, 2019)
- *Aboriginal Heritage Act 1972*

7.2 Receiving Environment

A search of the Department of Planning, Lands and Heritage (DPLH) Aboriginal Cultural Heritage (ACH) Inquiry System identified that the site does not contain any registered sites or other heritage places (DPLH, 2025b):

The closest Aboriginal Heritage site noted is Gnangara Site 3 located approximately 1.4 km southwest of the subject site. Gnangara Site 3 is a lodged site associated with a Burial (ID1017) (Landgate, 2025b).

A search of the Heritage Council InHerit database (Heritage Council, 2024) and the City of Wanneroo Heritage List (CoW, 2025) indicates that there are no recorded heritage sites located on the site or within a 1km radius of the site.

The Department of Mines, Industry, Regulation and Safety (DMIRS) GeoView database does not indicate the presence of any SPP 2.4 Basic Raw Materials extraction sites or exclusions areas within the landholdings (DEMIRS, 2025).

The site is not mapped within any strategic freight and/or major traffic routes as identified by State Planning Policy 5.4 Road and Rail Noise (WAPC, 2019).

The closest industrial area to the site is located approximately 1.8km to the south (Wangara Industrial Area, zoned General Industry) (CoW, 2025). Given the presence of sensitive land uses between the industrial area and the site, any associated land use buffer requirements would not be anticipated.

Markets gardening and other intensive primary industry activities exist with the site and surrounding areas. The interface between these land uses and future development needs to take into consideration how these land uses are separated.

The EPA recommends the below generic separation distances (Table 7-1) to sensitive land uses.

Table 7-1: EPA recommended separation distances to sensitive land uses

Land use	Recommended generic separation distance
Market gardening (broad-scale operations)	300-500m, depending on size
Nurseries (no composting)	100m
Greenhouses (using manure or compost)	200-300m
Orchards (broad-scale operations)	500m
Turf farms and lawns (broad-scale turf production)	500m
Extractive industries (sand and limestone extraction)	300-500m, depending on size

Source: EPA, 2005

7.3 Potential Impact Identification and Assessment

There are no known Aboriginal or European heritage sites within the landholdings. There is potential that currently undiscovered matters of Aboriginal cultural significance may be identified during the site construction program. Disturbance of these items without approval is prohibited under the AH Act.

Development planning for the site will take into consideration the presence of active land uses at the time of subdivision which require separation from sensitive land uses.

The use of separation distances and/or other methods to provide adequate treatment and management between residential and agricultural/industrial land uses (which are likely to be for a temporary period of time prior to development progressing across these locations) will be addressed through regulator liaison and subdivision stage approval processes.

Dust generation is a potential impact of the construction program. The potential for dust generation is likely to be the highest in summer afternoon when wind conditions are at their strongest. Actions which can be undertaken to reduce the risk of dust generation and nuisance impacts include:

- Use of dust suppression measures, including application of water to the construction site or placement of hydromulch to stabilise cleared areas once earthworks have been completed
- Limiting stockpile numbers and size onsite
- Limiting vehicle speeds to a maximum of 15 km/hr
- Covering of soil loads transported to and from the site
- Undertake regular cleaning of road and sealed surfaces
- Staging of works to minimise the size of the open/disturbed areas present onsite at any one time
- Have dust fencing available for use, if required
- Undertake dust monitoring
- Maintain a complaints register and investigate/undertake responsive actions to any complaints received

Dust management will be addressed within the proposed Construction Environment Management Plan(s).

7.4 Impact Mitigation

Table 7-2 summarises the impacts and outlines the avoidance and minimisation actions which are proposed in relation to Social Surroundings.

Table 7-2: Social Surroundings Mitigation Hierarchy

Mitigation Hierarchy	Proposed Actions
Impact	
Social Surroundings	• Potential land use conflicts between nearby agricultural land uses and future onsite sensitive land uses • Identification of currently undiscovered areas or materials which have Aboriginal cultural heritage significance and are protected under the AH Act • Dust generation impacting human health and amenity of residents
Mitigation Hierarchy	
Avoidance	• No known Aboriginal or European heritage sites are located within the landholdings
Minimisation	• Ensure all contractors working on the site are aware of the requirements of the AH Act in relation to finding material of potential cultural significance • The use of separation distances and/or other methods to provide adequate treatment and management between residential and agricultural/industrial land uses will be addressed through regulator liaison and subdivision stage approval processes • Address dust management requirements which may include: ▪ Use of dust suppression measures, including application of water to the construction site or placement of hydromulch to stabilise cleared areas once earthworks have been completed ▪ Limiting stockpile numbers and size onsite ▪ Limiting vehicle speeds to a maximum of 15 km/hr ▪ Covering of soil loads transported to and from the site ▪ Undertake regular cleaning of road and sealed surfaces ▪ Staging of works to minimise the size of the open/disturbed areas present onsite at any one time ▪ Have dust fencing available for use, if required ▪ Undertake dust monitoring ▪ Maintain a complaints register and investigate/undertake responsive actions to any complaints received • A Construction Environmental Management Plan or similar will be prepared for the site. This will contain, amongst other items a summary of key obligations under the AH Act regarding potential finds of cultural significance and dust management requirements to prevent loss of surface soils and soil stabilisation requirements

7.5 Predicted Outcome

The LSP will result in the following predicted outcomes to social surroundings:

- The use of separation distances and/or other methods to provide adequate treatment and management between residential and agricultural/industrial land uses (which are likely to be for a temporary period of time prior to development progressing across these locations) will be addressed through regulator liaison and subdivision stage approval processes
- Future construction to address dust management requirements.
- Preparation and implementation of a Construction Environmental Management Plan or similar for future subdivisional works, which will include:
  - key obligations under the AH Act regarding potential finds of cultural significance
  - dust management requirements to prevent loss of surface soils and soil stabilisation requirements.

8 Other Matters

8.1 Bushfire Risk

Much of the site is located in a bushfire prone area by the Department of Fire and Emergency Services (DFES) (Plate 8-1) (Landgate 2025b). These areas are defined as being subject to, or likely to be subject to, bushfire attack, and are identified by the presence of and proximity to bush fire prone vegetation.

Plate 8-1: Bushfire Prone Areas

Source: MNG, 2025

To address the risk of bushfire to the future development proposal within the LSP area, a dedicated Bushfire Management Plan (BMP) has been prepared for the site (Emerge Associates, 2025). This BMP is being submitted in support of the LSP and should be read in conjunction with this Environmental Assessment Report.

Key components of the BMP which are relevant to environmental matters include:

- The BAL assessment conducted as part of the BMP indicates that all future habitable buildings within the proposed development can be sited to achieve BAL-29 or less. A number of the development cells have BAL-40 incursions as result of retained vegetation within the parkland reserves, however, the development cells are sufficiently sized to accommodate appropriately oriented lots at subdivision, allowing for in-lot setbacks to achieve BAL-29.
- Areas designated for parkland reserve purposes have been assumed to retain existing native vegetation and remain unmanaged. These areas area assumed to maintain a forest classification.
- Classified vegetation that has been identified outside of the proponent's landholdings has been assumed to remain in its current state (unless stated otherwise) and will therefore continue to be a bushfire hazard to development within the site.
- The BMP has been prepared under the assumption that the future Shenton Road Reserve area to the south will be developed prior to subdivision commencing within the southern portions of the site. If, at the time of subdivision, this road is not or will not be delivered, a revised approach to development in this area will be required.

An extract of the BAL mapping for the site, identifying retained native vegetation areas, is provide in Plate 8-2.

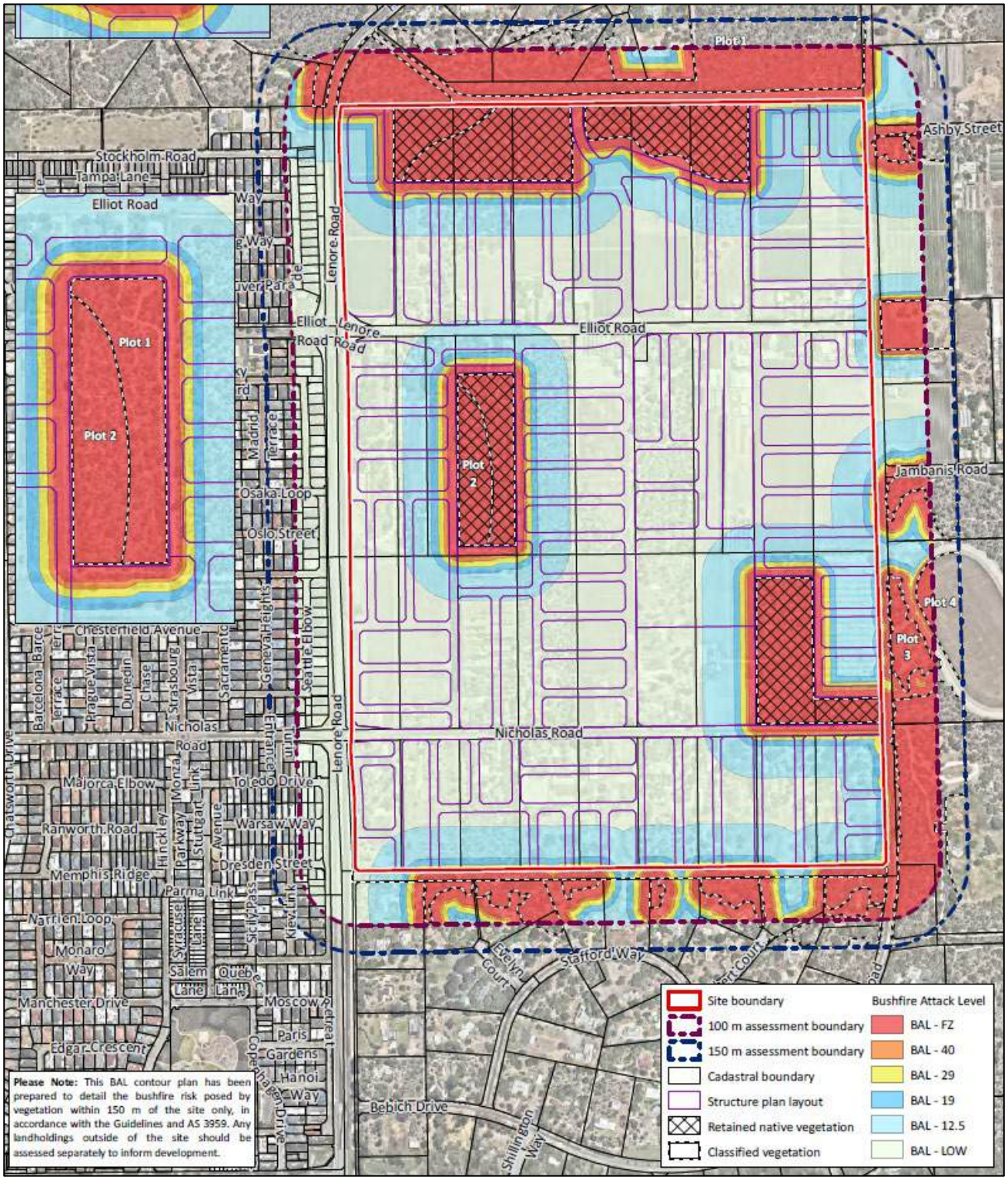

Plate 8-2: Bushfire Attack Level Contour Plan

Source: Emerge Associates, 2025

9 Environmental Management Framework

To ensure the proposed development is appropriately managed, an environmental management framework has been developed to outline the various environmental management plans, as identified as part of the environmental impact assessment and impact mitigations sections of this report, that will be implemented through various decision making authorities and at different stages of the project approval and implementation works (Table 9-1).

Table 9-1: Environmental Management Framework

Report / Management Plan	Timing / Stage of Project	Approval Required	Legislation or Agreement Regulating the Activity	Decision Making Authority	Environmental Management Outcome
Urban Water Management Plan(s)	Subdivision stage	Approval of plan(s) prior to construction commencing	*Planning and Development Act 2005* implemented as a condition of the approval of subdivision	DWER	Implementation of the UWMP will ensure the strategies and goals of the LWMS are archived in relation to water management
Bushfire Management Plan	Subdivision stage	Approval of plan(s) as prior to construction commencing Clearance that subdivision construction has met the requirements of the plan prior to issue of Certificate of Title	*Planning and Development Act 2005* implemented as a condition of the approval of subdivision	DFES / City of Wanneroo	Implementation of the plan will ensure that bushfire risks to the surrounding environment and future residents are addressed in accordance with SPP 3.7 to achieve an acceptable outcome
Conservation Area Management Plan(s) (or similar)	Subdivision stage	Approval of plan(s) prior to commencement of site work in relevant stages of the development	*Planning and Development Act 2005* implemented as a condition of the approval of subdivision	City of Wanneroo, on advice from DBCA, where relevant	Implementation of the plan will prevent and manage impacts of urban development on areas of retained vegetation and fauna habitat. Prepared in accordance with City of Wanneroo Environmental Management Plan Guidelines and LPP 1.1 – Conservation Reserves
Vegetation and Fauna Management Plan	Subdivision stage	Approval of the plan prior to construction (cleaning) commencing	*Planning and Development Act 2005* implemented as a condition of the approval of subdivision	City of Wanneroo	Implementation of the plan will mitigate impacts to native fauna during the clearing and construction phase and ensure that all activities are undertaken in accordance with requirements under the BC Act, and the City of Wanneroo Environmental Management Plan Guidelines and LPP 3.3 – Fauna Management
Construction Environment Management Plan(s)	Subdivision stage	Approval of plan(s) prior to commencement of site work	*Planning and Development Act 2005* implemented as a condition of the approval of subdivision	City of Wanneroo	Implementation of the plan will ensure appropriate management of key environmental factors as discussed in Sections 3 to 7 to mitigate risk to the surrounding environment

Report / Management Plan	Timing / Stage of Project	Approval Required	Legislation or Agreement Regulating the Activity	Decision Making Authority	Environmental Management Outcome
Preliminary Contamination Investigation	Subdivision stage	Approval of PSI, or identification of additional investigation, reporting and/or remediation requirements to be addressed	*Contaminated Site Act 2003*	DWER	The PSI will identify if any additional contamination investigations are required. Should detailed investigation or remediation be required the associated reports would be approved by DWER to ensure potential environmental risks are managed.

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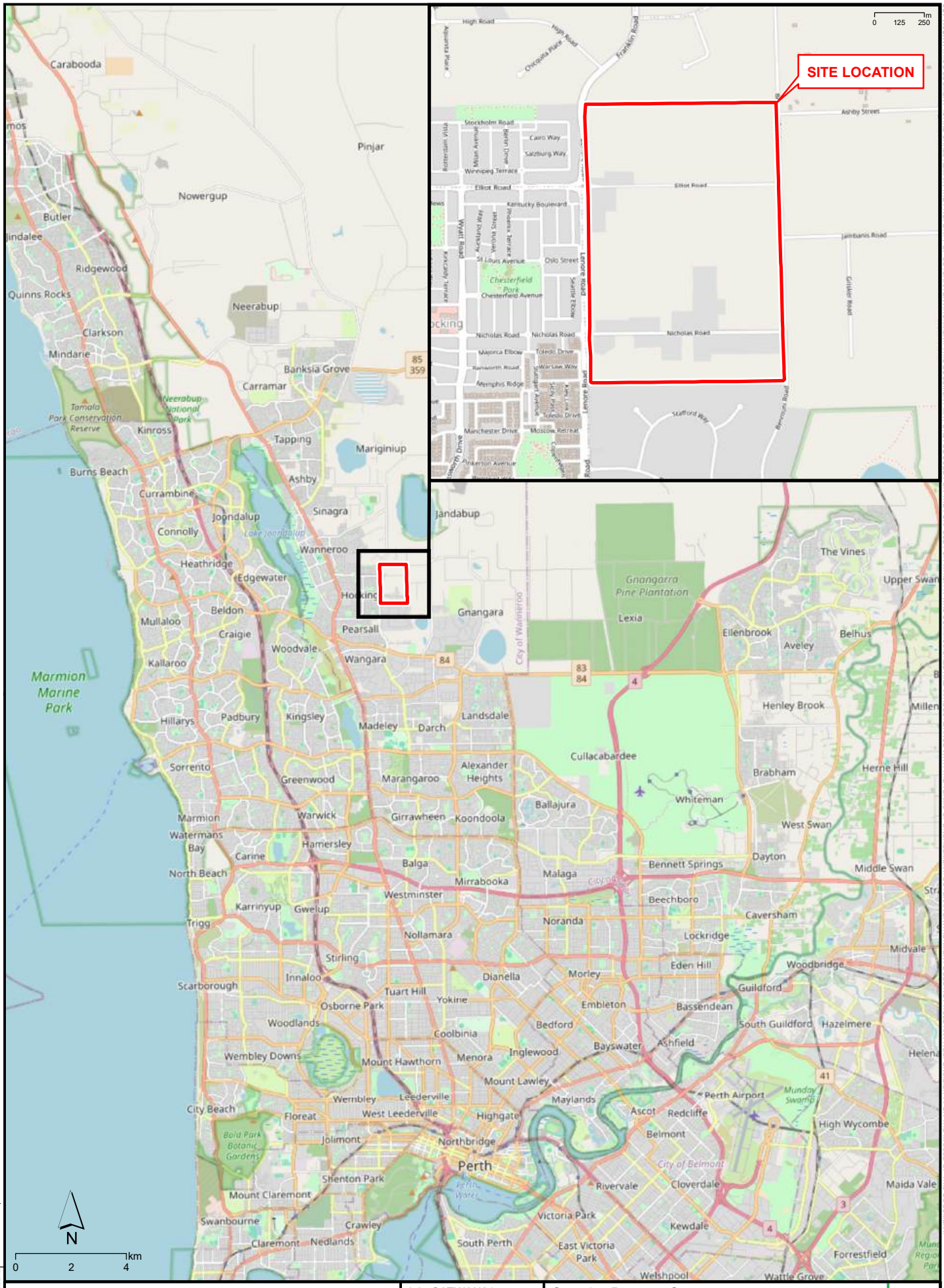
Figures



COTERRA ENVIRONMENT

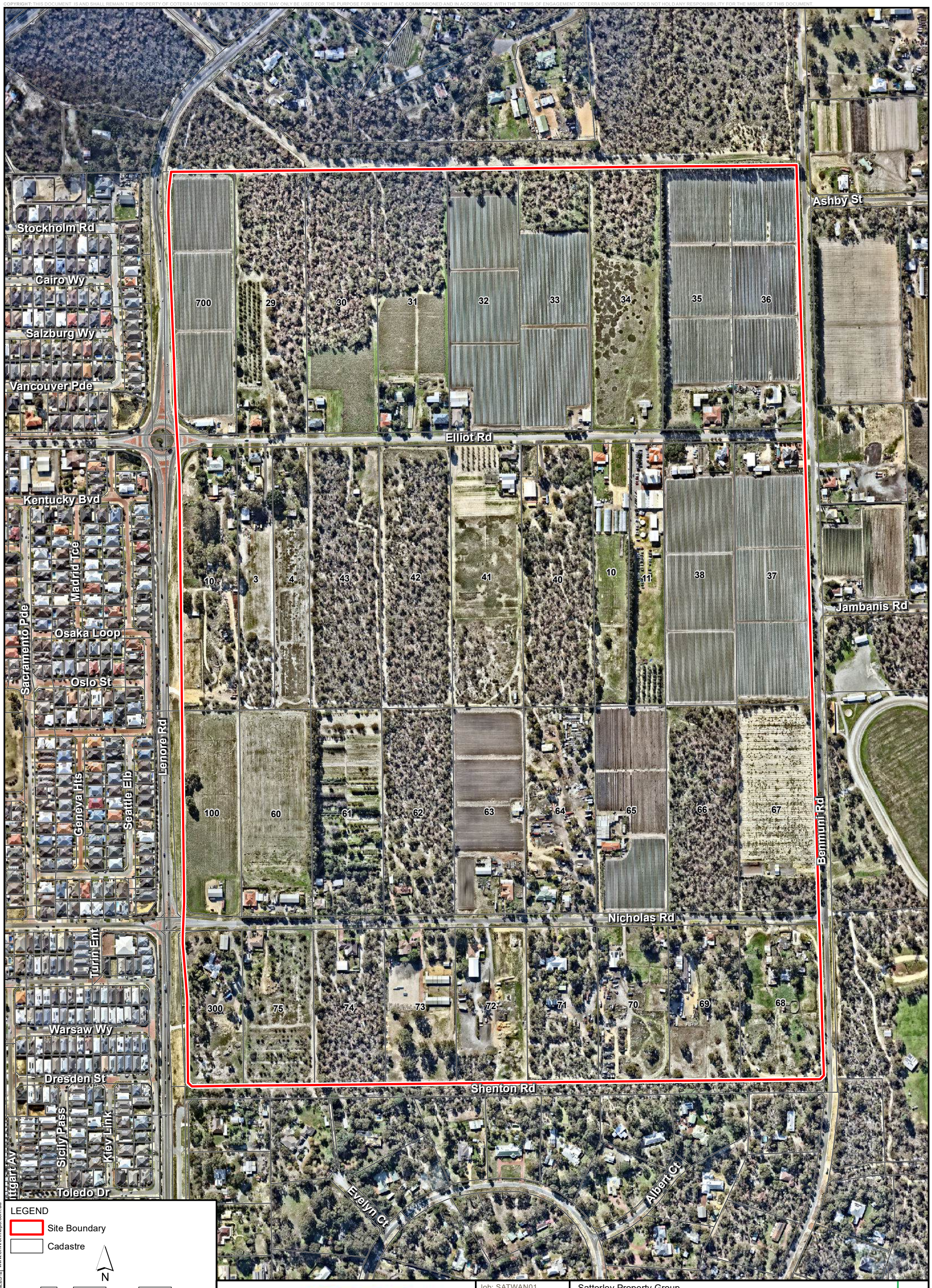
Job: SATWAN01
Doc: 001
Date: 3/09/2024
Ph: (08) 9381 5513
Fax: (08) 9381 5514
E: info@coterra.com.au

Satterley Property Group
ENVIRONMENTAL ASSESSMENT REPORT
EAST WANNEROO PRECINCT 3

SITE LOCATION

Figure 1

C:\GIS\Jobs\CoTerra\SATWAN01 - Precinct 3 Lenora Rd Wanneroo\Figures\SATWAN01_F01 Site Location_240903.mxd



LEGEND

Site Boundary

Cadastre

N

0 25 50 100 150 200 m

Scale: 1:5,000 @ A3

GDA2020 MGA Zone 50

Source: Cadastre - Landgate
Orthophoto - NearMaps, 15.06.24

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Job: SATWAN01
Doc: 002
Date: 31/03/2025
Ph: (08) 9381 5513
Fax: (08) 9381 5514
E: info@coterra.com.au

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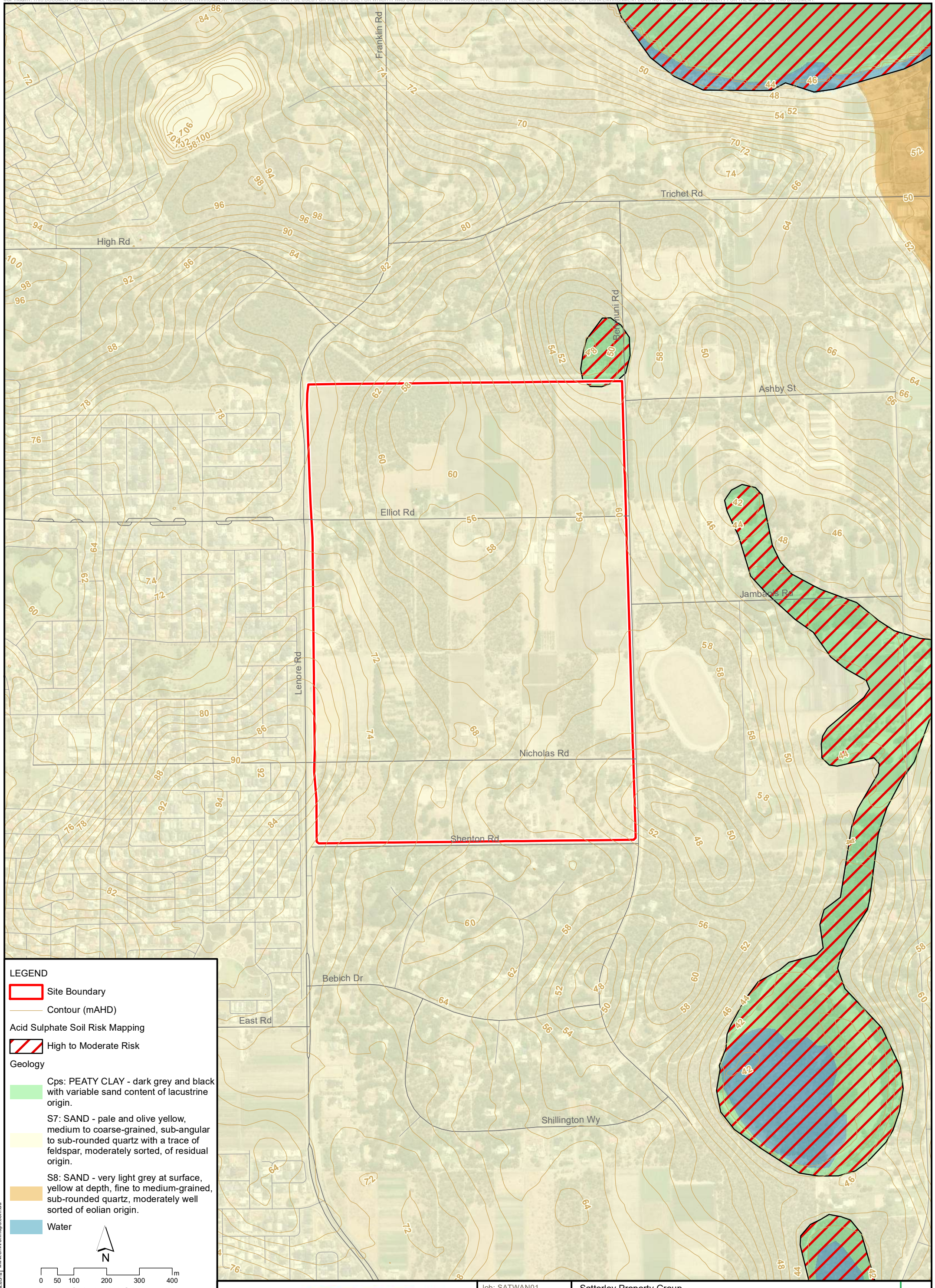
AERIAL PHOTOGRAPH

Figure 2

C:\GIS\Jobs\CoTerra\SATWAN01 - Precinct 3 Lenora Rd Wanneroo\Figures\SATWAN01_F02 Aerial Photograph_250331.mxd



LEGEND

Site Boundary

Contour (mAHD)

Acid Sulphate Soil Risk Mapping

High to Moderate Risk

Geology

Cps: PEATY CLAY - dark grey and black with variable sand content of lacustrine origin.

S7: SAND - pale and olive yellow, medium to coarse-grained, sub-angular to sub-rounded quartz with a trace of feldspar, moderately sorted, of residual origin.

S8: SAND - very light grey at surface, yellow at depth, fine to medium-grained, sub-rounded quartz, moderately well sorted of eolian origin.

Water

N

0 50 100 200 300 400 m

Scale: 1:10,000 @ A3
GDA2020 MGA Zone 50

Source: Cadastre - Landgate
Geology - DMIRS
Orthophoto - NearMaps, 15.06.24
ASS Risk & Contours - DWER

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Fax: (08) 9381 5514
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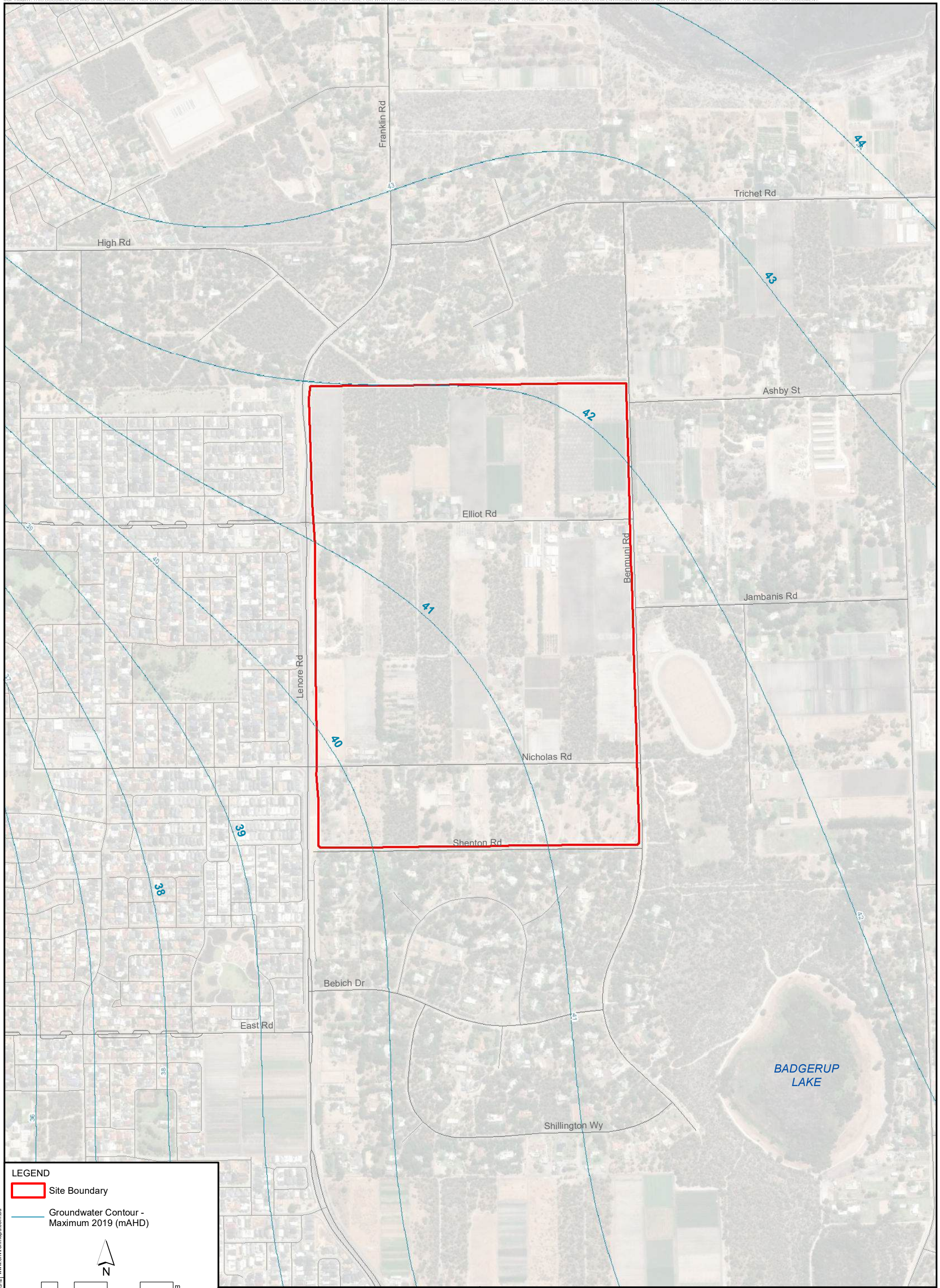
TOPOGRAPHY AND SOIL

Figure 3

C:\GIS\Jobs\CoTerra\SATWAN01 - Precinct 3 Lenora Rd Wanneroo\Figures\SATWAN01_F03 Topography and Soil_240903.mxd



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Job: SATWAN01
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HYDROLOGY

Figure 4

C:\GIS\Jobs\CoTerra\SATWAN01 - Precinct 3 Lenora Rd Wanneroo\Figures\SATWAN01_F04 Hydrology_240903.mxd

LEGEND

- Site Boundary
- Cadastre
- Quadrat
- Waypoint

Significant Flora

- *Poranthera moorokatta* (P2)

Vegetation Types

- *Banksia attenuata, Allocasuarina fraseriana* and *Banksia menziesii* low open forest over *Eremaea pauciflora, Xanthorrhoea brunonis* and *Daviesia divaricata* mid open shrubland over *Mesomelaena pseudostygia* and *Hibbertia hypericoides subsp. hypericoides* low open sedgeland / shrubland.
- *Eucalyptus marginata subsp. marginata, Banksia prionotes, Allocasuarina fraseriana* low woodland over *Xanthorrhoea brunonis, Daviesia nudiflora* mid sparse shrubland over *Hibbertia hypericoides subsp. hypericoides, Mesomelaena pseudostygia* low sparse shrubland / sedgeland.
- Not Native Vegetation / Cleared

Ecological Community

- Commonwealth TEC, WA P3 PEC 'Banksia Woodlands of the Swan Coastal Plain ecological community'.

WT2405 WT2406 WT2412 Wpt-14 Wpt-15 WT2402 WT2403 WT2408 WT2407 Wpt-13 WT2409 WT2401 WT2411 WT2410

Stockholm Rd · Cairo Wy · Salzburg Wy · Vancouver Pde · Ashby St · Elliot Rd · Kentucky Bvd · Sacramento Pde · Madrid Tce · Oslo St · Osaka Loop · Lenore Rd · Geneva Hts · Seattle Elb · Jambanis Rd · Benmuni Rd · Nicholas Rd · Turin Ent · Warsaw Wy · Dresden St · Sicily Pass · Kiev Link · Toledo Dr · Shenton Rd · Evelyn Ct · Stafford Wy · Albert Ct · Quebec

700 29 30 31 32 33 34 35 36 · 10 3 4 43 42 41 40 10 11 38 37 · 100 60 61 62 63 64 65 66 67 · 300 75 74 73 72 71 70 69 68

N

0 25 50 100 150 200 m

Scale: 1:5,000 @ A3
GDA2020 MGA Zone 50

Source: Cadastre - Landgate
Orthophoto - NearMaps, 15.06.24

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Ph: (08) 9381 5513
Fax: (08) 9381 5514
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VEGETATION TYPES

Figure 5

C:\GIS\Jobs\CoTerra\SATWAN01 - Precinct 3 Lenora Rd Wanneroo\Figures\SATWAN01_F05 Vegetation Types_250331.mxd

LEGEND

- Site Boundary
- Cadastre

Significant Weed

- *Asparagus asparagoides*
- *Opuntia stricta*

Vegetation Condition

- Very Good
- Good
- Degraded
- Completely Degraded
- N/A (Cleared / Not Native Vegetation)

Chicquita Pl
Stockholm Rd
Cairo Wy
Salzburg Wy
Vancouver Pde
Kentucky Bvd
Sacramento Pde
Madrid Tce
Oslo St
Osaka Loop
Lenore Rd
Geneva Hts
Seattle Elb
Turin Ent
Warsaw Wy
Dresden St
Sicily Pass
Kiev Link
Toledo Dr
Quebec
Ashby St
Elliot Rd
Jambanis Rd
Benmuni Rd
Nicholas Rd
Shenton Rd
Evelyn Ct
Stafford Wy
Albert Ct

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100 60 61 62 63 64 65 66 67
300 75 74 73 72 71 70 69 68

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0 25 50 100 150 200 m

Scale: 1:5,000 @ A3
GDA2020 MGA Zone 50

Source: Cadastre - Landgate
Orthophoto - NearMaps, 15.06.24

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EAST WANNEROO PRECINCT 3

VEGETATION CONDITION

Figure 6

C:\GIS\Jobs\CoTerra\SATWAN01 - Precinct 3 Lenora Rd Wanneroo\Figures\SATWAN01_F06 Vegetation Condition_250331.mxd

LEGEND

- Site Boundary
- Cadastre
- Bird Survey
- Habitat Assessment

Significant Fauna

- *Zanda latirostris* (EN)
- *Isoodon fusciventer* (P4)
- *Calyptorhynchus banksii* subsp. *naso* (VU)
- *Merops ornatus* (IA)

Fauna Habitat

- Banksia Woodland
- Cleared / Not Native Vegetation

HAB06
HAB01
BS01
HAB05
HAB07
HAB04
BS04
HAB02
BS02
HAB03
BS03

Chicquita Pl
Stockholm Rd
Cairo Wy
Salzburg Wy
Vancouver Pde
Kentucky Bvd
Sacramento Pde
Madrid Tce
Oslo St
Osaka Loop
Lenore Rd
Geneva Hts
Seattle Elb
Turin Ent
Warsaw Wy
Dresden St
Sicily Pass
Kiev Link
Toledo Dr
Quebec
Elliot Rd
Ashby St
Jambanis Rd
Benmuni Rd
Nicholas Rd
Shenton Rd
Stafford Wy
Evelyn Ct
Albert Ct

700 29 30 31 32 33 34 35 36
10 3 4 43 42 41 40 10 11 38 37
100 60 61 62 63 64 65 66 67
300 75 74 73 72 71 70 69 68

0 25 50 100 150 200 m
Scale: 1:5,000 @ A3
GDA2020 MGA Zone 50
N

Source: Cadastre - Landgate
Orthophoto - NearMaps, 15.06.24

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EAST WANNEROO PRECINCT 3

FAUNA HABITAT

Figure 7

C:\GIS\Jobs\CoTerra\SATWAN01 - Precinct 3 Lenora Rd Wanneroo\Figures\SATWAN01_F07 Fauna Habitat_250331.mxd

LEGEND

- Site Boundary
- Cadastre

Fauna Habitat

- Banksia Woodland
- Cleared / Not Native Vegetation

Black Cockatoo Habitat Trees

Eucalyptus marginata

- Class 3
- Class 4
- Class 5

Eucalyptus gomphocephala

- Class 4
- Class 5

Other

- Dead; Class 4
- Dead; Class 5

Chicquita Pl
Stockholm Rd
Cairo Wy
Salzburg Wy
Vancouver Pde
Kentucky Bvd
Sacramento Pde
Madrid Tce
Oslo St
Osaka Loop
Lenore Rd
Geneva Hts
Seattle Elb
Turin Ent
Warsaw Wy
Dresden St
Sicily Pass
Kiev Link
Toledo Dr
Quebe C
Ashby St
Elliot Rd
Jambanis Rd
Benmuni Rd
Nicholas Rd
Shenton Rd
Stafford Wy
Evelyn Ct
Albert Ct
700
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300
75
74
73
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70
69
68

0 25 50 100 150 200 m

Scale: 1:5,000 @ A3

GDA2020 MGA Zone 50

N

Source: Cadastre - Landgate
Orthophoto - NearMaps, 15.06.24

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C:\GIS\Jobs\CoTerra\SATWAN01 - Precinct 3 Lenora Rd Wanneroo\Figures\SATWAN01_F08 Black Cockatoo Habitat_250331.mxd

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Ph: (08) 9381 5513
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EAST WANNEROO PRECINCT 3

BLACK COCKATOO HABITAT

Figure 8

LEGEND

- Site Boundary
- Cadastre

Ecological Community

- Commonwealth TEC, WA P3 PEC 'Banksia Woodlands of the Swan Coastal Plain ecological community'.

Significant Fauna

- *Zanda latirostris* (EN)
- *Isoodon fusciventer* (P4)
- *Calyptorhynchus banksii* subsp. *naso* (VU)
- *Merops ornatus* (IA)

Significant Flora

- *Poranthera moorokatta* (P2)

MRS Reserve

- Parks and Recreation

Local Scheme

- Residential R30-R60*
- Residential R40-R80
- Public Open Space
- Local Centre
- Public Purpose - Primary School

Black Cockatoo Habitat Trees

Eucalyptus marginata

- Class 3
- Class 4
- Class 5

Eucalyptus gomphocephala

- Class 4
- Class 5

Other

- Dead: Class 4
- Dead: Class 5

Chicquita Pl
Stockholm Rd
Cairo Wy
Salzburg Wy
Vancouver Pde
Ashby St
Elliot Rd
Kentucky Bvd
Sacramento Pde
Madrid Tce
Oslo St
Osaka Loop
Lenore Rd
Geneva Hts
Seattle Elb
Jambanis Rd
Benmunil Rd
Nicholas Rd
Turin Ent
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Dresden St
Sicily Pass
Kiev Link
Toledo Dr
Shenton Rd
Evelyn Ct
Stafford Wy
Albert Ct
Quebec

700 29 30 31 32 33 34 35 36
10 3 4 42 41 40 10 11 38 37
100 60 61 62 63 64 65 67
300 75 74 73 72 71 70 69 68

0 25 50 100 150 200 m

Scale: 1:5,000 @ A3

Source: GDA2020 MGA Zone 50

Cadastre - Landgate Ortho - NearMaps, 15.06.24

Concept Plan - Burgess Design Group, 18.03.25

N

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Job: SATWAN01
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Ph: (08) 9381 5513
Fax: (08) 9381 5514
E: info@coterra.com.au

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EAST WANNEROO PRECINCT 3

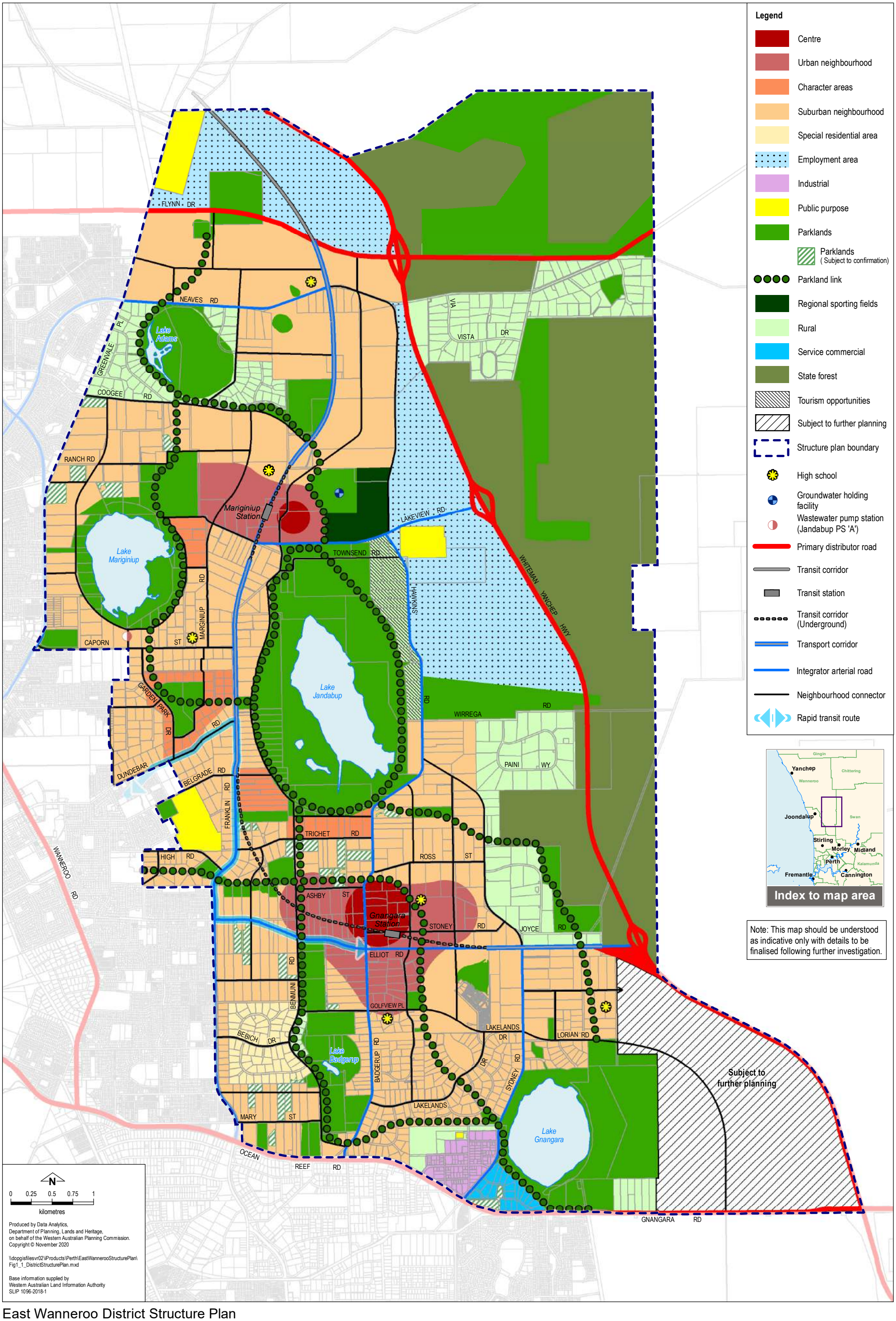
KEY ENVIRONMENTAL OPPORTUNITIES AND CONSTRAINT

Figure 9

C:\GIS\Jobs\CoTerra\SATWAN01 - Precinct 3 Lenora Rd Wanneroo\Figures\SATWAN01_F09 Key Environmental Opportunities and Constraint_250408.mxd

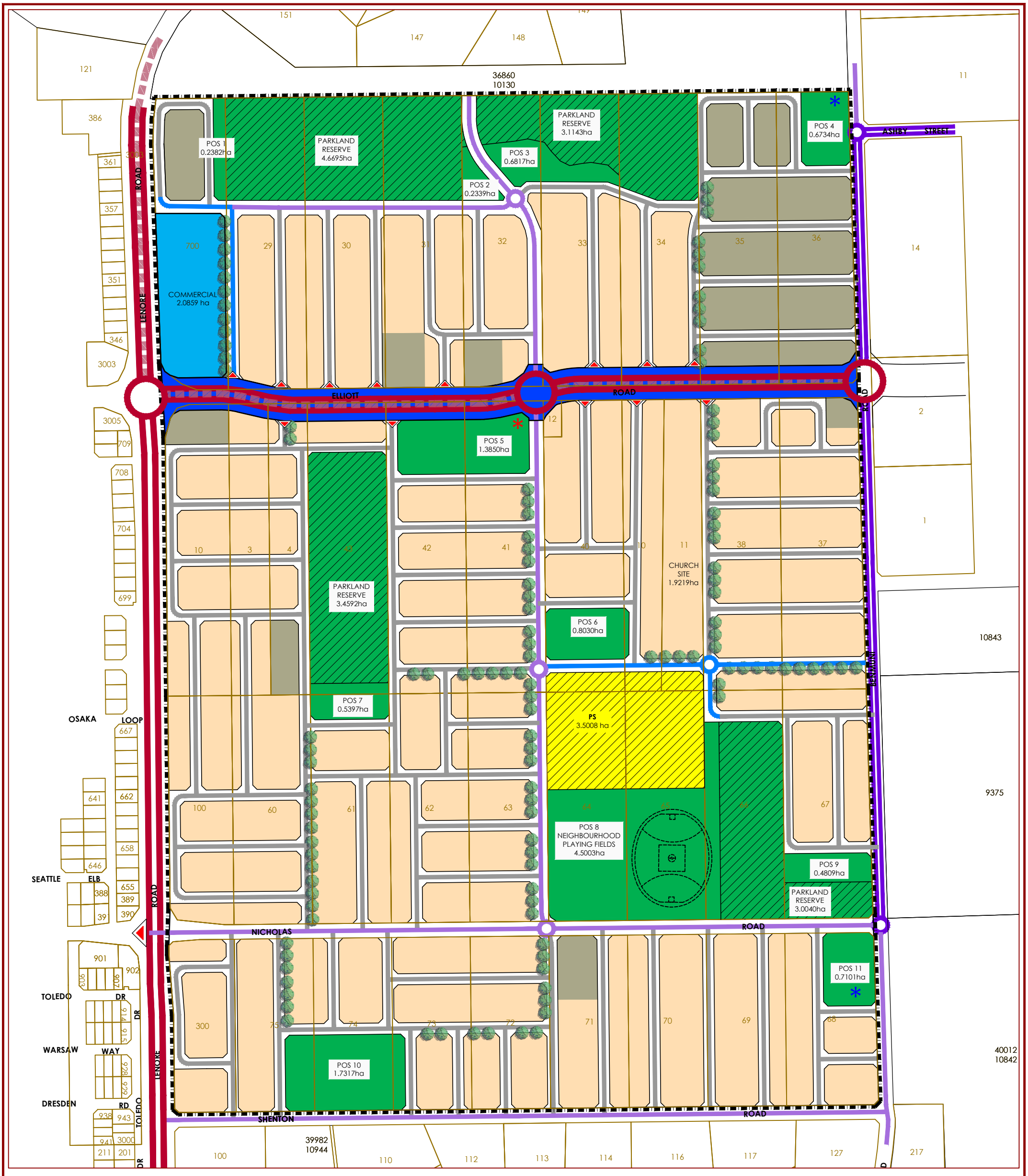
Appendix 1 East Wanneroo District Structure Plan and Precinct Plan

Figure 1.1 East Wanneroo District Structure Plan



East Wanneroo District Structure Plan

Appendix 2 Proposed Local Structure Plan



LEGEND

- STRUCTURE PLAN AREA

MRS RESERVES
- PARKS AND RECREATION

LOCAL SCHEME
- RESIDENTIAL R30-R60*
- RESIDENTIAL R40-R80
- PUBLIC OPEN SPACE
- PS PUBLIC PURPOSES - PRIMARY SCHOOL
- PERMANENT WWPS
- TEMPORARY WWPS
- COMMERCIAL

MOVEMENT NETWORK
- TRANSPORT CORRIDOR (45m)
- INTEGRATOR A (35m)
- NEIGHBOURHOOD CONNECTOR A (25m)
- NEIGHBOURHOOD CONNECTOR B (20m)
- ACCESS STREET B (17.9m)
- ACCESS STREET D (15.4m**)
- ROUNDABOUT INTERSECTION***
- LEFT IN/LEFT OUT INTERESECTION***

OTHER
- GREEN STREET*

NOTES:

**REFER TO STRUCTURE PLAN REPORT FOR DETAIL.*

***MAY BE REDUCED TO 13m ADJACENT TO PUBLIC OPEN SPACE (EXCLUDING AREAS IDENTIFIED FOR CONSERVATION PURPOSES), OR 10m WHERE USED AS A CONTROLLED ACCESS PLACE.*

****ALL OTHER INTERSECTIONS TO BE PRIORITY CONTROLLED.*

NORTH

0 50 75 100 150

SCALE 1:5,000 (A3)

LOCAL STRUCTURE PLAN
EAST WANNEROO PRECINCT 3
WANNEROO

BURGESS DESIGN GROUP
TOWN PLANNING + URBAN DESIGN
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www.burgessdesigngroup.com.au
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F (08) 9328 4062

Plan No: SAT PR3 03-07-01 Client: SAT
Date: 18.03.25 Planner: JB

CITY OF WANNEROO

Appendix 3 Detailed Flora and Vegetation Survey (PGV Environmental, 2023)

EAST WANNEROO PRECINCT 3

FLORA, VEGETATION AND FAUNA SURVEY

Prepared for:	Strategen JBS&G
Report Date:	15 February 2023
Version:	2
Report No.	2022-710

pgv ENVIRONMENTAL

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1 INTRODUCTION

1.1 Purpose

East Wanneroo Precinct 3 is located in the City of Wanneroo approximately 20km north of the Perth Central Business District (Figure 1). The Precinct is bound by Lenore Road to the west, a fire break, Benmuni Park and large residential lots to the north, Benmuni Road to the east and an unmade road reserve and large residential lots to the south (Figure 2).

PGV Environmental was commissioned by Strategen-JBS&G to undertake a Flora, Vegetation and Fauna Survey of the native vegetation on eight lots within Precinct 3.

1.2 Survey Area

The lots included in the survey are listed in Table 1 and shown on Figure 2.

Table 1: Lots Included in the Study

Lot	Street Number	Area (ha)	Area of native Vegetation approx. (ha)
Lot 29 Elliott Road	179	4.4	3.0
Lot 30 Elliott Road	191	4.4	2.4
Lot 3 Elliott Road	178	2.2	0.4
Lot 43 Elliott Road	194	4.4	3.7
Lot 42 Elliott Road	206	4.4	3.3
Lot 40 Elliott Road	226	4.2	3.7
Lot 11 Elliott Road	238	2.2	0
Lot 62 Nicholas Road	62	3.4	2.3
TOTAL			**18.8**

1.3 Scope of Works

A Detailed Flora and Vegetation survey was undertaken in accordance with *EPA Technical Guidance: Flora and Vegetation Surveys* (EPA, 2016). The survey included the following:

- Desktop search and review of the Department of Biodiversity, Conservation and Attractions (DBCA) Threatened flora databases;
- A search of Atlas of Living Australia (ALA, 2022) database;
- A search of the Commonwealth Government's Protected Matters Search Tool to identify species potentially occurring within the area that are protected under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act);
- Examination of historic and recent aerial photography and contour and soil maps to provisionally identify vegetation types and condition;
- Field survey using quadrats to record native and introduced species as well as a thorough site walkover of any areas of native vegetation;
- Recording of any significant plant species using a hand-held GPS;

- Description and mapping of vegetation types and vegetation condition; and
- Compilation of a flora list.

A Basic Fauna Survey was undertaken in accordance with EPA Technical Guidance *Fauna Surveys for Environmental Impact Assessment* (EPA, 2020). The survey included the following:

- A search of the DBCA Database for the general area for Threatened and Priority Species;
- A search of Atlas of Living Australia for records in the area (ALA, 2022);
- A search of the Commonwealth Government's Protected Matters Search Tool to identify species potentially occurring within the area that are protected under the Environment Protection and Biodiversity Conservation (EPBC) Act 1999 or international migratory bird agreements (JAMBA/CAMBA);
- A review of studies previously undertaken in the vicinity of the site;
- A description of the fauna habitats present on the site from field surveys; and
- An assessment of the significance of the site for conservation significant species in a local and regional context.

The Black Cockatoo Habitat Assessment was undertaken to:

- Describe the Black Cockatoo habitat on the site;
- Searching for evidence of foraging on any trees such as chewed Banksia, Jarrah and Marri nuts;
- Looking for evidence of roosting or breeding;
- Measuring and assessing the breeding habitat potential for all Jarrah, Marri and Tuart (if present) trees with a diameter of at least 50cm at breast height;
- Mapping the location of any potential breeding habitat trees;
- Determine the impact of potential development on Black Cockatoos if the site was to be cleared; and
- Assess the clearing in the context of the significance of the impact on Black Cockatoos.

2 EXISTING ENVIRONMENT

2.1 Land Use

Historical aerial photography shows that that most of the lots were largely vegetated in 1965 (the oldest historical aerial photography available) (Plate 1). Lot 3 Elliot Road appears to have been mostly cleared and a house has been established on the lot. The trees on Lot 43 Elliot Road appear to have been cleared. Lot 11 Elliot Road is almost completely cleared (Plate 1).

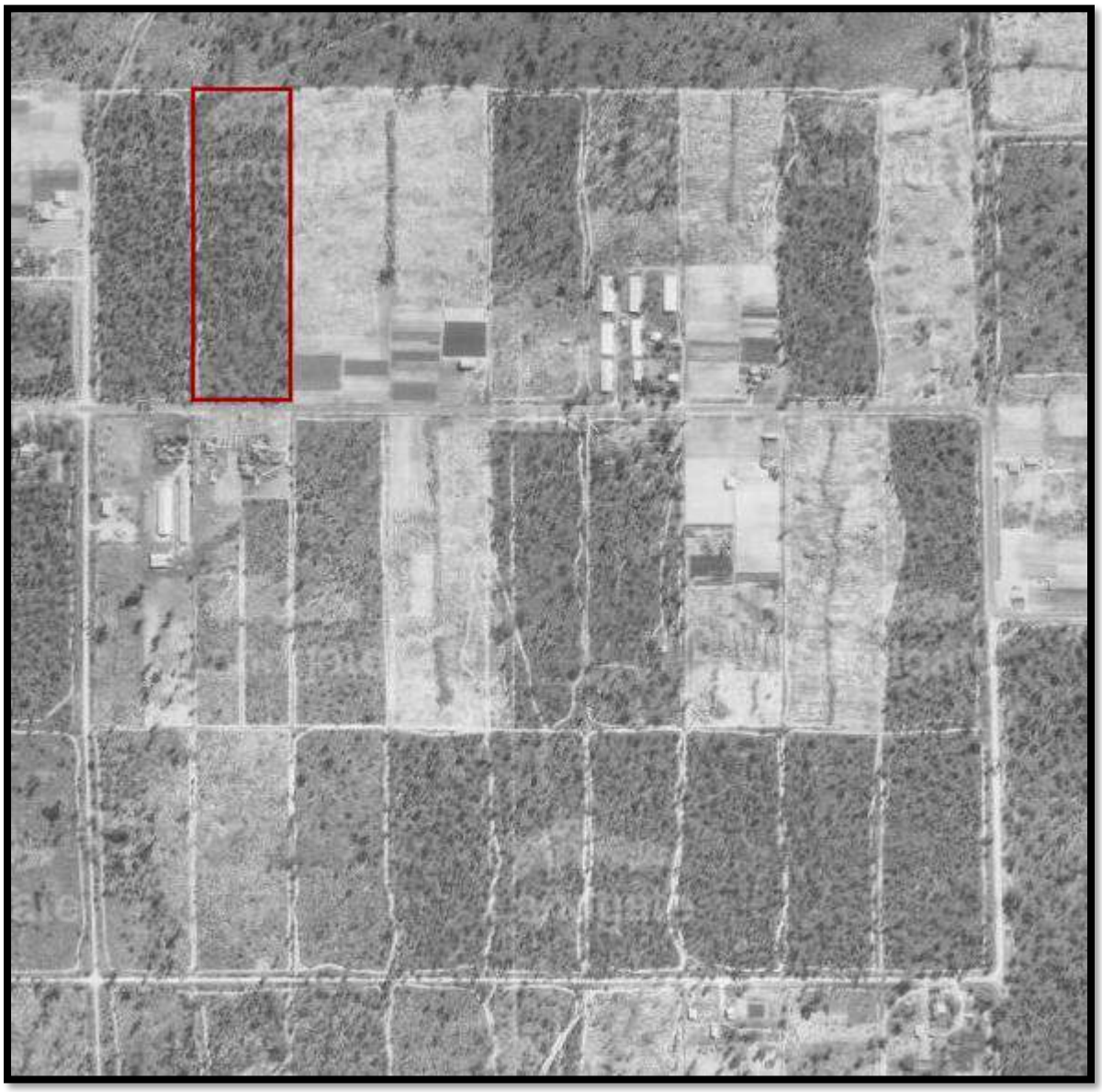
The alignment of Benmuni Road to the east and Lenore Street to the west is evident and firebreaks have been cleared around each lot.

Plate 1: Aerial Photograph from 1965 (Landgate, 2022)

By 1970 Lot 30, Lot 42 and Lot 11 Elliot Road have been completely cleared (Plate 2). A market garden has been established on the southern part of Lot 30 Elliot Road. The vegetation on Lot

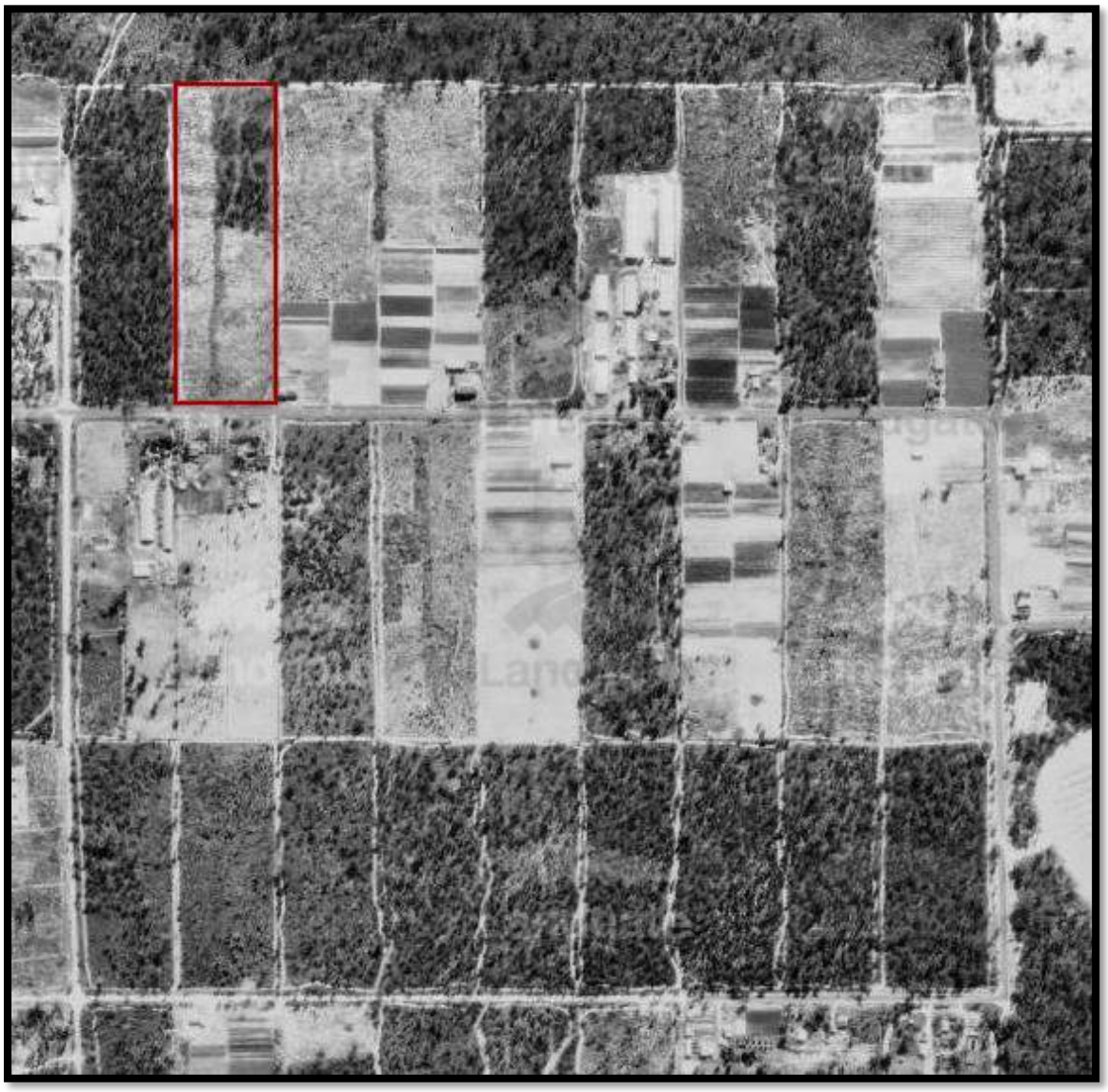
43 Elliot Road appears to be regenerating. Lot 29 Elliot Road and Lot 62 Nicholas Road remain vegetated.

Plate 2: Aerial Photograph from 1970 (Landgate, 2022)



In the photograph from 1974 (Plate 3) Lot 29 Elliot Road has been largely cleared. Lot 40 Elliot Road and Lot 62 Nicholas Road remain vegetated.

Plate 3: Aerial Photograph from 1974 (Landgate, 2022)

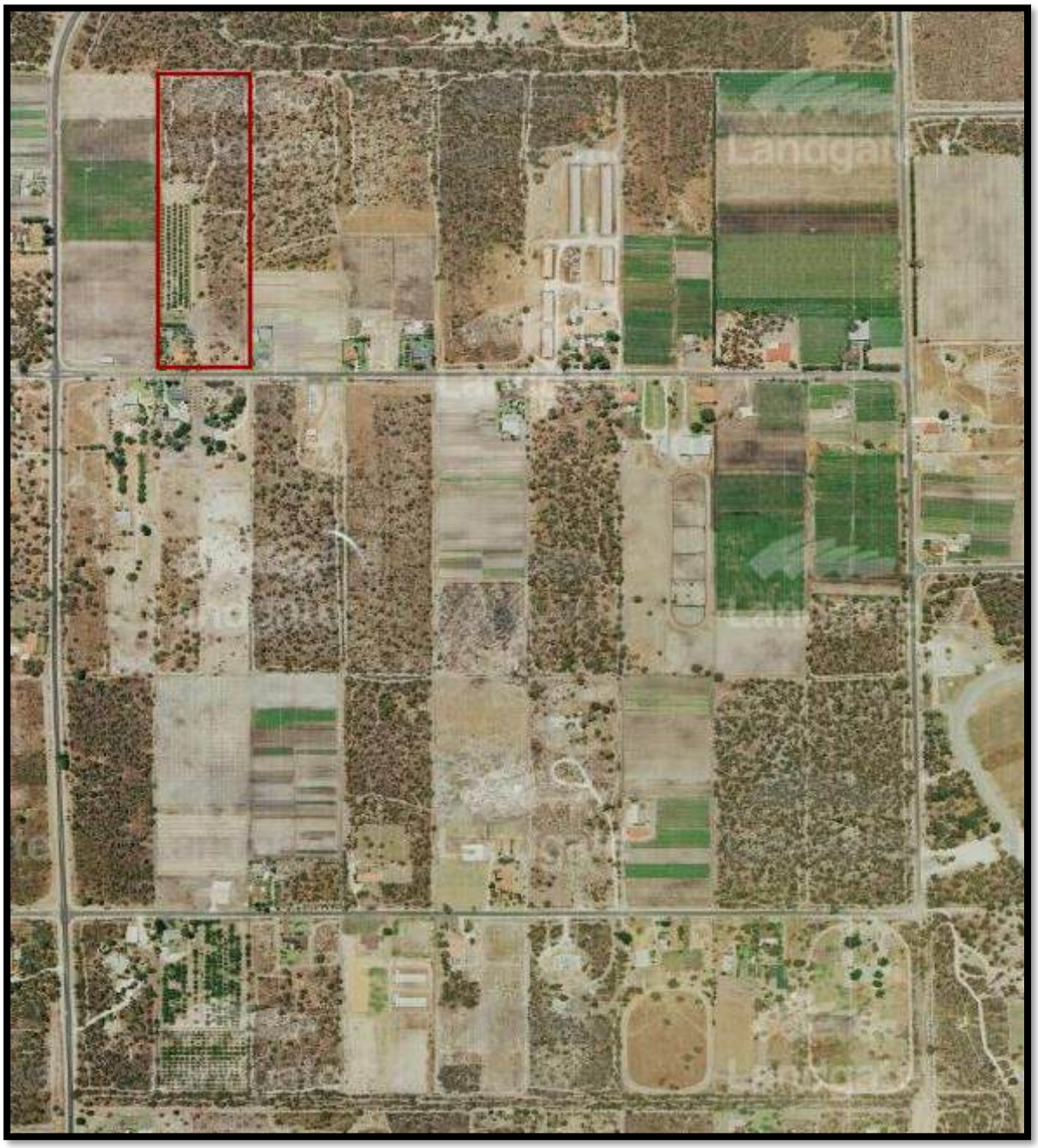


In the aerial photograph from 1981 the vegetation on Lot 43 Elliot Road is partially cleared in the south-western corner (Plate 4). There appears to be regrowth vegetation establishing on Lot 29, Lot 30 and Lot 42 Elliot Road.

Plate 4: Aerial Photograph from 1981 (Landgate, 2022)

The aerial photograph from 1995 shows Lot 43 Elliot Road and Lot 62 Nicholas Road partially cleared (Plate 5).

Plate 5: Aerial Photograph from 1995 (Landgate, 2022)



The review of historic aerial photographs shows that the native vegetation on most of the lots has had some degree of disturbance but many areas have regenerated. Only the north-eastern corner of Lot 29 Elliot Road, the northern part of Lot 62 Nicholas Road and most of Lot 40 Elliot Road have not been cleared in the past.

2.2 Topography

The survey area is undulating with elevations ranging from around 56m to 70 m AHD.

2.3 Geology and Soils

The site is mapped as part of the Spearwood System which has the highest relief of the dune systems on the Swan Coastal Plain (Bolland, 1998). The Spearwood system consists of slightly calcareous Aeolian sand remnant from leaching of the underlying Pleistocene Tamala limestone (Davidson, 1995).

The soil on the site has been mapped and described as Karrakatta Sand Yellow Phase (211Sp_Ky) which are undulating dunes on Aeolian sand over limestone in the Swan Coastal Plain between Wanneroo and Lancelin and are yellow deep sands.

2.4 Hydrology

The Perth Groundwater Map (DWER, 2022) indicates the historical maximum groundwater level under the site has an elevation of around 40 to 41m AHD. The direction of groundwater flow is to the west-south-west.

The depth to the historical maximum groundwater ranges from 16 to 29m. Accordingly, there are no wetlands on the site.

3 FLORA AND VEGETATION

3.1 Methodology

3.1.1 Desktop Searches

Searches of the following databases were undertaken prior to the site survey:

- DBCA Threatened and Priority Flora Databases including the WA Herbarium database (WAHerb) and Threatened (Declared Rare) and Priority Flora Species List (TFPL) (Appendix 1) for a radius of 20 km that provides a list of Threatened and Priority species recorded in the area;
- Atlas of Living Australia (ALA, 2022) (Appendix 2) which shows all species that have been recorded within a 10km radius of the site.
- The EPBC Act Protected Matters Search Tool (DCCEEW, 2022) (Appendix 3) which identifies species that are listed as Endangered, Threatened or Priority under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) could potentially have habitat within a 5km radius of the site.

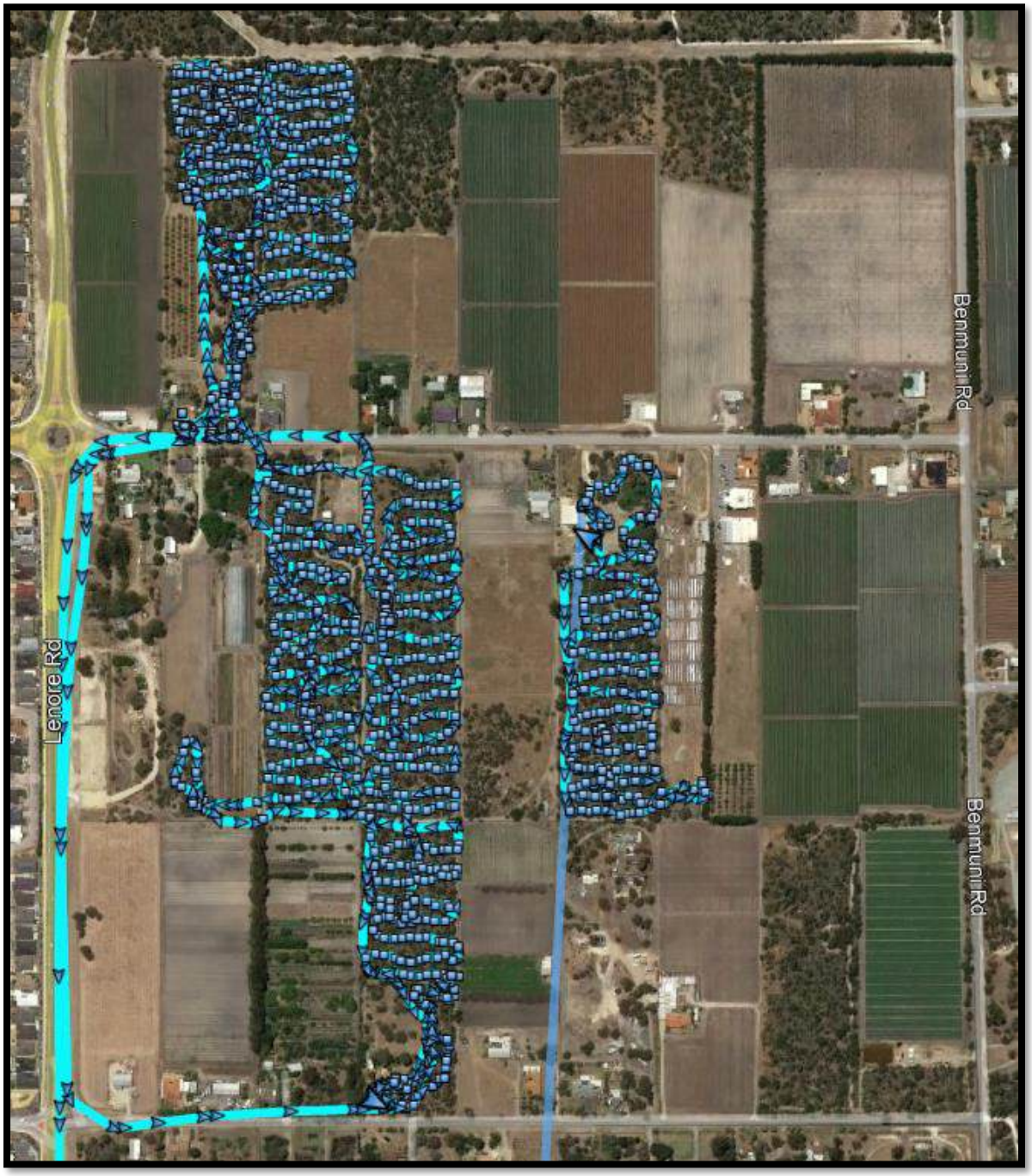
3.1.2 Site Survey

A flora and vegetation survey of the site was conducted by Dr Paul van der Moezel on 26 and 30 September and 25 October 2022. The survey included sampling from quadrats as well as a thorough walk over the area along west-east transects spaced about 20m apart. The quadrats were sampled on two occasions, one on 26 or 30 September 2022 and a follow-up on 25 October 2022. Track logs for the September surveys are shown in Plate 6.

A total of six permanently marked 10m x 10m quadrats were sampled for species presence, height and density. The quadrats were pegged in the north-west corner. The number of quadrats was considered appropriate given the similarity of the vegetation types and the size of the area to be surveyed. Site coverage was very high due to the ease of access through the open understorey and the size of the site.

Most plant species were identified in the field. Some specimens were photographed or taken for identification at the Perth Reference Herbarium or office using standard reference guides.

Plate 6: Track Log



3.1.3 Survey Conditions

The conditions that the survey was undertaken in are presented in Table 2 in order to assess the adequacy of the survey. Rainfall for Perth (Measured at Perth Airport, Site Number 009021) was slightly below average in July being 124.2 mm compared to an average of 155.2 mm, above average for August in 2022 being 172.6 mm and September being 101.4 mm compared to mean values of 118.5 mm and 72.6 mm (BOM, 2022).Rainfall in October was lower than average at 26.4 mm compared to an average of 40.4 mm The above average rainfall in August and September and below average rainfall in October is not considered to be a constraint on the survey.

In summary there were no constraints to the survey.

Table 2: Statement of Botanical Survey Conditions

Issue	Constraints (Y/N)*	Comment
Competency/experience of the consultant conducting the survey	No	Dr Paul van der Moezel has extensive botanical survey experience on the Swan Coastal Plain.
Proportion of the flora identified^	No	The timing of the survey in mid-September and mid-October was optimal to record most of the native species.
Sources of information (historic/recent or new data)	No	The flora of the Swan Coastal Plain is fairly well documented.
Proportion of the task achieved and further work that may need to be undertaken	No	No follow-up survey required as no Threatened Flora expected to occur in other seasons.
Timing/weather/season/cycle	No	The spring survey was optimal for most flora species. 2022 was a good year for ephemeral species.
Disturbances (Fire)	No	The fire age of the vegetation was greater than 5 years
Intensity of survey (e.g. In retrospect was the intensity adequate)	No	Approximately 22 hours spent on the site. The open understorey made for easy site access.
Completeness (e.g. was relevant area fully surveyed)	No	
Resources (e.g. degree of expertise available for plant identification)	No	Experienced botanist undertook most plant identifications on site.
Remoteness and/or access problems	No	Accessible site in the Perth Metropolitan Region
Availability of contextual (e.g. bioregional) information for the study area.	No	Bush Forever, Gibson *et al.* (1994)

*Constraints have been rated as Significant, Moderate or No constraints
^Fungi and nonvascular flora (e.g. algae, mosses and liverworts) were not specifically surveyed for during the survey.

3.2 Desktop Studies

3.2.1 Flora Database Searches

The results from the database searches are shown in Table 3. There were 99 species identified in the database searches including 23 Threatened species and 76 Priority species. Table 3 also lists the likelihood that any of the conservation significant species identified in the database searches could occur on the site based on the soil types and vegetation condition. None of the species identified in the database searches have been recoded from the site.

Table 3: Identified Significant Flora Species and Likelihood of Occurring on the Site

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act	Habitat*	Likelihood to occur on the site
Caladenia huegelii	King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid	Critically Endangered	Endangered	The Grand Spider-orchid prefers deep grey-white sand usually associated with the Bassendean sand-dune system, however, rare plants have been known to extend into the Spearwood system (in which calcareous yellow sands dominate) in some areas (DEC, 2009a). This species generally does not survive in disturbed areas.	Possible in areas that have not been cleared in the past
Calectasia cyanea	Blue Tinsel Lily	Critically Endangered	Critically Endangered	The Blue Tinsel Lily prefers white, grey or yellow sand or gravel. This species is restricted to Torndirrup National Park and Albany region of the South West Botanical Province (Barrett and Dixon, 2001).	No – outside of species range
Drakaea elastica	Glossy-leafed Hammer Orchid	Critically Endangered	Endangered	The Glossy-leafed Hammer Orchid prefers low-lying situations adjoining winter-wet swamps and grows on bare patches of sand within otherwise dense vegetation in low-lying areas alongside winter-wet swamps, typically in banksia (*Banksia menziesii, B. attenuata* and *B. ilicifolia*) woodland or spearwood (*Kunzea glabrescens*) thicket vegetation (DEC, 2009b).	Highly Unlikely – no winter-wet habitat
Grevillea curviloba subsp. curviloba	Narrow curved-leaf Grevillea	Critically Endangered	Endangered	Narrow curved-leaf Grevillea occurs in grey sand in winter-wet heath. There are 17 known populations in an area between Muchea and Badgingarra (Phillimore and English, 2000).	Highly Unlikely – no winter-wet heath habitat
Synaphea sp. Fairbridge Farm (D Papenfus 696)	Selena's Synaphea	Critically Endangered	Critically Endangered	Selena's Synaphea occurs in sandy soils with lateritic pebbles near winter-wet flats, in low woodland with weedy grasses.	Highly Unlikely – not lateritic habitat

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act	Habitat*	Likelihood to occur on the site
Thelymitra dedmaniarum	Cinnamon Sun-orchid	Critically Endangered	Endangered	Cinnamon Sun-orchid is known from only two locations in the Gidgegannup area. It is confined to open wandoo woodland on red-brown sandy loam associated with dolerite and granite outcropping (DEC, 2012a).	Highly Unlikely – no dolerite habitat
Trithuria occidentalis	Swan Hydatella	Critically Endangered	Endangered	Swan Hydatella grows partly submerged on the edge of shallow, winter-wet claypans in very open shrubland of Robin Redbreast Bush (*Melaleuca lateritica*) and numerous annual herbs.	No -no suitable habitat
Darwinia foetida	Muchea Bell	Endangered	Critically Endangered	The Muchea Bell is found in grey-white sand on swampy, seasonally wet sites.	Highly Unlikely – no swampy habitat
Diuris purdiei	Purdie's Donkey-orchid	Endangered	Endangered	Purdie's Donkey Orchid occurs in grey-black sand in moist winter-wet swamps with winter inundation in dense heath with scattered trees and amongst native sedges and dense heath with scattered emergent *Melaleuca preissiana*, *Eucalyptus calophylla*, *E. marginata* and *Nuytsia floribunda*.	Highly Unlikely – no winter-wet habitat
Drakaea micrantha	Dwarf Hammer-orchid	Endangered	Vulnerable	Dwarf Hammer-orchid usually occurs on cleared fire breaks or open sandy patches in Banksia, Jarrah and Sheoak woodlands or forest and often found under Spearwood thickets.	Highly Unlikely – not typical habitat and has not been recorded within 20km of the site
Grevillea curviloba subsp. *incurva*	Narrow curved-leaf Grevillea	Endangered	Endangered	Narrow curved-leaf Grevillea prefers sand, sandy loam in winter-wet heath.	Highly Unlikely – no winter-wet heath habitat

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act	Habitat*	Likelihood to occur on the site
Macarthuria keigheryi	Keighery's Macarthuria	Endangered	Endangered	Keighery's Macarthuria prefers white or grey sand on low-lying winter-wet damp sands growing among heathland, Jarrah and Sheoak/Banksia woodland and Banksia/Eucalypt Woodland (DEC, 2008).	Highly Unlikely – no winter-wet habitat
Marianthus paralius		Endangered	Endangered	*Marianthus paralius* occurs in white sand and brown loam amongst heath on coastal limestone cliffs (DEC, 2009c).	Highly Unlikely – not coastal limestone habitat
Melaleuca sp. Wanneroo (G.J. Keighery 16705)		Endangered	Endangered	*Melaleuca* sp. Wanneroo occurs in very shallow soils over limestone 'caprock' on ridges.	Highly Unlikely – no limestone caprock habitat
Acacia anomala	Grass Wattle, Chittering Grass Wattle	Vulnerable	Vulnerable	The Grass Wattle prefers lateritic soils and slopes.	Highly Unlikely – not lateritic habitat
Andersonia gracilis	Slender Andersonia	Vulnerable	Endangered	Slender Andersonia occurs in white/grey sand, sandy clay, gravelly loam in winter-wet areas, near swamps. Vegetation type is low open heath with shrubs over sedges (DEC, 2006).	Highly Unlikely – no winter-wet habitat
Anigozanthos viridis subsp. *terraspectans*	Dwarf Green Kangaroo Paw	Vulnerable	Vulnerable	The Dwarf Green Kangaroo Paw occurs on grey sand, clay loam in winter-wet depressions.	Highly Unlikely – no winter-wet habitat
Banksia mimica	Summer Honeypot	Vulnerable	Endangered	Summer Honeypot prefers white or grey sand over laterite, sandy loam.	Highly Unlikely – not lateritic habitat
Diuris drummondii	Tall Donkey Orchid	Vulnerable	Vulnerable	The Tall Donkey Orchid grows in low-lying depressions, swamps, in areas that contain surface water well into summer (Brown *et al.*, 2013).	Highly Unlikely – no swamp habitat

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act	Habitat*	Likelihood to occur on the site
Diuris micrantha	Dwarf Bee-orchid	Vulnerable	Vulnerable	The Dwarf Bee-orchid is usually found on brown loamy clay in winter-wet swamps, in shallow water.	Highly Unlikely – no winter-wet habitat
Eleocharis keigheryi	Keighery's Eleocharis	Vulnerable	Vulnerable	Keighery's Eleocharis occurs in clay, sandy loam and is emergent in freshwater: creeks, claypans.	No -no suitable habitat
Eucalyptus argutifolia	Yanchep Mallee, Wabling Hill Mallee	Vulnerable	Vulnerable	The Yanchep Mallee occurs in shallow soils over limestone on slopes or gullies of limestone ridges, outcrops.	Highly Unlikely – no limestone habitat
Paracaleana dixonii	Sandplain Duck Orchid	Vulnerable	Endangered	Sandplain Duck Orchid occurs in grey sand over granite.	Highly Unlikely – not granitic habitat and outside of the species range
Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)		Priority 1		*Baeckea* sp. Limestone is recorded from limestone outcrop/ridge in yellow sand derived from Tamala Limestone - Spearwood Dune System in bushland burnt 5+ years (Western Australian Herbarium, 2012).	Highly Unlikely – no limestone habitat
Bolboschoenus fluviatilis	River Bulrush	Priority 1		River Bulrush occurs on the margins of wetlands and rivers.	No – not suitable habitat
Calandrinia sp. Bayswater (C. Andrews s.n. 11/1902)		Priority 1		*Calandrinia* sp. Bayswater is known from Bayswater only record was in 1902.	Highly Unlikely due to lack of any records
Drosera paleacea	Dwarf Sundew	Priority 1		Dwarf Sundew occurs in white sand, sandy clay.	Highly Unlikely – not suitable habitat

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act	Habitat*	Likelihood to occur on the site
Drosera patens		Priority 1		*Drosera patens* occurs in sandy soils on the margins of winter-wet depressions, swamps and lakes.	Highly Unlikely – no winter-wet habitat
Drosera x sidjamesii		Priority 1		*Drosera x sidjamesii* grows in peaty sand along lake margins, close to winter high-water line.	Highly Unlikely – no lake side habitat
Grevillea sp. Ocean Reef (D. Pike Joon 4)		Priority 1		*Grevillea* sp. Ocean Reef (D. Pike Joon 4) occurs in dry brown/grey sand, yellow brown sand on sandy dune, gully in coastal scrub.	Highly Unlikely – not coastal dune habitat
Hydrocotyle striata		Priority 1		*Hydrocotyle striata* occurs in clay near springs.	No – no suitable habitat
Lepidium pseudohyssopifolium	Peppercress	Priority 1		Peppercress occurs on swampy ground.	Highly Unlikely – no swamp habitat
Leucopogon maritimus		Priority 1		*Leucopogon maritimus* occurs in Quindalup deep, calcareous sands, on the mid to upper slopes of dunes or in shallow sand over limestone, but avoiding the thicker vegetation of the swale (Hislop, 2011)	Highly Unlikely – not Quindalup habitat
Levenhookia preissii	Preiss's Stylewort	Priority 1		Preiss's Stylewort occurs in grey or black peaty sands in swamps.	Highly Unlikely – no swamp habitat
Neotysonia phyllostegia		Priority 1		*Neotysonia phyllostegia* is recorded near pools (National Herbarium of Victoria, 1890)	Highly Unlikely – no pool habitat
Stachystemon exilis		Priority 1		*Stachystemon exilis* grows in grey sand with thin litter layer (Western Australian Herbarium, 1999) and is generally in association with open, low-lying Banksia woodland in which *B. ilicifolia* is a significant component of the upper canopy (Hislop and Davies, 2020).	Highly Unlikely – no low-lying habitat

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act	Habitat*	Likelihood to occur on the site
Acacia benthamii		Priority 2		*Acacia benthamii* grows on sand, typically on limestone breakaways	Highly Unlikely – no limestone breakaway habitat
Calectasia elegans	Elegant Tinsel Lily	Priority 2		Elegant Tinsel Lily occurs in deep grey quartz soils on gentle slopes, above damplands.	Highly Unlikely – no dampland habitat
Calectasia grandiflora	Blue Tinsel Lily	Priority 2		Blue Tinsel Lily occurs in white, grey or yellow sand, sandy clay, gravel, laterite and granite in swampy areas, rock outcrops, flats, slopes and ridges.	Highly Unlikely – not suitable habitat
Calymperastrum latifolium		Priority 2		*Calymperastrum latifolium* is recorded from a shaded Macrozamia stem on a large rocky outcrop (Western Australian Herbarium, 1994).	Possible – *Macrozamia* occurs on the site
Fabronia hampeana		Priority 2		*Fabronia hampeana* occurs on sheltered wet trunk of *Macrozamia dyeri* in shrub layer (Western Australian Herbarium, 2005).	No – *Macrozamia dyeri* does not occur on the site
Lecania turicensis var. *turicensis*		Priority 2		*Lecania turicensis* var. *turicensis* occurs on coastal rocks, limestone (Western Australian Herbarium, 1988).	Highly Unlikely – no limestone habitat
Millotia tenuifolia var. *laevis*		Priority 2		*Millotia tenuifolia* var. *laevis* grows in granite or laterite soils.	Highly Unlikely – not lateritic habitat
Phyllangium palustre		Priority 2		*Phyllangium palustre* occurs in clay on winter-wet claypans, low-lying seasonal wetlands.	Highly Unlikely – no claypan habitat

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act	Habitat*	Likelihood to occur on the site
Poranthera moorokatta		Priority 2		*Poranthera moorokatta* grows in white silica sand and has been recorded in Banksia woodland and in a shallow dampland (Barrett, 2012).	Highly Unlikely – not suitable habitat
Ricinocarpos tuberculatus		Priority 2		*Ricinocarpos tuberculatus* grows in white/grey sand on coastal dunes.	Highly Unlikely – not coastal dune habitat
Scaevola paludosa		Priority 2		*Scaevola paludosa* prefers sandy soils.	No – this species is found on the Esperance Plains
Schoenus sp. Bullsbrook (J.J. Alford 915)		Priority 2		*Schoenus* sp. Bullsbrook grows in grey peaty sand on low-lying flats.	Highly Unlikely – no peaty habitat
Stenanthemum sublineare		Priority 2		*Stenanthemum sublineare* grows in littered white sand on coastal plain (Rye, 2001).	Highly Unlikely – not suitable habitat
Thelymitra variegata	Queen of Sheba	Priority 2		The Queen of Sheba orchid grows on sandy clay, sand and laterite. The orchid is found in banksia and Jarrah woodland (Brown *et al.*, 2013)	Highly Unlikely – not suitable habitat
Thysanotus sp. Badgingarra (E.A. Griffin 2511)		Priority 2		*Thysanotus* sp. Badgingarra grows in grey sand with lateritic gravel.	Highly Unlikely – not lateritic habitat
Acacia oncinophylla subsp. *oncinophylla*		Priority 3		*Acacia oncinophylla* subsp. *oncinophylla* occurs in granitic soils	Highly Unlikely – not granitic habitat
Adenanthos cygnorum subsp. *chamaephyton*		Priority 3		*Adenanthos cygnorum* subsp. *chamaephyton* occurs in grey sand, lateritic gravel.	Highly Unlikely – not lateritic habitat

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act	Habitat*	Likelihood to occur on the site
Amanita carneiphylla	Miller's Pink-Gilled Lepidella	Priority 3		Miller's Pink-Gilled Lepidella is a deeply rooting species and grows in sandy soil with *Eucalyptus*, *Banksia*, and *Allocasuarina* and at one site, Mediterranean pine (*Pinus*) was also found (Tulloss, 2022).	Possible – may have habitat on the site
Amanita drummondii	Drummond's Grisette	Priority 3		Drummond's Grisette is solitary to gregarious in leaf litter in association with *Agonis flexuosa, A. theiformis, Allocasuarina fraseriana, Corymbia calophylla, Eucalyptus marginata, E. patens, E. staeri, Jacksonia furcellata, Kunzea glabrescens, Melaleuca sp., Podocarpus drouynianus, Taxandria parviceps*. (Davidson *et al.*, 2015) growing in sandy soil (Amanitaceae Org, 2015).	Unlikely – not typical habitat
Amanita fibrillopes	Peach Amanita	Priority 3		Peach Amanita is recorded from sandy or gravelly soil in dry sclerophyll forest and Banksia woodland, or in humus rich soil in seasonally wet eucalypt and paperbark woodland, often associated with *Eucalyptus marginata, E. jacksonii, Allocasuarina fraseriana, Corymbia calophylla, Melaleuca preissiana* and *Agonis* sp. (Davison *et al.*, 2013).	Highly Unlikely – no gravelly habitat
Amanita preissii	Cinnamon-ring Lepidella	Priority 3		Cinnamon-ring Lepidella is found under shrubs and Eucalyptus in West Australia (Amanitaceae Org, 2015) in sandy soil and lateritic gravel, associated with *Allocasuarina fraseriana, Acacia pulchella, Corymbia calophylla, Callitris sp., Eucalyptus gomphocephala, E. marginata, Macrozamia fraseri* and *Pinus pinaster* (Davidson *et al.*, 2017).	Highly Unlikely – not lateritic habitat
Austrostipa mundula	Neat Spear Grass	Priority 3		Neat Spear Grass occurs on plains in grey sand (Western Australian Herbarium, 2001) in coastal areas (Williams, 2022).	Highly Unlikely – not coastal habitat

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act	Habitat*	Likelihood to occur on the site
Beyeria cinerea subsp. *cinerea*		Priority 3		*Beyeria cinerea* subsp. *cinerea* grows in sand over limestone on road verges, gullies.	Highly Unlikely – no limestone habitat
Carex tereticaulis		Priority 3		*Carex tereticaulis* prefers black peaty sand.	Highly Unlikely – no peaty habitat
Conostylis bracteata		Priority 3		*Conostylis bracteata* occurs in sand, limestone on consolidated sand dunes.	Highly Unlikely – no limestone habitat
Cyathochaeta teretifolia		Priority 3		*Cyathochaeta teretifolia* occurs in grey sand, sandy clay on swamps, creek edges.	Highly Unlikely – no swamp habitat
Dampiera triloba		Priority 3		*Dampiera triloba* grows in loamy sand (Australian National Herbarium, 2009) in lower lying areas.	Highly Unlikely – no low-lying habitat
Eryngium pinnatifidum subsp. *Palustre* (G.J. Keighery 13459)		Priority 3		*Eryngium pinnatifidum* subsp. *Palustre* is recorded from a winter wet claypan, water to 20 cm deep in grey-brown clay (Western Australian Herbarium, 1989)	Highly Unlikely – no claypan habitat
Guichenotia tuberculata		Priority 3		*Guichenotia tuberculata* grows in sand clay over laterite, sand.	Highly Unlikely – not lateritic habitat
Haemodorum loratum		Priority 3		*Haemodorum loratum* prefers grey or yellow sand, gravel.	Highly Unlikely – not suitable habitat
Hibbertia leptotheca		Priority 3		*Hibbertia leptotheca* grows near-coastal limestone ridges, outcrops and cliffs in coastal heaths and thickets usually dominated by species of *Melaleuca* and *Acacia* (Thiele, 2019).	Highly Unlikely – no coastal limestone habitat

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act	Habitat*	Likelihood to occur on the site
Isopogon autumnalis		Priority 3		*Isopogon autumnalis* occurs in white, grey or yellow sand, often over laterite.	Highly Unlikely – no lateritic habitat
Jacksonia gracillima		Priority 3		*Jacksonia gracillima* occurs in grey and brown sand in winter-wet areas.	Highly Unlikely – no winter-wet habitat
Lasiopetalum membranaceum		Priority 3		*Lasiopetalum membranaceum* grows in sand over limestone.	Highly Unlikely – no limestone habitat
Leucopogon sp. Yanchep (M. Hislop 1986)		Priority 3		*Leucopogon* sp. Yanchep occurs in light grey-yellow sand, brown loam, limestone, laterite, granite on coastal plain, breakaways, valley slopes, low hills.	Highly Unlikely – not coastal habitat
Meionectes tenuifolia		Priority 3		*Meionectes tenuifolia* occurs on swamp margins on seasonally wet poorly drained flats or granite flats in shallow soils.	Highly Unlikely – no swamp habitat
Phlebocarya pilosissima subsp. *pilosissima*		Priority 3		*Phlebocarya pilosissima* subsp. *pilosissima* grows in white or grey sand, lateritic gravel.	Highly Unlikely – not lateritic habitat
Pimelea calcicola		Priority 3		*Pimelea calcicola* occurs in sand on coastal limestone ridges.	Highly Unlikely – not limestone habitat
Pithocarpa corymbulosa		Priority 3		*Pithocarpa corymbulosa* occurs in gravelly or sandy loam amongst granite outcrops.	Highly Unlikely – not suitable habitat
Sarcozona bicarinata	Ridged Noon-flower	Priority 3		Ridged Noon-flower is found in white sand.	Highly Unlikely – not suitable habitat

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act	Habitat*	Likelihood to occur on the site
Schoenus capillifolius		Priority 3		*Schoenus capillifolius* grows in brown mud on claypans.	Highly Unlikely – no claypan habitat
Schoenus sp. Waroona (G.J. Keighery 12235)		Priority 3		*Schoenus* sp. Waroona occurs in clay or sandy clay on winter-wet flats.	Highly Unlikely – no winter-wet habitat
Stylidium maritimum		Priority 3		*Stylidium maritimum* occurs in sand over limestone on dune slopes and flats in coastal heath and shrubland, open Banksia woodland.	Highly Unlikely – no limestone habitat
Stylidium paludicola		Priority 3		*Stylidium paludicola* prefers peaty sand over clay in winter wet habitats in Marri and Melaleuca woodland, Melaleuca shrubland.	Highly Unlikely – no winter-wet habitat
Stylidium trudgenii		Priority 3		*Stylidium trudgenii* grows in grey sand, dark grey to black sandy peat on the margins of winter-wet swamps, depressions.	Highly Unlikely – no swamp habitat
Styphelia filifolia		Priority 3		*Styphelia filifolia* occurs in 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 (Hislop and Lelièvre, 2017).	Highly Unlikely – no low-lying habitat
Tetratheca pilifera		Priority 3		*Tetratheca pilifera* occurs in gravelly soils.	Highly Unlikely – no gravel habitat
Verticordia serrata var. *linearis*		Priority 3		*Verticordia serrata* var. *linearis* grows in white sand, gravel in open woodland.	Highly Unlikely – no suitable habitat
Anigozanthos humilis subsp. *chrysanthus*	Golden Cats Paw	Priority 4		Golden Cats Paw grows in grey or yellow sand.	Possible – may have habitat on the site

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act	Habitat*	Likelihood to occur on the site
Cyanicula ixioides subsp. *ixioides*		Priority 4		*Cyanicula ixioides* subsp. *ixioides* grows in laterite, gravel.	Highly Unlikely – not lateritic habitat
Darwinia pimelioides		Priority 4		*Darwinia pimelioides* prefers loam, sandy loam on granite outcrops.	Highly Unlikely – no granite outcrop habitat
Drosera occidentalis	Western Sundew	Priority 4		The Western Sundew occurs in sandy and clayey soils in swamps and wet depressions.	Highly Unlikely – no swamp habitat
Eucalyptus foecunda subsp. *foecunda*		Priority 4		*Eucalyptus foecunda* subsp. *foecunda* grows on yellowish coastal sands overlying limestone, often on limestony hills and dunes, in shrubland or very open woodland (Nicolle and French, 2021).	Highly Unlikely – not coastal habitat
Hibbertia helianthemoides		Priority 4		*Hibbertia helianthemoides* grows in clayey sand over sandstone or loam over quartzite on hills and scree slopes.	Highly Unlikely – no suitable habitat
Hydrocotyle lemnoides	Aquatic Pennywort	Priority 4		Aquatic Pennywort occurs in swamps	No – no swamp habitat
Hypolaena robusta		Priority 4		*Hypolaena robusta* grows in white sand on sandplains in poorly drained areas.	Highly Unlikely – no suitable habitat
Jacksonia sericea	Waldjumi	Priority 4		Waldjumi grows in calcareous and sandy soils.	Highly Unlikely – no calcareous habitat
Persoonia sulcata		Priority 4		*Persoonia sulcata* occurs in lateritic or granitic soils.	Highly Unlikely – no suitable habitat

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act	Habitat*	Likelihood to occur on the site
Schoenus griffinianus		Priority 4		*Schoenus griffinianus* grows in white sand in low heath (Wilson, 1997).	Highly Unlikely – not heath habitat
Schoenus natans	Floating Bog-rush	Priority 4		Floating Bog-rush is an aquatic species that occurs in winter-wet depressions.	No – no suitable aquatic habitat
Stylidium longitubum	Jumping Jacks	Priority 4		Jumping Jacks prefer sandy clay, clay in seasonal wetlands.	Highly Unlikely – no wetland habitat
Tripterococcus sp. *Brachylobus* (A.S. George 14234)		Priority 4		*Tripterococcus* sp. *Brachylobus* occurs in grey, black or peaty sand winter-wet flats.	Highly Unlikely – no suitable habitat
Verticordia lindleyi subsp. *lindleyi*		Priority 4		*Verticordia lindleyi* subsp. *lindleyi* prefers sand, sandy clay in winter-wet depressions.	Highly Unlikely – no winter-wet habitat

* sourced from Florabase as well as the DBCA database searches unless otherwise denoted

3.3 TEC/PEC Database Searches

A search of DBCA's Threatened (TEC) and Priority Ecological Communities (PEC) database was conducted within a radius of 5km around the site (09-0822EC) (Appendix 5). An additional TEC was identified in the Protected Matters Search Tool Report (Appendix 3). The communities identified in the database searches are outlined in Table 4.

Table 4: Threatened and Priority Ecological Communities Identified in Database Searches

Number	Description	Conservation Status in Western Australia	Status under the EPBC Act
SCP20a	*Banksia attenuata* woodlands over species rich dense shrublands (floristic community type 20a as originally described in Gibson *et al*. (1994))	Endangered	Endangered as part of the Banksia WL SCP
SCP30a	*Callitris preissii* (or *Melaleuca lanceolata*) forests and woodlands, Swan Coastal Plain (floristic community type 30a as originally described in Gibson *et al.* (1994))	Vulnerable	
SCP21c	Low lying *Banksia attenuata* woodlands or shrublands	Priority 3	Endangered as part of the Banksia WL SCP
SCP22	*Banksia ilicifolia* woodlands	Priority 3	Endangered as part of the Banksia WL SCP
SCP23b	Swan Coastal Plain *Banksia attenuata* - *Banksia menziesii* woodlands	Priority 3	Endangered as part of the Banksia WL SCP
SCP24	Northern Spearwood shrublands and woodlands	Priority 3	
SCP25	Southern *Eucalyptus gomphocephala-Agonis flexuosa* woodlands	Priority 3	Critically Endangered as part of the Tuart Woodlands
SCP29a	Coastal shrublands on shallow sands	Priority 3	
Banksia WL SCP	Banksia Woodlands of the Swan Coastal Plain ecological community	Priority 3	Endangered
Tuart woodlands	Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain	Priority 3	Critically Endangered

The Banksia Woodlands of the Swan Coastal Plain ecological community is mapped in the DBCA database as occurring on some of the lots.

3.4 Flora

A total of 168 species were recorded during the flora survey (Appendix 6). This total consisted of 130 native species and 38 introduced species (22.6%).

No Threatened or Priority plant species were recorded on the site.

Plant families with the greatest number of species were the Fabaceae (Wattle and Pea family – 21 species including 17 native and 4 introduced), Asteraceae (Daisy family – 14 species, 5 native, 9 introduced), Proteaceae (Banksia family – 13 species, all native), Orchidaceae (Orchid family – 13 species, all native), Myrtaceae (Myrtle family – 10 species, 7 native, 3 introduced) and the Cyperaceae (Sedge family – 9 species, all native).

The total number of species recorded in the six quadrats sampled ranged from 36-61 (av. 52.1) (Appendix 7). The vegetation in all six quadrats was in Very Good to Excellent condition.

3.5 Vegetation

3.5.1 Vegetation Complexes

Vegetation Complexes are a broad level of vegetation description which is based on the underlying geomorphology and rainfall (Heddle *et al.*, 1980). The vegetation on the site is part of the Karrakatta – Central and South Vegetation Complex (Heddle *et al.,* 1980) which is described as an open forest of Tuart-Jarrah-Marri, with Jarrah and Marri replacing Tuart while progressing eastwards. *Banksia attenuata, B. menziesii, B. grandis* and *Allocasuarina fraseriana* are also common tree species.

3.5.2 Vegetation Types

Vegetation Types are a finer level of vegetation mapping than the Vegetation Complex and are defined by the composition and structure of the dominant vegetation.

Four vegetation types were described and mapped on the site (Figure 3). A description of each type is provided in Table 5.

The vegetation types are similar structurally, with all four types being Low Open Woodlands, differing slightly with the dominant tree species. The understorey composition was also similar between the three vegetation types that were in Very Good condition.

Table 5: Vegetation Type Descriptions

Vegetation Type	Description	Photographs
BaBmAf *Banksia attenuata/B. menziesii/ Allocasuarina fraseriana* Low Open Woodland over *Hibbertia hypericoides* Open Low Heath	Recorded in two separate locations on the site. *Banksia attenuata, B. menziesii* and *Allocasuarina fraseriana* co-dominated the tree canopy and averaged 5m high. Common understorey species included *Hibbertia hypericoides, Eremaea pauciflora, Xanthorrhoea preissii, Calytrix fraseri, Mesomelaena pseudostygia* and *Desmocladus flexuosus.* The soil type is dark grey-brown sand. Quadrats EW 1 and 3 are representative of this vegetation type. The total area on site is 3.859ha	
EmAfBaBm *Eucalyptus marginata/ Allocasuarina fraseriana/Banksia menziesii/B. attenuata* Low Open Woodland over *Calytrix fraseri/ Xanthorrhoea preissii/Hibbertia hypericoides/Mesomelaena pseudostygia* Open Low Heath	Recorded in two separate locations on the site. Jarrah (*Eucalyptus marginata*) was common in this vegetation type but was mostly absent from the others. *Banksia attenuata, B. menziesii* and *Allocasuarina fraseriana* were also common with *B. prionotes* present in some areas. Common understorey species included *Calytrix fraseri, Xanthorrhoea preissii, Hibbertia hypericoides, Mesomelaena pseudostygia* and *Trachymene pilosa.* The soil type is dark orange-brown sand. Quadrats EW 2 and 6 are representative of this vegetation type. The total area on site is 7.090ha	

Vegetation Type	Description	Photographs
AfBaBm *Allocasuarina fraseriana/Banksia attenuata/B. menziesii* Low Open Woodland over *Calytrix fraseri/ Hibbertia hypericoides/Lyginia barbata/Mesomelaena pseudostygia* Closed Low Heath	Recorded through the central part of the site on three lots and very similar to the BaBmAf except that *Allocasuarina fraseriana* (Sheoak) is usually taller. Common understorey species included *Calytrix fraseri, Hibbertia hypericoides, Lyginia barbata, Mesomelaena pseudostygia* and *Eremaea pauciflora.* The soil type is orange-brown sand. Quadrats EW 4 and 5 are representative of this vegetation type. The total area on site is 7.428ha	
Af *Allocasuarina fraseriana* Low Open Woodland over weeds	One small area of this vegetation type was recorded at the southern end of Lot 62. *Allocasuarina fraseriana* trees were up to 6m high with only a few *Banksia attenuata* trees. The understorey was mainly Perennial Veldtgrass (*Ehrharta calycina*). The soil type is light orange-brown sand. No quadrat was sampled in this small Degraded area. The total area on site is 0.457ha	

3.5.3 Floristic Community Type

Floristic Community Types (FCT) are based on the whole floristic composition of the vegetation rather than being determined by soil type and geomorphology (Vegetation Complexes) or the nature of the dominant species (Vegetation Association). Many of the Threatened and Priority Ecological Community Types on the Swan Coastal Plain are based on FCTs.

The six quadrats were provided to Plantecology Consulting for computer analysis to determine the FCT of each quadrat. The location of the quadrats is shown in Figure 3. The results of the analysis are provided in Table 6 and the full report is in Appendix 8.

The results of the numerical analysis indicated that the vegetation on the site is most likely corresponds to SCP 28 'Spearwood *Banksia attenuata* or *Banksia attenuata – Eucalyptus marginata* woodlands'. Plantecology concluded that is it less likely that SCP 20a occurs on the site. The result for Quadrat EW 4 was SCP 6 'Weed dominated wetlands on heavy soils' which appears to be an error as the quadrat only contains 6 weeds out of 36 species recorded and the site is not a wetland on heavy soils.

Table 6: Floristic Community Type Analysis

Quadrat	FCT Assigned	Conservation Status State	Conservation Status EPBC Act
EW1, 2, 3, 5 and 6	SCP28 – Spearwood *Banksia attenuata* or *Banksia attenuata – Eucalyptus marginata* woodlands	Not listed (Part of Banksia WL SCP – Priority 3	Part of the Endangered Banksia WL SCP
EW4	SCP6 – Weed dominated wetlands on heavy soils	Not Listed	Not Listed

3.5.4 Vegetation Condition

The condition of the vegetation was assessed according to the system of Keighery as described in Bush Forever (Government of Western Australia, 2000) (Table 7).

Table 7: Vegetation Condition Rating Scale

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.
Very Good	Vegetation structure altered, obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate to it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.

Condition	Description
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Source: Government of Western Australia, 2000

The vegetation condition was mostly rated as Very Good with areas of Good and Degraded (Figure 4). Some parkland cleared areas with native trees over weeds were rated as Completely Degraded.

3.6 Conservation Significance of Flora and Vegetation

3.6.1 Flora

No Threatened or Priority flora species were recorded on the site.

3.6.2 Vegetation

Vegetation Complex

The vegetation on the site is part of the Karrakatta Complex Central and South. There is approximately 23.49% of the Karrakatta Complex Central and South remaining on the Swan Coastal Plain based on the pre-European extent with 3.87% in secure tenure (DBCA, 2018).

The vegetation complex is above the EPA's objective of retaining at least 10% of each vegetation complex within the Perth Metropolitan Region. However, the amount of the vegetation complex in secure reserves is very low.

Threatened and Priority Ecological Communities

Threatened and Priority Ecological Communities (TECs and PECs) on the Swan Coastal Plain portion of the Perth Metropolitan Region are predominantly based on Floristic Community Types (FCTs). FCTs were initially described by Gibson *et al.* (1994) and subsequently assessed by others as either common or of some conservation significance such as a TEC or PEC.

The FCT analysis concluded that SCP 28 is the most likely FCT on the site. SCP 28 is not itself a TEC or PEC. However, FCT 28 is part of the Banksia Woodlands of the Swan Coastal Plain ecological community which is Priority 3 in Western Australia and an Endangered TEC at the Federal level.

Banksia Woodlands of the Swan Coastal Plain TEC

The Banksia Woodlands of the Swan Coastal Plain Threatened Ecological Community (Banksia WL SCP TEC) is listed as an Endangered TEC under the Commonwealth EPBC Act. The Banksia Woodland community is a conglomerate of a number of Banksia-dominated FCTs recognised at State level. FCT 28 is one of the FCTs that form part of the Banksia Woodland TEC. However, the identification of one

of the relevant FCTs on a site is not of itself sufficient to assign the vegetation to the Banksia Woodland TEC. The vegetation needs to meet specific criteria to be considered the TEC as follows.

The *Approved Conservation Advice (incorporating listing advice) for the Banksia Woodlands of the Swan Coastal Plain ecological community* (Conservation Advice) describes the Banksia Woodland TEC as follows:

> *The ecological community is a woodland associated with the Swan Coastal Plain of southwest Western Australia. A key diagnostic feature is a prominent tree layer of Banksia, with scattered eucalypts and other tree species often present among or emerging above the Banksia canopy. The understorey is a species rich mix of sclerophyllous shrubs, graminoids and forbs. The ecological community is characterised by a high endemism and considerable localised variation in species composition across its range*.

Table 8 assesses the vegetation type on the site against the Banksia Woodland TEC criteria contained in the Conservation Advice.

In summary, the vegetation types in Good and Very Good condition meet the requirements of the Banksia Woodland TEC. The location of the Banksia Woodland TEC is shown in Figure 5. The total area of Banksia Woodland TEC is 13.352ha.

Table 8: Assessment of the Banksia Woodland of the Swan Coastal Plain TEC.

Feature	Characteristic	Vegetation Type BaBmAf, AfBaBm and EmAfBaBm
Banksia Species	The patch must include at least one of the following diagnostic species: • *Banksia attenuata* (Candlestick Banksia) • *Banksia menziesii* (Firewood Banksia) • *Banksia prionotes* (Acorn Banksia) • *Banksia ilicifolia* (Holly-Leaved Banksia).	All three vegetation types contain at least *Banksia attenuata, B. menziesii* and/or *B. prionotes*.
Vegetation Structure	• A distinctive upper sclerophyllous layer of low trees (occasionally large shrubs more than 2 m tall), typically dominated or codominated[3] by one or more of the *Banksia* species (*B. attenuata, B. menziesii, B. ilicifolia, B. prionotes*); • An emergent tree layer of medium or tall (>10 m) height *Eucalyptus* or *Allocasuarina* (Sheoak) species may sometimes be present above the *Banksia* canopy. • An understory that is often highly species-rich consists of: – A layer of sclerophyllous shrubs of various heights; and, – 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.	• Banksia trees form a distinctive upper layer of low trees on the site. • Jarrah and Sheoak are present and are co-dominant in all vegetation types. • Understorey of shrubs, sedges, herbs, mostly in Very Good condition with a moderate to high diversity of native species • Some patches are in Good or Degraded condition.
Vegetation Condition	An area of Banksia woodland needs to be at least in Good condition to be considered the TEC.	Most of the vegetation is in Good and Very Good condition with a small areas of Degraded. The Degraded areas do not form part of the Banksia Woodland TEC
Patch Size	The Banksia woodland TEC needs to meet a minimum 'patch' size depending on its condition to qualify as the TEC, as follows: • 'Pristine' – no minimum patch size • 'Excellent' – 0.5ha • 'Very Good' – 1ha • 'Good' – 2ha	Three patches of Banksia Woodland are mapped on the site. The size of each patch is: – Northern – 3.1ha – Central – 8.6ha – Eastern – 1.7ha Based on the average condition of each patch being Very Good, all patches are above the minimum size criteria.
Conclusion		Areas shown on Figure 5 on Lots 29, 30, 40, 42 and 43 Elliott Road and Lot 62 Nicholas Road are representative of the Banksia Woodland TEC

4 FAUNA

4.1 Methodology

A Basic Fauna Survey was undertaken in accordance with EPA Technical Guidance *Fauna Surveys for Environmental Impact Assessment* (EPA, 2020). Desktop studies were undertaken to identify habitats and potential threatened species that may occur on the site. Searches of the following databases were undertaken prior to the site survey:

- DBCA Threatened and Priority Fauna Database (Appendix 9) for a radius of 20 km that provides a list of Threatened and Priority species recorded in the area;
- Atlas of Living Australia (ALA, 2022) (Appendix 2) which shows all species that have been recorded within a 10km radius of the site.
- The EPBC Act Protected Matters Search Tool (DCCEEW, 2022) (Appendix 3) which identifies species that are listed as Endangered, Threatened or Priority under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) could potentially have habitat within a 5km radius of the site.

A site reconnaissance survey was conducted by PGV Environmental on 26 and 30 September 2022. The inspection included traversing the site on foot.

4.2 Desktop Studies

The fauna species identified in the DBCA Database (Appendix 9), Atlas of Living Australia database (Appendix 2) and the EPBC Act Protected Matters Search Tool (Appendix 3) are listed in Table 9.

Table 9: List of Fauna Species Identified from Fauna Database Searches

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act
Bettongia penicillata ogilbyi (Listed as *Bettongia penicillata* under the EPBC Act)	Woylie, Brush-tailed Bettong	Schedule 1 - CR	Endangered
Calidris ferruginea	Curlew Sandpiper	Schedule 1 - CR	Critically Endangered
Calidris tenuirostris	Great Knot	Schedule 1 - CR	Marine/ Migratory
Hesperocolletes douglasi	Douglas's Broad-headed Bee	Schedule 1 - CR	Critically Endangered
Numenius madagascariensis	Eastern Curlew	Schedule 1 - CR	Critically Endangered
Pseudemydura umbrina	Western Swamp Tortoise	Schedule 1 - CR	Critically Endangered
Botaurus poiciloptilus	Australasian bittern	Schedule 2 - EN	Endangered
Calidris canutus	Red Knot	Schedule 2 - EN	Marine/ Migratory
Calyptorhynchus (Zanda) baudinii	Baudin's Black Cockatoo	Schedule 2 - EN	Endangered
Calyptorhynchus (Zanda) latirostris	Carnaby's Black Cockatoo	Schedule 2 - EN	Endangered

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act
Myrmecobius fasciatus	Numbat, Walpurti	Schedule 2 - EN	Endangered
Petrogale lateralis lateralis	Black-flanked Rock-wallaby, Black-footed Rock-wallaby, Moororong	Schedule 2 - EN	Vulnerable
Rostratula australis (Rostratula benghalensis australis)	Australian Painted Snipe	Schedule 2 - EN	Endangered Marine/ Migratory
Thalassarche carteri (Thalassarche chlororhynchos carteri)	Indian yellow-nosed Albatross	Schedule 2 - EN Schedule 5 - IA	Marine/Migratory
Calyptorhynchus banksii naso	Forest Red-tailed Black-Cockatoo	Schedule 3 - VU	Vulnerable
Dasyurus geoffroii	Chuditch, Western Quoll	Schedule 3 - VU	Vulnerable
Falco hypoleucos	Grey Falcon	Schedule 3 - VU	Vulnerable
Leipoa ocellata	Mallee Fowl	Schedule 3 - VU	Vulnerable
Macroderma gigas	Ghost Bat	Schedule 3 - VU	Vulnerable
Macrotis lagotis	Bilby, Dalgyte, Ninu	Schedule 3 - VU	Vulnerable
Phascogale tapoatafa kimberleyensis	Kimberley brush-tailed phascogale	Schedule 3 - VU	
Procellaria aequinoctialis	White-chinned Petrel	Schedule 3 - VU	
Sternula nereis nereis (Sterna nereis nereis)	Australian Fairy Tern	Schedule 3 - VU	Vulnerable
Westralunio carteri	Carter's Freshwater Mussel	Schedule 3 - VU	Vulnerable
Charadrius leschenaultii	Greater Sand Plover	Schedule 3 - VU Schedule 5 - IA	Marine/ Migratory
Thalassarche cauta	Shy Albatross	Schedule 3 - VU Schedule 5 - IA	Endangered
Bettongia lesueur graii	Boodie (inland), Burrowing Bettong (inland)	Schedule 4 - EX	Extinct
Actitis hypoleucos	Common Sandpiper	Schedule 5 - IA	Marine/ Migratory
Apus pacificus	Fork-tailed Swift	Schedule 5 - IA	Marine/Migratory
Calidris acuminata	Sharp-tailed Sandpiper	Schedule 5 - IA	Marine/ Migratory
Calidris alba	Sanderling	Schedule 5 - IA	Marine/ Migratory
Calidris melanotos	Pectoral Sandpiper	Schedule 5 - IA	Marine/ Migratory
Calidris ruficollis	Red-necked Stint	Schedule 5 - IA	Marine/ Migratory
Calidris subminuta	Long-toed Stint	Schedule 5 - IA	Marine/ Migratory
Calonectris leucomelas	Streaked Shearwater	Schedule 5 - IA	Marine/ Migratory
Chlidonias leucopterus (Sterna leucoptera)	White-winged Black tern, White-winged Tern	Schedule 5 - IA	Marine/ Migratory

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act
Glareola maldivarum	Oriental Pratincole	Schedule 5 - IA	Marine/ Migratory
Hydroprogne caspia (Sterna caspia)	Caspian Tern	Schedule 5 - IA	Marine/ Migratory
Limosa lapponica	Bar-tailed Godwit	Schedule 5 - IA	Marine/ Migratory
Limosa limosa	Black-tailed Godwit	Schedule 5 - IA	Migratory/ Marine
Macronectes giganteus	Southern Giant Petrel	Schedule 5 - IA	Endangered/ Migratory/ Marine
Motacilla cinerea	Grey Wagtail	Schedule 5 - IA	Migratory/ Marine
Pandion cristatus (Pandion haliaetus)	Osprey	Schedule 5 - IA	Marine/ Migratory
Plegadis falcinellus	Glossy Ibis	Schedule 5 - IA	Marine/Migratory
Pluvialis fulva	Pacific Golden Plover	Schedule 5 - IA	Marine/ Migratory
Pluvialis squatarola	Grey Plover	Schedule 5 - IA	Marine/ Migratory
Thalasseus bergii (Sterna bergii)	Crested Tern	Schedule 5 - IA	Marine/ Migratory
Tringa glareola	Wood Sandpiper	Schedule 5 - IA	Marine/ Migratory
Tringa nebularia	Common Greenshank	Schedule 5 - IA	Marine/ Migratory
Tringa stagnatilis	Marsh Sandpiper, Little Greenshank	Schedule 5 - IA	Marine/ Migratory
Cacatua pastinator pastinator	Muir's Corella	Schedule 6 - CD	Vulnerable
Phascogale calura	Red-tailed Phascogale, Kenngoor	Schedule 6 - CD	Endangered
Phascogale tapoatafa wambenger	South-western Brush-tailed Phascogale, Wambenger	Schedule 6 - CD	
Falco peregrinus	Peregrine Falcon	Schedule 7 - OS	Marine/ Migratory
Ardea alba	Great Egret, White Egret		Marine
Ardea ibis (Bubulcus ibis)	Cattle Egret		Marine
Charadrius ruficapillus	Red-capped Plover		Marine
Egretta sacra	Eastern Reef Egret, Eastern Reef Heron		Marine
Haliaeetus leucogaster	White-bellied Sea-eagle		Marine
Halobaena caerulea	Blue Petrel		Vulnerable/ Marine
Himantopus himantopus	Black-winged Stilt		Marine
Larus pacificus	Pacific Gull		Marine
Merops ornatus	Rainbow Bee-eater		Marine
Pterodroma mollis	Soft-plumaged Petrel		Vulnerable /Marine
Raillus philippensis Gallirallus philippensis)	Buff banded rail		Marine

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act
Recurvirostra novaehollandiae	Red-necked Avocet		Marine/ Migratory
Ixobrychus flavicollis australis (southwest subpop.)	Australian Black Bittern (southwest pop)	Priority 1	
Austrosaga spinifer	Spiny Katydid (Swan Coastal Plain)	Priority 2	
Australotomurus morbidus	Cemetery Springtail, Guildford Springtail	Priority 3	
Ctenotus gemmula (Swan Coastal Plain pop)	Jewelled South-west Ctenotus	Priority 3	
Hylaeus globuliferus	Woolybush Bee	Priority 3	
Idiosoma sigillatum	Swan Coastal Plain shield-backed trapdoor spider	Priority 3	
Leioproctus contrarius	A Short-tongued Bee	Priority 3	
Neelaps calonotos	Black-striped Snake	Priority 3	
Ninox connivens connivens	Barking Owl (southwest pop)	Priority 3	
Elanus scriptus	Letter-winged Kite	Priority 4	
Hydromys chrysogaster	Water-rat, Rakali	Priority 4	
Isoodon fusciventer	Southern Brown Bandicoot, Quenda	Priority 4	
Ixobrychus dubius	Australian Little Bittern	Priority 4	
Notamacropus eugenii derbianus	Tammar Wallaby	Priority 4	
Notamacropus irma	Western Brush Wallaby	Priority 4	
Oxyura australis	Blue-billed Duck	Priority 4	
Synemon gratiosa	Graceful Sun-moth	Priority 4	
Thinornis rubricollis (Charadrius rubricollis)	Hooded Plover	Priority 4	Marine

Fauna are classified under five different Priority codes and rare and endangered fauna are classified under the *Wildlife Conservation (Specially Protected Fauna) Notice 2014* into five schedules of taxa. These are outlined in Appendix 4.

4.3 Fauna Habitat

There are two fauna habitat occurs on the Lots, described as Open Woodland Habitat (Plate 7) and Cleared/Developed Habitat (Plate 8).

Plate 7: Open Woodland Fauna Habitat

Plate 8: Cleared/Developed Fauna Habitat

Fauna habitat can be assessed using a number of factors including, the size of the habitat, the level of habitat connectivity, availability of specific resources (e.g. tree hollows) and overall vegetation quality. The habitat was assessed according to the categories outlined in Table 10.

Table 10: Fauna Habitat Quality

Fauna Habitat Quality	Description
High Quality Fauna Habitat	These areas closely approximate the vegetation mix and quality that would have been in the area prior to any disturbance. The habitat has connectivity with other habitats and is likely to contain the most natural vertebrate fauna assemblage.
Very Good Fauna Habitat	These areas show minimal signs of disturbance (e.g. grazing, clearing, fragmentation, weeds) and generally retain many of the characteristics of the habitat if it had not been disturbed. The habitat has connectivity with other habitats and fauna assemblages in these areas are likely to be minimally affected by disturbance.
Good Fauna Habitat	These areas showed signs of disturbance (e.g. grazing, clearing, fragmentation, weeds) but generally retain many of the characteristics of the habitat if it had not been disturbed. The habitat has connectivity with other habitats and fauna assemblages in these areas are likely to be affected by disturbance.
Disturbed Fauna Habitat	These areas showed signs of significant disturbance. Many of the trees, shrubs and undergrowth are cleared. These areas may be in the early succession and regeneration stages. Areas may show signs of significant grazing, contain weeds or have been damaged by vehicle or machinery. Habitats are fragmented or have limited connectivity with other fauna habitats. Fauna assemblages in these areas are likely to differ significantly from what might be expected in the area had the disturbance not occurred.
Highly Degraded Fauna Habitat	These areas often have a significant loss of vegetation, an abundance of weeds, and a large number of vehicle tracks or are completely cleared. Limited or no fauna habitat connectivity. Faunal assemblages in these areas are likely to be significantly different to what might have been in the area pre-disturbance (Coffey Environments, 2009).

The fauna habitats occur over a fragmented landscape. The open Woodland habitat is in varied condition with some larger areas being Very Good and have some connectivity to adjacent lots. However, the surrounding development and presence of feral species would have impacted on the fauna assemblage. These areas are rated as being Good Fauna Habitat.

There is one small, Completely Degraded area that has no connectivity which is Highly Degraded Fauna Habitat in Lot 3 Elliot Road. The Cleared/Developed habitat is also considered to be Highly Degraded Fauna Habitat.

4.4 Conservation Significant Species

Outlined below in Table 11 is a short description of the preferred habitat for each of the species that were identified in the DBCA Database Search (Appendix 8), Atlas of Living Australia Species Report (Appendix 2) and the EPBC Protected Matters Search Tool (Appendix 3) in Table 9. The preferred habitat has been compared to the habitats on the site described above and the likelihood of each species to be present was determined. Species that live in the ocean have not been included.

Table 11: Preferred Habitat of Conservation Significant Fauna Species

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Schedule 1 – Critically Endangered			
Bettongia penicillata ogilbyi (Bettongia penicillata)	Woylie, Brush-tailed Bettong	The Woylie habitat types ranged from forest to grassland, coastal and inland. During the day the Woylie shelters under patches of dense undergrowth, logs and rock-cavities and occasionally in burrows.	Highly Unlikely – the fauna habitat is too disturbed and surrounded by development
Calidris ferruginea	Curlew Sandpiper	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.	Highly Unlikely – not suitable habitat
Calidris tenuirostris	Great Knot	The Great Knot winters in Australia, occurring in sheltered coastal habitats such as inlets, bays, harbours, estuaries and lagoons with large intertidal mud and sandflats, oceanic sandy beaches with nearby mudflats, sandy spits and islets, muddy shorelines with mangroves and occasionally exposed reefs or rock platforms. It roosts in refuges such as shallow water in sheltered sites, on coastal dunes or on saltflats amongst mangroves during high tides (BirdLife International, 2015a).	Highly Unlikely – not suitable habitat
Hesperocolletes douglasi	Douglas's Broad-headed Bee	Douglas's Broad-headed Bee was recorded on Rottnest and rediscovered in Pinjar in Banskia Woodland with pollen from *Philotheca spicata*, *Patersonia occidentalis*, two species of *Stylidium*, a species of *Scaevola* and species from Fabaceae and Myrtaceae (DBCA, 2018).	Unlikely – the sites are disturbed and
Numenius madagascariensis	Eastern Curlew	The Eastern Curlew is most commonly associated with sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass. Occasionally, the species occurs on ocean beaches (often near estuaries), and coral reefs, rock platforms, or rocky islets.	Highly Unlikely – not coastal habitat
Pseudemydura umbrina	Western Swamp Tortoise	The Western Swamp Tortoise is restricted to very few wild populations. During winter and spring, the tortoises live in the water. This species is carnivorous feeding on insects, larvae and tadpoles (Burbidge and Kuchling, 1994). In the drier, hotter months they shelter under leaf litter and in holes and aestivate (sleep).	No – not suitable habitat

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Botaurus poiciloptilus	Australasian bittern	The Australasian Bittern occurs mainly in densely vegetated freshwater wetlands and, rarely, in estuaries or tidal wetlands.	No – not wetland habitat
Pseudocheirus occidentalis	Western Ringtail Possum, Ngwayir	The Western Ringtail Possum is a medium sized nocturnal marsupial. This species occurs in and near coastal Peppermint Tree (*Agonis flexuosa*) forest and Tuart (*Eucalyptus gomphocephala*) dominated forest with a Peppermint Tree understorey.	Highly Unlikely – not suitable habitat
Schedule 2 – Endangered			
Botaurus poiciloptilus	Australasian bittern	The Australasian Bittern occurs mainly in densely vegetated freshwater wetlands and, rarely, in estuaries or tidal wetlands.	Highly Unlikely – not suitable habitat
Calidris canutus	Red Knot	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 exposed wave-cut rock platforms or coral reefs.	Highly Unlikely – not suitable habitat
Calyptorhynchus (Zanda) baudinii	Baudin's Black Cockatoo	Baudin's Black-Cockatoo mainly occurs in eucalypt forests, especially Jarrah (*Eucalyptus marginata*), Marri (*Corymbia calophylla*), also Karri (*Eucalyptus diversicolor*) forest, often feeding in the understorey on proteaceous trees and shrubs, especially banksias (SEWPaC, 2012).	Possible intermittent visitor to the site
Calyptorhynchus (Zanda) latirostris	Carnaby's Black Cockatoo	Carnaby's Cockatoo is found in the south-west of Australia from Kalbarri through to Ravensthorpe. It has a preference for feeding on the seeds of Banksia, Hakea, Eucalyptus, Grevillea, Pinus and Allocasuarina spp. It is nomadic often moving toward the coast after breeding. It breeds in tree hollows that are 2.5 – 12m above the ground and have an entrance 23-30cm with a depth of 1-2.5m. Nesting mostly occurs in smooth-barked trees (e.g. Salmon Gum, Wandoo, Red Morrell) (SEWPaC, 2012).	Likely to intermittently occur on the site
Myrmecobius fasciatus	Numbat, Walpurti	Numbats occur in eucalypt forests and woodlands dominated by *Eucalyptus marginata, Corymbia calophylla* and *Eucalyptus wandoo*.	Highly Unlikely – the site is too disturbed
Petrogale lateralis lateralis	Black-flanked Rock-wallaby, Black-footed Rock-wallaby, Moororong	The preferred habitat of the Black-flanked Rock-wallaby varies between colonies but always involves grassland feeding habitat for feeding in close proximity to cliff, rock-pile, talus or escarpment refuge habitat.	Highly Unlikely – outside of species range

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Rostratula australis (Rostratula benghalensis australis)	Australian Painted Snipe	The Australian Painted Snipe has been recorded at wetlands in all states of Australia but is most common in eastern Australia. It generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans. It also uses inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains. Typical sites include a cover of vegetation, including grasses.	Highly Unlikely – not suitable habitat
Thalassarche carteri (Thalassarche chlororhynchos carteri)	Indian yellow-nosed Albatross	The Indian Yellow-nosed Albatross is a marine bird that breeds on islands of the southern Indian Ocean on tussock-covered coastal cliffs and slopes, often in rocky situations.	Highly Unlikely – marine and pelagic
Schedule 3 – Vulnerable			
Calyptorhynchus banksii naso	Forest Red-tailed Black-Cockatoo	Forest Red-tailed Black Cockatoos frequent the humid to sub-humid south-west of Western Australia from Gingin in the north, to Albany in the south and west to Cape Leeuwin and Bunbury (SEWPaC, 2012). It nests in tree hollows with a depth of 1-5m, that are predominately Marri (Corymbia calophylla), Jarrah (Eucalyptus marginata) and Karri (Eucalyptus diversicolor) and it feeds primarily on the seeds of Marri.	Likely to be an intermittent visitor to the site
Charadrius leschenaultii	Greater Sand Plover	In Australasia, the Greater Sand Plover 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.	Highly Unlikely – not coastal habitat
Dasyurus geoffroii	Chuditch, Western Quoll	The Chuditch have been known to occupy a wide range of habitats including woodlands, dry sclerophyll forests, riparian vegetation, beaches and deserts. They are opportunistic feeders, and forage on the ground at night, feeding on invertebrates, small mammals, birds and reptiles.	Highly Unlikely – the site is too disturbed and surrounded by development
Falco hypoleucos	Grey Falcon	The Grey Falcon favours timbered lowland plains, particularly acacia shrublands that are crossed by tree-lined watercourses, but frequents other grassland and woodland habitats (Birdlife International, 2014a).	Highly Unlikely – not suitable habitat
Leipoa ocellata	Mallee Fowl	Mallee fowl have been found in mallee regions of southern Australia from approximately the 26th parallel of latitude southwards in mallee bushland.	No – no mallee habitat

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Macroderma gigas	Ghost Bat	Ghost bats occur in a wide range of habitats from rainforest, monsoon and vine scrub, to open woodlands in arid areas. These habitats are used for foraging, while roost habitat is more specific. Favoured roosting sites of the ghost bat are undisturbed caves or mineshafts which have several openings (DEHP, 2015).	No - no cave habitat
Macrotis lagotis	Bilby, Dalgyte, Ninu	The greater Bilby is a nocturnal omnivorous marsupial that shrub species, such as *Acacia kempeana* and *A. hilliana*, which have root-dwelling larvae that provide a constant food source for the Greater Bilby. They also utilise Spinifex hummocks which are quite uniform and discrete, providing runways between hummocks, enabling easier movement and for aging.	Highly Unlikely – not suitable habitat
Phascogale tapoatafa kimberleyensis	Kimberley brush-tailed phascogale	The Kimberley Brush-tailed Phascogale occurs in savanna woodland. It is octurnal and shelters in tree hollows during the day.	No – outside of species range
Procellaria aequinoctialis	White-chinned Petrel	The White Chinned Petrel occurs on the southern coast of Australia and largely forage on open water (Birdlife International, 2016).	Highly Unlikely – marine and pelagic
Sternula nereis nereis (Sterna nereis nereis)	Australian Fairy Tern	The Fairy Tern (Australian) nests on sheltered sandy beaches, spits and banks above the high tide line and below vegetation.	Highly Unlikely – not beach habitat
Westralunio carteri	Carter's Freshwater Mussel	Carter's Feshwater Mussel is South-West Western Australia's only freshwater mussel (Murdoch University & SERCUL, 2012). Carter's Freshwater Mussel occurs in freshwater streams, rivers, reservoirs and lakes (ICUN, 2015b) and is intolerant to dehydration for more than three days and salinity (Murdoch University & SERCUL, 2012).	No – not suitable habitat
Schedule 3 – Vulnerable and Schedule 5 – International Agreement			
Charadrius leschenaultii	Greater Sand Plover	In Australasia, the Greater Sand Plover 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.	Highly Unlikely – not coastal habitat

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Thalassarche cauta	Shy Albatross	The Shy Albatross is a marine species occurring in subantarctic and subtropical waters, reaching the tropics in the cool Humboldt Current off South America. In the southern Indian Ocean the species has been observed over waters of 6.4-13.5°C. It has been noted in shelf-waters around breeding islands and over adjacent rises. During the non-breeding season, it occurs over continental shelves around continents. The species occurs both inshore and offshore and enters harbours and bays. The birds are scarce in pelagic waters. The species flies low to moderately high, using updraft from wave fronts for lift. It nests on level or gently sloping ledges, summits, slopes and caves of rocky islets and stacks, usually in broken terrain with little soil and vegetation.	Highly Unlikely – marine and pelagic
Schedule 4 – Extinct			
Bettongia lesueur graii	Boodie (inland), Burrowing Bettong (inland)	The habitat of the Burrowing Bettong (inland) ranged from open eucalypt or acacia woodland with a grass and shrub understorey to sandridge desert with spinifex hummocks and sparse shrubs.	
Schedule 5 – International Agreement			
Actitis hypoleucos	Common Sandpiper	The Common Sandpiper is mostly found around muddy margins or rocky shores. Generally the species forages in shallow water and on bare soft mud at the edges of wetlands.	Highly Unlikely – not suitable habitat
Apus pacificus	Fork-tailed Swift	The Fork-tailed Swift is almost exclusively aerial and is not known to breed in Australia. They are seen in 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. Apus pacificus subsp. pacificus is the only subspecies to migrate to Australia.	Highly Unlikely – may fly over the site but unlikely to land
Calidris acuminata	Sharp-tailed Sandpiper	The Sharp-tailed Sandpiper prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation.	Highly Unlikely – not suitable habitat

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Calidris alba	Sanderling	Sanderlings occur on most of the coast from Eyre to Derby, and also around Wyndham. They are more often recorded on the south and southwest coasts, north to around southern Shark Bay, with more sparsely scattered records further north in Gascoyne and Pilbara Regions and the Kimberley Division.	Highly Unlikely – not coastal habitat
Calidris melanotos	Pectoral Sandpiper	The Pectoral Sandpiper prefers shallow fresh to saline wetlands and is found at coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.	Highly Unlikely – not suitable habitat
Calidris ruficollis	Red-necked Stint	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.	Highly Unlikely – not coastal habitat
Calidris subminuta	Long-toed Stint	The Long-toed Stint prefers 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.	Highly Unlikely – not suitable habitat
Calonectris leucomelas	Streaked Shearwater	The Streaked Shearwater is a marine species that can be found over both pelagic and inshore waters (Birdlife International, 2014b).	Highly unlikely – marine and pelagic
Chlidonias leucopterus (Sterna leucoptera)	White-winged Black tern, White-winged Tern	In Australia, the White-winged Black tern mostly inhabits fresh, brackish or saline, and coastal or subcoastal wetlands.	Highly Unlikely – not suitable habitat
Glareola maldivarum	Oriental Pratincole	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.	Highly Unlikely – not suitable habitat

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Hydroprogne caspia (Sterna caspia)	Caspian Tern	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.	Highly Unlikely – not coastal habitat
Limosa lapponica	Bar-tailed Godwit	The Bar-tailed Godwit is found mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays.	Highly Unlikely – not coastal habitat
Limosa limosa	Black-tailed Godwit	The Black-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.	Highly Unlikely – not coastal habitat
Macronectes giganteus	Southern Giant Petrel	The Southern Giant-Petrel is a marine bird that occurs in Antarctic to subtropical waters. In summer it mainly occurs over Antarctic waters	Highly Unlikely – marine and pelagic
Motacilla cinerea	Grey Wagtail	The Grey Wagtail is mostly recorded in coastal areas in Western Australia (ALA, 2015) however is widespread. There is non-breeding habitat only in Australia and the species has a strong association with water, particularly rocky substrates along water courses but also lakes and marshes.	Highly Unlikely – not suitable habitat
Numenius phaeopus	Whimbrel	The Whimbrel is often found on the intertidal mudflats of sheltered coasts. It is also found in harbours, lagoons, estuaries and river deltas, often those with mangroves, but also open, un-vegetated mudflats.	Highly Unlikely – not suitable habitat
Pandion cristatus (Pandion haliaetus)	Osprey	Ospreys occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands. They feed on fish, especially mullet where available, and rarely take molluscs, crustaceans, insects, reptiles, birds and mammals.	Highly Unlikely – not coastal habitat
Plegadis falcinellus	Glossy Ibis	The Glossy Ibis is the smallest ibis known in Australia. This species 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 but do not breed in South-west Western Australia.	Highly Unlikely – not suitable habitat

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Pluvialis fulva	Pacific Golden Plover	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 salt works.	Highly Unlikely – not suitable habitat
Pluvialis squatarola	Grey Plover	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.	Highly Unlikely – not coastal habitat
Thalasseus bergii (Sterna bergii)	Crested Tern	The Crested Tern occurs in coastal areas (Birdlife Australia, 2018).	Highly Unlikely – not coastal habitat
Tringa glareola	Wood Sandpiper	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.	Highly Unlikely – not suitable habitat
Tringa nebularia	Common Greenshank	The Common Greenshank is a wader and does not breed in Australia. This species can be found in many types of wetlands and has the widest distribution of any shorebird in Australia. This species typically feeds on molluscs, crustaceans, insects, and occasionally fish and frogs.	Highly Unlikely – not suitable habitat
Tringa stagnatilis	Marsh Sandpiper, Little Greenshank	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.	Highly Unlikely – not suitable habitat
Schedule 6 – Conservation Dependent			
Cacatua pastinator pastinator	Muir's Corella	Muir's Corella occurs in eucalyptus woodlands that are dominated by White Gum (*Eucalyptus wandoo*), Marri (*Corymbia calophylla*), or Jarrah (*Eucalyptus marginata*). The subspecies often occurs in farmland, especially in croplands and sometimes pasture, where there are ample watering points and some nearby large trees for roosting or breeding.	Highly Unlikely – generally occurs in the wheatbelt

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Phascogale calura	Red-tailed Phascogale, Kenngoor	The Red-tailed Phascogale is a small, arboreal, carnivorous marsupial. The preferred habitats for this species are *Allocasuarina* woodlands with hollow-containing eucalypts (e.g. *Eucalyptus wandoo*) and *Gastrolobium* spp..	Highly Unlikely – not suitable habitat and the site is too disturbed and outside of the species range
Phascogale tapoatafa wambenger	South-western Brush-tailed Phascogale, Wambenger	Southern Brush-tailed Phascogales are arboreal marsupials which require tree hollows in suitable woodland or forest and rely on abundant invertebrate prey to sustain populations (Pescott, 2012).	Highly Unlikely – not suitable habitat and the site is too disturbed
Schedule 7 – Other Specially Protected Species			
Falco peregrinus	Peregrine Falcon	The Peregrine Falcon is found in a variety of habitats but nests on high cliff ledges or artificial structures. It feeds primarily on small-medium sized birds, but occasionally taking insects, such as moths, cicadas and locusts (Birdlife Australia, 2012).	Highly Unlikely – may fly over but unlikely to land
Marine			
Ardea alba	Great Egret, White Egret	The Eastern Great Egret has been reported in a wide range of wetland habitats and usually frequents shallow waters. This species feeds on fish, insects, crustaceans, molluscs, frogs, lizards, snakes and small birds and mammals.	Highly Unlikely – not suitable habitat
Ardea ibis (Bubulcus ibis)	Cattle Egret	The Cattle Egret occurs in tropical and temperate grasslands, wooded lands and terrestrial wetlands with breeding in Western Australia recorded in the far north in Wyndham in colonies in wooded swamps such as mangrove forest. This species forages away from water on low lying grasslands, improved pastures and croplands generally in areas that have livestock eating insects, frog, lizards and small mammals.	Possible – habitat may occur on the site
Charadrius ruficapillus	Red-capped Plover	The Red-capped Plover is found in wetlands, especially in arid areas, and prefers saline and brackish waters (Birdlife Australia, 2014a).	Highly Unlikely – not suitable habitat
Egretta sacra	Eastern Reef Egret, Eastern Reef Heron	The Eastern Reef Egret nests in trees in island woodlands, or on the ground under shrubs or rock ledges and feeds on small fish, crustaceans and insects (Birdlife Australia, 2014b).	Highly Unlikely – not suitable habitat
Haliaeetus leucogaster	White-bellied Sea-eagle	The White-bellied Sea-Eagle is found in coastal habitats with large areas of open water, especially those close to the sea-shore. This species feeds opportunistically on a variety of fish, birds, reptiles, mammals and crustaceans, and on carrion and offal.	Highly Unlikely – not coastal habitat

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Halobaena caerulea	Blue Petrel	The Blue Petrel breeds around MacQuarie Island and forages in Antarctic and subantarctic waters for pelagic crustaceans, fish, cephalopods and insects.	Highly Unlikely – marine and pelagic
Himantopus himantopus	Black-winged Stilt	The Black-winged Stilt is found near coastal lagoons and shallow freshwater or brackish pools with extensive areas of mudflats, salt meadows, saltpans, coastal marshes and swamps (Birdlife International, 2014c).	Highly Unlikely – not suitable habitat
Larus pacificus	Pacific Gull	Australia's largest gull, the Pacific Gull occurs only along the coasts of southern Australia. Despite its name, the species is seldom seen on the Pacific coastline, and is far more common on the beaches bordering the Southern and Indian Oceans. They breed in colonies on islands, extending from the Furneaux Group in eastern Bass Strait, west to Shark Bay. Their nests may consist of either a scrape in the ground, sometimes lined with gravel, or a neat nest made from grass, sticks or seaweed (Birdlife Australia, 2015).	Highly Unlikely – not suitable habitat
Merops ornatus	Rainbow Bee-eater	Populations of the Rainbow Bee-eater that breed in northern Australia are considered to be resident, and in many northern localities the Rainbow Bee-eater is present throughout the year. The Rainbow Bee-eater nests in a burrow dug in the ground. It is found across the better-watered parts of WA including islands preferring lightly wooded, sandy country near water.	Possible – habitat may occur on the site
Pterodroma mollis	Soft-plumaged Petrel	The Soft-plumaged Petrel is a marine, oceanic species that breed on islands off Tasmania, in the New Zealand region, and in the Indian and South Atlantic Oceans.	Highly Unlikely – marine and pelagic
Raillus philippensis (Gallirallus philippensis)	Buff banded rail	The Buff Banded Rail occupies a wide range of terrestrial wetlands, as well as coastal beaches, reef flats, sandbanks, and mangroves, where it forages on the ground, pecking and probing in mud to catch crustaceans, worms and other invertebrates, and rails on beaches may scavenge along the strandline (Birdlife Australia, 2017).	Highly Unlikely – not suitable habitat
Recurvirostra novaehollandiae	Red-necked Avocet	The Red-necked Avocet occurs in wetland areas including bogs, marshes, swamps and Permanent Saline, Brackish or Alkaline Lakes (Birdlife International, 2014d).	Highly Unlikely – not suitable habitat

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Priority 1			
Ixobrychus flavicollis australis (southwest subpop.)	Australian Black Bittern (southwest pop)	The bittern sub-species prefer wetland habitats with dense fringing vegetation. They are found in reed beds along water bodies. They inhabit ponds, lakes, streams and marshes. Their breeding habitat is mostly reed beds. The subspecies I. f. australis is distributed in New Guinea, Bismarck Archipelago and Australia (BirdLife International, 2015b).	Highly Unlikely – not wetland habitat
Priority 2			
Austrosaga spinifer	Spiny Katydid (Swan Coastal Plain)	The *Austrosaga spinifer* species of cricket is recorcded from Cervantes (Rentz, 1996) and Neerabup National Park.	Possible – habitat may occur on the site
Priority 3			
Australotomurus morbidus	Cemetery Springtail, Guildford Springtail	The Cemetery Springtail is known from four locations in Perth in relatively undisturbed bushland in pale soils in *Banksia* and *Eucalyptus* woodland (Greenslade and Jordan, 2014).	Highly Unlikely – the site is too disturbed
Ctenotus gemmula (Swan Coastal Plain pop)	Jewelled South-west Ctenotus	The Jewelled south-west Ctenotus inhabits sand plains with heaths. It is also found in Banksia or Mallee woodlands (ICUN, 2015).	Unlikely – not typical habitat
Euoplos inornatus	Inornate Trapdoor Spider (northern Jarrah Forest)	The Inornate Trapdoor Spider is recorded from clay creek banks (ALA, 2019).	Highly Unlikely – not suitable habitat
Hylaeus globuliferus	Woolybush Bee	The Woolybush Bee is thought to favour flowers of *Adenanthos cygnorum* for feeding, but has also been recorded on *Banksia attenuata*.	Possible – habitat occurs on the site
Idiosoma sigillatum	Swan Coastal Plain shield-backed trapdoor spider	The Swan Coastal Plain Shield-backed Trapdoor Spider arranges fallen twigs from the sheoak tree around the rim of its burrow entrance, enabling it to feel the vibrations of unsuspecting prey that wander by (Curtin, 2018).	Highly Unlikely – no Sheoak habitat
Leioproctus contrarius	A Short-tongued Bee	Leioproctus contrarius is apparently dependent on flowers of Goodeniaceae and possibly Lechenaultia stenosepala. It was found at Forrestdale Lake in 1952 and 1954 (PES, 2011).	Highly Unlikely – not suitable habitat
Neelaps calonotos	Black-striped Snake	The Black-striped snake has a limited distribution, inhabiting areas with sandy soils that support heathlands and Banksia/Eucalypt Woodlands (Nevill, 2005) on the Swan Coastal Plain generally in the lower west coast from Lancelin to Mandurah (Storr *et al*, 1999).	Highly Unlikely – not on the Swan Coastal Plain

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Ninox connivens connivens	Barking Owl (southwest pop)	Barking Owls are usually found in habitats that are dominated by eucalyptus species, particularly red gum, and, in the tropics, paperbark species. They prefer woodlands and forests with a high density of large trees and particularly sites with hollows that are used by the owls as well as their prey. Roost sites are often located near waterways or wetlands (Birds in Backyards, 2014).	Unlikely – not typical habitat
Priority 4			
Elanus scriptus	Letter-winged Kite	The Letter-winged Kite is found in open or sparsely wooded country (Johnstone and Storr, 1998).	Highly Unlikely – not suitable habitat
Hydromys chrysogaster	Water-rat, Rakali	The Water Rat generally prefers wetland habitats characterised by dense, low-lying vegetation (0–30 cm from ground), low-density canopy cover and shallow, narrow water bodies (Speldewinde *et al.*, 2013).	Highly Unlikely – not suitable habitat
Isoodon fusciventer	Southern Brown Bandicoot, Quenda	Southern Brown Bandicoots are small grey marsupials that prefer dense scrub (up to one metre high). Their diet includes invertebrates (including earthworms, adult beetles and their larvae), underground fungi, subterranean plant material, and very occasionally, small vertebrates (DEC, 2012b).	Possible intermittent visitor to the site
Ixobrychus dubius	Australian Little Bittern	The Australian Little Bittern is mainly found in freshwater wetlands, where they inhabit dense emergent vegetation of reeds and sedges, and inundated shrub thickets. They are also occasionally found in brackish and saline wetlands such as mangrove swamps, Juncus-dominated salt marsh and the wooded margins of coastal lagoons (Naturewatch NZ, 2014).	Highly Unlikely – not suitable habitat
Notamacropus eugenii derbianus	Tammar Wallaby	The Tammar Wallaby prefers dense, low vegetation for daytime shelter and open grassy areas for feeding. This species inhabits coastal scrub, heath, dry sclerophyll forest and thickets in mallee and woodland (DEC, 2012c).	Highly Unlikely – the site is too disturbed
Notamacropus irma	Western Brush Wallaby	The Western Brush Wallaby is a medium sized marsupial and its optimum habitat is open forest or woodland, particularly favouring open, seasonally wet flats with low grasses and open scrubby thickets (DEC, 2012d).	Highly Unlikely – the site surrounds are too developed

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Oxyura australis	Blue-billed Duck	The Blue-billed Duck is found on terrestrial wetlands in temperate regions, that are freshwater to saline, and may be natural or artificial. It nests in rushes, sedges, Lignum Muehlenbeckia cunninghamii and paperbark Melaleuca (Birdlife International, 2015c). The species is almost completely aquatic, and is seldom seen on land. Non-breeding flocks, often with several hundred individuals, congregate on large, deep open freshwater dams and lakes in autumn. The daylight hours are spent alone in small concealed bays within vegetation or communally in large exposed rafts far from the shore (Birds in Backyards, 2015).	No – not suitable habitat
Synemon gratiosa	Graceful Sun-moth	The Graceful Sun-moth is a diurnal moth with dull coloured brown to black forewings and brightly coloured orange hind wings. The larvae burrow into the rhizomes of Lomandra maritima and Lomandra hermaphrodita exclusively and therefore require the presence of one or both of these species to be present in an area (Bishop *et al.*, 2011).	No – no suitable habitat occurs on the site
Thinornis rubricollis (Charadrius rubricollis)	Hooded Plover	The Hooded Plover primarily inhabits sandy, ocean beaches, with the highest densities on beaches with large amounts of beach-washed seaweed that are backed by extensive open dunes. In Western Australia the species also inhabits inland and coastal salt lakes (Birdlife International, 2014e).	Highly Unlikely – not beach habitat

* Habitat descriptions from DoEE (2016) SPRAT Database unless otherwise denoted

Habitat on the site was identified for three listed species of Black Cockatoos being:

- Carnaby's Black Cockatoo (*Calyptorhynchus* (*Zanda*) *latirostris*)
- Baudin's Black Cockatoo (*Calyptorhynchus* (*Zanda*) *baudinii*)
- Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*)

Detailed analysis of the Black Cockatoo habitat on the site is provided in Section 5.

Two marine species, Cattle Egret (*Ardea* (*Bubulcus*) *ibis*) and the Rainbow Bee-eater (*Merops ornatus*) may occur on the site but are unlikely to rely on it for survival. The site may also contain habitat for the Spiny Katydid (Swan Coastal Plain) (*Austrosaga spinifer*) (Priority 2) and the Woolybush Bee (*Hylaeus globuliferus*) (Priority 3). The Southern Brown Bandicoot, Quenda (*Isoodon fusciventer*) (Priority 4) could potentially occur on the site.

4.5 Pest Fauna

There are several pest species that may be present on the site outlined in Table 8.

Table 8: Pest Species Likely to Occur on the Site

Taxa	Family	Species Name	Common Name
Mammalia	Canidae	*Vulpes vulpes*	Red fox
	Felidae	*Felis catus*	Feral cat
	Leporidae	*Oryctolagus cuniculus*	European Rabbit
	Muridae	*Mus musculus*	House Mouse
		Rattus rattus	Black Rat

4.6 Biodiversity Value

The EPA's (2002) *Terrestrial Biological Surveys as an Element of Biodiversity Protection Position Statement No. 3* indicates an ecological assessment of a site must consider its biodiversity value at the genetic, species and ecosystem levels; and its ecological functional value at the ecosystem level. The vegetation on the site is disturbed and fragmented and there is likely to be introduced feral species such as foxes, cats and rabbits which would have modified the fauna assemblage from pre-European settlement. The biodiversity value therefore is considered to be low.

Areas of remnant vegetation in Very Good condition are rated as Good Fauna habitat as most are linked to other areas of vegetation even though there is a high proportion of weeds in the understorey.

Completely Degraded areas are rated as Highly Degraded as these areas are fragmented from areas of remnant vegetation.

5 BLACK COCKATOO HABITAT ASSESSMENT

5.1 Black Cockatoo Species

5.1.1 Baudin's Black Cockatoo (*Calyptorhynchus* (*Zanda*) *baudinii*)

Baudin's Black Cockatoo is most common in the far south-west of Western Australia. It is known to breed from the southern forests north to Collie and east to near Kojonup. Baudin's Black Cockatoo is typically found in vagrant flocks and utilises the taller, more open Jarrah (*Eucalyptus marginata*) and Marri (*Corymbia calophylla*) woodlands where it feeds mainly on Marri seeds and various Proteaceous species (Johnstone, Johnstone and Kirkby, 2011).

The site is just outside the modelled 'Predicted Breeding Area' distribution for Baudin's Black Cockatoos (DAWE, 2022).

5.1.2 Carnaby's Black Cockatoo (*Calyptorhynchus* (*Zanda*) *latirostris*)

Carnaby's Black Cockatoo is found in the south-west of Australia from Kalbarri through to Ravensthorpe. It has a preference for feeding on the seeds of *Banksia, Hakea, Eucalyptus, Grevillea, Pinus* and *Allocasuarina* spp. It is nomadic, often moving toward the coast after breeding. It breeds in tree hollows that are 2.5 – 12m above the ground and have an entrance of 23-30cm with a depth of 1-2.5m. Nesting mostly occurs in smooth-barked trees (e.g. Salmon Gum, Wandoo, Red Morrell). Eggs are laid from July to October, with incubation lasting 29 days (DoE, 2014).

The site is inside the boundary of the modelled distribution for Carnaby's Black Cockatoos (DAWE, 2022).

5.1.3 Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*)

Forest Red-tailed Black Cockatoos are endemic to the humid to sub-humid south-west of Western Australia (SEWPaC, 2012). The range of Forest Red-tailed Black Cockatoos is bound by Gingin in the north to Mt Helena, Christmas Tree Well, West Dale, North Bannister, Mt Saddleback, Kojonup, Rocky Gully, upper King River and Green Range (east of Albany) (SEWPaC, 2012; DoE, 2014). It nests in tree hollows with a depth of 1-5m, that are predominately Marri, Jarrah and Karri (*E. diversicolor*) and it feeds primarily on the seeds of Marri and Jarrah (Johnstone, Johnstone and Kirkby, 2011).

The site is inside the modelled distribution for Forest Red-tailed Black Cockatoos (DAWE, 2022).

5.2 Habitat Survey

PGV Environmental undertook a Black Cockatoo habitat assessment on 26 and 30 September and 25 October 2022 in accordance with the *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 banksii naso)* (DAWE, 2022) (Black Cockatoo Referral Guidelines) and the methodology that is outlined in the SPRAT Database for each of the Black Cockatoo species for Black Cockatoo Habitat Assessments.

The survey area was traversed on foot and information on Black Cockatoo foraging, roosting and breeding habitat was assessed. The extent, type and quality of the vegetation present, including the presence and extent of plants known to be used by Black Cockatoos was investigated.

5.3 Habitat definitions

5.3.1 Breeding Habitat

'Breeding habitat' is defined as trees of species known to support breeding within the range of the species which either have a suitable nest hollow OR have a DBH of 500mm or greater (SEWPaC, 2012). Past studies have found that on average hollow openings are 25 cm x 27 cm (Saunders *et al.,* 1982, Saunders and Dawson, 2017) and 30 cm x 34 cm (Johnstone *et al.*, 2013). The height of a hollow entrance off the ground is on average 14.49 m (Johnstone *et al.*, 2013). Nearly all hollows that are used for nesting by Black Cockatoos are located in the main trunk and have a vertical aspect (Johnstone *et al.*, 2013, Saunders and Dawson, 2017). Black Cockatoos are large birds with shoulders that are about 100 mm wide, therefore they require hollows with an entrance bigger than this (as shown above they are typically much larger), but the internal dimensions (depth and floor base) need to be much larger in order for it to be suitable to lay eggs in and for adults to be able to move around.

Previous research has found for Carnaby's Black Cockatoo a mean depth of 1.2 m and a floor diameter of 40 cm is required in order for it to be suitable to lay eggs in and for adults to be able to move around (Johnstone *et al.*, 2013, Saunders and Dawson 2017).

5.3.2 Roosting Habitat

'Roosting habitat' is usually evident due to the presence of Black Cockatoos in the survey area in the evening and early morning and if there are scats or moulted feathers under the roosting area. Black Cockatoos utilise a wide range of native and non-native trees, situated within a variety of land-use types. Roosting habitat is generally in tall (average of > 25 m) tree species that have relatively thick trunks (average DBH of 1 m) and medium foliage density (average of 50 %), and that are not too densely forested amongst other trees (average tree crown connectivity of 20 %) (Le Roux, 2017). Black cockatoos rely upon the availability of suitable night roosting sites in proximity to foraging resources, and particularly on access to water, which are usually within 2 km of the roost (SEWPaC, 2012).

5.3.3 Foraging Habitat

'Foraging habitat' for Black Cockatoos is determined from the plant species that are present in the survey area and evidence of feeding such as direct observation of birds or by chewed nuts and cones. Foraging plants utilised by each species of Black Cockatoo varies, with Carnaby's Black Cockatoo foraging on Eucalypts, pines and proteaceous species, whereas Forest Red-tailed Cockatoos prefer Eucalypts and Allocasuarina and many exotic species and Baudin's prefer mostly seeds of marri and jarrah, also Allocasuarina cones (SEWPaC, 2012).

Foraging habitat was identified by comparing the literature on plant species known to be foraged upon by black cockatoos against the vegetation within the site.

5.4 Breeding

Black Cockatoos are known to breed in hollows of large eucalypts, including Jarrah trees. The site is not known as a breeding site for Black Cockatoos (DoP, 2011; National Map, 2022).

The Black Cockatoo Referral Guidelines define trees of certain species with a DBH of 300 to 500mm or greater, dependent on the tree species, as breeding habitat regardless of the presence or not of hollows. The theory behind this definition is the concept that while the trees may not currently contain hollows, they are mature enough that in the next 50 years or so a hollow might form and be of use to Black Cockatoos for the purposes of breeding.

Sixteen Jarrah trees were recorded on the site that had a DBH of greater than 500mm, however one tree had a large base but was sheared and coppiced and would not form a suitable hollow so a total of fifteen trees on the site meet the definition potential breeding habitat (Figure 6). Details of each tree is provided as Appendix 10. None of the trees had suitable hollows for breeding.

5.5 Roosting

Black Cockatoos are known to roost overnight in tall trees including native and introduced eucalypts and pine trees generally in close proximity to a fresh water source. The site contains limited roosting habitat for Black Cockatoos and roosting has not been recorded on the site (DoP, 2011; Peck *et al.,* 2018; National Map, 2022). The nearest roosting sites are reported to be from around 700m to the north-east (National Map, 2022) with a number of roost sites within 20km (Figure xx).

5.6 Foraging

All the tree species in the areas mapped as having native vegetation are foraging habitat for Black Cockatoos. In addition, some of the understorey species also provide foraging value. In total the site contains thirteen species that are recognised as foraging habitat for Black Cockatoos (Table 12) (Davies 1966; Saunders 1980; Johnstone and Storr 1998; Johnstone and Kirkby 1999; Valentine and Stock, 2008; Groom 2011; Johnstone *et al.*, 2011; SEWPaC, 2012; Bamford, 2013; Johnstone, *et al.*, 2013; Johnstone *et al.*, 2016) as shown in Table 3 (Figure 4). The total area of foraging habitat is 18.835ha (Figure 4).

Table 12: Foraging Species for Black Cockatoos

Species	Common Name	Baudin's Black Cockatoo	Carnaby's Black Cockatoo	Forest red-tailed Black Cockatoo
Acacia saligna	Orange Wattle		✓	
Allocasuarina fraseriana	Sheoak	✓		✓
Banksia attenuata	Candlestick Banksia		✓	
Banksia dallanneyi	Couch Honeypot		✓	
Banksia menziesii	Firewood Banksia		✓	
Bankia prionotes	Acorn Banksia		✓	
Banksia sessilis	Parrot Bush	✓	✓	
Callitris preissii	Rottnest Island Pine		✓	
Eucalyptus marginata	Jarrah	✓	✓	✓
Hakea prostrata	Harsh Hakea	✓	✓	
Hakea ruscifolia	Candle Hakea	✓	✓	
Melia azedarach	Cape Lilac		✓	✓
Xanthorrhoea preissii	Balga		✓	✓

The foraging habitat value for Carnaby's Black Cockatoos was determined using the scoring tool in the revised Black Cockatoo Referral Guidelines (DAWE, 2022). The tool gives a result of 8 for Baudin's Black Cockatoo and 10 for Carnaby's Black Cockatoo and Forest Red-tailed Black Cockatoos which is considered High quality foraging habitat.

Table 13: Scoring Tool for Foraging Habitat for Black Cockatoos

Attribute	Context Adjustor	Baudin's Black Cockatoo	Carnaby's Black Cockatoo	Forest red-tailed Black Cockatoo
Foraging potential	**Subtract 2** from your score if there is no evidence of feeding debris on your site.	-2	0	0
Connectivity	**Subtract 2** from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.	0	0	0
Proximity to breeding	**Subtract 2** if you have evidence to conclude that your site is more than 12 km from breeding habitat.	0	0	0
Proximity to roosting	**Subtract 1** if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat.	0	0	0
Impact from significant plant disease	**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.	0	0	0
Score		**8**	**10**	**10**

5.7 Regional Context

To assist in determining the significance of any impact on Black Cockatoo habitat on the site an assessment of Black Cockatoo habitat within the vicinity of the site was undertaken using DBCA mapping information (Figure 7). There is 17,973ha of Black Cockatoo habitat within 12km of the site, including 3,635ha in DBCA managed land and 9,911ha outside of DBCA managed land as shown in Table 15.

Table 15: Black Cockatoo Habitat within 12km

Reserve Type	Area (ha)
Conservation Park	2.816
Crown Freehold - Dept Managed	84.303
Marine Park	0.017
National Park	388.305
Nature Reserve	25.451
Section 5(1)(h) Reserve	32.662
State Forest	3,101.572
TOTAL	**3,635.126**

6 SUMMARY

6.1 Flora and Vegetation

The flora and vegetation survey of eight lots in the East Wanneroo Precinct 8 area resulted in the following findings:

- Approximately 18.835ha of native vegetation occurs in the survey area and 10.683ha is cleared;
- A total of 160 plant species were recorded in the spring survey, including 130 native and 38 introduced species (22.6);
- None of the plant species is a Threatened or Priority species;
- Four native vegetation types were described and mapped on the site. All vegetation types were Low Open Woodlands with various coverage of *Eucalyptus marginata, Allocasuarina fraseriana, Banksia attenuata* and *B. menziesii*;
- The condition of the native vegetation was mostly Very Good with some Good areas as well as Degraded and Completely Degraded;
- The vegetation belongs to the Karrakatta Central and South vegetation complex which has approximately 29.5% of its original extent remaining on the Southern Swan Coastal Plain but only 2.5% protected. The amount remaining is above the EPA's target for retaining at least 10% of each vegetation complex. The amount protected is under the criteria in the *Urban Bushland Strategy* of protecting at least 10% of each vegetation complex;
- Computer analysis of quadrat data resulted in the vegetation on the site being representative of Floristic Community Type ACP 28 'Spearwood *Banksia attenuata* or *Banksia attenuata* – *Eucalyptus marginata* woodlands'. SCP 28 is not of itself a TEC or PEC at State or Commonwealth level; and
- Three patches of vegetation in Good and Very Good condition were large enough to meet the requirements of the Commonwealth listed Banksia Woodlands of the Swan Coastal Plain TEC. A total of 13.352ha of Banksia Woodland TEC was mapped on the site.

6.2 Fauna

The fauna survey of eight lots in the East Wanneroo Precinct 8 area resulted in the following findings:

- The Open Woodland vegetation is habitat for three species of Black Cockatoo:
  - Carnaby's Black Cockatoo (*Calyptorhynchus* (*Zanda*) *latirostris*);
  - Baudin's Black Cockatoo (*Calyptorhynchus* (*Zanda*) *baudinii*); and
  - Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*).
- The site may provide habitat for two marine species, Cattle Egret (*Ardea* (*Bubulcus*) *ibis*) and the Rainbow Bee-eater (*Merops ornatus*), the Spiny Katydid (Swan Coastal Plain) (*Austrosaga spinifer*) (Priority 2) and the Woolybush Bee (*Hylaeus globuliferus*) (Priority 3). The Southern Brown Bandicoot, Quenda (*Isoodon fusciventer*) (Priority 4) could potentially occur on the site.
- The site contains 18.835ha of foraging habitat for all three species of Black Cockatoo and 15 potential breeding trees (all Jarrah).
- There is 17,973ha of Black Cockatoo habitat within 12km of the site, including 8,062ha in DBCA managed land and 9,911ha outside of DBCA managed land.

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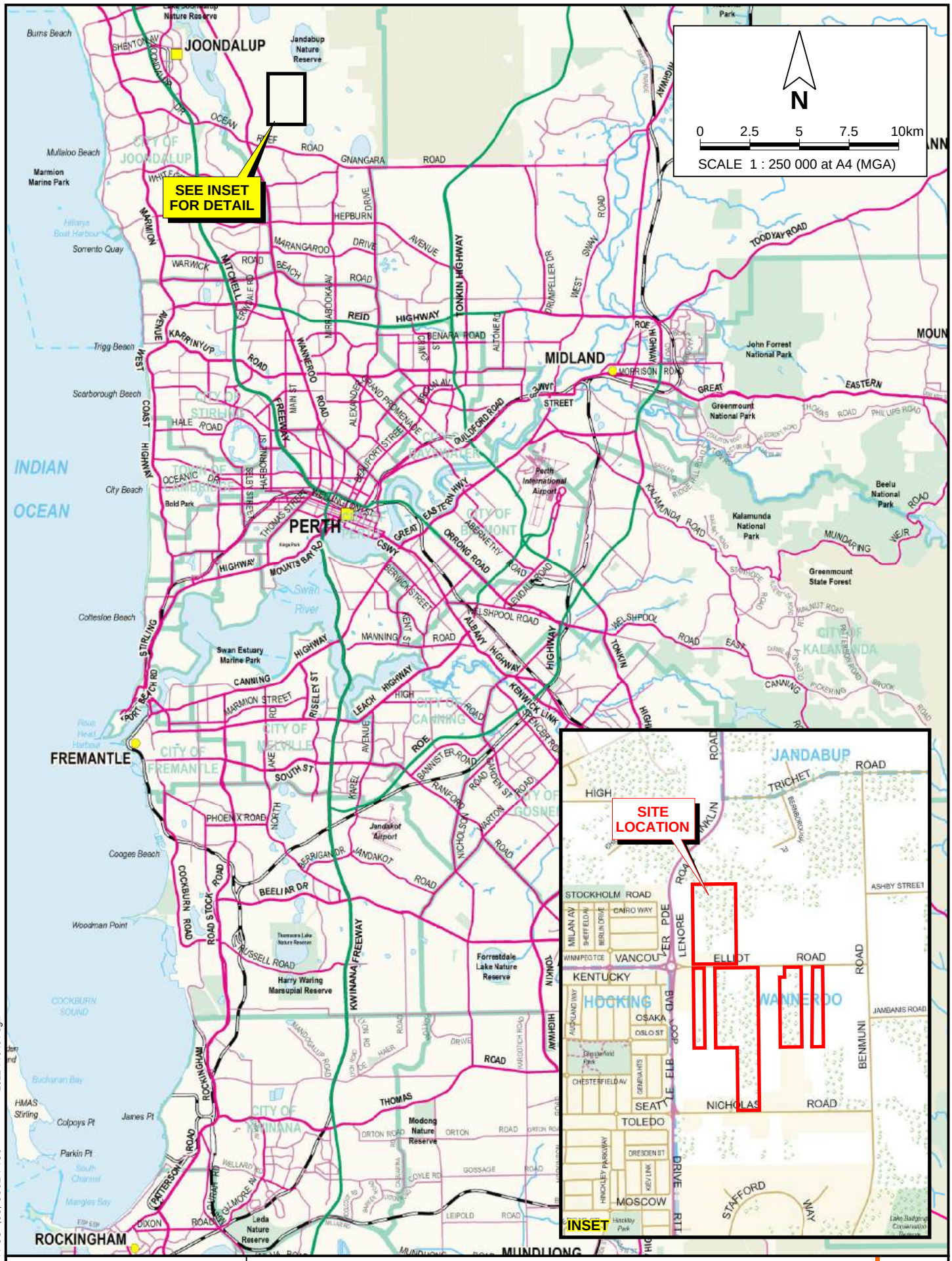
FIGURES



PINPOINT CARTOGRAPHICS (08) 9562 7136 2022-710-f01.dgn

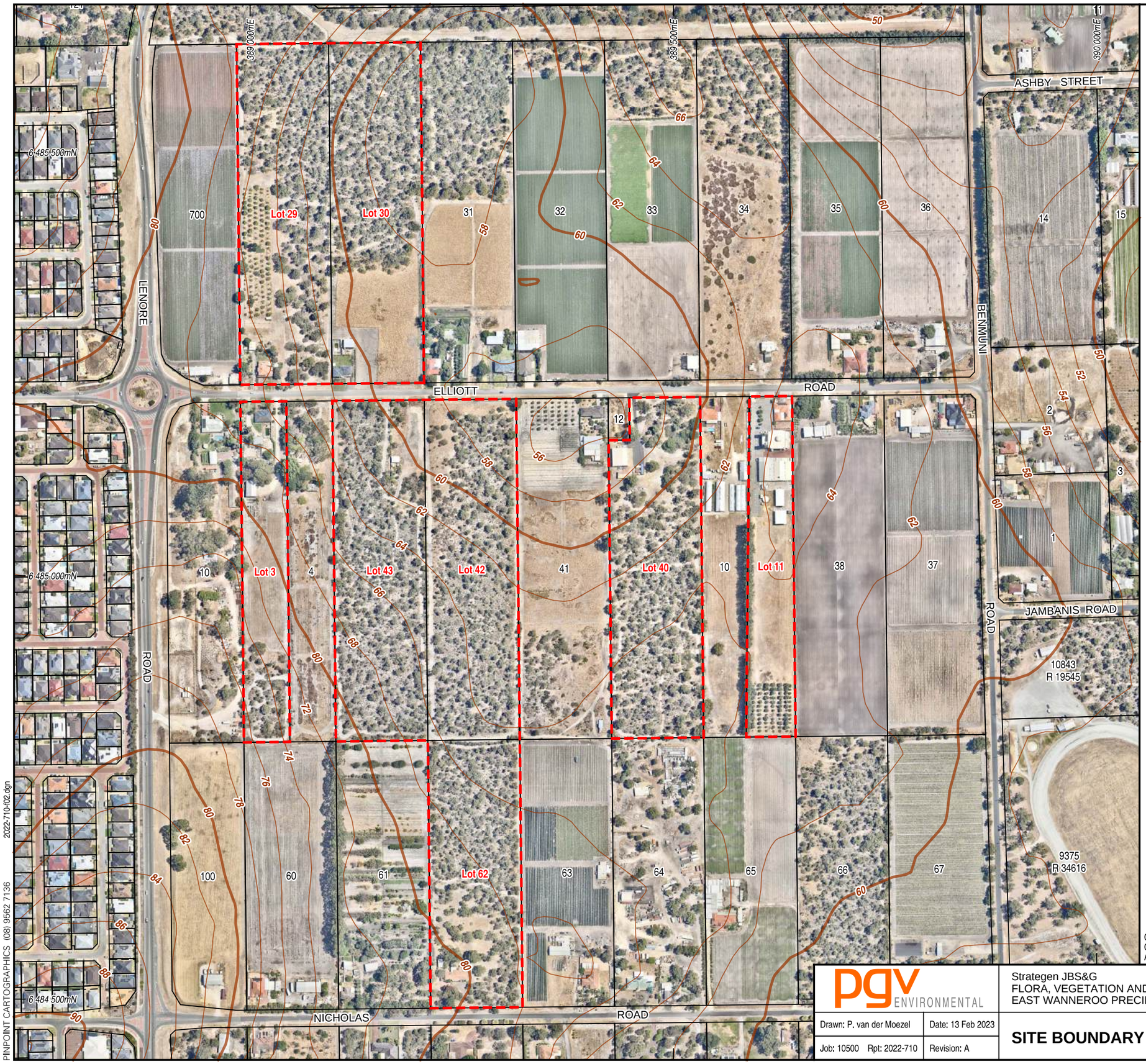
pgv ENVIRONMENTAL

Strategen JBS&G
FLORA, VEGETATION AND FAUNA SURVEY
EAST WANNEROO PRECINCT 3

Drawn: P. van der Moezel	Date: 13 Feb 2023
Job: 10500 Rpt: 2022-710	Revision: A

SITE LOCATION

Figure 1



N

0 50 100 150 200m

SCALE 1 : 4 500 at A3 (MGA)

Legend

- Site Boundary
- Cadastral Boundary
- Easement Boundary
- Topographic Contour

CONTOUR SOURCE: Dept. of Agriculture, 2000.
CADASTRAL SOURCE: Landgate, February 2023.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown January 2023.

PINPOINT CARTOGRAPHICS (08) 9562 7136 2022-710-f02.dgn

pgv ENVIRONMENTAL

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FLORA, VEGETATION AND FAUNA SURVEY
EAST WANNEROO PRECINCT 3

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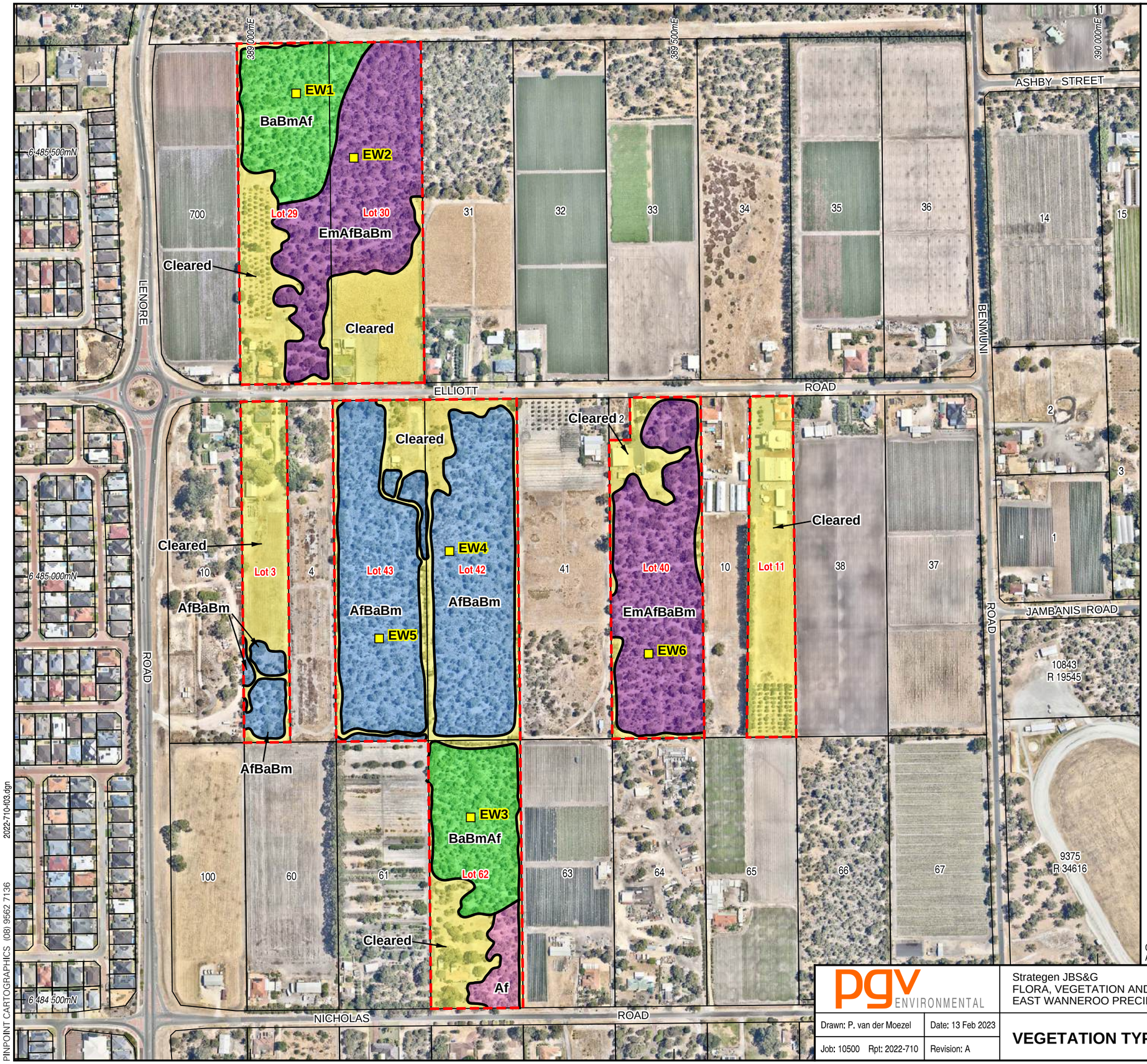
Job: 10500 Rpt: 2022-710 | Revision: A

SITE BOUNDARY AND TOPOGRAPHY

Figure 2



N

0 50 100 150 200m

SCALE 1 : 4 500 at A3 (MGA)

Legend

- Site Boundary
- Cadastral Boundary
- Easement Boundary
- Quadrat Location
- Vegetation Type Boundary
- **Af** Vegetation Type

Vegetation Types

BaBmAf
Banksia attenuata/B. menziesii/Allocasuarina fraseriana Low Open Woodland over *Hibbertia hypericoides* Open Low Heath

EmAfBaBm
Eucalyptus marginata/Allocasuarina fraseriana/Banksia menziesii/B. attenuata Low Open Woodland over *Calytrix fraseri/Xanthorrhoea preissii/Hibbertia hypericoides/Mesomelaena pseudostygia* Open Low Heath

AfBaBm
Allocasuarina fraseriana/Banksia attenuata/B. menziesii Low Open Woodland over *Calytrix fraseri/Hibbertia hypericoides/Lyginia barbata/Mesomelaena pseudostygia* Closed Low Heath

Af
Allocasuarina fraseriana Low Open Woodland over weeds

Cleared

CADASTRAL SOURCE: Landgate, February 2023.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown January 2023.

PINPOINT CARTOGRAPHICS (08) 9562 7136 2022-710-f03.dgn

pgv ENVIRONMENTAL

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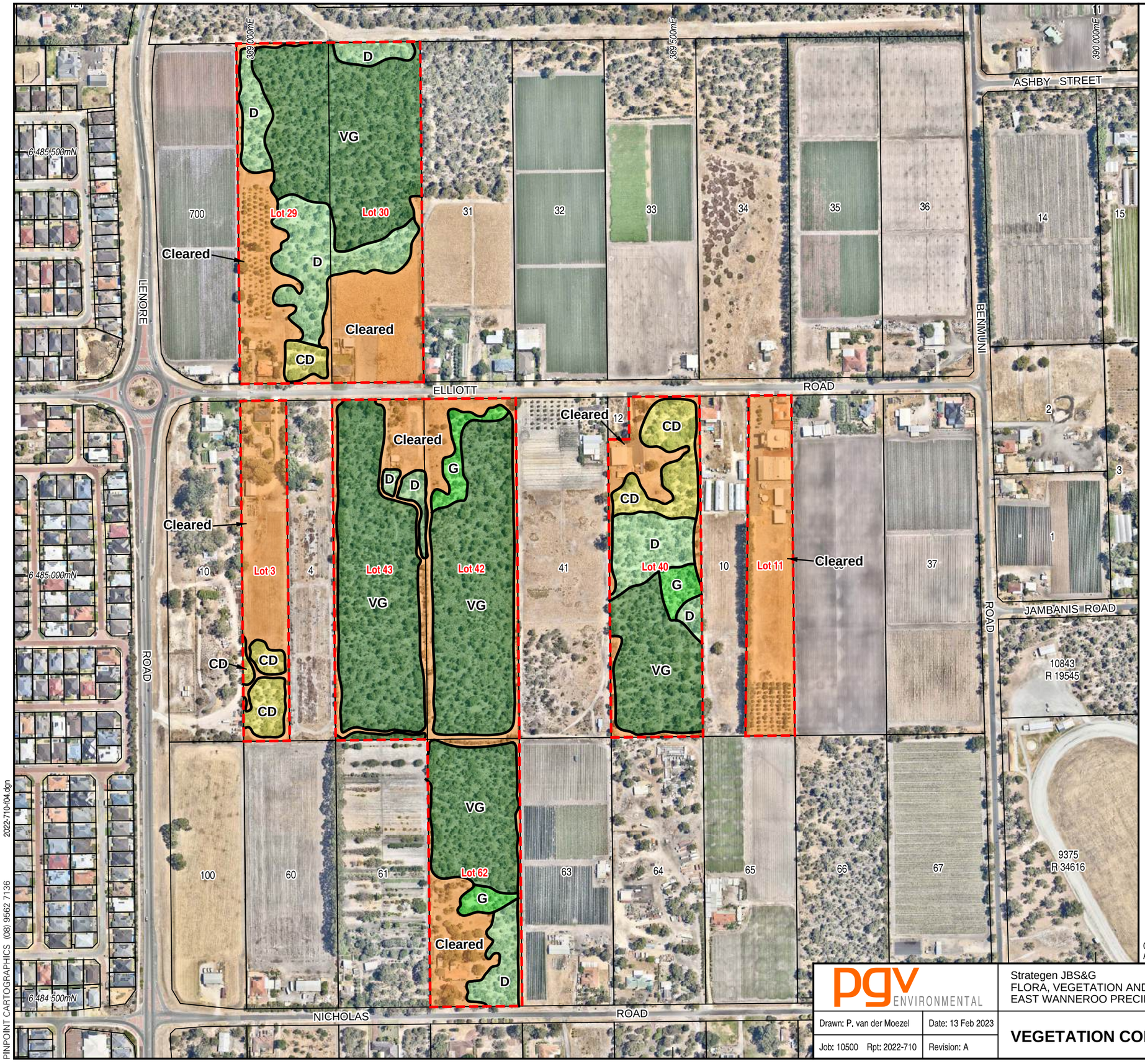
FLORA, VEGETATION AND FAUNA SURVEY
EAST WANNEROO PRECINCT 3

Drawn: P. van der Moezel | Date: 13 Feb 2023
Job: 10500 Rpt: 2022-710 | Revision: A

VEGETATION TYPES

Figure 3



N

0 50 100 150 200m

SCALE 1 : 4 500 at A3 (MGA)

Legend

- Site Boundary
- Cadastral Boundary
- Easement Boundary
- Quadrat Location
- Vegetation Condition Boundary
- VG Vegetation Condition

Vegetation Condition

- Very Good
- Good
- Degraded
- Completely Degraded
- Cleared

Vegetation Condition
(SOURCE: Bush Forever, Govt. of W.A., 2000)

P - Pristine
Pristine or nearly so, no obvious signs of disturbance.

Ex - Excellent
Vegetation structure intact, disturbance affecting individual species and weeds are non aggressive species.

VG - Very Good
Vegetation structure altered, obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.

G - Good
Vegetation structure significantly altered by very obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.

D - Degraded
Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.

CD - Completely Degraded
The structure of the vegetation is no longer intact and the areas is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora composing weed or crop species with isolated native trees or shrubs.

Cl - Cleared
No native vegetation remaining.

CADASTRAL SOURCE: Landgate, February 2023.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown January 2023.

PINPOINT CARTOGRAPHICS (08) 9562 7136 2022-710-f04.dgn

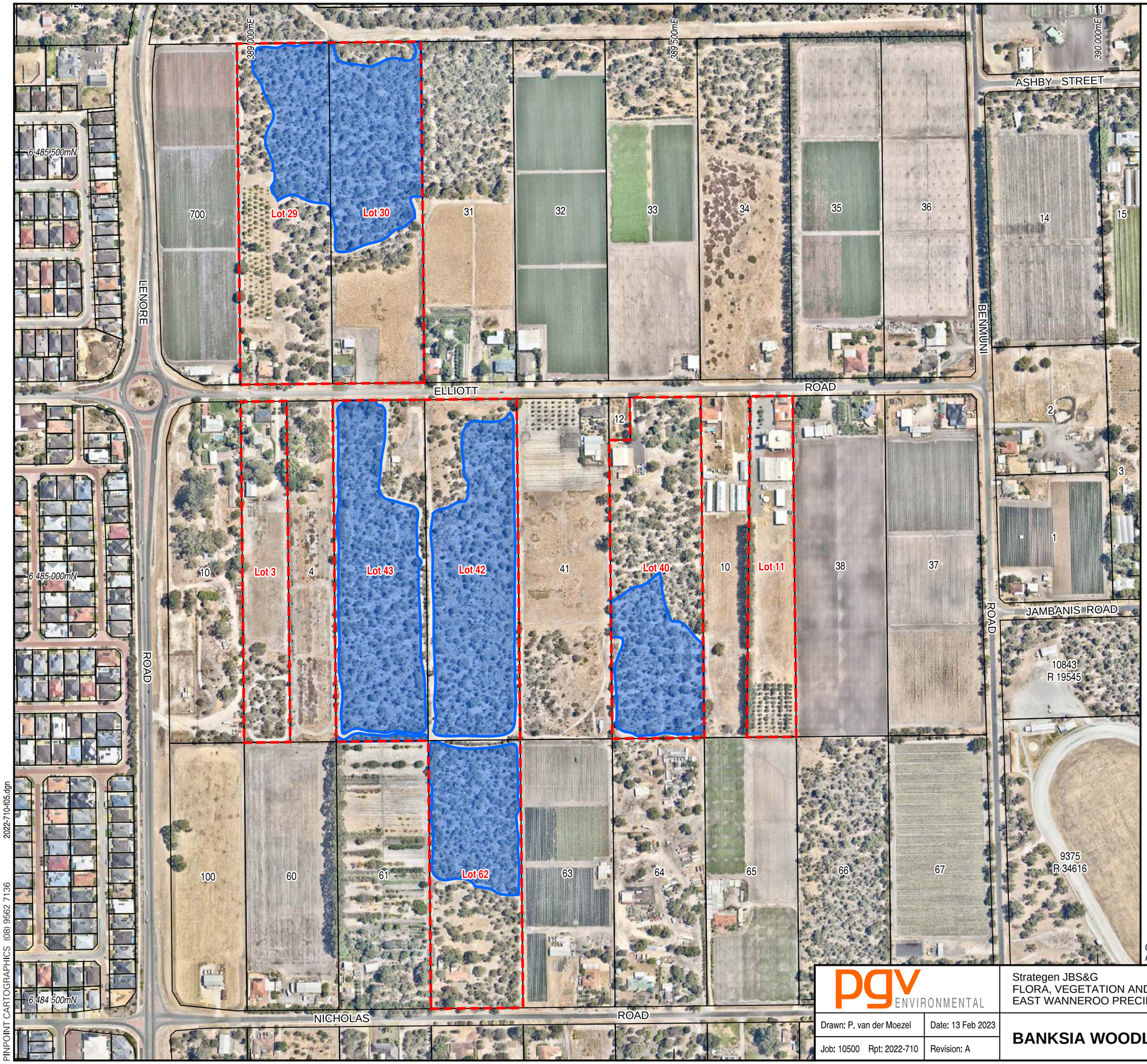
pgv ENVIRONMENTAL

Strategen JBS&G
FLORA, VEGETATION AND FAUNA SURVEY
EAST WANNEROO PRECINCT 3

Drawn: P. van der Moezel | Date: 13 Feb 2023
Job: 10500 Rpt: 2022-710 | Revision: A

VEGETATION CONDITION

Figure 4



N

0 50 100 150 200m

SCALE 1 : 4 500 at A3 (MGA)

Legend

- Site Boundary
- Cadastral Boundary
- Easement Boundary
- Banksia Woodland TEC

CADASTRAL SOURCE: Landgate, February 2023.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown January 2023.

PINPOINT CARTOGRAPHICS (08) 9562 7136 2022-710-I05.dgn

pgv ENVIRONMENTAL

Strategen JBS&G
FLORA, VEGETATION AND FAUNA SURVEY
EAST WANNEROO PRECINCT 3

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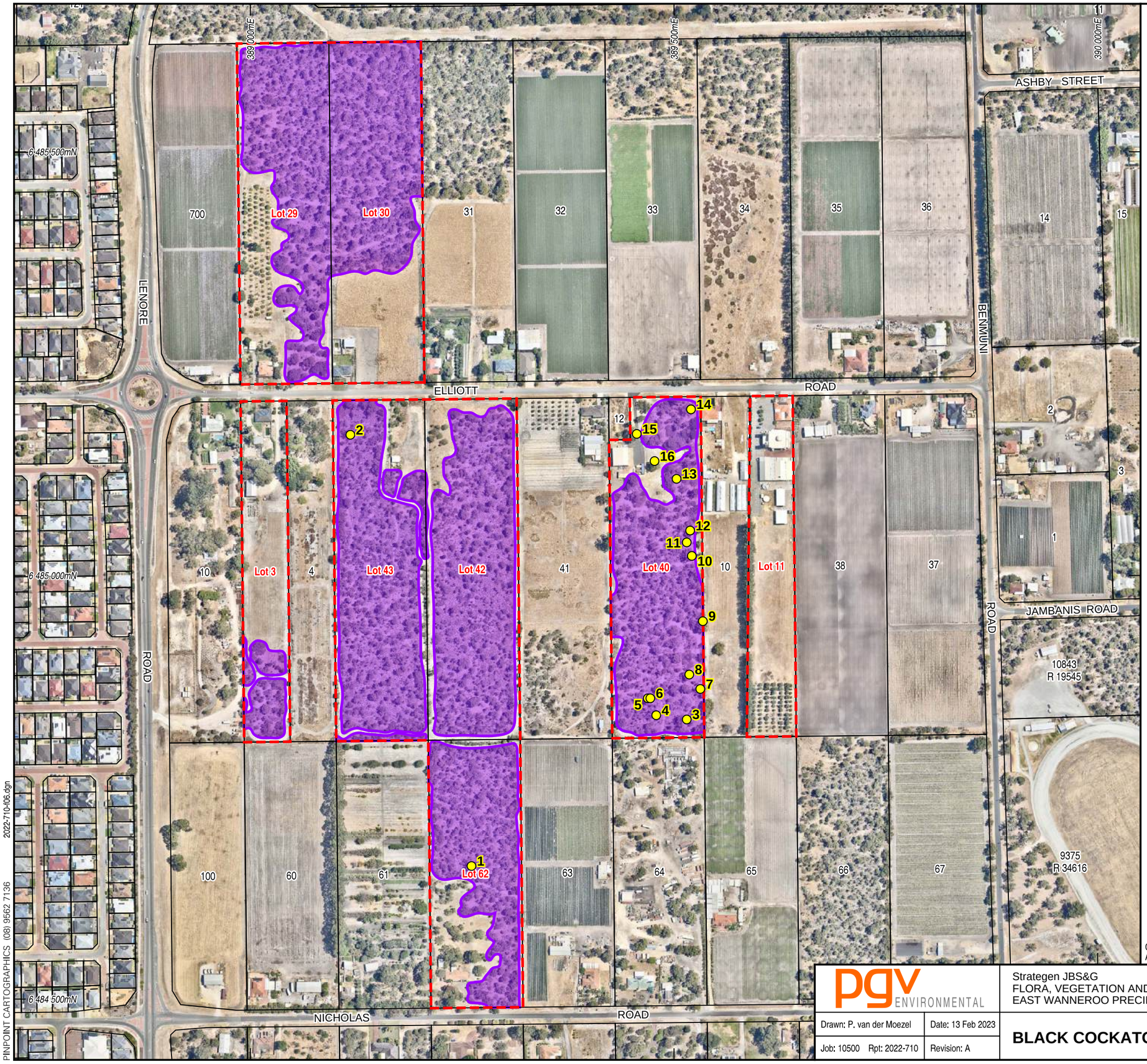
Job: 10500 Rpt: 2022-710 | Revision: A

BANKSIA WOODLAND TEC

Figure 5



N

0 50 100 150 200m

SCALE 1 : 4 500 at A3 (MGA)

Legend

- Site Boundary
- Cadastral Boundary
- Easement Boundary
- Black Cockatoo Habitat

Legend

- Jarrah (*Eucalyptus marginata*)
- 12 Tree Number

CADASTRAL SOURCE: Landgate, February 2023.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown January 2023.

PINPOINT CARTOGRAPHICS (08) 9562 7136 2022-710-I06.dgn

pgv ENVIRONMENTAL

Strategen JBS&G
FLORA, VEGETATION AND FAUNA SURVEY
EAST WANNEROO PRECINCT 3

Drawn: P. van der Moezel | Date: 13 Feb 2023
Job: 10500 Rpt: 2022-710 | Revision: A

BLACK COCKATOO HABITAT

Figure 6

N

0 1 2 3 4 5km

SCALE 1 : 90 000 at A3 (MGA)

Legend

- Site Boundary
- 12km Radius from Site
- Black Cockatoo Habitat - DBCA Manged Land (8,062ha)
- Black Cockatoo Habitat - Outside DBCA Managed Land (9,911ha)
- Confirmed Breeding Site
- Confirmed Roosting Site

COCKATOO HABITAT SOURCE: DBCA, August 2021.

pgv ENVIRONMENTAL

Strategen JBS&G
FLORA, VEGETATION AND FAUNA SURVEY
EAST WANNEROO PRECINCT 3

Drawn: P. van der Moezel | Date: 13 Feb 2023

Job: 10500 Rpt: 2022-710 | Revision: A

BLACK COCKATOO HABITAT CONTEXT PLAN

Figure 7

PINPOINT CARTOGRAPHICS (08) 9562 7136 2022-710-I07.dgn

APPENDIX 1

DBCA Flora Database Search Reports

Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Geo_Method	Precision	Date
5551323	3219	Acacia anomala	T	Grass-like, 0.5 m high. Multiple stems of grass-like shrub.	Hillside. Laterite.	Jarrah/Marri forest over scrub.			AUTO	3	//
8273553	3237	Acacia benthamii	2	Slender erect open shrub 70 cm high x 50 cm wide. In bud.	Slope above creek. Grey sand.	Degraded Tuart open woodland over Banksia low woodland.	scattered shrubs.		UNK	2	8/07/2007
8598320	3237	Acacia benthamii	2	Spindly shrub, 1 m high x 0.5 m wide.	Consolidated sand dune (Quindalup - Spearwood Dunes boundary). Light brown sand, leaf litter over Tamala Limestone. Area burnt > 5 years ago.	Woodland of Banksia menziesii, B. attenuata, Eucalyptus marginata, Allocasuarina fraseri (FCT 28). Associated species: Hibbertia hypericoides, Jacksonia sternbergiana, Opercularia vaginata, Orthrosanthus laxus var. laxus, Ricinocarpus glaucus, Schoenus c	2 plants only.		GPS	1	9/09/2013
920320	3237	Acacia benthamii	2						AUTO	3	23/09/1965
718297	3237	Acacia benthamii	2						AUTO	3	23/09/1965
7622090	3237	Acacia benthamii	2		Flat, sand.	Areas of degraded - modified remnant jarrah woodland and weed dominated areas.			UNK	2	22/11/2005
703656	3237	Acacia benthamii	2						MAN	0	/09/1975
169579	3237	Acacia benthamii	2		Sand.				MAN	1	/09/1901
8982627	3237	Acacia benthamii	2	Shrub, 1.3 m high.	Flat. Yellow brown sand.	Low open forest of Allocasuarina fraseriana, Banksia attenuata and B. menziesii over tall open shrubland of Xanthorrhoea preissii over low open heath of Hibbertia hypericoides and Acacia humilis over very open grassland/sedgeland of Mesomelaena pseudosty			GPS	1	12/10/2009
6843697	14129	Acacia oncinophylla subsp. oncinophylla	3	Single stemmed shrub to 1.8 m senescent.	On rocky clay.	With Hakea lissocarpha, Casuarina humilis.			UNK	3	3/09/1980
7132832	11336	Adenanthos cygnorum subsp. chamaephyton	3	Prostrate shrub 10 cm high x 1.5 m wide.	Swale. Grey sand.	Low woodland. Banksia attenuata, B. menziesii, Eucalyptus marginata subsp. thalassica.	population of 30 plants.		UNK	3	14/05/1999
8256136	18195	Amanita carneiphylla	3	Pileus up to 165 mm diameter, white, hemispheric when young applanate when mature, non-strate appendiculate margin, slightly viscid, no odour, context white, unchanging. Universal veil on the pileus: white, adnate, initially covering the whole pileus the	On Karrakatta sand. Emerging from deep sand.	Degraded Banksias woodland. Species of plants nearby: Jacksonia furcellata.	3 collected.	Microscopic character details housed with specimen. Gill piece taken for sequencing 27.1.13. - E. Davison.	UNK	3	15/06/2002
9388478	18195	Amanita carneiphylla	3	Pileus 50-59 mm diameter, 10-20 mm thick, white (dull grey cast), plane with shallow depression in centre, context white. Universal veil white, soft as woolly lumps. Lamellae pink (light flesh colour) 15-22 mm broad, adnate, lamellulae short, scattered,	Banksia woodland.	Tuart, Banksia, Jarrah.		Collection deeply rooted in open sandy track.	GPS	1	26/05/2020
8347352	43543	Amanita fibrillopes	3		In sand, with litter.	In degraded bushland, nearby Melaleuca preissiana.			GPS	1	18/06/2006
8776229	48332	Amanita preissii	3	Cap: 32 -59 mm, convex to planar, largest specimens have shallow central depressions. Surface dry, white to ochre/cinnamon with irregular flat scraps of universal veil over it, these are densest at the centres of the caps, but there are none on the large		Mixed introduced plants and grasses interspersed with gum trees.			TOPO	1	30/05/2010
8776237	48332	Amanita preissii	3	The cap was 71 mm in diameter and planar in shape. It was white in colour with pale cinnamon scurf to thin patches of universal veil over it. The cap margin was smooth and slightly appendiculate. The gills were succeeding to free, closely spaced with at	Growing in sandy soil.		single fruiting body.		TOPO	2	8/07/2007
7667485	48332	Amanita preissii	3	1. strong characteristic cauliflower odour; 2. pileus occasionally with light ochraceous-buff colour but dominantly white, white throughout certainly when young, light ochre-buff discolouration also occurring in context of stipe and bulb in age; context		Jarrah / Banksia woodland. Eucalyptus marginata, Banksia sp.		A diagnostic description provided by E.M. Davison is housed with this specimen.	TOPO	3	1/07/2001
7667493	48332	Amanita preissii	3	1. Conspicuous napiform bulb with marginate edge; 2. lamellar edges conspicuously white-fimbriate; 3. fruitbody white throughout except bulb with few ochracous or pale salmon stains; 4. spores elliptic, amyloid. Mode of Life: unknown Odour: strong caulif	Deeply in ground.	Jarrah / Banksia woodland. Eucalyptus calophylla, E. marginata, Banksia sp.	solitary.	A diagnostic description provided by E.M. Davison is housed with this specimen.	TOPO	3	1/07/2001

Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Geo_Method	Precision	Date
8497257	11957	Anigozanthos humilis subsp. chrysanthus	4	In flower.	Crest - upper slope with grey sand.	Associated species: Pinus pinaster, Eucalyptus todtiana, Adenanthos cygnorum, Nuytsia floribunda, Alexgeorgea nitens, Hibbertia subvaginata, Scholtzia involucrata.		Condition of population: healthy. Potential threats: mining.	GPS	1	16/09/2005
8772584	11957	Anigozanthos humilis subsp. chrysanthus	4	Perennial herb, 0.3 m high x 0.2 m wide. Flowers yellow.	Slope with white to grey sand. Underlying geology: Bassendean Dune System.	Eucalyptus todtiana isolated mid mallee trees over Banksia attenuata, Banksia menziesii and Nuytsia floribunda sparse low woodland over Verticordia nitens, Beaufortia elegans, Jacksonia floribunda.	2 plants.		GPS	1	24/09/2014
8772614	11957	Anigozanthos humilis subsp. chrysanthus	4	Perennial herb, 0.3 m high x 0.2 m wide. Flowers yellow.	Slope with white / grey / yellow sand. Underlying geology: Bassendean Dune System.	Banksia attenuata and Banksia menziesii low woodland to sparse low woodland over Calytrix fraseri (Ellenbrook form), Verticordia nitens and Beaufortia elegans sparse mid shrubland over Alexgeorgea nitens and Desmocladus flexuosus sparse low rushland.	2 plants.		GPS	1	24/09/2014
5166071	35317	Austrostipa mundula	3			Tuart woodland.			AUTO	4	/08/1963
8339988	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1	Shrubs to 1.6 m, the branches somewhat layered. Petals white. hypanthium reddish.	Sand over limestone.	Tuart woodland.	frequent.		GPS	1	27/12/2009
3378667	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1	Erect shrub ca 2 m high. Petals white, pink-tinged underneath, with a deep pink band across the base; sepals pink; centre green or yellow.	Growing in sand with outcropping limestone on the upper W slopes of a limestone hill.			Abundance: Only 2 plants.	MAN		27/06/1982
3378632	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1	Open shrub 1 m high. Flowers white.	Soil - sand (dry).				AUTO	3	9/12/1981
3378047	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1		Yellow sand over limestone sea cliffs.				AUTO	3	/12/1957
3378640	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1	Tall compact-straggly shrub, 2 m high. Flowers white.	Grey sand. Hill side.	Banksia woodland.			MAN		21/12/1981
5378826	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1			Banksia woodland with scattered jarrah and tuart, tuart woodland, paperbark woodland over ephemeral wetland, various shrublands.			MAN		5/03/1986
3416119	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1	Shrub 1.8-2 m high, flowers white.	Limestone.				AUTO	3	21/10/1970
5378834	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1			Banksia woodland with scattered jarrah and tuart, tuart woodland, paperbark woodland over ephemeral wetland, various shrublands.		B7.	MAN		10/02/1986
3378659	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1						AUTO	3	//1982
5378842	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1			Banksia woodland with scattered jarrah and tuart, tuart woodland, paperbark woodland over ephemeral wetland, various shrublands.	common in northern part of the reserve, especially in more open Tuart woodland.		MAN		/01/1986
3416089	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1						AUTO	3	/11/1901
9139419	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1	Upright shrub to 2 m. White flowers.	Flat, sandy soil. Limestone.	Vegetation dominated by Banskia sessilis and Baeckea sp.	extensive population, 2307 plants recorded.		GPS	1	26/09/2017
9139540	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1	Upright shrub to 2 m. White flowers.	Flat, sandy soil.	Banksia woodland.	7 plants.		GPS	1	28/09/2017
8443122	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1	Erect shrub 1 m high x 1 m wide.	Limestone outcrop/ridge. Yellow sand. Sand derived from Tamala Limestone - Spearwood Dune System. Limetone. Burnt 5+ years.	Heath thickets in good condition. Banksia sessilis var. cygnorum, Spyridium globulosum, Acacia rostellidera, Calothamnus quadrifidus, Melaleuca systena, Hibbertia hypericoides, Lechenaultia linarioides, Conostylis candicans subsp. candicans, Pelargonium	widespread on limestone, 100+ plants.		GPS	1	17/09/2012

Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Geo_Method	Precision	Date
9444432	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1	Multi-stemmed shrub at base to 2.5 m tall and up to 3 m wide along leaning stems. Pale pink to white flowers.	Mid-slope with NW aspect, well drained yellow sand, limestone at depth.	Open Tall Shrubland of Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425), Banksia sessilis, Jacksonia sternbergiana and Xanthorrhoea preissii over Open Shrubland of Hibbertia hypericoides, Phyllanthus calycinus, Diplolaena angustifolia, Banksia dallann	3440 extrapolated.	Juveniles were present. This is an old population, with many plants having large stems fallen and still growing. Adventitious buds are producing new plants. There are two separate patches of plants ca. 230 m apart.	GPS	1	28/10/2021
9444424	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1	Multi-stemmed shrub at base to 3 m tall and spreading from leaning stems along the ground ca. 5 m x 10 m. Pale pink to white flowers.	Upper slope gentle. Brown well-drained sand over limestone.	Occasional Eucalyptus gomphocephala over Low Open Forest of Eucalyptus marginata, Banksia attenuata, B. prionotes over Shrubland of Banksia sessilis, Xanthorrhoea preissii, Macrozamia riedlei, Hakea prostrata, Acacia pulchella, Leucopogon parviflorus ove	84 mature plants.	There are several patches of plants within the northern half of the bushland.	GPS	1	22/10/2021
9444416	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1	Multi-stemmed shrub at base to 3 m tall and spreading from leaning stems along the ground ca. 10 m x 10 m. Pale pink to white flowers.	Mid to Upper slope, yellow well-drained sand over limestone.	Open Woodland of Banksia attenuata, B. prionotes, B. sessilis over Open Heath of Calothamnus quadrifidus, Allocasuarina humilis, Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425), Macrozamia riedlei, Acacia pulchella over Low Shrubland of Grevillea cri	53 mature plants.		GPS	1	11/10/2021
1059203	34236	Beyeria cinerea subsp. cinerea	3	Shrub, open, 40/70 cm x 50/60 cm, flowers green-yellow.	Hilltop, sand over limestone.	Acacia xanthina shrubland.		Common.	MAN	3	29/11/1987
2434393	48689	Bolboschoenus fluviatilis	1		On bank of river in mud.				AUTO	3	20/01/1954
8210179	48689	Bolboschoenus fluviatilis	1	Perennial erect rhizomatous herb 2.0 m high x 0.6 m wide. Brown flowers.	Hillside/seep. Grey wet sand. Collection site: reserve.	Tall trees. With Lantana sp., Eucalyptus rudis.	6-20 plants. Area: 1-10 m squared.		GPS	1	20/11/2008
255947	1596	Caladenia huegelii	T						MAN	3	19/09/1945
6053297	1596	Caladenia huegelii	T	Orchid 0.6 m high x 0.1 m wide.	Plain. Organic litter, grey sand over sand.	Low Forest A. Banksia menziesii, B. attenuata.	occasional.		MAN	3	4/09/2000
9312358	51048	Calandrinia sp. Bayswater (C. Andrews s.n. 11/1902)	1						MAN	3	/11/1902
8008213	45757	Calectasia elegans	2	Small compact shrub to 30 cm high and 30 cm wide. mature fruit present.	Flat to gentle slope. Grey sand.	With Banksia attenuata, Banksia menziesii, Stirlingia latifolia.			GPS	1	11/12/2008
8617767	45757	Calectasia elegans	2	Erect perennial subshrub to c. 45 cm high. Typical purple flower with red anthers; stilt roots present; plants in full flower.	Flat plain with deep grey sand. Long unburnt area.	Low Banksia woodland with moderately dense vegetation. Associated species: Banksia spp., Stirlingia latifolia, Melaleuca spp., Eremaea spp., Hibbertia spp., Leucopogon spp.	several populations in this vicinity of 2 or 3 plants.		GPS	1	16/09/2008
8617740	45757	Calectasia elegans	2	Erect perennial subshrub to c. 45 cm high. Typical purple flower with red anthers; stilt roots present; plants in full flower.	Flat plain with deep grey sand. Long unburnt area.	Low Banksia woodland with moderately dense vegetation. Associated species: Banksia spp., Stirlingia latifolia, Melaleuca spp., Eremaea spp., Hibbertia spp., Leucopogon spp.	several populations in this vicinity of 2 or 3 plants.		GPS	1	16/09/2008
8008140	45757	Calectasia elegans	2	Small shrub.	Grey sand.	Associated species: Adenanthos cygnorum subsp. cygnorum, Jacksonia floribunda to 2.5 m, 20% cover, Beaufortia elegans to 1.7 m, 15% cover, Eremaea pauciflora subsp. pauciflora, Leucopogon conostephoides, Nuytsia floribunda to 0.9 m, 10% cover.	uncommon.		GPS	1	11/09/2008
8008132	45757	Calectasia elegans	2	Small shrub.	Grey sand.	Associated species: Banksia attenuata, Nuytsia floribunda to 5 m, 10% cover, Jacksonia floribunda, Adenanthos cygnorum subsp. cygnorum to 1.6 m, 5% cover, Verticordia nitens to 1.5 m, 2% cover.	uncommon.		GPS	1	11/09/2008
7215363	45757	Calectasia elegans	2	Herbaceous perennial shrub ca 40 cm x 50 cm in height with multiples stems and stilted roots. Flowers blue and fading to white.	On gentle slope above dampland, deep grey quartz sand. Last fire ca 20-30 years ago.	Banksia menziesii - Banksia attenuata - Banksia woodland (30-50% cover < 6m in height) over Regelia inops (2-10% cover <1.2 m in height) mixed low shrubs (10- 30% cover <0.5 m in height) rushes, sedges, perennial monocots (10-30%) and herbs-grasses (2-10	only two plants found.		GPS	1	8/11/2005
5392977	759	Carex tereticaulis	3	Grass like herb 1 m high x 0.1 m wide.	Watercourse, wet. Organic litter. Grey Bassendean Sand over sand.	Dense Forest. Eucalyptus rudis, Melaleuca rhaphiophylla.	occasional.		MAN		17/05/1999
2052121	1425	Conostylis bracteata	3	Loosely tufted herb, leaves in flattened fascicles, margins with white appressed to spreading plumose hairs.	Swale in undulating consolidated dunes, some outcropping limestone.	In coastal scrub of Dryandra sessilis, Acacia saligna, A. xanthina, Xanthorrhoea preissii, Banksia attenuata, Melaleuca acerosa.			AUTO	3	16/08/1986

Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Geo_Method	Precision	Date
2052091	1425	Conostylis bracteata	3	Proliferous herb, leaves with hirsute, not spinescent margins.	On steep slope of consolidated sand dune.	Overlooking Blackboy Reserve, Acacia saligna scrub over dense low heath to 1m, on fringes of remnant tuart (Eucalyptus gomphocephala) woodland. Associated species include Xanthorrhoea and Banksia attenuata.			MAN		29/03/1986
5931436	1425	Conostylis bracteata	3		Top of sand dune.				MAN	3	19/11/1962
8755388	1425	Conostylis bracteata	3	Tufted herb to 20 cm tall. Flowers yellow. Plants flowering at the time of collection. Leaves arranged into flattened, broadly fan-like clusters. The leaf margins glabrescent.	Grey sand, on mid-slope.	Acacia rostellifera and Melaleuca systena mid shrubland. Lomandra maritima low open herbs.	1 mature plant.	Project: 3536.	GPS	1	4/11/2015
5305691	1425	Conostylis bracteata	3	Perennial herb, flowers yellow.	Plain near lake. Grey sand.	Jarrah with Banksia attenuata, B. menziesii, Burchardia congesta, Hibbertia hypericoides, Acacia spp., Ehrharta calycina.	occasional.		MAN		6/11/1997
1744321	1425	Conostylis bracteata	3	Loosely tufted herb to 80 cm diameter; leaf margins with white plumose appressed hairs <1 mm long; perianth 10-12 mm long, pale yellowish green outside, golden yellow inside tube, lobes cream inside, becoming golden yellow at base and near apex, conspicu	E slopes of a consolidated sand dune.	Low heath of Acanthocarpus preissii, Acacia lasiocarpa.		Rendered extinct by housing development on August 17.	MAN		16/08/1986
256935	13826	Cyanicula ixioides subsp. ixioides	4						MAN	3	/09/1913
4096711	16245	Cyathochaeta teretifolia	3						AUTO	3	6/12/1902
8122342	16245	Cyathochaeta teretifolia	3		Sandy loam.	Melaleuca preissania to 7.0 m, 10% cover, over Xanthorrhoea preissii, Banksia ilicifolia to 5.0 m, 20% cover, over Pultenaea reticulata, Astatea scoparia to 1.8 m, 10% cover, over Hypocalymma angustifolium to 0.7 m, 10% cover, over Mixed to 0.2 m, 10% co			GPS	1	26/10/2008
7704682	16245	Cyathochaeta teretifolia	3	Sedge up to 1.5 m.	Flat site. Dark brown loam with poor drainage. Ground wet all year. 90 % litter coverage. Pools of water up to 40 cm deep.	Melaleuca preissiana open forest over Astartea scopania tall open scrub over a Lepidosperma effusum and Meeboldina sp. sedgeland.	one plant.		GPS	1	13/11/2007
4219260	16245	Cyathochaeta teretifolia	3	Rhizomatous sedge, clumped 1.5 m high.	Seasonal creek line.	Low open forest of Melaleuca preissiana. Growing with Astartea fascicularis, Agonis linearifolia, Viminaria juncea.	common locally.	(DPU 003)	MAN		3/08/1995
4097394	16245	Cyathochaeta teretifolia	3	Perennial herb up to 2 m tall, clumped.	On grey sandy clay on seasonally wet slope beside permanent lake.	In Melaleuca preissiana and Eucalyptus rudis Open Low Woodland A over Aotus gracillima and Astartea aff. fascicularis Heath A over Herbs, Very Open Tall Sedges and Open Low Sedges.			MAN		//
2076802	16245	Cyathochaeta teretifolia	3	Tall grass like plant 1 m high.	In peat swamp.				MAN		7/02/1980
4654773	16245	Cyathochaeta teretifolia	3	Perennial herb up to 2 m tall, clumped.	On grey sandy clay on seasonally wet slope beside permanent lake.	In Melaleuca preissiana and Eucalyptus rudis Open Low Woodland A over Aotus gracillima and Astartea aff. fascicularis Heath A over Herbs, Very Open Tall Sedges and Open Low Sedges.			MAN		//
6529887	16245	Cyathochaeta teretifolia	3	Sedge, 0.6-1.6 m.	Lower part of floor of dampland complex.	Melaleuca preissiana, Banksia littoralis low open woodland over Melaleuca teretifolia high open shrubland over Melaleuca lateralis, Astartea aff. fascicularis shrubland to heath over Lepidosperma longitudinale, Baumea rubiginosa dense sedgeland. Dominant			GPS	1	21/08/1999
6570240	16245	Cyathochaeta teretifolia	3	Tufted perennial herb to 1.5 m.	Edge of seasonal wetland, gentle slope, north aspect, dark brown loam over red sand with limestone, well drained.	Associated species: Eucalyptus calophylla.			GPS	1	3/11/1995
6527930	16245	Cyathochaeta teretifolia	3	Sedge.	Site description: gently sloping to flat area.	Melaleuca preissiana, Banksia littoralis, low woodland to low open forest (patchy) over Pericalymma ellipticum var. ellipticum heath to closed heath over sedges.			GPS	1	6/09/1999
6427774	16245	Cyathochaeta teretifolia	3	Tufted perennial herb, flowers straw colour.	Damp margin of lake, flat ground, grey sand with clay, poor drainage, wet during winter/spring.	Open Low Woodland A. Associated species: Melaleuca preissiana, Eucalyptus rudis.			GPS	1	27/10/1994

Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Geo_Method	Precision	Date
6527914	16245	Cyathochaeta teretifolia	3	Sedge.	Site description: a thin strip at a change in slope where there has probably been seepage. Soil: has a deep humus layer.	Corymbia calophylla over Agonis linearifolia high open shrubland over Xanthorrhoea preissii open shrubland. Zantedeschia aethiopica (young) established here.			MAN	2	28/09/1999
6808077	16245	Cyathochaeta teretifolia	3	Grass like or sedge.		Low forest, Melaleuca preissiana, Astartea fascicularis, Hypocalymma angustifolium, Banksia littoralis.			MAN	3	2/12/2002
4098374	16245	Cyathochaeta teretifolia	3	Perennial herb up to 2 m tall, clumped.	On grey sandy clay on seasonally wet slope beside permanent lake.	In Melaleuca preissiana and Eucalyptus rudis Open Low Woodland A over Aotus gracillima and Astartea aff. fascicularis Heath A over Herbs, Very Open Tall Sedges and Open Low Sedges.			MAN		//
1030507	16245	Cyathochaeta teretifolia	3		Swamp.	Habitat of Gahnia.			AUTO	3	/12/1901
2554658	7485	Dampiera triloba	3						AUTO	3	/10/1900
2554631	7485	Dampiera triloba	3						AUTO	3	06/12/1899
2554682	7485	Dampiera triloba	3						AUTO	3	/10/1945
8138869	7485	Dampiera triloba	3	Erect perennial.	Loamy sand.	Melaleuca preissiana, Corymbia calophylla to 9 m, 5% cover, astartea scoparia to 2.1 m, 25% cover, Hypocalymma angustifolia to 1 m, 40% cover, Patersonia occidentalis, Hypochaeris glabra, Trachymene pilosa to 0.7 m, 10% cover, Lepidosperma striatum to 1.			GPS	1	28/09/2008
8190518	7485	Dampiera triloba	3		Loamy sand.	Melaleuca priessiana, Corymbia calophylla to 9.0 m, 5% cover, over Astartea scoparia to 2.1 m, 25% cover, over Hypocalymma angustifolia to 1.0 m, 40% cover, over Patersonia occidentalis, Hypochaeris glabra, Trachymene pilosa to 0.7 m, 10% cover, Lepidosp			GPS	1	24/09/2009
8429227	34773	Darwinia foetida	T	Low, spreading shrubs to 0.6m x 1m, the leaves somewhat glaucous. Inflorescences inclined to nodding; bracts glaucous green tinged pinkish.	Moist flat; dark grey sand.	Melaleuca raphiophylla, Hypocalymma angustifolia, Acacia pulchella shrubland beneath marri, with invasion by blackberry, brazilian peppertrees, weedy grasses.	frequent - hundreds of plants.		GPS	1	24/10/2010
7887442	34773	Darwinia foetida	T	Perennial, prostrate compact shrub 0.5 m high x 0.5 m wide.	Palusplain Multiple Use Wetland. Grey black soil. Burnt Spring 2006.	Corymbia calophylla, Melaleuca rhaphiophylla, Hypocalymma angustifolium.	21-50 plants (25 alive, 22 dead)	Percentage of population in fruit 30%.	GPS	1	9/03/2007
1026712	5523	Darwinia pimelioides	4						MAN	3	//
1026747	5523	Darwinia pimelioides	4	Small shrub; spreading 8" - 12" tall; bracts pale green, uniform in colour.					MAN	3	23/10/1959
1026704	5523	Darwinia pimelioides	4						MAN	3	30/08/1930
9016031	10796	Diuris drummondii	T		Swamp.				MAN	3	/12/1901
2386372	3115	Drosera occidentalis	4		Clayey sand soils.				AUTO	3	22/10/1987
9392831	31233	Drosera patens	1	Rosetted perennial herb, ca. 1-2 cm in diameter, 3-5 cm in height. Petioles bronze-green, lamina orange. Flowers white. Styles 3 or rarely 4, stigmas reniform, deep red. Pollen orange.	Edge of small swamp. Wet peaty white sand.		common in area.		GPS	1	30/11/2020
9251553	31233	Drosera patens	1	Rosetted perennial herb to 0.03 m. White flowers with reddish sepals and red anthers.	In drainage depression on edge of walking track in moist fine loamy sand, seasonally wet.	Open shrubland of Astartea ?affinis, Eutaxia virgata, Pericalymma ellipticum, Hypocalymma angustifolium over sedgeland of Leptocarpus ?scariosus and Schoenus subfascicularis. Associated species include Thysanotus multiflorus, Ornduffia albiflora, Melaleu	500+ plants.		GPS	1	7/01/2020
9251596	31233	Drosera patens	1	Rosetted perennial herb to 0.03 m. White flowers with reddish sepals and red anthers.	In drainage depression on edge of walking track in moist fine loamy sand, seasonally wet.	Open shrubland of Astartea ?affinis, Eutaxia virgata, Pericalymma ellipticum, Hypocalymma angustifolium over sedgeland of Leptocarpus ?scariosus and Schoenus subfascicularis. Associated species include Thysanotus multiflorus, Ornduffia albiflora, Melaleu	500+ plants in a linear 0.5 m x 5 m area.		GPS	1	7/01/2020
7881274	31233	Drosera patens	1	Fibrous rooted perennial herb with a solitary, compact leafy rosette, 1.8-2.5 cm diam.	On the margin of swamps, lakes and winter wet depression in sandy soils.				TOPO	2	17/01/1998
7881312	31233	Drosera patens	1						TOPO	2	19/11/1991
7881282	31233	Drosera patens	1						TOPO	2	31/01/1992
7579152	30712	Drosera x sidjamesii	1						TOPO	2	17/01/1998

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9392858	30712	Drosera x sidjamesii	1	Rosetted perennial herb, ca. 2-3 cm in diameter, 6-8 cm in height. Petioles bronze-green, lamina orange. Flowers white or very light pink. Styles 3-5, white, stigmas clavate and often curved, deep red. Pollen orange.	Edge of small swamp. Wet peaty white sand.		very common in area, plants forming dense colonies around swamp margin.		GPS	1	30/11/2020
8723303	30712	Drosera x sidjamesii	1		Grows on the northern margins of lake.				TOPO	2	5/02/1985
9251537	30712	Drosera x sidjamesii	1	Rosetted perennial herb to 0.06 m. Long scape with +/- 9 flowers per scape. White petals (to translucent pink).	In drainage depression on edge of walking track in moist fine loamy sand, seasonally wet.	Sedgeland of Leptocarpus ?scariosus, Schoenus subfascicularis with few Astartea ?affinis, Hypocalymma angustifolium.	50+ plants.		GPS	1	7/01/2020
7881517	30712	Drosera x sidjamesii	1	A natural hybrid, firbous rooted perennial herb.	On margins of swamps, lakes and winter wet depressions in sandy soil.				TOPO	2	31/03/1992
7881533	30712	Drosera x sidjamesii	1						TOPO	2	17/01/1998
7579101	30712	Drosera x sidjamesii	1						TOPO	2	4/12/1984
7881525	30712	Drosera x sidjamesii	1						TOPO	2	4/12/1984
6512372	17605	Eleocharis keigheryi	T	Erect annually renewed sedge; flowers green.	Sumpland (claypan); clay grey/brown.	Sedges.	abundant in deepest area of claypan, in mown area of airfield.		GPS	1	20/09/1994
7782020	17605	Eleocharis keigheryi	T	Clumping grass-like sedge with height to 50 cm. Flowers green.	Seasonally inundated claypans with grey to brown clay.	Transitions from open clay pans comprised excusively of of E. keigheryi to vegetated clay pans. Melaleuca spp., Verticordia sp. Chorizandra enodis, herbs, Avena fatua and Briza maxima.	frequent.	Plants are located in seasonally inundated claypans scattered throughout S portion of reserve.	GPS	1	9/11/2007
7782047	17605	Eleocharis keigheryi	T	Clumping grasslike sedge, green with yellow hairs. Height 20 - 30 cm.	Claypan with brown clay. Found in open water ponds.	Chorizandra enodis. Trees and shrubs 1-2 m.			GPS	1	12/10/2007
7782039	17605	Eleocharis keigheryi	T	Clumping grass-like sedge to about 40 cm high. Green flowers with yellow hairs.	Seasonally inundated clay pan with brown clay.	Cotula coronopifolia, Triglochin sp., sedges and weed spp.	abundant in deepest section of claypan.		GPS	1	17/09/2007
2266865	17605	Eleocharis keigheryi	T	Tufted perennial herb, flowers inconspicuous.	Clay soil, under 6 inches water, dries in summer.		common.		MAN		19/10/1978
6512283	41801	Eryngium pinnatifidum subsp. Palustre (G.J. Keighery 13459)	3	Erect annually renewed herb; flowers green/white/purple.	Dampland; grey sand.	Melaleuca shrubland.	locally common.		GPS	1	3/11/1995
1123661	13091	Eucalyptus argutifolia	T		ESE aspect. Lower ridgetop slope. Sheet sand/brown boulder. Completely open to treeless site.	Melaleuca huegelii, Xanthorrhoea preissii, Dryandra sessilis/nivea, Hakea trifurcata, Hibbertia hypericoides, Native wisteria.			MAN	2	6/08/1990
4110544	13091	Eucalyptus argutifolia	T	Mallee to 3 m.	Dune slope, grey sand over limestone.	Mallee, Eucalyptus petrensis over heath.	rare in area.		AUTO	3	22/04/1991
9139524	13091	Eucalyptus argutifolia	T	Mallee to 2 m high.	At the base of a limestone ridge. Grey sand.		ca. 6 plants.		GPS	1	7/11/2017
2160765	13091	Eucalyptus argutifolia	T		Slight gully situation nestles between two limestone ridges. Sand/boulder/brown/ yellow/dry/limestone.	Completely open and treeless with dense scrubland. Dryandra's nivea/ sessilus, Hakea trifurcata, Melaleuca huegelii, Blackboys (Xanthorrhoea preissii), Templetonia retusa.	32 clumps.		MAN		15/11/1991
2117223	13091	Eucalyptus argutifolia	T		Slight gully situation nestled between two limestone ridges. Limestone/boulder/ sand/brown/yellow/dry.	Completely open & treeless with dense scrubland. Dryandra's nivea/ sessilus, Hakea trifurcata, Melaleuca huegelii, Blackboys (Xanthorrhoea preissii), Templetonia retusa.	32 clumps, undisturbed.		MAN		15/11/1991
8153302	13091	Eucalyptus argutifolia	T	Mallee to 2.5 m. Flowers white.	Slight slope/ridge. Grey/white sand over limestone.	With Acacia cyclops, Hakea prostrata, Lomandra maritima, rhagodia baccata, Spyridium globulosum.			GPS	1	8/01/2009
8153310	13091	Eucalyptus argutifolia	T	Mallee to 2.5 m. Flowers white.	Slight slope/ridge. Grey/white sand over limestone.	With Acacia cyclops, Hakea prostrata, Lomandra maritima, rhagodia baccata, Spyridium globulosum.			GPS	1	8/01/2009
4110536	50737	Eucalyptus foecunda subsp. foecunda	4	Mallee to 2 m. In bud.	On low limestone ridge. Shallow sand over limestone.		abundant and dominant.		AUTO	3	22/04/1991
1176412	50737	Eucalyptus foecunda subsp. foecunda	4	Mallee to 5 m tall, bark rough, flowers white.	Slopes of hill high in the landscape.	Limestone heath with Eucalyptus falcata and E. decipiens at foot of N side of hill.			MAN	3	24/02/1987
1153900	50737	Eucalyptus foecunda subsp. foecunda	4	Mallee to < 3 m, grey bark rough at base, smooth above. Buds and branchlets yellow-orange.	On limestone/sand,	Dryandra sessilis, Grevillea thelemanniana, Hakea trifurcata.			MAN	2	6/07/1988
1153919	50737	Eucalyptus foecunda subsp. foecunda	4	Mallee to < 3 m, grey bark rough at base, smooth above. Buds and branchlets yellow-orange.	On limestone/sand,	Dryandra sessilis, Grevillea thelemanniana, Hakea trifurcata.			MAN	2	6/07/1988
1145428	50737	Eucalyptus foecunda subsp. foecunda	4						MAN	3	25/04/1960
1145436	50737	Eucalyptus foecunda subsp. foecunda	4						MAN	3	25/04/1960

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8339678	50737	Eucalyptus foecunda subsp. foecunda	4	Mallee to 5 m, forming a large clump to 10 m diam. Bark thin, rough at base.	Sandy soil over outcropping limestone.	With Eucalyptus decipiens, E. gomphocephala.	infrequent.		GPS	1	23/05/2010
1145002	50737	Eucalyptus foecunda subsp. foecunda	4	Mallee 6 - 7 ft.	Sandy soil.				MAN	3	26/07/1953
1192558	50737	Eucalyptus foecunda subsp. foecunda	4	Smooth barked mallee to 2 m x 2 m.	Grey sand over limestone, hilltop.	Low limestone heath.	rare.		AUTO	3	30/05/1990
1144987	50737	Eucalyptus foecunda subsp. foecunda	4		Limestone soil.				MAN	3	28/01/1954
4919009	50737	Eucalyptus foecunda subsp. foecunda	4	Mallee 7 ft high, flowers white.	Fixed dunes, near the crests, ca .75 miles inland.				AUTO	3	26/07/1953
1155458	50737	Eucalyptus foecunda subsp. foecunda	4		In limestone soil.				MAN	3	28/01/1954
1138650	50737	Eucalyptus foecunda subsp. foecunda	4	Mallee to 1 m with thin grey bark at base.	On sand over limestone.	E. decipiens and E. aff. falcata.			MAN	2	18/08/1988
3704351	50737	Eucalyptus foecunda subsp. foecunda	4	Mallee 2.5 m tall with smooth, light grey stem.	On E side of dune.	With Eucalyptus gomphocephala nearby.			AUTO	3	16/10/1983
1144235	50737	Eucalyptus foecunda subsp. foecunda	4		Sand over limestone.	In shrubland with E. petrensis.			MAN	2	2/07/1989
1144367	50737	Eucalyptus foecunda subsp. foecunda	4	Mallee 3 m tall, bark rough, dark grey.	White sand dune over massive limestone.				TOPO	2	11/12/1984
1153870	50737	Eucalyptus foecunda subsp. foecunda	4	Mallee 2.5 m tall with smooth, light grey stems.	Growing on E side of dune.	E. gomphocephala nearby.			MAN		16/10/1983
8076626	20162	Fabronia hampeana	2		Private property in depression between limestone outcrops with yellow sand. Potential threat by urban development. Last burnt summer 2001.	Banksia low open woodland with occasional Eucalyptus decipiens, Macrozamia riedlei, Acacia rostellifera and Hypocalymma angustifolium.		Condition of population: Healthy.	GPS	1	12/01/2009
9248811	20162	Fabronia hampeana	2	Moss on Macrozamia riedlei trunks.	Lower dune. Dry pale grey sand.	Woodland of Banksia attenuata with Xanthorrhoea preissii, Mesomelaena pseudostygia, Hakea trifurcata and occasional Macrozamia.		The stems of Macrozamia needed to be well developed and the fronds large to provide shade.	GPS	1	10/06/2015
5939658	20162	Fabronia hampeana	2	Fertile moss.	On trunk of Macrozamia.	Emergent large Banksia over Macrozamia, Hibbertia, Xanthorrhoea, grasses, weeds and thick Dryandra regrowth.			MAN	3	14/09/1994
6512836	1984	Grevillea curviloba	T	Spreading shrub to 1 m.	Edge of seasonal wetland, gentle slope, N aspect. Dark brown loam over red sand with limestone, well drained.	Associated species: Eucalyptus calophylla.			GPS	1	3/11/1995
2415887	1984	Grevillea curviloba	T						AUTO	3	14/08/1900
2415925	1984	Grevillea curviloba	T	Shrub 1.5 - 1.8 m with white flowers and pinnate leaves.	In sand.				AUTO	3	5/10/1972
5492963	1984	Grevillea curviloba	T	Woody shrub to 3 m high. Erect branches. Mid pale green leaves, cream flowers.	Flat, near shallow seasonal creekline. Grey sand.	Shrubland/Sedgeland. Characteristic species: Hakea varia.			MAN		15/02/2000
9068759	1984	Grevillea curviloba	T	Very large shrub over 2 m. White flowers.	Flat with dark brown loam.	Occasional Xanthorrhoea preissii and weeds including Watsonia, Couch grass, love grass, veldt grass.	occasional - 1 adult and 3 juveniles in area.		GPS	1	21/09/2011
8649707	1984	Grevillea curviloba	T	Perennial shrub, to 4 m high, to 10 m wide.	Riparian zone and within cleared paddock on low plain. Moist brown sand.	Eucalyptus rudis low forest over open scrub over very open low sedges. Corymbia calophylla, Melaleuca rhaphiophylla, Jacksonia furcellata, Xanthorrhoea preissii, Hakea prostrata, Hibbertia hypericoides, Lepidosperma longitudinale.	7 clumps, clonal.	Degraded habitat. New population.	GPS	1	30/06/2009
8526656	1984	Grevillea curviloba	T	Erect shrub, 1.5 m tall with white cream flowers.	Drainage line, slope. Moist soil.	Associated species: Corymbia calophylla, Eucalyptus rudis, Xanthorrhoea preissii and Acacia saligna.	3 plants.	Vegetation condition: good.	GPS	1	16/09/2013
8863768	1984	Grevillea curviloba	T	Spreading shrub to 1.6 m with pinnatifid leaves, in early flower bud stage. Juvenile growth prostrate with broader leaf lobes than the mature upright leaves.	Flat, grey sand to sandy-loam, highly disturbed bushland corridor on rail and unmade road reserve.	Open Tall Shrubland of Acacia saligna over Open Shrubland of Xanthorrhoea preissii and Acacia ? cochlearis over African love grass, perennial Veldt grass and Cyathochaeta avenacea. Occasional Thysanotus ? patersonii and Hakea prostrata.	c. 120 plants in sometimes dense local patches, over a 230 m length.	Canker evident on many shrubs.	GPS	1	6/09/2016
8649723	1984	Grevillea curviloba	T	Perennial shrub, to 4 m high, to 10 m wide.	Riparian zone and within cleared paddock on low plain. Moist brown sand.	Eucalyptus rudis low forest over open scrub over very open low sedges. Corymbia calophylla, Melaleuca rhaphiophylla, Jacksonia furcellata, Xanthorrhoea preissii, Hakea prostrata, Hibbertia hypericoides, Lepidosperma longitudinale.	12 clumps, likely to be clonal.	Degraded habitat. New population.	GPS	1	30/06/2009

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8649715	1984	Grevillea curviloba	T	Perennial shrub, to 4 m high, to 10 m wide.	Riparian zone and within cleared paddock on low plain. Moist brown sand.	Eucalyptus rudis low forest over open scrub over very open low sedges. Corymbia calophylla, Melaleuca rhaphiophylla, Jacksonia furcellata, Xanthorrhoea preissii, Hakea prostrata, Hibbertia hypericoides, Lepidosperma longitudinale.	12 clumps, likely to be clonal.	Degraded habitat. New population.	GPS	1	30/06/2009
8816433	1984	Grevillea curviloba	T	Upright shrub, to 2 m high. Variable width. White flowers.	Lower slope. Near to creekline. Flat. Grey loamy sand.	Occasional Acacia saligna over Shrubland of Grevillea curviloba and Xanthorrhoea preissii over Closed Grassland of mixed weed species dominated by Agrostis curvula and Ehrharta calycina. Associated species: Corynotheca micrantha, Burchardia congesta, Jac	ca 25 shrubs in one localised area.	Plants are in poor condition. Insects are having a secondary impact on the population which is stressed from weed competition and drying climate.	GPS	1	22/10/2015
9068813	1984	Grevillea curviloba	T	Large shrub to 2 m with white flowers.	Near drainage line.	Occasional Banksia menziesii; over shrubland of Grevillea curviloba subsp. curviloba, Xanthorrhoea preissii, Acacia saligna; over closed sedgeland of Schoenus subfascicularis; over weeds.	occasional.	Leaves similar to G. vestita in this population, but leaf lobes sparsely tomentose with white hairs, not villous with rust coloured hairs as in G. vestita. Floral bracts deciduous, not persistent as in G. vestita.	GPS	1	21/09/2011
9068767	1984	Grevillea curviloba	T	Shrub with white flowers.	Well drained flat ground, degraded habitat. Grey sand.	Tall open scrub of Acacia saligna and Jacksonia sp.; over open heath of Grevillea curviloba subsp. curviloba with occasional Xanthorrhoea preissii; over weeds of Eragrostis curvula, Watsona sp. and Poa sp.			GPS	1	30/08/2012
9068740	1984	Grevillea curviloba	T	Shrub to 2 m. White flowers starting to emerge.	In riparian vegetation.	Open woodland of Melaleuca rhaphiophylla and M. preissiana; over Grevillea curviloba subsp. incurva and Macrozamia riedlei; over closed sedgeland of Schoenus subfascicularis (riparian zone) and weeds.	occasional - 1 plant only.		GPS	1	17/08/2012
9068775	1984	Grevillea curviloba	T	Shrub over 2 m high, in bud. Some plants prostrate.	Dark brown loam sand.	Tall open scrub of Acacia saligna with occasional Banksia littoralis, B. sessilis, Hakea varia; over open heath of Stirlingia latifolia, Dianella revoluta and weeds of Eragrostis curvula, Oxalis sp. Babiana sp., Asparagoides.	locally frequent.		GPS	1	17/08/2012
9139915	1984	Grevillea curviloba	T	Perennial shrub to 1.5 m in height, with white/cream flowers. Leaves divided with margins recurved.	Road verge, c. 1 m from edge.	Amongst planted non-endemics, including Leptospermum laevigatum and Eucalyptus spp. dominated by planted Eucalypts.	uncommon.	Individuals were flowering with immature fruits. Individuals were located on southern side of Cardinal Drive, c. 200 m from intersection with Vines Avenue. An additional two plants located at the intersection.	GPS	1	14/09/2017
9175504	1984	Grevillea curviloba	T		Grey sand.	Monoculture of Grevillea curviloba subsp. curviloba.			UNK	2	16/09/2019
5414156	1984	Grevillea curviloba	T	Open, erect shrub 3+ m high x 2+ m wide. Old mature plants, appeared heavily grazed. No lower branches. No pods.	Winter wet creek line. Moist, grey sand.	Open Scrub (very old). Associated species: Acacia saligna, Melaleuca rhaphiophylla, sedges, Xanthorrhoea preissii, Banksia menziesii.	common locally.		TOPO	2	9/09/1998
9446990	1984	Grevillea curviloba	T	Multi-stemmed, shrub with spreading and erect branches to 2.5 m tall x 3-5 m wide. Divided leaves, with often three narrow lobes.	Disturbed, flat, low-lying plain adjacent to Maralla Creek. Grey sand.	Occasional Eucalyptus rudis and Corymbia calophylla over Shrubland of Grevillea curviloba over Closed Grassland of Ehrharta calycina and E. longiflora.	69 mature and 11 juvenile clumps (plants?). Clumps are separated as well as possible for counting, but due to the clonal nature of the species, these may not be individual plants.		GPS	1	21/09/2016
8422710	33737	Grevillea sp. Ocean Reef (D. Pike Joon 4)	1	Erect, spreading shrub. To 1.5 m x 3 m.	Sand dune. Dry brown / grey sand.	Coastal sand scrub with Acacia, Banksia sessilis, Spiridium globulosum, Clematis, Calothamnus, Pelargonium, Dianella, Hardenbergia.	40 - 60 plants (D. Pike November 2008).		GPS	1	15/08/2012
8509603	33737	Grevillea sp. Ocean Reef (D. Pike Joon 4)	1	Compact perennial shrub 150 cm high x 200-300 cm wide.	Broad dune swails. Grey shallow sand. Numerous limestone boulders.	Acacia rostilifera, Conostylis sp., Tetraria octandra, Spyridium globulosum, Acanthocarpos preissii, Desmocladus flexuosus, Phyllanthus calycinus, Dianella revoluta, Lepidosperma sp., Banksia sessilis, Clematis sp., Hardenbergia comptoniana, Rhagodia bac	26-50 plants plus additional 6-10 juveniles within 40 m radius.		GPS	1	16/10/2013

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8422605	33737	Grevillea sp. Ocean Reef (D. Pike Joon 4)	1	Erect, spreading shrub - clonal. To 1.5 m x 3 m.	Sand dune / gully. Dry brown / grey sand.	Coastal sand scrub with Acacia, Banksia sessilis, Spiridium globulosum, Clematis, Calothamnus, Pelargonium, Dianella, Hardenbergia.	40 - 60 plants (D. Pike November 2008).	Does not appear to set fruit (D. Pike's observation).	GPS	1	6/09/2012
7860579	33737	Grevillea sp. Ocean Reef (D. Pike Joon 4)	1	Dense, spreading shrub to 2 m high x 3 m wide. Plants in late flower.	Quindalup dunes. Dry, bare, light yellow-brown sand.	Tall shrubland. With Acacia rostellifera, Dryandra sessilis, Spyridium globulosum.	One apparently clonal population of 40-60 plants.		GPS	1	/11/2008
2697246	16952	Guichenotia tuberculata	3						AUTO	3	/09/1902
1044567	1469	Haemodorum loratum	3	Bulbous herb. Inflorescence to 2 m, flowers green/brown, scented.	Lateritic loam.	Wandoo woodland.			MAN		13/11/1981
2625563	49637	Hibbertia leptotheca	3						AUTO	3	//
3096424	49637	Hibbertia leptotheca	3	Domed green shrub, to 30 cm x 40 cm. Flowers yellow, reflexed over sepals when in flower. In full flower.	Sea cliff. Grey-black sand over limestone.	Low Melaleuca cardiophylla closed heath.	common.		AUTO	3	21/09/1990
1137654	6233	Hydrocotyle lemnoides	4						AUTO	3	22/08/1989
1048104	6233	Hydrocotyle lemnoides	4	Corolla mauve. Leaves floating, stem rooted in clay.	Growing in fresh water, stem rooted in clay.				MAN	3	7/10/1976
3401332	6233	Hydrocotyle lemnoides	4						AUTO	3	/09/1963
1048112	6233	Hydrocotyle lemnoides	4		Growing in shallow water over mud.				MAN	4	13/09/1985
1048139	6233	Hydrocotyle lemnoides	4	Leaves floating, stem rooted in clay. Corolla mauve.	Growing in fresh water, stem rooted in clay.				MAN	3	7/10/1976
8586489	11074	Hydrocotyle striata	1	75 mm high x 300 mm wide.	Winter wet creekline. Light leaf litter on dark brown sandy humic loam. Fire history: < 5 years.	Eucalyptus rudis, Melaleuca rhaphiophylla, Banksia littoralis creekline. Associated with Lepidosperma longitudinale, Pteridium esculentum, Astartea fascicularis, Muehlenbeckia polybotrya.	Not frequent. Small patches in bare areas.		GPS	1	1/12/2012
8836647	11074	Hydrocotyle striata	1	Spreading annual. Height: 5-10 cm.	Seasonally inundated depression within a Mound Spring. Moist, undulating slightly. Black peaty sand. Fire history: Autumn 1995.	Low Open forest of Melaleuca preissiana over Pteridium esculentum. With Cyathochaeta teretifolia (P3), Hibbertia perfoliata.	dense cover in localised ca 40 m x 30 m area. (Site not surveyed closely, plants maybe more widespread on Lot).	Collection made for identification as it had not been seen prior to removal of extremely dense cover of Blackberry initiated in 2012. Site is a Mound Spring of the Swan Coastal Plain threatened Ecological Community.	GPS	1	16/11/2016
8840776	11074	Hydrocotyle striata	1	Prostrate annual herb, 6-30 cm in diameter. Leaves with shallow palmate lobing, glabrous, fleshy, up to 13 mm long by 16 mm wide. Stems fine, glabrous, occasionally rooting at the nodes. Flowers in tight orbicular umbels, petals cream, involucral bracts	Winter wet creekline on sandy soil.	Riparian woodland dominated by Melaleuca rhaphiophylla and Eucalyptus rudis. Associated with Astartea fascicularis, Boronia subsessilis, Lepidosperma longitudinale, Xanthorrhoea sp., Gahnia decomposita. Plants growing with other herbs such as Corybas rec	locally frequent in sheltered positions.		GPS	1	6/11/2016
6528333	17622	Hypolaena robusta	4	Female. Rush, 40-65 cm.	Upper part of the crest of a quite tall dune. Soil: light greyish-brown sand with a pale grey surface in places and a thin litter layer elsewhere.	Banksia attenuata, Banksia menziesii low woodland over scattered Adenanthos cygnorum ssp. cygnorum over Conospermum stoechadis, Jacksonia densiflora open shrubland over Eremaea pauciflora ssp. pauciflora, Stirlingia latifolia, Astroloma xerophyllum, Scho			GPS	1	1/09/1999
6528341	17622	Hypolaena robusta	4	Male. Rush, 40-65 cm.	Upper part of the crest of a quite tall dune. Soil: light greyish-brown sand with a pale grey surface in places and a thin litter layer elsewhere.	Banksia attenuata, Banksia menziesii low woodland over scattered Adenanthos cygnorum ssp. cygnorum over Conospermum stoechadis, Jacksonia densiflora open shrubland over Eremaea pauciflora ssp. pauciflora, Stirlingia latifolia, Astroloma xerophyllum, Scho			GPS	1	1/09/1999
1676024	49662	Isopogon autumnalis	3	Multistemmed erect shrub, to 70 cm. Flowers yellow, in late flower.	Yellow sand.	Banksia attenuata low open woodland.	locally common.		MAN	3	2/06/1991
3418715	49662	Isopogon autumnalis	3						AUTO	3	17/05/1900
1023926	49662	Isopogon autumnalis	3						MAN	3	7/05/1900
8755396	20462	Jacksonia gracillima	3	Perennial tufted herb with narrow leaves 10-40 cm long, with rose pink flowers.	Grey sand, on mid-slope with exposed limestone. Fire > 5 years.	Low open forest of Eucalyptus rudis and Melaleuca preissiana. Banksia attenuata shrubs. Tall shrubland of Gastrolobium ebracteolatum and Kunzea glabrescens. Sedgeland of Baumea preisii subsp. laxa.	1 mature plant.	Project: 3516.	GPS	1	9/10/2015
5437806	4027	Jacksonia sericea	4	Prostrate shrub 0.1 m high, 1 m wide; sterile.	Side of Spearwood Dune, grey sand over deep yellow sand.	Banksia attenuata and B. menziesii woodland.	scattered.		AUTO	3	15/06/1999

Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Geo_Method	Precision	Date
5369703	4027	Jacksonia sericea	4			Banksia woodland with scattered jarrah and tuart, tuart woodland, paperbark woodland over ephemeral wetland, various shrublands.			MAN		/09/1985
2171449	4027	Jacksonia sericea	4	Low spreading shrub to .3 m high. Brown pods.	In yellowish/brown sand on low ground.	In open woodland over low heath and disturbed areas, with Banksia attenuata, B. menziesii, Gomphlobium aristatum, Xanthorrhoea sp., Eucalyptus gomphocephalum.			MAN		15/05/1990
1131176	4027	Jacksonia sericea	4	Low spreading shrub 0.5 m high.	Highly disturbed.	Highly disturbed Tuart/Jarrah forest.			MAN	3	/11/1979
5368928	4027	Jacksonia sericea	4	Flowers summer/autumn.		Banksia woodland with scattered jarrah and tuart, tuart woodland, paperbark woodland over ephemeral wetland, various shrublands.		Unburnt F2/3.	MAN		17/07/1987
6410731	4027	Jacksonia sericea	4		Slope/flat. Dry grey sand over limestone.	Eucalyptus marginata, Banksia attenuata, B. menziesii Woodland. Associated species: Banksia attenuata, B. grandis, Allocasuarina fraseriana, Dryandra sessilis, Calothamnus sp.		Condition of population: healthy.	MAN	3	/07/2001
5988136	4027	Jacksonia sericea	4			Banksia woodland with scattered tuart, jarrah and marri overstorey, tuart woodland, heath and paperbark wetland.		[Plot] B7.	MAN	2	23/05/1985
6730620	4027	Jacksonia sericea	4	Shrub 30-60 cm high x 1 m wide. Perennial, prostrate, dense spreading. Flowers orange.	Hillside. Dry sand. Old soil disturbance.	Tuart, Banksia, Allocasuarina woodland.	over 50 plants, quite widespread.		MAN	3	14/10/2002
6512844	4027	Jacksonia sericea	4	Prostrate shrub to 0.1 m by 0.8 m. Flowers orange.	Sandridge; grey/white sand over limestone.	Low Scrub B.	scattered.		GPS	1	11/10/1995
7400160	4027	Jacksonia sericea	4	Low shrub.					GPS	1	24/04/2001
7684096	4027	Jacksonia sericea	4		Slope. Grey sand.	Disturbed area dominated by Adenanthos cygnorum, Jacksonia furcellata and Melaleuca preissiana. Associated species: Ehrharta calycina, Verticordia ? densiflora, Lyginia imberbis, Acacia stenoptera, Hypolaena exsulca, Thysanotus multiflorus.		Healthy population.	UNK	2	2/11/2004
7793189	4027	Jacksonia sericea	4		Well drained site on gentle slope with E aspect. Cream sand with pale yellow subsurface sand.	Banksia attenuata, B. menziesii, Allocasuarina fraseriana Low Woodland to Low Open Woodland with scattered emergent Eucalyptus marginata over species rich Shrubland over mixed Sedgeland, Herbland and Grassland.			GPS	1	9/01/1999
7833016	4027	Jacksonia sericea	4	Shrub perennial.	Flat, residential.	Parkland.		Potential threats from weeds, disease and recreational activities.	GPS	1	10/11/2005
7885407	4027	Jacksonia sericea	4			In open Banksia woodland of Banksia menziesii, B. grandis with Eucalyptus calophylla and Acacia saligna.			GPS	3	24/10/1994
7885490	4027	Jacksonia sericea	4						UNK	3	22/05/1994
8001189	4027	Jacksonia sericea	4	Spreading shrub 0.3 m wide with orange flowers.	Residential plain with grey sand.	Low trees and low shrubland with Eucalyptus marginata, Banksia attenuata, Adenanthos cygnorum, Xanthorrhoea preissii, Calytrix fraseri, Mesomelaena pseudostygia, Laxmannia squarrosa, Waitzia suaveolens, Corynotheca micrantha, Alexgeorgea nitens, Conosper	2 - 5.	Alien species: Gladiolus caryophyllaceus, Ehrharta calycina, Briza maxima, Pentaschistis airoides, Pelagonium capitatum, Ursinia anthemoides. Infestation area: 1 - 10 m2.	GPS	1	12/11/2008
8148511	4027	Jacksonia sericea	4	50 cm.	Slope. Recently burnt.	Woodland. With Eucalyptus marginata, Allocasuarina fraseriana, Banksia menziesii, Banksia attenuata, Ehrharta calycinus, Hibbertia hypericoides.	6-20 plants.		GPS	1	22/10/2007
8982643	4027	Jacksonia sericea	4	Shrub, 0.5 m high.	Gentle slope, slight ridge. Yellow brown loamy sand.	Tall open shrubland of Acacia rostellifera to 3 m over closed tall scrub of Banksia sessilis to 2.4 m over open shrubland of Xanthorrhoea preissii, Melaleuca systena and Hakea trifurcata to 2 m over low shrubland of Jacksonia sericea and Hibbertia hyperi	> 700 plants.		GPS	1	11/11/2010
2171430	4027	Jacksonia sericea	4	Spreading shrub to 0.5 m high. Stems and branchlets ridged. Inflorescence silky hairy. In bud and occasional flower.	Sandy flat, gradual slope.	Eucalyptus marginata open woodland over Banksia attenuata, B. menziesii low woodland A.	abundant on disturbed road verges, occasional elsewhere.		MAN		17/10/1990
1131192	4027	Jacksonia sericea	4	Prostrate shrub, 50 cm x 1.5 m diam. Flowers orange-yellow; eye yellow.	Hilltop, sand over limestone.	Banksia low woodland.	common.		MAN	3	20/01/1988

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1131206	4027	Jacksonia sericea	4	Multistem, prostrate shrub, 30 cm x 1.5 m daim. Flowers orange-yellow.	Flat, grey sand over sand.	Banksia woodland.	common.		MAN	3	2/12/1987
5504678	4027	Jacksonia sericea	4	Shrub 0.25 m high x 1.1 m wide. Spreading from centre, dense. Orange pea shaped flowers, yellow throat with red ring on standard petal. Grey hairy stems, no leaves. Pale green yellow narrow sepals.	Sand dune, flat inter-dune plain. Dry, ca 95% organic litter cover. Light grey sand.	Woodland, Eucalyptus marginata, Banksia attenuata, B. menziesii.	frequent.		MAN		14/11/1998
6053785	4027	Jacksonia sericea	4	Spreading shrub 0.4 m high x 1 m wide.	Gentle slope. Organic litter. Grey Bassendean sand.	Open Low Woodland A. Acacia saligna, Banksia menziesii.	occasional.		MAN	3	6/12/2000
9422749	4027	Jacksonia sericea	4	Many-branched, spreading low shrub, 0.45 m high x 3 m wide.	Coastal plain, gentle low slope on yellow sand.	Open Woodland of Banksia attenuata, B. menziesii over Open Shrubland of Xanthorrhoea preissii, Jacksonia floribunda, Allocasuarina humilis, Daviesia nudiflora over Low Shrubland of Eremaea pauciflora, Petrophile serruriae, Hypocalymma robustum, Hibbertia	55 plants including juveniles.	Plants were predominantly at gate access points on the W and S sides of the reserve, where soil has been disturbed.	GPS	1	6/04/2020
2973499	31312	Lecania turicensis var. turicensis	2		Coastal rocks, limestone.				AUTO	3	28/08/1988
1421441	3040	Lepidium pseudohyssopifolium	1		Swampy ground.				AUTO	3	/06/1902
6210082	40801	Leucopogon maritimus	1					Field No. 166.	MAN	3	27/06/1966
1147773	19460	Leucopogon sp. Yanchep (M. Hislop 1986)	3	Low twiggy woody shrub, 15-20 cm, flowers white, sweet honey scent.	Low hill, grey sand over limestone.	Limestone heath.	scattered in area.		AUTO	3	30/05/1990
2768720	7674	Levenhookia preissii	1						AUTO	3	09/01/1899
2768763	7674	Levenhookia preissii	1						AUTO	3	23/12/1901
1875221	7674	Levenhookia preissii	1	Flowers rosy pink (including labellum). Odourless.	Peaty sand fringing damp soil, bordering a watercourse.				AUTO	3	26/12/1924
2768828	7674	Levenhookia preissii	1						AUTO	3	/12/1901
2768844	7674	Levenhookia preissii	1						AUTO	3	/12/1900
8386811	25819	Marianthus paralius	T		Well drained dry white sand. Limestone ridge. Fire history: long ago.	Melaleuca cardiophylla, Scaevola crassifolia, Olearia axillaris, Rhagodia baccata Closed Low Heath.		Condition of plants: moderate.	TOPO	3	29/12/2010
7782144	25819	Marianthus paralius	T	Prostrate shrub with red flowers.	Limestone cliff with dry, brown sand. Exposed limestone outcropping.	Dense Heath B. Coastal heath vegetation including Spyridium sp., Thomasia sp., Melaleuca sp., Scaevola sp., Acanthocarpus sp.	9 plants recorded.		GPS	1	26/10/2006
9446605	25819	Marianthus paralius	T	Prostrate shrub. Vegetative only.	Coastal low cliff top. Rocky white sand over limestone.	Melaleuca cardiophylla, Acanthocarpus preissii, Templetonia retusa.	7 plants, all growing within approx. 5 m x 5 m area.		GPS	1	21/05/2021
7878311	33638	Meionectes tenuifolia	3	Erect herb with orange flowers. Height 0.5 m and width 0.05 m.	Grey clay, reserve and wetland.	Tall shrubland with Melaleuca rhaphiophylla, Baumea arthophylla and Triglocia lineare.	over plants over area of 11-100 m2.	100% flowering and reproducing by seeds.	MAN	3	28/12/2007
1162586	33638	Meionectes tenuifolia	3						MAN	4	/12/1900
9196951	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	Slender erect open shrub, 2-3 m high x 1 m wide. In fruit, not in flower.	Limestone hill. Skeletal white loam over limestone.	Banksia sessilis / Melaleuca tall shrubland.	locally common.	Co-occurring with Melaleuca systena which is in full flower.	GPS	1	28/08/2004
8815224	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	Erect to spreading shrub to 1.5 m with yellow flowers.	Limestone ridge remnant within a mine pit.	Remnant.	occasional.		GPS	1	6/12/2013
8816476	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	Erect shrub 1 - 2.5 m x 2 m.	On fine sand to sandy loam soils with 30-70% outcropping limestone.	Closed tall scrub of Melaleuca systena, M. sp. Wanneroo, M. sp. Wanneroo x systena and M. huegelii, over low shrubland of Calothamnus quadrifidus, Banksia sessilis var. cygnorum, Leucopogon parviflorus and Templetonia retusa.	locally common.	Co-occurs with Melaleuca systena and M. systena x M. sp. Wanneroo. Population 1.	GPS	1	7/08/2014
8816522	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	Erect shrub 1-2.5 m x 2 m. Flowers yellow.	On well drained grey sand with 30-70% outcropping limestone.	Tall open scrub of Melaleuca huegelii, M. sp. Wanneroo with occasional Eucalyptus petrensis and Melaleuca systena, over open low heath of Acacia alata var. tetrantha, Thomasia triphylla over open sedgeland/herbland.	locally common.		GPS	1	28/11/2014
9137459	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	Tall shrub to 2 m tall. Yellow flowers.	Hilltop and upper slopes. Soil: shallow brown sand.	Shrubland. Associated species: Thomasia sp., sedges, Hakea trifurcata, Grevillea preissii, Melaleuca systena, Banksia sessilis.	>1000.		GPS	1	17/01/2019
8997675	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T		Hill slope. Yellow/brown sand.	Melaleuca shrubland. Associated species: Acacia alata var. tetrantha, Banksia sessilis, Melaleuca huegelii and M. systena.	1000+.		GPS	1	10/05/2017

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9041443	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	Shrub to 2 m tall. Yellow flowers.	NE face of limestone hill. Soil: shallow yellow/brown sand.	Dense shrubland to 2 m. Associated species: Calothamnus sp., Hakea trifurcata, Grevillea preissii and Banksia sessilis.	>1000.		GPS	1	17/01/2019
6972942	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	Slender erect single 2-3 m high and 1-2 m wide. Flowers pale yellow; in full flower.	Rugged limestone ridge. Mossy black sand.	Melaleuca cardiophylla, M. sp., M. systena tall closed shrubland.	dominant locally.		GPS	1	23/12/2004
8982635	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	Shrub, 2.5 m high. Flowers yellow.	Limestone ridge. Brown loamy sand.	Tall open scrub of Melaleuca huegelii and M. sp. Wanneroo (G.J. Keighery 16705) over open shrubland to 1.5 m of Melaleuca systena, Xanthorrhoea preissii and Acacia lasiocarpa over low open shrubland to 0.4 m of Grevillea preissii and Banksia nivea over v	40 plants.		GPS	1	1/10/2009
9446958	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	Many branched shrub to 1.3 m tall x 0.8 m wide. Leaves are linear to 20 mm long x 3-5 mm wide, hairy and bright green on young plants. Early fruits present towards stem ends, with new growth of shorter recurved leaves continuing.	Grey fine sand on limestone outcropping up to 70%. Upper slopes to ridge.	Very Open Shrub Mallee of Eucalyptus argutifolia over Closed to Open Heath of Melaleuca sp. Wanneroo (G.J. Keighery 16705), Grevillea preissii, Templetonia retusa, Melaleuca huegelii, Acacia lasiocarpa, A. alata subsp. tetranthera, Opercularia vaginata,	6250 plants extrapolated within a mapped population boundary.	The majority of plants had recruited after a wildfire 6 years previously. The habitat is between a water corporation facility and a mine-pit.	GPS	1	15/05/2018
9446966	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	Many branched shrub to 1.3 m tall x 0.8 m wide. Leaves are linear to 20 mm long x 3-5 mm wide, hairy and bright green on young plants. Early fruits present towards stem ends, with new growth of shorter recurved leaves continuing.	Grey fine sand on limestone outcropping up to 70%. Upper slopes to ridge.	Very Open Shrub Mallee of Eucalyptus argutifolia over Closed to Open Heath of Melaleuca sp. Wanneroo (G.J. Keighery 16705), Grevillea preissii, Templetonia retusa, Melaleuca huegelii, Acacia lasiocarpa, A. alata subsp. tetranthera, Opercularia vaginata,	6250 plants extrapolated within a mapped population boundary.	The majority of plants had recruited after a wildfire 6 years previously. The habitat is between a water corporation facility and a mine-pit.	GPS	1	15/05/2018
8772630	14337	Millotia tenuifolia var. laevis	2	Annual herb, 0.05 m high x 0.01 m wide. Flowers yellow.	Upper slope with grey sand. Underlying geology: Bassendean Dune System.	Banksia attenuata and Banksia menziesii low woodland over Eucalyptus todtiana sparse mid mallee woodland over Adenanthos cygnorum subsp. cygnorum sparse tall shrubland over Eremaea pauciflora var. pauciflora sparse mid shrubland over Hibbertia hypericoid			GPS	1	24/09/2014
9234306	14337	Millotia tenuifolia var. laevis	2	Small upright herb to 3.5 cm, white-yellow flowers and furry leaves and stems.	Gently inclined low dune, grey sand.	Low woodland of Banksia attenuata and B. menziesii over mid open shrubland of Allocasuarina humilis over low open shrubland of Hibbertia hypericoides.	uncommon.	Recorded in a quadrat.	GPS	1	16/10/2018
8755442	50567	Netrostylis sp. Chandala (G.J. Keighery 17055)	2	Sedge c. 50 cm tall with very narrow leaves and culms. Inflorescence loose and branched, with dark brown florets.	Grey brown peaty soil in a swamp.	Low open forest of Eucalyptus rudis and Melaleuca preissiana. Tall open shrubland of Astartea fascicularis and Kunzea glabrescens. Pteridium esculentum mid ferns. Sedgeland of Lepidosperma.	100 mature plants.	Project: 3516.	GPS	1	8/10/2015
4864743	50567	Netrostylis sp. Chandala (G.J. Keighery 17055)	2	Rhizomatous herb 1.6 m high, 1 m wide; flowers brown; fruits brown.	Mound spring, black peat over clay & humic sand.	Assoc. vegn.: Melaleuca rhaphiophylla forest over sedges.	very common.		TOPO	2	4/02/1997
8599556	50567	Netrostylis sp. Chandala (G.J. Keighery 17055)	2	Sedge, 60 cm high x 60 cm wide.	Dampland with thick leaf litter over dark grey sand. Underlying geology: Southern River. Area burnt > 5 years ago.	Corymbia calophylla / Melaleuca preissiana dampland with Agonis linearifolia, Lepidosperma longitudinale, Eucalyptus rudis, Astartea fascicularis.	10 plants.		GPS	1	30/03/2013
5991714	2278	Persoonia sulcata	4	Decumbent shrub 0.2 m high with smooth, compact bark. Leaves spreading, slightly twisted, bright green.	Laterite.	Eucalypt woodland with low shrubby understory.	three plants seen.		MAN	3	18/12/1980
6498841	11557	Phlebocarya pilosissima subsp. pilosissima	3	Herb 15 cm.	Gentle slope to S at edge of a seasonal dampland. Light greyish brown sand with a pale grey (whitish) surface, a thin litter layer over parts (>half).	Banksia attenuata, Banksia ilicifolia low open woodland to low woodland over Regelia ciliata open scrub to closed scrub over Hypocalymma angustifolium open shrubland to open heath over scattered herbs and sedge of Dasypogon bromeliifolius and Hypolaena e		From site ML 18, Specimen ML18-12.	GPS	1	20/08/1999
6498868	11557	Phlebocarya pilosissima subsp. pilosissima	3	Herb, 15 cm.	Gentle slope to S at edge of a seasonal dampland. Light greyish brown sand with a pale grey (whitish) surface, a thin litter layer over parts (>half).	Banksia attenuata, Banksia ilicifolia low open woodland to low woodland over Regelia ciliata open scrub to closed scrub over Hypocalymma angustifolium open shrubland to open heath over scattered herbs and sedge of Dasypogon bromeliifolius and Hypolaena e		From site ML 18, Specimen ML18-13.	GPS	1	20/08/1999
3409171	5237	Pimelea calcicola	3	Shrub-like herb up to 18 inches high. Flowers pale mauve.		Heathland.			AUTO	3	16/10/1962
3409341	5237	Pimelea calcicola	3	Shrub to 2.5 ft. Flowers light pink-white.	Sand-limestone.				AUTO	3	27/09/1968

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3409368	5237	Pimelea calcicola	3	Shrub, erect 3 ft. Reddish pink flowers.					MAN	3	4/11/1964
1748807	5237	Pimelea calcicola	3	Rounded bushy shrub up to 1.5 m high. Flowers pale pink, the anthers becoming dark pink-purple.	On summit of limestone hill.	Weedy disturbed open shrubland dominated by Dryandra sessilis.			MAN		30/09/1982
1812130	5237	Pimelea calcicola	3	Slender erect shrub, to 60 cm. Flowers deep pink to very pale pink. In full flower.	Low hill. Shallow grey sand over massive limestone.	Dryandra sessilis closed heath.	common in area.		AUTO	3	7/11/1990
1603523	5237	Pimelea calcicola	3	Erect rounded, bushy shrub up to 1.5 m high. Flowers greenish at base and pale pink above, the anthers orange at first, becoming dark pink/purple.	On the summit of a limestone hill with yellow sand and exposed limestone.	Weedy, disturbed open woodland. Dominant species: Dryandra sessilis, a shrub up to 3 m high.			MAN		10/10/1983
1603531	5237	Pimelea calcicola	3	Erect rounded, bushy shrub up to 1.5 m high. Flowers greenish at base and pale pink above, the anthers orange at first, becoming dark pink/purple.	On the summit of a limestone hill with yellow sand and exposed limestone.	Weedy, disturbed open woodland. Dominant species: Dryandra sessilis, a shrub up to 3 m high.			MAN		10/10/1983
1603558	5237	Pimelea calcicola	3	Erect rounded, bushy shrub up to 1.5 m high. Flowers greenish at base and pale pink above, the anthers orange at first, becoming dark pink/purple.	On the summit of a limestone hill with yellow sand and exposed limestone.	Weedy, disturbed open woodland. Dominant species: Dryandra sessilis, a shrub up to 3 m high.			MAN		10/10/1983
6209874	8163	Pithocarpa corymbulosa	3					Field No. Y 64.	MAN	3	6/06/1963
6350178	42022	Poranthera moorokatta	2	Erect annual herb, 1 cm.	Flat to very slight depression on a broad flat dampland floor. Soil: surface light grey to grey, set clay with some coarse sand, thick white sand cover in some places. Belwo surface light grey-grey clay with some sand. Some litter in patches around shrub	Dominants: Melaleuca preissiana 4-13 +m 1-5% (varies); Calothamnus lateralis, Pericalymma ellipticum var. ellipticum 0.5-1 m >15%; Astartea aff. fascicularis 1-1.4 m <5%. Associated species: The more abundant species for this site were Phyllangium parado		Specimen ML48-8.	MAN	2	22/10/1999
8772606	42022	Poranthera moorokatta	2	Annual herb, 0.05 m high x 0.05 m wide.	Dampland with brown / white peat / sand. Underlying geology: Bassendean Dune System.	Melaleuca preissiana mid woodland over Banksia littoralis sparse low woodland over Xanthorrhoea preissii and Taxandria linearifolia open tall shrubland over Hypocalymma angustifolium sparse low shrubland.	1 plant.		GPS	1	17/09/2014
8772622	42022	Poranthera moorokatta	2	Annual herb, 0.05 m high x 0.05 m wide.	Slope with brown / white sand. Underlying geology: Bassendean Dune System.	Eucalyptus todtiana isolated mid mallee trees over Banksia attenuata, Banksia menziesii and Nuytsia floribunda sparse low woodland over Eremaea pauciflora var. pauciflora sparse mid shrubland over Hibbertia hypericoides, Hibbertia subvaginata and Scholtz	1 plant.		GPS	1	19/09/2014
8766185	42022	Poranthera moorokatta	2	Small herb, 1 cm high.	Crest of low dune with yellow sand (ant mounds). Greater than 10 years since a fire.	Banksia attenuata, Banksia menziesii, Allocasuarina fraseriana low woodland over Xanthorrhoea preissii open shrubland over Hibbertia hypericoides, Calothamnus sanguineus, Calytrix flavescens low shrubland over Mesomelaena pseudostygia scattered sedges.			GPS	1	25/10/2012
9234292	42022	Poranthera moorokatta	2	Small erect annual herb to 2 cm, white flowers.	Very gently inclined plain, grey sand.	Low woodland of Banksia attenuata and B. menziesii over mid open shrubland of Xanthorrhoea preissii over low open shrubland of Eremaea pauciflora.	uncommon.	Recorded in a quadrat.	GPS	1	30/10/2018
8039364	17543	Sarcozona bicarinata	3		Private property; limestone outcrops with dry white sand. Potential threat by urban development. Last burnt summer 2001.	Open Banksia sessilis heathland. Banksia sessilis, Opercularia vaginata, Scaevola crassifolia and Desmocladus flexuosus.	5 mature plants over 5 m squared.	Condition of population: Healthy.	GPS	1	12/01/2009
4583744	17543	Sarcozona bicarinata	3	Herbaceous succulent 8 cm high and spreading to generally less than 30 cm across the ground. Leaves dull grey, green in colour; seeds brown and rough all over.	Grey sand over rocky limestone outcrops. Exposed sunny areas.	Edge of Dryandra sessilis (Parrot Bush) heathlands and cleared area for housing.		No evidence of recent fire but few plants (3 only) found on edge of bushland where the area has been cleared for housing development.	AUTO	3	2/03/1997
4583736	17543	Sarcozona bicarinata	3	Herbaceous succulent 8 cm high and spreading to generally less than 30 cm across the ground. Leaves dull grey, green in colour; seeds brown and rough all over.	Grey sand over rocky limestone outcrops. Exposed sunny areas. Fire approximately 12 months prior to collection. The fire most probably stimulates seed germination and opens up the very dense Dryandra heath providing a sunny environment for this species t	Dryandra sessilis (Parrot Bush) heathlands.		Abundance: this species is common throughout the fire burnt area but did not occur outside where the Dryandra sessilis formed closed dense heath nor did it occur in adjacent unburnt Banksia bushland.	AUTO	3	2/03/1997
1278215	980	Schoenus capillifolius	3	Annual herb, in fruit.	Clay pan dry - some mud in deeper sections with live plants.				AUTO	3	14/11/1980
2239108	980	Schoenus capillifolius	3	Aquatic herb. Growing submerged or on edges.	Winter wet claypan.	With Glossostigma sp., Hydatella sp. and Trithuria sp. surrounded by regenerating heath B of Melaleuca lateritica.		Abundance: several hundred plants.	MAN		2/11/1990

Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Geo_Method	Precision	Date
8893373	980	Schoenus capillifolius	3	Small aquatic herb.	Seasonally wet poorly drained flat. Brown sandy clay.	Melaleuca lateritia, Viminaria juncea and Kunzea micrantha over herbs.		Vegetation condition: very good. Claypan TEC, communities 7 & 8.	GPS	1	24/10/2012
4526422	17606	Schoenus griffinianus	4	Perennial sedge.	Soil: White sand. Topography/drainage: Well drained gentle SW facing slope. Geomorphology: Bassendean sands over guildford formation.	Vegetation: Banksia attenuata Open Low Woodland A over mixed Low Heath C over mixed Open Dwarf Scrub D over Lyginia barbata Very Open Low Sedges.			GPS	1	19/10/1993
7514271	1003	Schoenus natans	4	Floating aquatic herb.	Flooded claypan.	Melaleuca lateritia shrubland over Chorizandra enodis and aquatic herbs.	Common.		GPS	1	7/10/2004
4097610	16279	Schoenus sp. Bullsbrook (J.J. Alford 915)	2	Delicate herb 15 cm high, flowers brown and green.	Low lyingflat, grey peaty sand over ? clay.	Herbs and low shrubs.	common.		MAN		31/10/1986
4750411	17731	Schoenus sp. Waroona (G.J. Keighery 12235)	3	Annual 2-5 cm, flowers green.	Winter wet flats, dark brown loam clay over clay.	Burnt low heath.	common.		MAN	3	31/10/1988
6533744	49715	Stachystemon exilis	1	Upright shrub to 1 m by 0.3 m, buds and flowers.	Dry Flat, grey sand some humus, over humus and sand, well drained.	Open Scrub, Associated species: Adenanthos cygnorum.			GPS	1	19/10/1994
3978931	49715	Stachystemon exilis	1		On grey sand, seasonally damp.	Marri Open Low Woodland A over Melaleuca sp. B and Hypocalymma angustifolium Dwarf Scrub C over Mixed Herbs.			MAN		19/10/1994
9234314	49715	Stachystemon exilis	1	Slender small shrub, small white-yellow flowers and bright green narrowly lanceolate leaves with slightly recurved margins.	Very gently inclined plain, grey sand.	Low woodland of Banksia attenuata and B. menziesii over mid open shrubland of Xanthorrhoea preissii over low open shrubland of Eremaea pauciflora.	uncommon.		GPS	1	30/10/2018
4916964	19704	Stenanthemum sublineare	2	Low erect shrub, 10 cm high x 4 cm wide. Flowers greenish.	Sand plain. Littered white sand.	Low Forest B (Muir 1977) with Banksia attenuata, Xanthorrhoea preissii, Calytrix flavescens, Patersonia occidentalis.		Abundance: apparently quite common in relatively small area.	GPS	1	27/10/1997
7526989	19704	Stenanthemum sublineare	2		Low rise on an undulating plain. Dry, grey sand. Unburnt for 20 + years.	Open Banksia attenuata/Banksia menziesii low woodland, over heath (Beaufortia elegans, Eremaea pauciflora subsp. pauciflora, Regelia inops) Caltyrix flavescens, Scholtzia involucrata, Bossiaea eriocarpa, Gompholobium tomentosum, Petrophile linearis, over	one plant.		GPS	1	17/11/2005
4916972	19704	Stenanthemum sublineare	2	Low erect shrub, 8 cm high x 4 cm wide. Flowers spent, few fruits evident.	Sand plain. Littered white sand.	Low Forest B (Muir 1977) with Banksia attenuata, Xanthorrhoea preissii, Calytrix flavescens, Patersonia occidentalis.	apparently quite common in relatively small area.		GPS	1	21/12/1997
2694263	7756	Stylidium longitubum	4	Erect leafless herb with red succulent stems and pink flowers.	Recently dried muddy depression in swamp.				TOPO	2	28/12/1971
6511546	7756	Stylidium longitubum	4	Flowers pink.	Seasonal Wetland, flat ground. Dark brown clay loam some peat, over ?clay. Poor drainage, wet during winter/spring.	Open Low Scrub A. Associated species: Astartea fascicularis.			GPS	1	10/11/1994
8161119	7756	Stylidium longitubum	4	Erect single stemmed plant with pink petals, darker pink with white at centres. Height 50 12 cm.	Flat, clay pan. Moist grey clay.	Jacksonia, Acacia, Asteraceae, Villarsia, weeds.	many plants but in an area of ca 25 m x 10 m.		GPS	1	28/11/2008
1643061	7756	Stylidium longitubum	4	Annual herb. Flowers pink, and laterally paired.	Grows in clayey sand, in small winter-wet depressions.	Under and around shrubs.			AUTO	3	12/11/1989
3510042	7756	Stylidium longitubum	4						MAN		30/10/1992
1631098	7756	Stylidium longitubum	4	Annual herb, flowers pink, throat yellow.	Winter wet claypan.	Melaleuca lateritia shrubland; burnt.	abundant.		AUTO	3	3/10/1988
8893101	7756	Stylidium longitubum	4	Small annual herb.	Seasonally wet poorly drained flat. Brown sandy clay.	Melaleuca lateritia, Viminaria juncea and Kunzea micrantha over herbs.		Vegetation condition: very good. Claypan TEC, communities 7 & 8.	GPS	1	24/10/2012
4430921	13127	Stylidium maritimum	3	Flowers pink-mauve, throat white, outer petal surface white to pale pink, upper winged throat appendages pink, lower throat appendages white-red tipped, leaves 3 per papery sheath.	On limestone outcrops in crater-like depressions filled with black sandy soil.	Area surrounded by low coastal heath and open Banksia menziesii woodland.			MAN		22/10/1995
9139559	13127	Stylidium maritimum	3	Sedge-like herb to 0.4 m high. In fruit.	Limestone ridge with outcropping. Sandy soil.	Melaleuca huegelii and Melaleuca systena TEC.	ca. 35 plants.		GPS	1	7/11/2017
7836384	13127	Stylidium maritimum	3		Grey sand-loam, slope, ridge, limestone, private property.	Closed Tall Scrub of Melaleuca huegelii, Dryandra sessilis with occasional Spyridium globulosum.		Healthy population, in flower. Potential threat from clearing and weeds.	MAN	3	16/10/2007
8755361	13127	Stylidium maritimum	3	Perennial tufted herb with narrow leaves 10-40 cm long, with rose pink flowers.	Grey sand, on mid-slope with exposed limestone.		1 mature plant.	Project: 3536.	GPS	1	4/11/2015
8982600	13127	Stylidium maritimum	3	Herb, 0.8 m high.	Limestone ridge. Brown loamy sand over limestone.	Tall shrubland of Melaleuca systena over open shrubland of Melaleuca huegelii and Acacia lasiocarpa over very open herbland of Desmocladus flexuosus. Associated species: Grevillea preissii.	15 plants.		GPS	1	2/10/2009

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8540942	25800	Stylidium paludicola	3		Sandy flats near winter-wet damplands.	Low woodland of marri and Banksia grandis over Baumea juncea sedgeland and mixed open heath adjacent to Melaleuca preissiana and Banksia littorea woodland.			MAN	3	//2007
2858010	25800	Stylidium paludicola	3						AUTO	3	10/10/1900
7838204	25800	Stylidium paludicola	3	Herb to 1 m tall.	Peat based mound spring. Permanently wet site with water oozing from entire surface. Dips and mounds occur in peat layer.	With forest - woodland of Melaleuca preissiana over dense shrubland of Cyclosorrus interruptus, Pteridium esculentum, Agonis linearifolia, Astartea fascicularis, Isolepis prolifera, Lobelia alata, Burchardia sp.	occasional.		GPS	1	26/11/2007
7282575	25800	Stylidium paludicola	3	Multi-stemmed erect plant with pink flowers, white throat. Height to 90 cm.	Flat with moist grey sand.	With Acacia sp., Melaleuca preissiana and Leptospermum sp.	ca 50 plants.		GPS	1	14/11/2005
7855656	25800	Stylidium paludicola	3	Reed-like perennial herb 35-80 cm high, numerous scapes per plant; corolla lobes laterally-paired, bright pink, darker pink in bud; labellum pale pink with a pink terminal appendage; throat white, yellow to inside, glandular; anthers greenish-red fading	Winter-wet flat; brown sandy-clay.	Open Melaleuca preissiana woodland with dense Myrtaceous shrubs.	localised patch		GPS	1	31/10/2006
6499171	20603	Stylidium trudgenii	3	Perennial herb, 4-5 cm	Dampland - wetland. Peat, soggy.	Melaleuca preissiana (1.8) 5-7 m 1-2%; Astartea aff. fascicularis 1-1.8 m +/- 30% (more out of 10 x 10 m; to > 70%); Pericalymma ellipticum var. ellipticum 0.7 m < 5%; Meeboldina scariosa (ML49-1)0.5-1 m < 5%. Associated species: Stylidium mimeticum, Iso		From site ML49, Specimen ML49-11.	GPS	1	22/10/1999
6529690	20603	Stylidium trudgenii	3	Perennial herb.	Floor of a dampland/wetland complex. Seasonally inundated? (probably for short period at most this year). Soil: dark grey (pale surface) sandy (little) peat.	Scattered Melaleuca preissiana, Banksia littoralis (shrubs), over Astartea aff. fascicularis heath. Associated species: Drosera pulchella, Drosera aff. pygmaea, Villarsia albiflora, Epiblema grandiflorum var. grandiflorum, Comesperma virgatum, patches of		Stylidium sp.Ellenbrook (M.Trudgen 49-11) in a localised patch about 5 m across of about 21 clumps.	GPS	1	1/12/1999
6704832	20603	Stylidium trudgenii	3	Caespitose perennial herb. Flowers cerise laterally paired.	In black peaty soil on a winter wet swamp margin.			Specimens grown on in cultivation until anthesis then pressed for vouchers.	GPS	1	23/10/2000
8604223	48297	Styphelia filifolia	3		On brown sand on midslopes.	Woodland of Banksia attenuata, B. menziesii, B. ilicifolia over Heath dominated by Allocasuarina humilis.			UNK	2	11/09/2007
2997290	48297	Styphelia filifolia	3						AUTO	3	11/06/1978
1016539	48297	Styphelia filifolia	3	Erect shrub to 50 cm.	Sandy soil.				TOPO	3	7/02/1980
5917905	48297	Styphelia filifolia	3	Erect shrub 60 cm high x 40 cm wide. Flowers white, strictly pendulous. Leaves patent. Plants single stemmed at ground level.	Coastal plain (Bassendean Sands). Dry, littered grey sand.	Banksia woodland with a few marri. Corymbia calophylla, Banksia attenuata, Regelia inops, Xanthorrhoea preissii.	very occasional (4-6).	Relatively low lying area.	GPS	1	10/06/2001
7337671	48297	Styphelia filifolia	3	Erect, well branched shrub to ca 50 cm high. White flowers. Mostly in bud.	Flat, slope. Dry, white sand.	Banksia ilicifolia, B. menziesii, Nuytsia floribunda, Melaleuca - paper bark trees and sandplain shrubs including Scholtzia involucrata.	10+ scattered plants.		GPS	1	25/02/2006
9376089	4540	Tetratheca pilifera	3		Hill. Brown sandy loam soil.	Mid Eucalyptus wandoo woodland over tall open Xanthorrhoea preissii shrubland over low open mixed shrubland.	1 individual plant.		GPS	1	21/10/2020
278696	1717	Thelymitra variegata	2	Petals purple, spotted. Sepals orange, purplish in the centre, with reddish- purple spots. Column purple with orange wings.	On limestone hills towards the coast.			'Leopard Orchid'	AUTO	3	/09/1919
2935007	13783	Thysanotus sp. Badgingarra (E.A. Griffin 2511)	2	? young style of T. sparteus.	Low roadside on gravel.	Low scrub.			AUTO	3	1/03/1959
3455971	13783	Thysanotus sp. Badgingarra (E.A. Griffin 2511)	2	Rhizomatous herb to 20 cm x 1 m. Flowers purple, in full flower.	Gentle slope, sandy lateritic loam over laterite.	Eucalyptus wandoo low woodland.	scattered but not uncommon in area.		AUTO	3	16/01/1991
6427405	44444	Tripterococcus sp. Brachylobus (A.S. George 14234)	4	Flowers yellow.	Seasonal Wetland, flat ground, black fine peaty clay loam sand, poor drainage, wet during winter/spring.	Open Herbs. Associated species: Lepyrodia muirii, Baumea articulata, Baumea vaginalis.			GPS	1	10/11/1994
2472635	32658	Trithuria occidentalis	T	Annual herb, leaves red, flowers red, anthers purple-red.	In water, muddy open.		common.		TOPO	3	27/10/1982
2841851	32658	Trithuria occidentalis	T	Small annual, reddish colour.	Drying pools, muddy claypan.	Melaleuca laterite scrub.	common.		MAN	3	27/10/1982

Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Geo_Method	Precision	Date
7855885	32658	Trithuria occidentalis	T		Low-lying depression next to a low sand ridge covered by Petrophile sp. and Eucalyptus trees. Soil grey-brown clay, soft and damp to dry and hardening where higher.	Open shrubland of Melaleuca lateritia to 1.5 m tall with open ground between shrubs, colourful with flowering herbs including Villarsia capitata, Gratiola pubescens, Rhodanthe pyrethrum, Stylidium sp., Utricularia inaequalis, Aphelia drummondii, Lachnagr	About 500 plants over an area 15 metres across.	Growing with Trithuria bibracteata and with Trithuria submersa about 50 metres away in a different depression.	GPS		6/11/2007
8640688	32658	Trithuria occidentalis	T	Tiny annual ca 2 cm tall.	Low-lying depression. Grey-brown clay.	Open shrubland. With Gratiola pubescens, Melaleucac lateritia, Rhodanthe sp., Stylidium sp., Villarsia capitata.	> 100.		GPS	1	19/10/2012
2841886	32658	Trithuria occidentalis	T	Reddish annual herb.	Slightly submerged clay pan, open.		common.		AUTO	3	18/10/1978
1057219	14714	Verticordia lindleyi subsp. lindleyi	4		Gravelly soil.				MAN	3	/11/1901
6679765	14714	Verticordia lindleyi subsp. lindleyi	4						GPS	1	18/12/1998
5795672	14714	Verticordia lindleyi subsp. lindleyi	4	Erect shrub 0.5 m high.	Winter wet depression. Damp, grey-brown clay-sand-humus.	Dense shrubs (tall) over sedges. Melaleuca rhaphiophylla, Hypocalymma angustifolium, Juncus pallidus, sedges.	occasional.		MAN	3	10/12/1996
6679757	14714	Verticordia lindleyi subsp. lindleyi	4						GPS	1	18/12/1998
7400268	14714	Verticordia lindleyi subsp. lindleyi	4	Shrub 25 - 35 cm high.		Shrubland with some emergent Marri, Banksia and Nuytsia. Associated vegetation: Dasypogon bromelifolius, Melaleuca serriata, Stylidium repens, Hibbertia subuaginata.			GPS	1	9/02/2006
7400276	14714	Verticordia lindleyi subsp. lindleyi	4	Shrub 30 - 40 cm high.	Flat.	Shrubland with few emergent Marri, Banksia and Nuytsia. Associated vegetation: Verticordia nitens, Patersonia occidentalis, Dasypogon bromelifolius, Calytrix fraseri, Hibbertia subuagilata.			GPS	1	9/02/2006
6504914	14714	Verticordia lindleyi subsp. lindleyi	4		Topography: plain, low lying. Slope: flat. Soil testure: sand. Soil colour: brown to white. Surface layer: leaf litter. Rock type: limestone. Leaf litter coverage: 10-30% cover; ,3 cm depth; distribution mainly under shrubs. Wood litter: sparse. Fire his	Sparse Melaleuca preissiana over moderately dense Kunzea micrantha and Verticordia plumosa. Total vegetation cover: 95%. Trees <5 m, 2-10%: Melaleuca preissiana, Acacia saligna. Shrubs >2 m, 0-2%: Kunzea micrantha. Shrubs 1-2 m, 30-70%: Kunzea micrantha,			GPS	1	21/12/1998
2033720	12460	Verticordia serrata var. linearis	3	80 cm high x 15 cm wide. Flowers golden yellow.	White sand and gravel on road verge.	Growing in association with Adenanthos cygnorum.		This specimen was collected for painting.	AUTO	3	22/10/1987

PopId	Nameid	Taxon	ConsStatus	WARank	PopNumber	SubPopCode	PopStatus	District	Vesting	Purpose1	Purpose2	CountDate	Method	MatCount	JuvCount	SeedCount	LiveTotal	CountType	AreaOccupy	InFlower	PopConditi	HabConditi	HabNotes	SoilCondit	Landform	RockType	Gravel	SoilType	SoilColor	Drainage	Aspect
86275	3237	Acacia benthamii	2		1			SWAN COASTAL	PRI			15/09/1975		0			0			N											
86278	3237	Acacia benthamii	2		4			SWAN COASTAL	MRD	VER		5/06/2000	ESTMT	71			71			N			VegClas: Open B.menziessii woodland over shrubland	MOIST	FLAT	LIMESTN		SAND	YELLOW		
89659	11336	Adenanthos cygnorum subsp. chamaephyton	3		19			SWAN COASTAL	LGA	VER		14/05/1999	UNKNOWN	0			30			N					OD_SWALE			SAND	GREY		
118770	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1		2			SWAN COASTAL	CC	NPK		29/09/2017	ESTMT	###			0	PLANTS		Y	HEALTHY	EXCELENT	No sign of fire	DRY	FLAT	LIMESTN	GRVL_10	SAND	GREY	WLL_DRND	
120049	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1		5			SWAN COASTAL	RDL	OTH		14/09/2018	ACT_IND	37	15		0	PLANTS	940	Y	HEALTHY	VRY_GOOD	Closed to Open Heath of Baeckea sp. Limestone, Melaleuca systena, Banksia sessilis subsp. cygnorum, Calothamnus quadrifidus, Olearia axillaris, Hakea trifurcata, Spyridium globulosum, Acacia pulchella over Open Herbland of Tricoryne elatior, Dianella rev	DRY	SL_UP_ST	LIMESTN	GRVL_30	SAND	BROWN	WLL_DRND	
122549	34161	Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	1		6			SWAN COASTAL	RDL	CFF	WAT	22/10/2021	ACT_IND	200			0	PLANTS	1835	Y	HEALTHY	VRY_GOOD	Occasional Eucalyptus gomphocephala or Eucalyptus marginata over Low Open Woodland of Banksia attenuata, B. prionotes over Shrubland of Banksia sessilis, Xanthorrhoea preissii, Macrozamia riedlei over Shrubland to Open Heath of Calothamnus quadrifidus, A	MOIST	SL_UP_GE			SAND	YELLOW	WLL_DRND	
84935	1596	Caladenia huegelii	T	CR	22			SWAN COASTAL	LGA	VER		14/10/2004		0			0			N			Xanthorrhoea preissii, Patersonia sp., Hibbertia sp., Stirlingia latifolia.	DRY	RI_DUNE			SAND	GREY		
84938	1596	Caladenia huegelii	T	CR	25			SWAN COASTAL	PRI			15/10/1997	ESTMT	0			0			N			Xanthorrhoea preissii, Patersonia sp., Hibbertia sp., Stirlingia latifolia.	DRY	FLAT			SAND	GREY		
84940	1596	Caladenia huegelii	T	CR	32		U	SWAN COASTAL	CC	CFF		29/09/2004		0			0			N			Sonchus. Banksia Woodland. Hibberia, grass trees.		SLOPE			SAND	GREY		
84941	1596	Caladenia huegelii	T	CR	34		U	SWAN COASTAL	PRI			29/09/2004	ACT_IND	0			0			N			Cape tulip. Banksia, allocasuarina, Xanthorrhoea, Patersonia, Hibbertia, Stirlingia. Caladenia longicauda.		OD_DRGLN			LOAM_SND	GREY	PERMINUN	
84942	1596	Caladenia huegelii	T	CR	35		U	SWAN COASTAL	CC	CFF		29/09/2004	ACT_IND	0			0			N			Xanthorrhoea preisii, Patersonia, Hibbertia, Stirlingia latifolia. Habitat degraded & unsuitable.	DRY	FLAT			SAND	GREY		
84948	1596	Caladenia huegelii	T	CR	52		U	SWAN COASTAL	LGA			18/10/2004		0			0			N			Pockets of Banksia Woodland.		SLOPE			SAND	GREY		
84963	1596	Caladenia huegelii	T	CR	71			SWAN COASTAL	SPC	PAR		4/10/2005	ACT_IND	1			1			N	HEALTHY		Vegetation changes character, with more Banksia illicifolia etc to the north of this area.	DRY							
110514	1596	Caladenia huegelii	T	CR	81			SWAN COASTAL	PRI			24/09/2014	ESTMT	1			0	PLANTS		Y	HEALTHY	VRY_GOOD		DRY	FLAT		GRVL_10	SAND	WHITE	WLL_DRND	
114949	1596	Caladenia huegelii	T	CR	85			SWAN COASTAL	SPC	UNKNOWN		4/10/2017	ACT_IND	1			0	PLANTS	0.1	Y	HEALTHY	EXCELENT	Low Woodland of Banksia menziesii, B. attenuata, Eucalyptus todtiana, Nuytsia floribunda over occasional Adenanthos cygnorum over Low Shrubland of Hibbertia hypericoides, H. subvaginata, Stirlingia latifolia, Daviesia triflora, Philotheca spicata, Calytr	DRY	SL_UP_GE			SAND	GREY	WLL_DRND	ESE
104572	45757	Calectasia elegans	2		1	A		SWAN COASTAL	SPC	GVT		3/09/2019	ACT_IND	0			0	PLANTS		N		VRY_GOOD	Low Open Woodland of Banksia attenuata, B.menziesii and Nuytsia floribunda over Low Open Shrubland of Petrophile linearis, Acacia pulchella, Jacksonia floribunda, Leucopogon polymorphus, Boronia ramosa subsp. anethifolia, B. purdieana subsp. purdieana, H	MOIST	SLOPE			SAND	GREY	WLL_DRND	
104573	45757	Calectasia elegans	2		1	B		SWAN COASTAL	CC	FOR		3/09/2019		0			0			N			Low Open Woodland of Banksia attenuata, B. menziesii and occ. Nuytsia floribunda over Low Open Shrubland of Petrophile linearis, Acacia pulchella, Jacksonia floribunda, Leucopogon polymorphus, Boronia ramosa subsp. anethifolia, B. purdieana subsp. purdie		SL_LO_GE			SAND	GREY	WLL_DRND	
122249	45757	Calectasia elegans	2		2	A		SWAN COASTAL	CC	FOR		18/09/2018	ACT_IND	5			0	PLANTS		Y	HEALTHY	EXCELENT	Low Woodland of Banksia menziesii, B. attenuata over Open Shrubland of Jacksonia floribunda over Open Low Heath of Stirlingia latifolia, Melaleuca trichophylla, Hibbertia sericosepala, H. subvaginata, Daviesia triflora, Beaufortia elegans, Bossiaea erioc	DRY	SLOPE			SAND	WHITE	WLL_DRND	

PopId	Nameid	Taxon	ConsStatus	WARank	PopNumber	SubPopCode	PopStatus	District	Vesting	Purpose1	Purpose2	CountDate	Method	MatCount	JuvCount	SeedCount	LiveTotal	CountType	AreaOccupy	InFlower	PopConditi	HabConditi	HabNotes	SoilCondit	Landform	RockType	Gravel	SoilType	SoilColor	Drainage	Aspect
122253	45757	Calectasia elegans	2		2	B		SWAN COASTAL	CC	FOR		24/09/2019	ACT_IND	0			1	PLANTS	0.5	Y	POOR	EXCELENT	Low Woodland of Banksia attenuata and B.menziesii over Tall Shrubland of Adenanthos cygnorum and Regelia inops over Open Shrubland of Eremaea pauciflora, Petrophile linearis, Astroloma xerophyllum, Stirlingia latifolia, Gompholobium tomentosum, Hibbertia	DRY	SLOPE			SAND	GRY_BLCK		
122251	45757	Calectasia elegans	2		4			SWAN COASTAL	CC	FOR		15/10/2021	ACT_IND	10			0	PLANTS	1672	Y	MODERATE	VRY_GOOD	Low Woodland of Banksia attenuata, B.menzeisii, Eucalyptus todtiana and Nuytsia floribunda over Tall Shrubland of Adenanthos cygnorum over Shrubland of Eremaea pauciflora, Beaufortia elegans, Regelia inops, Jacksonia floribunda, Croninia kingiana, Vertic	DRY	SLOPE			SAND	GREY	WLL_DRND	
84454	759	Carex tereticaulis	3		4			SWAN COASTAL	UNKNOWN			17/05/1999		0			0			N			Watercourse, wet. Organic litter. Grey Bassendean sand. Dense forest.					SAND	GREY		
97141	1425	Conostylis bracteata	3		1	A		SWAN COASTAL	LGA			29/03/1986		0			0			N			DomSp:Xanthorrhoea sp.		RI_DUNE						
97142	1425	Conostylis bracteata	3		1	B	X	SWAN COASTAL	PRI			16/08/1986		0			0			N					RI_DUNE						E
97143	1425	Conostylis bracteata	3		1	C		SWAN COASTAL	LGA	PAR		16/08/1986		0			0			N			DomSp: Banksia attenuata, Melaleuca acerosa		RI_DUNE	LATERITE					
84822	1425	Conostylis bracteata	3		4			SWAN COASTAL	NON	UCL		6/11/1997		0			0			N			DomSp: Acacia spp., Ehrharta calycina.		CD_LKBED			SAND	GREY		
93193	16245	Cyathochaeta teretifolia	3		1			SWAN COASTAL	CC	CFF		3/11/1995		0			0			N			Galium, Daucus, Trachymene.		SLOPE			LOAM	BROWN		N
93212	16245	Cyathochaeta teretifolia	3		3			SWAN COASTAL	LGA	REC		27/10/1994		0			0			N											
93214	16245	Cyathochaeta teretifolia	3		5			SWAN COASTAL	PRI			3/08/1995		0			0			N			VegClass:Low Open Forest		OD_CREEK					SEASINUN	
93194	16245	Cyathochaeta teretifolia	3		10			SWAN COASTAL	LGA	VER		13/11/2007	ACT_IND	1			1			N			Open forest over tall open scrub over sedgeland. Meeboldina sp. Ground wet all year. 90% litter coverage.		FLAT			LOAM	BROWN	PERMINUN	
93197	16245	Cyathochaeta teretifolia	3		13			SWAN COASTAL	CC	CFF		3/11/1995		0			0			N					FL_PALU	LIMESTN		CLA_LOAM	RED_BRWN	SEASINUN	N
93198	16245	Cyathochaeta teretifolia	3		14			SWAN COASTAL	LGA	REC		8/12/1995		0			0			N					CD_SMPLD			CLAY_SND	BLACK		
93205	16245	Cyathochaeta teretifolia	3		20			SWAN COASTAL	PRI			6/09/1999		0			0			N					FLAT						
93206	16245	Cyathochaeta teretifolia	3		21			SWAN COASTAL	PRI			21/08/1999		0			0			N			DomSp:Astartea aff. fascicularis, Lepidosperma longitudinale, Baumea rubiginosa, Acacia saligna...	MOIST	CD_SMPLD						
93208	16245	Cyathochaeta teretifolia	3		23			SWAN COASTAL	PRI			28/09/1999		0			0			N					SLOPE						
93209	16245	Cyathochaeta teretifolia	3		24			SWAN COASTAL	CC	FOR		2/12/2002		0			0			N											
96623	34773	Darwinia foetida	T	EN	4			SWAN COASTAL	PRI			9/03/2007	ESTMT	25			25			N			Palusplain multiple use wetland.					SAND	GRY_BLCK		
90830	3115	Drosera occidentalis	4		2			SWAN COASTAL	PRI			6/01/1986	ESTMT	100			100			N											
90837	3115	Drosera occidentalis	4		3			SWAN COASTAL	PRI			6/01/1986		0			0			N											
93992	17605	Eleocharis keigheryi	T	VU	1			SWAN COASTAL	CC	CFA		9/11/2007	ESTMT	###			###			Y			Scrub over very open tall sedges over open herbs.	INUNDATE				CLAY	BROWN		
94007	17605	Eleocharis keigheryi	T	VU	7			SWAN COASTAL	COM	AIR		17/09/2007	ESTMT	0			0			Y			Open tall sedges.	DRY	FLAT			CLA_LOAM	BROWN		
101587	13091	Eucalyptus argutifolia	T	VU	7	A		SWAN COASTAL	CC	FOR		6/12/2013	ACT_CLMP	2	0	0	0	CLUMPS	11	Y	HEALTHY	EXCELENT	QUARRY Despite being surrounded by a limestone mine this elevated and isolated remnant of vegetation on the top of the ridge is in very good to excellent condition.	DRY	OUTCROP	LIMESTN	GRVL_30	SAND	BROWN		
101588	13091	Eucalyptus argutifolia	T	VU	7	B		SWAN COASTAL	CC	FOR	MIN	6/12/2013	ACT_CLMP	41	3	0	0	CLUMPS	446	Y	HEALTHY		Heath of Banksia sessilis var. cygnorum, Acacia lasiocarpa, Melaleuca huegelii, Melaleuca systena, Xanthorrhoea preissii, Acacia ?stenoptera, Hemiandra pungens, Trymalium ledifolium var. ledifolium with occasional Hakea prostrata, Cassytha ?racemosa, Tem	MOIST	SLOPE	LIMESTN		SAND	BROWN		ESE

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90756	13091	Eucalyptus argutifolia	T	VU	10			SWAN COASTAL	WAT	WAT		15/05/2018	ACT_CLMP	17			0	CLUMPS	5800	N	HEALTHY	VRY_GOOD	Regenerating community: Very Open Shrub Mallee of Eucalyptus argutifolia over Tall Open Scrub of Banksia sessilis var. cygnorum, Xanthorrhoea preissii, Melaleuca systena, M. sp. Wanneroo (T), M. huegelii, Hakea prostrata, Acacia saligna over Open Low Hea	MOIST	SLOPE	LIMESTN		SAND	BROWN	WLL_DRND	E
90759	13091	Eucalyptus argutifolia	T	VU	13			SWAN COASTAL	LGA	REC		5/12/2017	ACT_CLMP	8			0	PLANTS	797	Y	HEALTHY	GOOD	HABITAT CONDITION: Good-degraded. Two bushland remnants still exist, but the degraded areas are reducing. 1. Low Open Woodland of Eucalyptus argutifolia over Tall Shrubland of Acacia rostellifera and Spyridium globulosum. 2. The second remnant is domi	MOIST	SL_MI_GE	LIMESTN		SAND	GREY	WLL_DRND	
101581	13091	Eucalyptus argutifolia	T	VU	14	A		SWAN COASTAL	NON	UCL		13/12/2013	ACT_IND	32	0	0	0	PLANTS	339	N	MODERATE	EXCELENT		MOIST	SL_UP_ST	LIMESTN	GRVL_10	SAND	BROWN		NE
101582	13091	Eucalyptus argutifolia	T	VU	14	B		SWAN COASTAL	NON	UCL		13/12/2013	ACT_IND	6			0	PLANTS	10	N	HEALTHY	EXCELENT		MOIST	RIDGE	LIMESTN		SAND	BROWN		
90760	13091	Eucalyptus argutifolia	T	VU	15			SWAN COASTAL	LGA	REC		6/04/2021		0			20			N	HEALTHY	VRY_GOOD	A small amount of rubbish within population. Shrub Malle of Eucalyptus argutifolia over Shrubland Melaleuca huegelii, Melaleuca systena, Acacia rostellifera, Spyridium globulosum, Hakea trifurcata, over Hardenbergia comptoniana, Opercularia vaginata,	DRY	SL_UP_GE	LIMESTN		SAND	WHITE		
101584	13091	Eucalyptus argutifolia	T	VU	17			SWAN COASTAL	PRI			3/08/2006	ACT_IND	1			0			N	MODERATE			MOIST	RIDGE	LIMESTN		SAND	BROWN		
120029	13091	Eucalyptus argutifolia	T	VU	20			SWAN COASTAL	WAT	OTH		7/11/2017	ESTMT	6			0	PLANTS			HEALTHY	EXCELENT		DRY	SLOPE	LIMESTN	GRVL_10	SAND	GREY	WLL_DRND	
94987	20162	Fabronia hampeana	2		2			SWAN COASTAL	PRI			14/09/1994		0			0			N			Banksia, Macrozamia, Hibbertia, Xanthorrhoea, Dyandra, grasses, weeds.								
104266	20162	Fabronia hampeana	2		4	A		SWAN COASTAL	PRI			12/01/2009		0			0			N			Dom sp: Xanthorrhoea preissii, Mesomelaena pseudostygia, Banksia sessilis, Spyridium globulosum					SAND			
104267	20162	Fabronia hampeana	2		4	B		SWAN COASTAL	PRI			12/01/2009		0			0			N			Dom sp: Macrozamia sp. & Banksia sp. Woodland.					SAND	YELLOW		
104268	20162	Fabronia hampeana	2		4	C		SWAN COASTAL	PRI			12/01/2009		0			0			N			Banksia low open woodland. Dom sp: Acacia cyclops, Hibbertai hypericoides, Desmocladus flexuosus			LIMESTN		SAND	YELLOW		
104269	20162	Fabronia hampeana	2		4	D		SWAN COASTAL	PRI			12/01/2009		0			0			N			Dom sp: Desmocladus flexuosus, Xanthorrhoea preissii, Hibbertia hypericoides & Banksia nivea.								
92200	14408	Grevillea curviloba subsp. curviloba	T	CR	2			SWAN COASTAL	CC	CFF		12/01/2017		0			0			N		GOOD	The western side of the Reserve was burnt in 1989 and eastern side was burnt in 1973.	MOIST	FLAT		GRVL_10	SND_LOAM			
92201	14408	Grevillea curviloba subsp. curviloba	T	CR	3			SWAN COASTAL	CC	NRE		26/05/2015		0			0			N		DEGRADED	The vegetation and current regen appear to have been burnt more recently than 2013, and therefore it is likely that there was another burn post 2013. Very few native plants regenerating at this time. One adult Acacia saligna present plus a number of A	DRY	FLAT	NONE	GRVL_10	SND_LOAM	GREY		
92202	14408	Grevillea curviloba subsp. curviloba	T	CR	4	A		SWAN COASTAL	CC	CFF		17/08/2012	ACT_CLMP	1			0	CLUMPS	6	Y		GOOD			FLAT						
92204	14408	Grevillea curviloba subsp. curviloba	T	CR	4	B		SWAN COASTAL	CC	CFF		26/10/2016	ACT_CLMP	29	3		0	CLUMPS		Y	MODERATE	DEGRADED	Habitat 1 (main group of plants) - Occasional Corymbia calophylla over Open Shrubland of Grevillea curviloba subsp. curviloba over Closed Grassland of *Ehrharta longiflora, *Bromus diandrus, *E.calycina and *Briza maxima		OD_DRGLN			SAND	GREY		
112129	14408	Grevillea curviloba subsp. curviloba	T	CR	4	C		SWAN COASTAL	PRI			26/09/2016	ACT_CLMP	69	11		0	CLUMPS		Y	HEALTHY	DEGRADED	Habitat 2 (Clump of 4 plants) Drainage line. Clearing for development adjacent. Otherwise degraded.	MOIST	FLAT			SAND	GREY	WLL_DRND	
102719	14408	Grevillea curviloba subsp. curviloba	T	CR	5	A		SWAN COASTAL	RAI	RRE		2/12/2015	ACT_IND	135			0	PLANTS		N	HEALTHY	DEGRADED	Degraded grassland (Eragrostis curvula, Cynodon dactylon, Avena barbata)	DRY	FLAT			SND_LOAM	GREY	WLL_DRND	
102720	14408	Grevillea curviloba subsp. curviloba	T	CR	5	B		SWAN COASTAL	RAI	RRE		2/12/2015	ACT_IND	198			0	PLANTS		N	HEALTHY	DEGRADED	Degraded grassland, Eragrostis curvula, with patches of Watsonia meriana	DRY	FLAT			SND_LOAM	GREY	SEASINUN	

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102721	14408	Grevillea curviloba subsp. curviloba	T	CR	5	C		SWAN COASTAL	LGA	VER		3/09/2004	ACT_IND	2		5	7			Y			Acacia sp., weeds-grasses.	DRY	FLAT			LOAM	BROWN		
102722	14408	Grevillea curviloba subsp. curviloba	T	CR	5	D		SWAN COASTAL	RAI	RRE		2/12/2015	ACT_IND	0			0			N		DEGRADED	Degraded grassland - Eragrostis curvula, Cenchrus clandestinus	DRY	FLAT		GRVL_10	SND_LOAM	GREY	WLL_DRND	
109315	14408	Grevillea curviloba subsp. curviloba	T	CR	5	E		SWAN COASTAL	RAI	RRE		30/08/2012	ESTMT	44			0	CLUMPS	1800	Y	HEALTHY	DEGRADED	Tall open scrub (Acacia saligna, Jacksonia sp.), over open heath (Grevillea curviloba ssp curviloba with occasional Xanothorrea preissii). Weeds: Eragrostis curvula, Watsonia sp, various Poa spp On top of drain embankment - Locally modified environment.		FLAT		GRVL_10	SAND	GREY	WLL_DRND	
109316	14408	Grevillea curviloba subsp. curviloba	T	CR	5	F		SWAN COASTAL	RAI	RRE		3/12/2015	ACT_IND	165			0	PLANTS		N	HEALTHY	DEGRADED	Degraded grassland (Eragrostis curvula, Ehrharta calycina, Cenchrus clandestinus)	DRY	FLAT		GRVL_10	SND_LOAM	GREY	WLL_DRND	
109318	14408	Grevillea curviloba subsp. curviloba	T	CR	5	G		SWAN COASTAL	LGA	VER		1/08/2012	ESTMT	10			0	CLUMPS	20	Y	HEALTHY	DEGRADED	Tall open scrub (Acacia saligna) with occasional Banksia littoralis, Hakea varia, Banksia sessilis over open heath (Grevilliea curviloba subsp. curviloba, with occasional Xanothorrhoea preissii). Occasional Sterlingia latifolia and Dianella revoluta. W		FLAT		GRVL_10	SND_LOAM	BROWN		
110231	14408	Grevillea curviloba subsp. curviloba	T	CR	5	H		SWAN COASTAL	RAI	RRE		22/10/2015	ESTMT	0			15	PLANTS	350	Y	POOR	DEGRADED	Occasional Acacia saligna over Shrubland of Grevillea curviloba subsp. incurva and Xanthorrhoea preissii over Closed Grassland of mixed weed species dominated by *Agrostis curvula and *Ehrharta calycina.		FLAT			LOAM_SND	GREY	WLL_DRND	
110229	14408	Grevillea curviloba subsp. curviloba	T	CR	5	I		SWAN COASTAL	LGA	VER		22/10/2015	ESTMT	0			10	PLANTS	150	Y	POOR	DEGRADED	Occasional Acacia saligna over Shrubland of Grevillea curviloba subsp. incurva and Xanthorrhoea preissii over Closed Grassland of mixed weed species dominated by *Agrostis curvula and *Ehrharta calycina.		FLAT			LOAM_SND	GREY	WLL_DRND	
102716	14408	Grevillea curviloba subsp. curviloba	T	CR	10	A		SWAN COASTAL	CC	CFF	NRE	16/01/2018		0	1		0		1	N	MODERATE	GOOD	Habitat description has changed to reflect the vegetation at the current plant locations. The historic population extent was greater and therefore the vegetation description reflected the broader area.	MOIST				SAND	BROWN		
102717	14408	Grevillea curviloba subsp. curviloba	T	CR	10	B		SWAN COASTAL	PRI			16/01/2018		0			0			N		COM_DEGR	Garden landscaping and lawn are now covering half the site where the plants occurred. There is an overstorey of Eucalyptus rudis and Corymbia calophylla over thick regrowth of tall Acacia saligna over Pteridium esculentum with occasional Xanthorrhoea p	MOIST	FL_PLAIN			SAND	BROWN		
121089	14408	Grevillea curviloba subsp. curviloba	T	CR	21			SWAN COASTAL	PRI	OTH		16/09/2019	ACT_CLMP	2			0	CLUMPS		N		GOOD	Monoculture of Grevillea curviloba subsp. curviloba					SAND	GREY		
84894	1469	Haemodorum loratum	3		2			SWAN COASTAL	UNKNOWN			13/11/1981		0			0			N			Wandoo woodland.			LATERITE		LOAM			
89726	49637	Hibbertia leptotheca	3		3			SWAN COASTAL	LGA			25/10/1982		0			0			N											
100789	49637	Hibbertia leptotheca	3		4	A		SWAN COASTAL	LGA	REC		21/09/1990		0			0			Y					SL_CLIFF	LIMESTN		SAND	GREY		
100790	49637	Hibbertia leptotheca	3		4	B		SWAN COASTAL	LGA	REC		21/09/1990		0			0			N					SL_CLIFF	LIMESTN		SAND	GREY		
88387	6233	Hydrocotyle lemnoides	4		1			SWAN COASTAL	CC	CFA		2/11/1990	ESTMT	###			###			Y			Pools of water.		OD_SWAMP			CLAY	BROWN	PERMINUN	
86874	4027	Jacksonia sericea	4		1			SWAN COASTAL	LGA	PAR	REC	15/11/1979		0			0			N											
86878	4027	Jacksonia sericea	4		2			SWAN COASTAL	LGA	CFF	REC	15/06/1979		0			0			N											
98915	4027	Jacksonia sericea	4		4	A		SWAN COASTAL	PRI			27/12/1989		0			0			N				DRY	RI_DUNE	LIMESTN		SAND	YELLOW		
98916	4027	Jacksonia sericea	4		4	B		SWAN COASTAL	NON	UCL		27/12/1989		0			0			N				DRY	RI_DUNE	LIMESTN		SAND	YELLOW		
98917	4027	Jacksonia sericea	4		4	C		SWAN COASTAL	PRI			27/12/1989		0			0			N				DRY	RI_DUNE	LIMESTN		SAND	YELLOW		
98919	4027	Jacksonia sericea	4		5	A		SWAN COASTAL	RAI	RRE		27/12/1989		0			0			N											

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98920	4027	Jacksonia sericea	4		5	B		SWAN COASTAL	MRD	VER		27/12/1989		0			0			N											
98921	4027	Jacksonia sericea	4		5	C		SWAN COASTAL	MRD	VER		27/12/1989		0			0			N											
98922	4027	Jacksonia sericea	4		5	D		SWAN COASTAL	MRD	VER		27/12/1989		0			0			N											
98923	4027	Jacksonia sericea	4		5	E		SWAN COASTAL	RAI	RRE		27/12/1989		0			0			N											
98924	4027	Jacksonia sericea	4		5	F		SWAN COASTAL	PRI			27/12/1989		0			0			N											
98926	4027	Jacksonia sericea	4		7	A		SWAN COASTAL	LGA	CON		7/11/1990	ESTMT	750			750			N						LIMESTN			BROWN		
98927	4027	Jacksonia sericea	4		7	B		SWAN COASTAL	LGA	CON		7/11/1990	ESTMT	250			250			N						LIMESTN			BROWN		
98929	4027	Jacksonia sericea	4		9	A		SWAN COASTAL	LGA	VER		26/03/1990	ESTMT	280			280			N					SLOPE	LIMESTN			BROWN		
98930	4027	Jacksonia sericea	4		9	B		SWAN COASTAL	PRI			15/05/1990	ESTMT	###			###			N					SLOPE	LIMESTN		SAND	BROWN		
86875	4027	Jacksonia sericea	4		10			SWAN COASTAL	LGA	CON		17/10/1990	ESTMT	###			###			Y			Eucalyptus low woodland over Banksia attenuata low woodland A.	DRY				SAND	BROWN		
98912	4027	Jacksonia sericea	4		12	A		SWAN COASTAL	LGA	REC		4/04/1990	ESTMT	100			100			N					SLOPE			SAND	BROWN		
98913	4027	Jacksonia sericea	4		12	B		SWAN COASTAL	PRI			4/04/1990		0			0			N					SLOPE			SAND	BROWN		
86876	4027	Jacksonia sericea	4		13			SWAN COASTAL	LGA		REC	10/12/1990		0			0			N											
95536	25819	Marianthus paralius	T	EN	2			SWAN COASTAL	RDL	REC	CMN	22/03/2018	ACT_IND	0			7	PLANTS		N	POOR	EXCELENT	30%-70% exposed limestone. Open Low Heath of Melaleuca huegelii, M. cardiophylla, Tetragona decumbens, Scaevola crassifolia, Acanthocarpus preissii, Frankenia pauciflora, Olax benthamiana, Rhagodia baccata, Olearia axillaris. Habitat is excellent con	MOIST	SL_CLIFF	LIMESTN		SAND	GREY	WLL_DRND	SW
107424	25819	Marianthus paralius	T	EN	3			SWAN COASTAL	LGA	REC		18/09/2013	ACT_IND	137	8		0	PLANTS	1720	Y	HEALTHY		1) Acacia xanthina, Templetonia retusa Open Heath over Spyridium globulosum, Grevillea preissii, Allocasuarina lehmanniana, Melaleuca cardiophylla, Phyllanthus calycinus, Hibbertia hypericoides, Scaevola crassifolia, Lomandra maritima Low Shrubland. *Ehr	MOIST	SL_UP_GE	LIMESTN	GRVL_10	SAND	GREY	WLL_DRND	
96547	33638	Meionectes tenuifolia	3		4			SWAN COASTAL	PRI			3/11/1995		0			0			N			Hyalosperma humifusus, Hyalosperma cotula, Lepidosperma longitudinale.		FLAT	LIMESTN		CLAY	BROWN		
110769	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	EN	1			SWAN COASTAL	LGA	GVT		8/07/2014	PART_CNT	50			0	PLANTS	5364		HEALTHY	EXCELENT	Almost on the top of the ridge, slightly SW - W aspect.	MOIST	RIDGE	LIMESTN		FSA_LOAM		WLL_DRND	SW
110770	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	EN	2			SWAN COASTAL	PRI	UNKNOWN		7/04/2008	ESTMT	100			0	PLANTS	4022	Y		EXCELENT			OU_SLOPE	LIMESTN		SAND	BLACK		
110789	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	EN	3	A		SWAN COASTAL	PRI			10/05/2017	ESTMT	15	1		0	PLANTS	100	N	HEALTHY	EXCELENT	Most of the plants occurred in: Tall open scrub of Melaleuca huegelii, Melaleuca sp Wanneroo with occasional Eucalyptus petrensis and Melaleuca systena, over open low heath of Acacia alata var. tetrantha, Thomasia triphylla over open sedgeland/herbland	DRY	OU_SLOPE	LIMESTN		SAND	GREY	WLL_DRND	
111492	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	EN	3	B		SWAN COASTAL	RDL	MIN		27/11/2013	ACT_IND	1			0	PLANTS	4	N		EXCELENT	NOTE - Fire information was taken from Corporate Mapping Data. Not confirmed in the field			LIMESTN					
111509	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	EN	3	C		SWAN COASTAL	RDL	MIN		30/09/2009	PART_CNT	41			0		2047	N		EXCELENT				LIMESTN					
120789	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	EN	3	D		SWAN COASTAL	WAT	GVT		15/05/2018	EXT_GRQD	0			###	PLANTS	2500	N	HEALTHY	EXCELENT	Occasional Eucalyptus argutifolia and Eucalyptus petrensis to 1.5m over Closed Heath of Melaleuca sp. Wanneroo, Melaleuca huegelii, Grevillea preissii, Templetonia retusa, Scaevola crassifolia, Acacia lasiocarpa, Acacia alata var. tetrantha, Opercularia	MOIST	RIDGE	LIMESTN		SAND	GREY	WLL_DRND	
110790	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	EN	4	A		SWAN COASTAL	CC	FOR		26/11/2013	PART_CNT	46			0	PLANTS	####	N		EXCELENT	NOTE - Fire information was taken from Corporate Mapping Data. Not confirmed in the field			LIMESTN					

PopId	Nameid	Taxon	ConsStatus	WARank	PopNumber	SubPopCode	PopStatus	District	Vesting	Purpose1	Purpose2	CountDate	Method	MatCount	JuvCount	SeedCount	LiveTotal	CountType	AreaOccupy	InFlower	PopConditi	HabConditi	HabNotes	SoilCondit	Landform	RockType	Gravel	SoilType	SoilColor	Drainage	Aspect
111490	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	EN	4	B		SWAN COASTAL	CC	FOR		6/12/2013	ESTMT	20			0	PLANTS	475	Y		EXCELENT		DRY	RIDGE	LIMESTN		SAND		WLL_DRND	
120790	33022	Melaleuca sp. Wanneroo (G.J. Keighery 16705)	T	EN	4	C		SWAN COASTAL	CC	FOR		17/01/2019	PART_CNT	90			0	PLANTS	8900	Y	HEALTHY		Tall Open Scrub of Melaleuca systena, M. sp. Wanneroo, Banksia sessilis ssp. cygnorum, M. huegelii over Open Heath of Grevillea preissii, Hibbertia hypericoides, Conostylis candicans, Cryptandra mutila, Acacia pulchella, Desmocladus flexuosa.	DRY	SL_MI_ST	LIMESTN		SAND	GREY	WLL_DRND	NE
103688	17543	Sarcozona bicarinata	3		1	A		SWAN COASTAL	LGA	REC		4/08/1992		0			0			N			White sand over yellow sand.					SAND	WHITE		
103689	17543	Sarcozona bicarinata	3		1	B		SWAN COASTAL	LGA	REC		4/08/1992	ESTMT	0			25			Y			White sand over yellow sand.					SAND	WHITE		
84517	980	Schoenus capillifolius	3		3			SWAN COASTAL	CC	CFF		2/11/1990	ESTMT	0			100			Y			Growing submerged or on edges of Winter Wet Claypan.		OD_SWAMP			CLAY	BROWN	SEASINUN	
89291	7756	Stylidium longitubum	4		1			SWAN COASTAL	AGR	GVT		12/11/1989		0			0			Y								SND_CLAY			
89302	7756	Stylidium longitubum	4		2			SWAN COASTAL	CC	CFA		28/12/1971		0			0			N				MOIST	OD_SWAMP						
89307	7756	Stylidium longitubum	4		3			SWAN COASTAL	CC	NRE		3/10/1988		0			0			N			Winter wet claypan.		OD_SWAMP			CLAY		SEASINUN	
89308	7756	Stylidium longitubum	4		4			SWAN COASTAL	UNKNOWN			30/10/1992		0			0			N											
89298	7756	Stylidium longitubum	4		16			SWAN COASTAL	SPC			10/11/1994		0			0			N					FL_PALU			CLA_LOAM	BROWN	SEASINUN	
89304	7756	Stylidium longitubum	4		21			SWAN COASTAL	SPC			8/12/2005		0			0			N			DomSp: Deyeuxia quadriseta, Drosera gigantea subsp. gigantea		OD_SWAMP						
93721	44444	Tripterococcus sp. Brachylobus (A.S. George 14234)	4		17			SWAN COASTAL	PRI			10/11/1994		0			0			N			VegClass:Open Herbs		FL_PALU			CLA_LOAM	BLACK	SEASINUN	
96349	32658	Trithuria occidentalis	T	CR	1			SWAN COASTAL	CC	CFA		23/10/2018	EXT_GRQD	0			421	PLANTS	47	N	HEALTHY	EXCELENT	Open Heath of Melaleuca lateritia and M. viminea over Herbland of Rhodanthe pyrethrum, Villarsia capitata, Stylidium sp. Centrolepis sp. Aphelia drummondii, Trithuria submersa and T. bibracteata. Note that soil was wet, and inundated in places. There	INUNDATE	FL_PALU			SND_CLAY	GREY	SEASINUN	

APPENDIX 2

Atlas of Living Australia Report

Species	Species Name	Scientific Name Authorship	Taxon Rank	Kingdom	Phylum	Class	Order	Family	Vernacular Name
https://biodiversity.org.au/afd/taxa/5291343e-fdeb-4a65-8ba5-928f5b96acf5	Gymnorhina tibicen	(Latham, 1801)	species	Animalia	Chordata	Aves	Passeriformes	Artamidae	Australian Magpie
https://biodiversity.org.au/afd/taxa/8117f68b-5460-4626-8400-e171464e08ad	Corvus coronoides	Vigors & Horsfield, 1827	species	Animalia	Chordata	Aves	Passeriformes	Corvidae	Australian Raven
https://biodiversity.org.au/afd/taxa/8204979f-5302-41ea-943f-01d3c420f7bb	Anthochaera (Anthochaera) carunculata	(Shaw, 1790)	species	Animalia	Chordata	Aves	Passeriformes	Meliphagidae	Red Wattlebird
https://biodiversity.org.au/afd/taxa/9b4ad548-8bb3-486a-ab0a-905506c463ea	Eolophus roseicapilla	(Vieillot, 1817)	species	Animalia	Chordata	Aves	Psittaciformes	Cacatuidae	Galah
https://biodiversity.org.au/afd/taxa/1c4dce12-16f6-49ab-b578-067355121 4fd	Rhipidura (Sauloprocta) leucophrys	(Latham, 1801)	species	Animalia	Chordata	Aves	Passeriformes	Rhipiduridae	Willie Wagtail
https://biodiversity.org.au/afd/taxa/81be58f5-caf7-4f3d-b1eb-d4f83eb0af5a	Anas (Anas) superciliosa	Gmelin, 1789	species	Animalia	Chordata	Aves	Anseriformes	Anatidae	Parera
https://biodiversity.org.au/afd/taxa/f5f5ddd8-ae6a-431b-9e08-3e992b12fa64	Threskiornis moluccus	(Cuvier, 1829)	species	Animalia	Chordata	Aves	Ciconiiformes	Threskiornithidae	Black-necked Ibis
https://biodiversity.org.au/afd/taxa/bb53b420-0a1f-4a49-9d1e-2a6154c685a8	Fulica atra	Linnaeus, 1758	species	Animalia	Chordata	Aves	Gruiformes	Rallidae	Eurasian Coot
https://biodiversity.org.au/afd/taxa/f83c15ca-4ff5-4c37-be49-ce49a431f0ca	Cygnus (Chenopis) atratus	(Latham, 1790)	species	Animalia	Chordata	Aves	Anseriformes	Anatidae	Black Swan
https://biodiversity.org.au/afd/taxa/681ea214-3788-4cc6-8b97-0b325d6bba6b	Cracticus torquatus	(Latham, 1801)	species	Animalia	Chordata	Aves	Passeriformes	Artamidae	Grey Butcherbird
https://biodiversity.org.au/afd/taxa/ce17b284-d607-496a-992f-f3129bfd3997	Grallina cyanoleuca	(Latham, 1801)	species	Animalia	Chordata	Aves	Passeriformes	Monarchidae	Magpie-lark
https://biodiversity.org.au/afd/taxa/eedce521-aaa8-43fa-bbd7-0074d0bcbf4b	Biziura lobata	(Shaw, 1796)	species	Animalia	Chordata	Aves	Anseriformes	Anatidae	Musk Duck
https://biodiversity.org.au/afd/taxa/fe0d4e5e-6bd5-4e46-a77c-00e8cec73410	Zosterops lateralis	(Latham, 1801)	species	Animalia	Chordata	Aves	Passeriformes	Zosteropidae	Silvereye
https://biodiversity.org.au/afd/taxa/5fed5ecf-2199-4f64-a9f7-90b39f88a90a	Barnardius zonarius	(Shaw, 1805)	species	Animalia	Chordata	Aves	Psittaciformes	Psittacidae	Australian Ringneck
https://biodiversity.org.au/afd/taxa/34b31e86-7ade-4cba-960f-82a6ae586206	Cacatua (Licmetis) sanguinea	Gould, 1843	species	Animalia	Chordata	Aves	Psittaciformes	Cacatuidae	Little Corella
https://biodiversity.org.au/afd/taxa/0b7c528a-4104-4a96-853e-05a37c327067	Microcarbo melanoleucos	(Vieillot, 1817)	species	Animalia	Chordata	Aves	Pelecaniformes	Phalacrocoracidae	Little Cormorant
https://biodiversity.org.au/afd/taxa/97a59c84-af21-4cdc-bac7-a97c5201db42	Rhipidura (Rhipidura) albiscapa	Gould, 1840	species	Animalia	Chordata	Aves	Passeriformes	Rhipiduridae	Grey Fantail
https://biodiversity.org.au/afd/taxa/efaa935b-e248-456a-b85e-b048b465b676	Anas (Nettion) gracilis	Buller, 1869	species	Animalia	Chordata	Aves	Anseriformes	Anatidae	Oceanic Teal
https://biodiversity.org.au/afd/taxa/8931bcfb-95ea-44b1-96c9-ce036191e15c	Tadorna (Casarca) tadornoides	(Jardine & Selby, 1828)	species	Animalia	Chordata	Aves	Anseriformes	Anatidae	Chestnut Sheldrake
https://biodiversity.org.au/afd/taxa/3dbe8a1f-e562-42ba-a165-565c0704f8f2	Porphyrio (Porphyrio) porphyrio	(Linnaeus, 1758)	species	Animalia	Chordata	Aves	Gruiformes	Rallidae	Purple Gallinule
https://biodiversity.org.au/afd/taxa/1fc76c4d-4830-4129-9b86-1c7e944c3c50	Dacelo (Dacelo) novaeguineae	(Hermann, 1783)	species	Animalia	Chordata	Aves	Coraciiformes	Alcedinidae	Kookaburra
https://biodiversity.org.au/afd/taxa/c96b19fd-2a54-4361-a5cf-baecf741310e	Phalacrocorax (Phalacrocorax) sulcirostris	(Brandt, 1837)	species	Animalia	Chordata	Aves	Pelecaniformes	Phalacrocoracidae	Little Black Cormorant
https://biodiversity.org.au/afd/taxa/8fd1977b-9edf-4ddf-b6cf-24a09db4d18c	Egretta novaehollandiae	(Latham, 1790)	species	Animalia	Chordata	Aves	Ciconiiformes	Ardeidae	Matuka
https://biodiversity.org.au/afd/taxa/6ccdb357-d666-4097-b0f6-88bb1a392112	Gavicalis virescens	(Vieillot, 1817)	species	Animalia	Chordata	Aves	Passeriformes	Meliphagidae	Singing Honeyeater
https://biodiversity.org.au/afd/taxa/4e118c73-06a7-4131-bd67-5da5d2d61fd7	Hirundo (Hirundo) neoxena	Gould, 1843	species	Animalia	Chordata	Aves	Passeriformes	Hirundinidae	Welcome Swallow
https://biodiversity.org.au/afd/taxa/31113d80-ed4f-4bb0-9a65-48080e4c6dd1	Haliastur sphenurus	(Vieillot, 1818)	species	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	Whistling Eagle-hawk
https://biodiversity.org.au/afd/taxa/75e90438-cf36-403e-9223-a7d4737b1fd1	Gerygone fusca	(Gould, 1838)	species	Animalia	Chordata	Aves	Passeriformes	Acanthizidae	Fuscous Warbler
https://biodiversity.org.au/afd/taxa/e2070aa5-7ab4-41a8-9b41-b3f0c2e26390	Chroicocephalus novaehollandiae	(Stephens, 1826)	species	Animalia	Chordata	Aves	Charadriiformes	Laridae	Silver Gull
https://biodiversity.org.au/afd/taxa/ada6105e-c2de-4b93-9687-8e64d10863a7	Lichmera (Lichmera) indistincta	(Vigors & Horsfield, 1827)	species	Animalia	Chordata	Aves	Passeriformes	Meliphagidae	Brown Honeyeater
https://biodiversity.org.au/afd/taxa/43abe3ea-7ccc-41cc-920f-d9cfa107207e	Pelecanus conspicillatus	Temminck, 1824	species	Animalia	Chordata	Aves	Pelecaniformes	Pelecanidae	Australian Pelican
https://biodiversity.org.au/afd/taxa/cb748125-0c06-4649-8ed8-e379e81e53c1	Tachybaptus novaehollandiae	(Stephens, 1826)	species	Animalia	Chordata	Aves	Podicipediformes	Podicipedidae	Australian Little Grebe
https://biodiversity.org.au/afd/taxa/bf8abc11-ebe1-4f1a-9950-805e5bfcf90a	Columba (Columba) livia	Gmelin, 1789	species	Animalia	Chordata	Aves	Columbiformes	Columbidae	Rock Pigeon
https://biodiversity.org.au/afd/taxa/702a989c-9e87-40d5-9694-e6b94dc6521e	Malurus (Malurus) splendens	(Quoy & Gaimard, 1830)	species	Animalia	Chordata	Aves	Passeriformes	Maluridae	Splendid Fairy-wren
https://biodiversity.org.au/afd/taxa/7954bd26-ddb3-4e7e-823c-4a692b7bde74	Chenonetta jubata	(Latham, 1801)	species	Animalia	Chordata	Aves	Anseriformes	Anatidae	Australian Wood Duckmaned Goose
https://biodiversity.org.au/afd/taxa/947595db-244f-4160-b30d-0473b37d857b	Poliocephalus poliocephalus	(Jardine & Selby, 1827)	species	Animalia	Chordata	Aves	Podicipediformes	Podicipedidae	Hoary-headed Dabchick
https://biodiversity.org.au/afd/taxa/c319dbaf-a363-4853-b333-75f14c47fc82	Threskiornis spinicollis	(Jameson, 1835)	species	Animalia	Chordata	Aves	Ciconiiformes	Threskiornithidae	Letter Bird
NZOR-6-117936	Streptopelia chinensis	Scopoli	species	Animalia	Chordata	Aves	Columbiformes	Columbidae	Spotted Dove
https://biodiversity.org.au/afd/taxa/c568921e-f800-4a6e-b88c-6d409def1e20	Circus approximans	Peale, 1848	species	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	Australasian Harrier
https://biodiversity.org.au/afd/taxa/1268648b-451b-4cb1-b931-ef54dcab9ba0	Cacatua (Licmetis) tenuirostris	(Kuhl, 1820)	species	Animalia	Chordata	Aves	Psittaciformes	Cacatuidae	Long-billed Corella
https://biodiversity.org.au/afd/taxa/c517dae5-6bf7-48e8-8501-53e8b87e89a4	Trichoglossus haematodus	(Linnaeus, 1771)	species	Animalia	Chordata	Aves	Psittaciformes	Psittacidae	Rainbow Lorikeet
https://biodiversity.org.au/afd/taxa/ae8ff359-0981-4618-86a8-e64fb63b7adc	Himantopus himantopus	(Linnaeus, 1758)	species	Animalia	Chordata	Aves	Charadriiformes	Recurvirostridae	Pied Stilt
https://biodiversity.org.au/afd/taxa/615bdd63-9e8b-4f8d-9637-489c2a80c281	Aythya (Nyroca) australis	(Eyton, 1838)	species	Animalia	Chordata	Aves	Anseriformes	Anatidae	Brownhead
https://biodiversity.org.au/afd/taxa/e3103245-2da1-4cc5-952d-49153f466bbf	Pardalotus (Pardalotinus) striatus	(Gmelin, 1789)	species	Animalia	Chordata	Aves	Passeriformes	Pardalotidae	Striated Pardalote
https://biodiversity.org.au/afd/taxa/3dd39f84-1293-4c04-ac87-2474f5c887b0	Platalea (Platibis) flavipes	Gould, 1838	species	Animalia	Chordata	Aves	Ciconiiformes	Threskiornithidae	Yellow-legged Spoonbill
https://biodiversity.org.au/afd/taxa/143cc9f0-bc3c-45b7-8e1c-21fbe9319bba	Ardea alba	Linnaeus, 1758	species	Animalia	Chordata	Aves	Ciconiiformes	Ardeidae	Baluun
https://biodiversity.org.au/afd/taxa/51829a26-3d88-4238-be5b-354de5174292	Acrocephalus (Acrocephalus) australis	(Gould, 1838)	species	Animalia	Chordata	Aves	Passeriformes	Acrocephalidae	Australian Reed Warbler
https://biodiversity.org.au/afd/taxa/69c22b10-ff42-4bef-bb0f-88dc01a8f96c	Coracina (Coracina) novaehollandiae	(Gmelin, 1789)	species	Animalia	Chordata	Aves	Passeriformes	Campephagidae	Black-faced Cuckoo-shrike
https://biodiversity.org.au/afd/taxa/f933497e-60d2-4f80-bc5e-08d8b1349c2c	Smicrornis brevirostris	(Gould, 1838)	species	Animalia	Chordata	Aves	Passeriformes	Acanthizidae	Brown Weebill
https://biodiversity.org.au/afd/taxa/b5e44fea-a0a2-412b-a1f7-476b3c1e8e03	Gallinula (Gallinula) tenebrosa	Gould, 1846	species	Animalia	Chordata	Aves	Gruiformes	Rallidae	Dusky Moorhen
https://biodiversity.org.au/afd/taxa/c1d3308d-b6d6-496c-81b0-97c689259d3a	Anhinga novaehollandiae	(Gould, 1847)	species	Animalia	Chordata	Aves	Pelecaniformes	Anhingidae	Arrgarrg
https://biodiversity.org.au/afd/taxa/7d38efed-12ce-4aa3-b51a-67f89b109ded	Petrochelidon (Hylochelidon) nigricans	(Vieillot, 1817)	species	Animalia	Chordata	Aves	Passeriformes	Hirundinidae	Tree Martin
https://biodiversity.org.au/afd/taxa/70a29d57-3aea-43e3-b675-98c01960979d	Falco (Falco) longipennis	Swainson, 1838	species	Animalia	Chordata	Aves	Falconiformes	Falconidae	Australian Hobby
https://biodiversity.org.au/afd/taxa/da002998-b551-4328-ac4e-5e04fc72708b	Phylidonyris (Meliornis) novaehollandiae	(Latham, 1790)	species	Animalia	Chordata	Aves	Passeriformes	Meliphagidae	New Holland Honeyeater
ALA_DR653_101	Spatula rhynchotis	(Latham, 1801)	species	Animalia	Chordata	Aves	Anseriformes	Anatidae	Australasian Shoveler
https://biodiversity.org.au/afd/taxa/32f9229c-89e9-4dbe-991b-d4b1c2cfbe97	Oxyura australis	Gould, 1837	species	Animalia	Chordata	Aves	Anseriformes	Anatidae	Blue-billed Duck
https://biodiversity.org.au/afd/taxa/378bdcd1-f52a-4907-9f71-0541b05437da	Pachycephala (Alisterornis) rufiventris	(Latham, 1801)	species	Animalia	Chordata	Aves	Passeriformes	Pachycephalidae	Rufous Whistler
https://biodiversity.org.au/afd/taxa/dec8c88f-7f20-4f30-b2af-c75d09fb066c	Nycticorax caledonicus	(Gmelin, 1789)	species	Animalia	Chordata	Aves	Ciconiiformes	Ardeidae	Crane
https://biodiversity.org.au/afd/taxa/91f0535a-f513-417d-9826-8294ae640785	Podiceps cristatus	(Linnaeus, 1758)	species	Animalia	Chordata	Aves	Podicipediformes	Podicipedidae	Crested Grebe
https://biodiversity.org.au/afd/taxa/500e1350-1d00-4f1c-b9d3-d02b949cdd47	Acanthiza (Acanthiza) apicalis	Gould, 1847	species	Animalia	Chordata	Aves	Passeriformes	Acanthizidae	Red-rumped Tit
https://biodiversity.org.au/afd/taxa/148208ff-e6ea-40bd-9999-9f1a6b8acc1e	Phylidonyris (Meliornis) niger	(Bechstein, 1811)	species	Animalia	Chordata	Aves	Passeriformes	Meliphagidae	White-cheeked Honeyeater
https://biodiversity.org.au/afd/taxa/d470af0d-c131-48f7-961d-a55686e6a185	Accipiter (Leucospiza) fasciatus	(Vigors & Horsfield, 1827)	species	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	Grey-headed Goshawk
https://biodiversity.org.au/afd/taxa/41d01e6b-e265-424d-8d6d-e39966b4ce8f	Casmerodius modesta	J.E. Gray, 1831	species	Animalia	Chordata	Aves	Ciconiiformes	Ardeidae	Eastern Great Egret
https://biodiversity.org.au/afd/taxa/66f82bb4-ae71-4543-a99e-35452536c4c8	Purpureicephalus spurius	(Kuhl, 1820)	species	Animalia	Chordata	Aves	Psittaciformes	Psittacidae	Red-capped Parrot
https://biodiversity.org.au/afd/taxa/37b96920-e8bf-499c-9967-b6911fedff51	Egretta garzetta	(Linnaeus, 1766)	species	Animalia	Chordata	Aves	Ciconiiformes	Ardeidae	Lesser Egret
https://biodiversity.org.au/afd/taxa/da100481-e4a7-4d6e-8535-89a748cf52ad	Plegadis falcinellus	(Linnaeus, 1766)	species	Animalia	Chordata	Aves	Ciconiiformes	Threskiornithidae	Black Curlew
https://biodiversity.org.au/afd/taxa/a7b00ef0-108f-44d9-bf89-a062c8674335	Ocyphaps lophotes	(Temminck, 1822)	species	Animalia	Chordata	Aves	Columbiformes	Columbidae	Crested Pigeon
https://biodiversity.org.au/afd/taxa/59b7c7f5-1d07-4ab0-90ef-9be0885de1dd	Anthochaera (Anellobia) lunulata	Gould, 1838	species	Animalia	Chordata	Aves	Passeriformes	Meliphagidae	Western Wattlebird
https://biodiversity.org.au/afd/taxa/c69e7308-527a-429d-a80d-143bd20b5100	Recurvirostra novaehollandiae	Vieillot, 1816	species	Animalia	Chordata	Aves	Charadriiformes	Recurvirostridae	Australian Red-necked Avocet
NZOR-6-40597	Anas rhynchotis	Latham	species	Animalia	Chordata	Aves	Anseriformes	Anatidae	Australasian Shoveler
https://biodiversity.org.au/afd/taxa/2f87aff4-450a-41a7-afe3-5f1423236b68	Litoria moorei	(Copland, 1957)	species	Animalia	Chordata	Amphibia	Anura	Hylidae	Motorbike Frog
https://biodiversity.org.au/afd/taxa/39083a3e-faf5-4b48-a5f0-69c2bfa32d68	Calyptorhynchus (Calyptorhynchus) banksii	(Latham, 1790)	species	Animalia	Chordata	Aves	Psittaciformes	Cacatuidae	Red-tailed Black Cockatoo
https://biodiversity.org.au/afd/taxa/135cc880-f84e-4470-a1c1-fbce3a0ed534	Todiramphus (Todiramphus) sanctus	(Vigors & Horsfield, 1827)	species	Animalia	Chordata	Aves	Coraciiformes	Alcedinidae	Sacred Kingfisher

Species	Species Name	Scientific Name Authorship	Taxon Rank	Kingdom	Phylum	Class	Order	Family	Vernacular Name
https://biodiversity.org.au/afd/taxa/aa581ac7-f29a-4e72-be0d-48a5e0a64de3	Acanthiza (Geobasileus) chrysorrhoa	(Quoy & Gaimard, 1830)	species	Animalia	Chordata	Aves	Passeriformes	Acanthizidae	Yellow-tail
https://biodiversity.org.au/afd/taxa/dc27b757-21bc-4e0b-becb-4e2849070215	Malacorhynchus membranaceus	(Latham, 1801)	species	Animalia	Chordata	Aves	Anseriformes	Anatidae	Pink-eared Duck
https://biodiversity.org.au/afd/taxa/e382a431-801d-4a24-9a5a-03a262be9279	Elanus axillaris	(Latham, 1801)	species	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	Black-shouldered Kite
https://biodiversity.org.au/afd/taxa/5f46e9da-17dd-4e0c-add0-79c61b9f616a	Crinia glauerti	Loveridge, 1933	species	Animalia	Chordata	Amphibia	Anura	Myobatrachidae	Glauert's Froglet
https://biodiversity.org.au/afd/taxa/9f9ddea7-8c74-46df-8ed9-3233d681e354	Merops (Merops) ornatus	Latham, 1801	species	Animalia	Chordata	Aves	Coraciiformes	Meropidae	Rainbow Bee-eater
https://biodiversity.org.au/afd/taxa/1441c509-faf3-405e-a534-c51cccc4d720	Thalasseus bergii	(Lichtenstein, 1823)	species	Animalia	Chordata	Aves	Charadriiformes	Laridae	Crested Tern
https://biodiversity.org.au/afd/taxa/55994a9e-8ba7-4ff9-89a2-e22586ab25d1	Phalacrocorax (Phalacrocorax) varius	(Gmelin, 1789)	species	Animalia	Chordata	Aves	Pelecaniformes	Phalacrocoracidae	Black-and-white Shag
https://biodiversity.org.au/afd/taxa/9cc11ab9-ab7a-43d6-a04f-3ae4c7a1a42a	Charadrius (Charadrius) ruficapillus	Temminck, 1821	species	Animalia	Chordata	Aves	Charadriiformes	Charadriidae	Red-capped Plover
https://biodiversity.org.au/afd/taxa/29472c00-22e3-42c3-b562-107bd28d1bdc	Phalacrocorax (Phalacrocorax) carbo	(Linnaeus, 1758)	species	Animalia	Chordata	Aves	Pelecaniformes	Phalacrocoracidae	Great Cormorant
https://biodiversity.org.au/afd/taxa/7da6fd6f-c180-4e68-b9e7-70d02e6f8448	Phaps (Phaps) chalcoptera	(Latham, 1790)	species	Animalia	Chordata	Aves	Columbiformes	Columbidae	Common Bronzewing
https://biodiversity.org.au/afd/taxa/29cbe213-85a4-46b7-b373-4c503231f299	Elseyornis melanops	(Vieillot, 1818)	species	Animalia	Chordata	Aves	Charadriiformes	Charadriidae	Black-fronted Dotterel
https://biodiversity.org.au/afd/taxa/b47a4ecd-416b-458c-886a-1dc3490e8175	Hieraaetus (Hieraaetus) morphnoides	(Gould, 1841)	species	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	Little Eagle
https://biodiversity.org.au/afd/taxa/031b2b69-e9fc-44c6-9df9-03c1470d5ec3	Sericornis (Sericornis) frontalis	(Vigors & Horsfield, 1827)	species	Animalia	Chordata	Aves	Passeriformes	Acanthizidae	White-fronted Scrubwren
https://biodiversity.org.au/afd/taxa/061fef09-7c9d-4b6d-9827-4da13a350dc6	Poodytes gramineus	(Gould, 1845)	species	Animalia	Chordata	Aves	Passeriformes	Locustellidae	Little Grassbird
https://biodiversity.org.au/afd/taxa/d792ddc0-bdc2-4764-ab9c-ea9e43cd586e	Tringa (Glottis) nebularia	(Gunnerus, 1767)	species	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Greenshank
https://biodiversity.org.au/afd/taxa/ac5ce2ed-f580-4aa7-a037-690b9f9fbf99	Limnodynastes dorsalis	(Gray, 1841)	species	Animalia	Chordata	Amphibia	Anura	Limnodynastidae	Western Banjo Frog
https://biodiversity.org.au/afd/taxa/8f6b91ae-4019-490c-a133-73acb05d25e8	Falco (Tinnunculus) cenchroides	Vigors & Horsfield, 1827	species	Animalia	Chordata	Aves	Falconiformes	Falconidae	Wala
https://biodiversity.org.au/afd/taxa/cfed1332-ab8f-4009-8949-90aa3630ba67	Litoria adelaidensis	(Gray, 1841)	species	Animalia	Chordata	Amphibia	Anura	Hylidae	Slender Tree Frog
https://biodiversity.org.au/afd/taxa/1a490f00-368f-427c-8d4c-fa3f3271d75f	Apis (Apis) mellifera	Linnaeus, 1758	species	Animalia	Arthropoda	Insecta	Hymenoptera	Apidae	
https://biodiversity.org.au/afd/taxa/0242155c-714e-4f53-b973-333aab1343fb	Acanthorhynchus superciliosus	Gould, 1837	species	Animalia	Chordata	Aves	Passeriformes	Meliphagidae	Western Spinebill
https://id.biodiversity.org.au/node/apni/2913234	Banksia attenuata	R.Br.	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	Coast Banksia
https://biodiversity.org.au/afd/taxa/d3d52d02-537e-4cda-bfb2-0c0e93e38088	Hylaeus (Sphaerhylaeus) globuliferus	(Cockerell, 1929)	species	Animalia	Arthropoda	Insecta	Hymenoptera	Colletidae	Woolybush Bee
https://biodiversity.org.au/afd/taxa/06d1981c-58a7-4370-9e9a-158dfb89d600	Larus pacificus	Latham, 1801	species	Animalia	Chordata	Aves	Charadriiformes	Laridae	Pacific Gull
https://biodiversity.org.au/afd/taxa/5c9d12e2-698b-4384-ac91-e83842a263aa	Malurus (Leggeornis) assimilis	North, 1901	species	Animalia	Chordata	Aves	Passeriformes	Maluridae	
https://biodiversity.org.au/afd/taxa/cf8e02dd-2a6e-41dc-b14b-0e446444250a	Ardea pacifica	Latham, 1801	species	Animalia	Chordata	Aves	Ciconiiformes	Ardeidae	White-necked Heron
https://biodiversity.org.au/afd/taxa/23a8017a-3a2b-4a52-8ca6-d168bf52659c	Pandion haliaetus	(Linnaeus, 1758)	species	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	Osprey
https://biodiversity.org.au/afd/taxa/dc420306-4746-4663-9c2d-cf367587f728	Haliaeetus (Pontoaetus) leucogaster	(Gmelin, 1788)	species	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	White-bellied Sea-eagle
https://biodiversity.org.au/afd/taxa/fe7684ea-14e2-49e9-8953-dabc1543ce46	Porzana (Porzana) tabuensis	(Gmelin, 1789)	species	Animalia	Chordata	Aves	Gruiformes	Rallidae	Little Swamphen
https://biodiversity.org.au/afd/taxa/5c0d591a-0a98-48c6-8a4b-f925d43521cd	Manorina (Myzantha) flavigula	(Gould, 1840)	species	Animalia	Chordata	Aves	Passeriformes	Meliphagidae	Yellow-throated Miner
https://biodiversity.org.au/afd/taxa/2ecff0de-1ba4-4b53-a368-0e01d36c289d	Tringa (Rhyacophilus) glareola	Linnaeus, 1758	species	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Wood Sandpiper
https://biodiversity.org.au/afd/taxa/4072e7ce-7ca4-4112-a9fa-c49a0f0ddd4d	Zanda latirostris	Carnaby, 1948	species	Animalia	Chordata	Aves	Psittaciformes	Cacatuidae	Short-billed Black-cockatoo
NZOR-6-24112	Gallirallus philippensis	Linnaeus	species	Animalia	Chordata	Aves	Gruiformes	Rallidae	
https://biodiversity.org.au/afd/taxa/5254fe03-630b-44b2-9233-df51a7b8f25f	Pardalotus (Pardalotus) punctatus	(Shaw, 1792)	species	Animalia	Chordata	Aves	Passeriformes	Pardalotidae	Spotted Pardalote
https://biodiversity.org.au/afd/taxa/23e2ccef-06b0-4749-abc6-d8a710b94f69	Aquila (Uroaetus) audax	(Latham, 1801)	species	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	Wedge-tailed Eagle
https://id.biodiversity.org.au/taxon/apni/51298304	Hibbertia hypericoides	(DC.) Benth.	species	Plantae	Charophyta	Equisetopsida		Dilleniaceae	Yellow Buttercups
https://biodiversity.org.au/afd/taxa/02725816-5d59-41e1-aa00-f7cc41cd66dc	Accipiter (Paraspizias) cirrocephalus	(Vieillot, 1817)	species	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	Collared Sparrowhawk
https://biodiversity.org.au/afd/taxa/083b413f-8746-4788-8dc1-3da495d78a79	Falco (Hierofalco) peregrinus	Tunstall, 1771	species	Animalia	Chordata	Aves	Falconiformes	Falconidae	Duck Hawk
https://biodiversity.org.au/afd/taxa/1a6623ab-8d46-4da0-957c-f27b663f7ef0	Tiliqua rugosa	(Gray, 1825)	species	Animalia	Chordata	Reptilia	Squamata	Scincidae	Boggi
https://biodiversity.org.au/afd/taxa/1288a458-1631-40e5-837d-fd286679f866	Cladorhynchus leucocephalus	(Vieillot, 1816)	species	Animalia	Chordata	Aves	Charadriiformes	Recurvirostridae	Banded Stilt
https://id.biodiversity.org.au/node/apni/2912367	Hardenbergia comptoniana	(Andrews) Benth.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Native Wisteria
https://biodiversity.org.au/afd/taxa/3d2396a0-b532-410a-87e7-d1fe3ab497f6	Calidris (Ereunetes) ruficollis	(Pallas, 1776)	species	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Red-necked Stint
https://biodiversity.org.au/afd/taxa/abeb5bf8-d03e-4b33-a1ea-bcfc0695102c	Actitis hypoleucos	(Linnaeus, 1758)	species	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Common Sandpiper
https://id.biodiversity.org.au/node/apni/2897960	Banksia menziesii	R.Br.	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	Firewood Banksia
https://biodiversity.org.au/afd/taxa/934ecab5-798d-45b9-bade-16b3380d08a0	Pieris rapae	(Linnaeus, 1758)	species	Animalia	Arthropoda	Insecta	Lepidoptera	Pieridae	Cabbage White Butterfly
NZOR-6-34659	Chrysococcyx lucidus	Gmelin	species	Animalia	Chordata	Aves	Cuculiformes	Cuculidae	Shining Cuckoo
https://biodiversity.org.au/afd/taxa/715a2874-1942-4762-866c-1194990e7a91	Lophoictinia isura	(Gould, 1838)	species	Animalia	Chordata	Aves	Accipitriformes	Accipitridae	Square-tailed Kite
https://biodiversity.org.au/afd/taxa/e57c3c64-4b61-4769-9c9a-bf7c21bf3746	Sterna (Sterna) paradisaea	Pontoppidan, 1763	species	Animalia	Chordata	Aves	Charadriiformes	Laridae	Arctic Tern
https://id.biodiversity.org.au/node/apni/2911572	Jacaranda mimosifolia	D.Don	species	Plantae	Charophyta	Equisetopsida	Lamiales	Bignoniaceae	Jacaranda
https://biodiversity.org.au/afd/taxa/cf991494-ccee-433d-b049-f2a0996a0a3b	Heleioporus eyrei	(Gray, 1845)	species	Animalia	Chordata	Amphibia	Anura	Limnodynastidae	Moaning Frog
https://biodiversity.org.au/afd/taxa/4b0423aa-6a0a-4707-8d48-9c66e48941bf	Lerista elegans	(Gray, 1845)	species	Animalia	Chordata	Reptilia	Squamata	Scincidae	Elegant Slider
https://biodiversity.org.au/afd/taxa/2869ce8a-8212-46c2-8327-dfb7fabb8296	Vulpes vulpes	Linnaeus, 1758	species	Animalia	Chordata	Mammalia	Carnivora	Canidae	Fox
https://biodiversity.org.au/afd/taxa/41cdea6a-9c0f-4b64-b59c-53822470a4da	Malurus (Musciparus) leucopterus	Dumont, 1824	species	Animalia	Chordata	Aves	Passeriformes	Maluridae	White-winged Fairy-wren
https://id.biodiversity.org.au/node/apni/2905888	Xanthorrhoea preissii	Endl.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Xanthorrhoeaceae	Grass Tree
https://biodiversity.org.au/afd/taxa/3e61a01b-0ec9-4383-9540-b97bd073fc7a	Ctenotus inornatus	(Gray, 1845)	species	Animalia	Chordata	Reptilia	Squamata	Scincidae	Bar-shouldered Ctenotus
https://biodiversity.org.au/afd/taxa/68fc5ba7-463f-4a86-8314-e42a5a8d0455	Ninox (Ninox) boobook	(Latham, 1801)	species	Animalia	Chordata	Aves	Strigiformes	Strigidae	
https://id.biodiversity.org.au/taxon/apni/51399012	Caladenia flava	R.Br.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	Cowslip Orchid
https://biodiversity.org.au/afd/taxa/408ee81c-6558-4ddf-b732-f9ad7d09f1ae	Cacomantis (Vidgenia) flabelliformis	(Latham, 1801)	species	Animalia	Chordata	Aves	Cuculiformes	Cuculidae	Fan-tailed Cuckoo
https://biodiversity.org.au/afd/taxa/8bec5cc6-ac31-4d23-9df3-856034968af9	Podargus strigoides	(Latham, 1801)	species	Animalia	Chordata	Aves	Caprimulgiformes	Podargidae	Tawny Frogmouth
https://biodiversity.org.au/afd/taxa/da1e1bf2-3684-4eea-b579-1d83507c020d	Hydroprogne caspia	(Pallas, 1770)	species	Animalia	Chordata	Aves	Charadriiformes	Laridae	Caspian Tern
https://biodiversity.org.au/afd/taxa/d0d5b903-32e8-48ee-b7c0-91f5ea9433a9	Anas (Nettion) castanea	(Eyton, 1838)	species	Animalia	Chordata	Aves	Anseriformes	Anatidae	Chestnut Teal
https://biodiversity.org.au/afd/taxa/5f44995b-559b-4dea-a30d-e3f2adf17f8c	Chlidonias (Pelodes) hybrida	(Pallas, 1811)	species	Animalia	Chordata	Aves	Charadriiformes	Laridae	Whiskered Tern
ALA_DR654_5_1	Gallirallus philippensis		species	Animalia				Birds	
https://biodiversity.org.au/afd/taxa/e57c5e45-a109-49ff-9539-2b3d7583ced1	Morethia obscura	Storr, 1972	species	Animalia	Chordata	Reptilia	Squamata	Scincidae	Shrubland Morethia Skink
https://biodiversity.org.au/afd/taxa/4491debc-214f-46a2-95cf-572fe0150d0d	Tribonyx ventralis	(Gould, 1837)	species	Animalia	Chordata	Aves	Gruiformes	Rallidae	Black-tailed Native Hen
https://id.biodiversity.org.au/node/apni/2898292	Gladiolus caryophyllaceus	(Burm.f.) Poir.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Iridaceae	Wild Gladiolus
https://id.biodiversity.org.au/node/apni/2920604	Gompholobium tomentosum	Labill.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Hairy Yellow Pea
https://id.biodiversity.org.au/node/apni/2918204	Hypocalymma robustum	(Endl.) Lindl.	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	Swan River Myrtle
https://id.biodiversity.org.au/node/apni/2919207	Conostephium pendulum	Benth.	species	Plantae	Charophyta	Equisetopsida	Ericales	Ericaceae	Pearl Flower
https://id.biodiversity.org.au/taxon/apni/51283549	Drosera erythrorhiza	Lindl.	species	Plantae	Charophyta	Equisetopsida	Caryophyllales	Droseraceae	Red Ink Sundew
https://id.biodiversity.org.au/taxon/apni/51404261	Diuris magnifica	D.L.Jones	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	Pansy Orchid
https://biodiversity.org.au/afd/taxa/8f2d4aeb-50eb-438f-a145-5f12e356ffd8	Dicaeum (Dicaeum) hirundinaceum	(Shaw, 1792)	species	Animalia	Chordata	Aves	Passeriformes	Dicaeidae	Mistletoebird
https://id.biodiversity.org.au/node/apni/2892673	Corymbia calophylla	(Lindl.) K.D.Hill & L.A.S.Johnson	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	Marri

Species	Species Name	Scientific Name Authorship	Taxon Rank	Kingdom	Phylum	Class	Order	Family	Vernacular Name
https://biodiversity.org.au/afd/taxa/23c951c0-64d7-4ad0-ac9d-0e33b2a42eeb	Stictonetta naevosa	(Gould, 1841)	species	Animalia	Chordata	Aves	Anseriformes	Anatidae	Freckled Duck
https://biodiversity.org.au/afd/taxa/b7013071-0a6a-4fd7-a084-0b0d3f473828	Porzana (Porzana) fluminea	Gould, 1843	species	Animalia	Chordata	Aves	Gruiformes	Rallidae	Spotted Crake
https://id.biodiversity.org.au/node/apni/2896832	Petrophile linearis	R.Br.	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	Pixie Mops
https://id.biodiversity.org.au/node/apni/2900824	Desmocladus flexuosus	(R.Br.) B.G.Briggs & L.A.S.Johnson	species	Plantae	Charophyta	Equisetopsida	Poales	Restionaceae	
https://biodiversity.org.au/afd/taxa/7af45089-4a0f-4303-a417-1708623809af	Colluricincla (Colluricincla) harmonica	(Latham, 1801)	species	Animalia	Chordata	Aves	Passeriformes	Pachycephalidae	Grey Shrike-thrush
https://id.biodiversity.org.au/node/apni/2900575	Mesomelaena pseudostygia	(KÃ¼k.) K.L.Wilson	species	Plantae	Charophyta	Equisetopsida	Poales	Cyperaceae	
https://biodiversity.org.au/afd/taxa/8bf4b8b0-f432-4e9d-8ea6-08fc20c8090c	Daphoenositta (Neositta) chrysoptera	(Latham, 1801)	species	Animalia	Chordata	Aves	Passeriformes	Neosittidae	Varied Sittella
https://biodiversity.org.au/afd/taxa/4b7b9c4a-1b60-4a43-ab70-b57bfc790138	Acanthiza (Geobasileus) inornata	Gould, 1841	species	Animalia	Chordata	Aves	Passeriformes	Acanthizidae	Masters' Tit
https://biodiversity.org.au/afd/taxa/ada5e2b7-1b23-410d-a3cf-1a81853a7de8	Menetia greyii	Gray, 1845	species	Animalia	Chordata	Reptilia	Squamata	Scincidae	Common Dwarf Skink
https://biodiversity.org.au/afd/taxa/33702f89-60b2-4098-9cb0-20180783514d	Passer (Passer) domesticus	(Linnaeus, 1758)	species	Animalia	Chordata	Aves	Passeriformes	Passeridae	House Sparrow
https://biodiversity.org.au/afd/taxa/82bed74a-c22a-4c65-8fe7-ac335f199708	Ardea intermedia	Wagler, 1829	species	Animalia	Chordata	Aves	Ciconiiformes	Ardeidae	A-garnandharrh
https://id.biodiversity.org.au/node/apni/2916273	Trachymene pilosa	Sm.	species	Plantae	Charophyta	Equisetopsida	Apiales	Araliaceae	Dwarf Trachymene
https://id.biodiversity.org.au/taxon/apni/51398787	Caladenia arenicola	Hopper & A.P.Br.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	Carousel Spider Orchid
https://biodiversity.org.au/afd/taxa/73c6d4f8-6aeb-4978-9d9c-a229e5629d51	Malurus (Leggeornis) lamberti	Vigors & Horsfield, 1827	species	Animalia	Chordata	Aves	Passeriformes	Maluridae	Variegated Fairy-wren
https://biodiversity.org.au/afd/taxa/7a402ec9-f9f3-46f4-9cb1-701e0188c921	Macropus fuliginosus	(Desmarest, 1817)	species	Animalia	Chordata	Mammalia	Diprotodontia	Macropodidae	Western Grey Kangaroo
https://id.biodiversity.org.au/node/apni/2907367	Hypochaeris glabra	L.	species	Plantae	Charophyta	Equisetopsida	Asterales	Asteraceae	Smooth Catsear
https://biodiversity.org.au/afd/taxa/ab8816d0-2599-4813-a4c7-00d45d0c7ed0	Cacatua (Licmetis) pastinator	(Gould, 1841)	species	Animalia	Chordata	Aves	Psittaciformes	Cacatuidae	Western Corella
https://id.biodiversity.org.au/taxon/apni/51302290	Eucalyptus marginata	Donn ex Sm.	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	Jarrah
https://biodiversity.org.au/afd/taxa/856ed4e8-dbcf-487f-80c8-9c78591d2ff6	Ninox (Ninox) novaeseelandiae	(Gmelin, 1788)	species	Animalia	Chordata	Aves	Strigiformes	Strigidae	Southern Boobook
https://biodiversity.org.au/afd/taxa/cdd95894-bea9-439e-84cd-b807f8cc5242	Anas (Anas) platyrhynchos	Linnaeus, 1758	species	Animalia	Chordata	Aves	Anseriformes	Anatidae	Mallard
https://id.biodiversity.org.au/node/apni/2889771	Daviesia triflora	Crisp	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	
https://id.biodiversity.org.au/node/apni/2915386	Bossiaea eriocarpa	Benth.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Common Brown Pea
https://id.biodiversity.org.au/node/apni/6283310	Conostylis aculeata	R.Br.	species	Plantae	Charophyta	Equisetopsida	Commelinales	Haemodoraceae	Prickly Conostylis
https://id.biodiversity.org.au/taxon/apni/51269054	Ursinia anthemoides	(L.) Poir.	species	Plantae	Charophyta	Equisetopsida	Asterales	Asteraceae	Ursinia
https://biodiversity.org.au/afd/taxa/630adc1f-a781-4aed-9785-ac67078ffd06	Hemiergis quadrilineata	(DumÃ©ril & Bibron, 1839)	species	Animalia	Chordata	Reptilia	Squamata	Scincidae	Two-toed Earless Skink
https://id.biodiversity.org.au/taxon/apni/51405028	Elythranthera brunonis	(Endl.) A.S.George	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	Purple Enamel Orchid
https://biodiversity.org.au/afd/taxa/0446dbe0-12c9-4a5e-a65b-b0b59c673089	Crinia insignifera	Moore, 1954	species	Animalia	Chordata	Amphibia	Anura	Myobatrachidae	Sign-bearing Froglet
https://biodiversity.org.au/afd/taxa/1ed45f0a-8a3a-4a7e-8eca-43a86fb1688c	Erythrogonys cinctus	Gould, 1838	species	Animalia	Chordata	Aves	Charadriiformes	Charadriidae	Red-kneed Dotterel
https://id.biodiversity.org.au/node/apni/2912917	Burchardia congesta	Lindl.	species	Plantae	Charophyta	Equisetopsida	Liliales	Colchicaceae	
https://biodiversity.org.au/afd/taxa/70b173fb-a9cc-4b73-a9ee-598d1b5289a6	Limosa limosa	(Linnaeus, 1758)	species	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Black-tailed Godwit
https://biodiversity.org.au/afd/taxa/b753892a-155e-4190-98ab-8e85cc9840b7	Bubulcus ibis	(Linnaeus, 1758)	species	Animalia	Chordata	Aves	Ciconiiformes	Ardeidae	Cattle Egret
https://biodiversity.org.au/afd/taxa/e948fd99-7550-4d1b-866a-75666cc61f96	Heteroscenes pallidus	(Latham, 1801)	species	Animalia	Chordata	Aves	Cuculiformes	Cuculidae	Pallid Cuckoo
https://biodiversity.org.au/afd/taxa/f452242f-5a35-4d5d-a141-7e2dfb9f176b	Calidris (Erolia) acuminata	(Horsfield, 1821)	species	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Sharp-tailed Sandpiper
https://id.biodiversity.org.au/node/apni/2908064	Briza maxima	L.	species	Plantae	Charophyta	Equisetopsida	Poales	Poaceae	Great Quaking Grass
https://biodiversity.org.au/afd/taxa/c95af018-43ab-43b8-8e14-037604db64f6	Epthianura (Epthianura) albifrons	(Jardine & Selby, 1828)	species	Animalia	Chordata	Aves	Passeriformes	Meliphagidae	White-fronted Chat
https://id.biodiversity.org.au/node/apni/2893022	Kennedia prostrata	R.Br.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Running Postman
https://id.biodiversity.org.au/node/apni/2900204	Anigozanthos humilis	Lindl.	species	Plantae	Charophyta	Equisetopsida	Commelinales	Haemodoraceae	Common Catspaw
https://id.biodiversity.org.au/node/apni/2888611	Aira caryophyllea	L.	species	Plantae	Charophyta	Equisetopsida	Poales	Poaceae	Silvery Hairgrass
https://id.biodiversity.org.au/node/apni/2894004	Alexgeorgea nitens	(Nees) L.A.S.Johnson & B.G.Briggs	species	Plantae	Charophyta	Equisetopsida	Poales	Restionaceae	
https://id.biodiversity.org.au/taxon/apni/51412478	Pyrorchis nigricans	(R.Br.) D.L.Jones & M.A.Clem.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	Red Beaks
https://biodiversity.org.au/afd/taxa/6c3c2da2-508b-43c4-b0df-c69a99c0aae0	Artamus (Angroyan) cinereus	Vieillot, 1817	species	Animalia	Chordata	Aves	Passeriformes	Artamidae	Black-faced Woodswallow
https://id.biodiversity.org.au/node/apni/2896184	Sowerbaea laxiflora	Lindl.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Asparagaceae	Vanilla Lily
https://id.biodiversity.org.au/node/apni/2918736	Hybanthus calycinus	(DC.) F.Muell.	species	Plantae	Charophyta	Equisetopsida	Malpighiales	Violaceae	Wild Violet
https://id.biodiversity.org.au/taxon/apni/51283539	Drosera drummondii	Planch.	species	Plantae	Charophyta	Equisetopsida	Caryophyllales	Droseraceae	
https://biodiversity.org.au/afd/taxa/a3e5376b-f9e6-4bdf-adae-1e7add9f5c29	Petroica (Petroica) boodang	(Lesson, 1838)	species	Animalia	Chordata	Aves	Passeriformes	Petroicidae	Scarlet Robin
https://biodiversity.org.au/afd/taxa/ba8626ed-e049-42e5-81e3-4f8efd8fad32	Lerista praepedita	(Boulenger, 1887)	species	Animalia	Chordata	Reptilia	Squamata	Scincidae	Blunt-tailed West-coast Slider
https://biodiversity.org.au/afd/taxa/fb531b39-fd0b-4afb-9115-5e4f4691cf7f	Synemon gratiosa	Westwood, 1877	species	Animalia	Arthropoda	Insecta	Lepidoptera	Castniidae	Graceful Sunmoth
https://id.biodiversity.org.au/node/apni/2886300	Philotheca spicata	(A.Rich.) Paul G.Wilson	species	Plantae	Charophyta	Equisetopsida	Sapindales	Rutaceae	Pepper And Salt
https://id.biodiversity.org.au/node/apni/2892855	Rytidosperma occidentale	(Vickery) Connor & Edgar	species	Plantae	Charophyta	Equisetopsida	Poales	Poaceae	
https://id.biodiversity.org.au/node/apni/2904580	Patersonia occidentalis	R.Br.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Iridaceae	Purple Flag
https://biodiversity.org.au/afd/taxa/26271d50-30a1-457f-8ff5-f987231964bd	Melobasis gloriosa	(Laporte & Gory, 1837)	species	Animalia	Arthropoda	Insecta	Coleoptera	Buprestidae	
https://id.biodiversity.org.au/node/apni/2905445	Banksia sessilis	(Knight) A.R.Mast & K.R.Thiele	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	
https://id.biodiversity.org.au/node/apni/2920210	Stirlingia latifolia	(R.Br.) Steud.	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	Blueboy
https://id.biodiversity.org.au/taxon/apni/51287044	Acacia pulchella	R.Br.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Prickly Moses
https://biodiversity.org.au/afd/taxa/30edbd1a-6367-4d84-87f1-3566e6cc54d6	Pachycephala (Pachycephala) pectoralis	(Latham, 1801)	species	Animalia	Chordata	Aves	Passeriformes	Pachycephalidae	Golden Whistler
https://biodiversity.org.au/afd/taxa/351be9fd-4b56-4f3d-8366-ebf85c445d89	Hylaeus (Euprosopis) elegans	(Smith, 1853)	species	Animalia	Arthropoda	Insecta	Hymenoptera	Colletidae	
https://biodiversity.org.au/afd/taxa/391bfdca-d8db-4629-952f-c2dd34e53dac	Melobasis costifera	Thomson, 1879	species	Animalia	Arthropoda	Insecta	Coleoptera	Buprestidae	
https://biodiversity.org.au/afd/taxa/9b27ace8-a0ca-44ae-b292-738dbca34420	Castiarina aureola	(Carter, 1913)	species	Animalia	Arthropoda	Insecta	Coleoptera	Buprestidae	
https://biodiversity.org.au/afd/taxa/c437f86d-edcd-44c3-b2f7-4fda1d11b316	Diplacodes bipunctata	(Brauer, 1865)	species	Animalia	Arthropoda	Insecta	Odonata	Libellulidae	
https://id.biodiversity.org.au/node/apni/2893349	Schoenus curvifolius	(R.Br.) Poir.	species	Plantae	Charophyta	Equisetopsida	Poales	Cyperaceae	
https://id.biodiversity.org.au/node/apni/2896043	Banksia grandis	Willd.	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	Giant Banksia
https://id.biodiversity.org.au/node/apni/2900642	Petrorhagia dubia	(Raf.) G.Lopez & Romo	species	Plantae	Charophyta	Equisetopsida	Caryophyllales	Caryophyllaceae	Wild Pink
https://id.biodiversity.org.au/node/apni/2889663	Nuytsia floribunda	(Labill.) R.Br. ex G.Don	species	Plantae	Charophyta	Equisetopsida	Santalales	Loranthaceae	Western Australian Christmas Tree
https://id.biodiversity.org.au/node/apni/2918704	Acacia saligna	(Labill.) H.L.Wendl.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Golden Wreath Wattle
https://biodiversity.org.au/afd/taxa/967549e7-7fa9-4770-b86e-5e3520d3c43d	Chelodina (Macrochelodina) oblonga	Gray, 1841	species	Animalia	Chordata	Reptilia	Testudines	Chelidae	Northern Snake-necked Turtle
https://biodiversity.org.au/afd/taxa/a4f3e880-e8d4-4459-8a45-247bf200d0e0	Aprasia repens	(Fry, 1914)	species	Animalia	Chordata	Reptilia	Squamata	Pygopodidae	Southwestern Sandplain Worm Lizard
https://biodiversity.org.au/afd/taxa/cff21565-2bc4-4a67-8c0c-600ae7c10fd8	Zanda baudinii	Lear, 1832	species	Animalia	Chordata	Aves	Psittaciformes	Cacatuidae	Baudin's Black-cockatoo
https://id.biodiversity.org.au/node/apni/2890360	Stylidium calcaratum	R.Br.	species	Plantae	Charophyta	Equisetopsida	Asterales	Stylidiaceae	Book Triggerplant
https://id.biodiversity.org.au/node/apni/2896141	Hibbertia racemosa	(Endl.) Gilg	species	Plantae	Charophyta	Equisetopsida		Dilleniaceae	Stalked Guinea Flower

Species	Species Name	Scientific Name Authorship	Taxon Rank	Kingdom	Phylum	Class	Order	Family	Vernacular Name
https://id.biodiversity.org.au/node/apni/2894669	Moraea flaccida	(Sweet) Steud.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Iridaceae	One-leaved Cape Tulip
https://id.biodiversity.org.au/node/apni/2895730	Hovea trisperma	Benth.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Common Hovea
https://id.biodiversity.org.au/node/apni/2895772	Sonchus oleraceus	L.	species	Plantae	Charophyta	Equisetopsida	Asterales	Asteraceae	Sow Thistle
https://id.biodiversity.org.au/node/apni/2908142	Lomandra hermaphrodita	(C.R.P.Andrews) C.A.Gardner	species	Plantae	Charophyta	Equisetopsida	Asparagales	Asparagaceae	
https://id.biodiversity.org.au/node/apni/2917673	Daviesia divaricata	Benth.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Marno
https://id.biodiversity.org.au/node/apni/9442728	Isotropis cuneifolia	(Sm.) Walp.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Granny Bonnets
https://id.biodiversity.org.au/taxon/apni/51302276	Eremaea pauciflora	(Endl.) Druce	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	
https://biodiversity.org.au/afd/taxa/5851a3f8-4962-477f-bd38-4f86473472f5	Cheramoeca leucosterna	(Gould, 1841)	species	Animalia	Chordata	Aves	Passeriformes	Hirundinidae	White-backed Swallow
https://biodiversity.org.au/afd/taxa/f0a6a2c3-adad-4c57-9cae-17956131ecf0	Gliciphila melanops	(Latham, 1801)	species	Animalia	Chordata	Aves	Passeriformes	Meliphagidae	Tawny-crowned Honeyeater
https://id.biodiversity.org.au/node/apni/2888174	Lomandra caespitosa	(F.Muell. ex Benth.) Ewart	species	Plantae	Charophyta	Equisetopsida	Asparagales	Asparagaceae	Tufted Mat Rush
https://id.biodiversity.org.au/node/apni/2901052	Ptilotus manglesii	(Lindl.) F.Muell.	species	Plantae	Charophyta	Equisetopsida	Caryophyllales	Amaranthaceae	Pom Poms
https://id.biodiversity.org.au/node/fungi/60094367	Omphalotus nidiformis	(Berk.) O.K.Mill.	species	Fungi	Basidiomycota	Agaricomycetes	Agaricales	Marasmiaceae	
NZOR-6-23572	Limosa haemastica	Linnaeus	species	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Hudsonian Godwit
https://biodiversity.org.au/afd/taxa/0628244e-287b-4001-946e-5a41ef056f41	Falco (Ieracidea) berigora	Vigors & Horsfield, 1827	species	Animalia	Chordata	Aves	Falconiformes	Falconidae	Chicken Hawk
https://biodiversity.org.au/afd/taxa/0f5df411-17dd-4719-91de-158fb1a77b27	Cracticus nigrogularis	(Gould, 1837)	species	Animalia	Chordata	Aves	Passeriformes	Artamidae	Pied Butcherbird
https://id.biodiversity.org.au/node/apni/2889195	Jacksonia sternbergiana	HÃ¼gel ex Benth.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Stinkwood
https://id.biodiversity.org.au/node/apni/2901796	Daucus glochidiatus	(Labill.) Fisch., C.A.Mey. & Ave-Lall.	species	Plantae	Charophyta	Equisetopsida	Apiales	Apiaceae	Wild Carrot
https://id.biodiversity.org.au/node/apni/2908333	Pelargonium capitatum	(L.) L'HÃ©r.	species	Plantae	Charophyta	Equisetopsida	Geraniales	Geraniaceae	Rose-scented Pelargonium
https://id.biodiversity.org.au/node/apni/2914068	Leucopogon polymorphus	Sond.	species	Plantae	Charophyta	Equisetopsida	Ericales	Ericaceae	
https://id.biodiversity.org.au/taxon/apni/51283580	Drosera macrantha	Endl.	species	Plantae	Charophyta	Equisetopsida	Caryophyllales	Droseraceae	Bridal Rainbow
https://biodiversity.org.au/afd/taxa/48e09a45-e2af-4b68-a012-92fc13a4d09f	Blackbolbus frontalis	(GuÃ©rin-MÃ©neville, 1838)	species	Animalia	Arthropoda	Insecta	Coleoptera	Bolboceratidae	
https://biodiversity.org.au/afd/taxa/53a524b5-6952-4063-8916-bdfba2c8119c	Myobatrachus gouldii	(Gray, 1841)	species	Animalia	Chordata	Amphibia	Anura	Myobatrachidae	Turtle Frog
https://biodiversity.org.au/afd/taxa/a7c647a5-bcd5-468b-85e5-56ea1476d165	Dendostrea folium	(Linnaeus, 1758)	species	Animalia	Mollusca	Bivalvia	Ostreida	Ostreidae	Oyster
https://biodiversity.org.au/afd/taxa/dcf303b1-0371-4c8b-b431-c2e147941926	Pseudonaja affinis	GÃ¼nther, 1872	species	Animalia	Chordata	Reptilia	Squamata	Elapidae	Dugite
https://id.biodiversity.org.au/node/apni/2888259	Dampiera linearis	R.Br.	species	Plantae	Charophyta	Equisetopsida	Asterales	Goodeniaceae	Wedge-leaved Dampiera
https://id.biodiversity.org.au/node/apni/2905735	Banksia ilicifolia	R.Br.	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	Holly Leaved Banksia
https://id.biodiversity.org.au/node/apni/2907698	Jacksonia floribunda	Endl.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	
https://biodiversity.org.au/afd/taxa/351ef0f8-f560-43d6-b784-f393edb97df9	Corvus bennetti	North, 1901	species	Animalia	Chordata	Aves	Passeriformes	Corvidae	Little Crow
https://biodiversity.org.au/afd/taxa/cbef5be9-829a-4691-9de4-125356441b1f	Calidris (Ereunetes) subminuta	(Middendorff, 1851)	species	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Long-toed Stint
https://id.biodiversity.org.au/node/apni/2891615	Haemodorum laxum	R.Br.	species	Plantae	Charophyta	Equisetopsida	Commelinales	Haemodoraceae	
https://id.biodiversity.org.au/node/apni/2895436	Lyginia barbata	R.Br.	species	Plantae	Charophyta	Equisetopsida	Poales	Anarthriaceae	
https://id.biodiversity.org.au/node/apni/2913426	Amphipogon turbinatus	R.Br.	species	Plantae	Charophyta	Equisetopsida	Poales	Poaceae	
https://id.biodiversity.org.au/taxon/apni/51251009	Daviesia nudiflora	Meisn.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	
https://biodiversity.org.au/afd/taxa/618a2c4c-ddf2-4042-a6a7-34a3e893c219	Anthochaera (Anellobia) chrysoptera	(Latham, 1801)	species	Animalia	Chordata	Aves	Passeriformes	Meliphagidae	Little Wattlebird
https://biodiversity.org.au/afd/taxa/99e4518d-7877-46c8-a809-7e4e4d5bad81	Chalcites lucidus	(Gmelin, 1788)	species	Animalia	Chordata	Aves	Cuculiformes	Cuculidae	Shining Bronze-cuckoo
https://biodiversity.org.au/afd/taxa/b17388f8-4468-4a91-b434-659bf3739561	Lialis burtonis	Gray, 1835	species	Animalia	Chordata	Reptilia	Squamata	Pygopodidae	Burton's Snake-lizard
https://id.biodiversity.org.au/node/apni/2886977	Trifolium campestre	Schreb.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Hop Clover
https://id.biodiversity.org.au/node/apni/2892900	Stylidium piliferum	R.Br.	species	Plantae	Charophyta	Equisetopsida	Asterales	Stylidiaceae	Common Butterfly Triggerplant
https://id.biodiversity.org.au/node/apni/2899692	Eryngium pinnatifidum	Bunge	species	Plantae	Charophyta	Equisetopsida	Apiales	Apiaceae	Blue Devils
https://id.biodiversity.org.au/node/apni/2909103	Astroloma pallidum	R.Br.	species	Plantae	Charophyta	Equisetopsida	Ericales	Ericaceae	Kick Bush
https://id.biodiversity.org.au/node/apni/2916495	Hakea lissocarpha	R.Br.	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	Honey Bush
https://id.biodiversity.org.au/node/apni/2921158	Hibbertia huegelii	(Endl.) F.Muell.	species	Plantae	Charophyta	Equisetopsida		Dilleniaceae	
https://id.biodiversity.org.au/taxon/apni/51294849	Petrophile macrostachya	R.Br.	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	
https://id.biodiversity.org.au/node/apni/2894397	Xanthosia huegelii	(Benth.) Steud.	species	Plantae	Charophyta	Equisetopsida	Apiales	Apiaceae	Heath Xanthosia
https://id.biodiversity.org.au/node/apni/2895364	Scaevola repens	de Vriese	species	Plantae	Charophyta	Equisetopsida	Asterales	Goodeniaceae	
https://id.biodiversity.org.au/node/apni/2898345	Homalosciadium homalocarpum	(F.Muell.) H.Eichler	species	Plantae	Charophyta	Equisetopsida	Apiales	Apiaceae	
https://id.biodiversity.org.au/node/apni/2900921	Anigozanthos manglesii	D.Don	species	Plantae	Charophyta	Equisetopsida	Commelinales	Haemodoraceae	Red And Green Kangaroo Paw
https://id.biodiversity.org.au/node/apni/2905459	Leucopogon conostephioides	DC.	species	Plantae	Charophyta	Equisetopsida	Ericales	Ericaceae	
https://id.biodiversity.org.au/node/apni/2915937	Macrozamia riedlei	(Fisch. ex Gaudich.) C.A.Gardner	species	Plantae	Charophyta	Equisetopsida	Cycadales	Zamiaceae	Zamia Palm
https://id.biodiversity.org.au/taxon/apni/51289286	Calothamnus sanguineus	Labill.	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	Silky-leaved Bloodflower
https://biodiversity.org.au/afd/taxa/12efe8e2-13c3-4551-8c7c-2fd6923b0d9e	Platycercus (Violania) icterotis	(Temminck & Kuhl, 1820)	species	Animalia	Chordata	Aves	Psittaciformes	Psittacidae	Western Rosella
https://biodiversity.org.au/afd/taxa/320aeab1-aead-4b82-a580-8cd3ae99fdef	Artamus (Angroyan) cyanopterus	(Latham, 1801)	species	Animalia	Chordata	Aves	Passeriformes	Artamidae	Dusky Woodswallow
https://biodiversity.org.au/afd/taxa/5d937df2-e9dc-43a1-b829-2087ca5529ff	Ethmostigmus rubripes	(Brandt, 1840)	species	Animalia	Arthropoda	Chilopoda	Scolopendromorpha	Scolopendridae	
https://biodiversity.org.au/afd/taxa/68f71798-b3ab-47f5-856e-0ae4c8dcb478	Lampropholis guichenoti	(DumÃ©ril & Bibron, 1839)	species	Animalia	Chordata	Reptilia	Squamata	Scincidae	Pale-flecked Garden Sunskink
https://biodiversity.org.au/afd/taxa/e53a981f-22da-4f2f-a489-85c3ee79473e	Anthus (Anthus) novaeseelandiae	(Gmelin, 1789)	species	Animalia	Chordata	Aves	Passeriformes	Motacillidae	Australian Pipit
https://biodiversity.org.au/afd/taxa/f5f5b062-43f9-436d-ae93-8dcdcb7f71c6	Christinus marmoratus	(Gray, 1845)	species	Animalia	Chordata	Reptilia	Squamata	Gekkonidae	Marbled Gecko
https://id.biodiversity.org.au/node/apni/2886043	Euchilopsis linearis	(Benth.) F.Muell.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Swamp Pea
https://id.biodiversity.org.au/node/apni/2886783	Conostylis juncea	Endl.	species	Plantae	Charophyta	Equisetopsida	Commelinales	Haemodoraceae	
https://id.biodiversity.org.au/node/apni/2898995	Isolepis marginata	(Thunb.) A.Dietr.	species	Plantae	Charophyta	Equisetopsida	Poales	Cyperaceae	Coarse Club-rush
https://id.biodiversity.org.au/node/apni/2903560	Cerastium glomeratum	Thuill.	species	Plantae	Charophyta	Equisetopsida	Caryophyllales	Caryophyllaceae	Sticky Mouse-ear Chickweed
https://id.biodiversity.org.au/node/apni/2905202	Leucopogon propinquus	R.Br.	species	Plantae	Charophyta	Equisetopsida	Ericales	Ericaceae	
https://id.biodiversity.org.au/node/apni/2908469	Stylidium brunonianum	Benth.	species	Plantae	Charophyta	Equisetopsida	Asterales	Stylidiaceae	Pink Fountain Triggerplant
https://id.biodiversity.org.au/node/apni/2912492	Conostylis setigera	R.Br.	species	Plantae	Charophyta	Equisetopsida	Commelinales	Haemodoraceae	Bristly Cottonhead
https://id.biodiversity.org.au/node/apni/2915089	Allocasuarina fraseriana	(Miq.) L.A.S.Johnson	species	Plantae	Charophyta	Equisetopsida	Fagales	Casuarinaceae	Western Sheoak
https://id.biodiversity.org.au/node/apni/2915651	Eucalyptus gomphocephala	DC.	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	Tuart Gum
https://id.biodiversity.org.au/node/apni/2920474	Centrolepis drummondiana	(Nees) Walp.	species	Plantae	Charophyta	Equisetopsida	Poales	Centrolepidaceae	
https://id.biodiversity.org.au/node/apni/2921246	Ehrharta calycina	Sm.	species	Plantae	Charophyta	Equisetopsida	Poales	Poaceae	Perennial Veldt Grass
https://id.biodiversity.org.au/taxon/apni/51283213	Tetraria octandra	(Nees) KÃ¼k.	species	Plantae	Charophyta	Equisetopsida	Poales	Cyperaceae	
https://biodiversity.org.au/afd/taxa/692effa3-b719-495f-a86f-ce89e2981652	Oryctolagus cuniculus	(Linnaeus, 1758)	species	Animalia	Chordata	Mammalia	Lagomorpha	Leporidae	Rabbit
https://biodiversity.org.au/afd/taxa/a2399fe3-c90f-4fb1-a710-fe81643ff56e	Parvipsitta porphyrocephala	(Dietrichsen, 1837)	species	Animalia	Chordata	Aves	Psittaciformes	Psittacidae	Purple-crowned Lorikeet

Species	Species Name	Scientific Name Authorship	Taxon Rank	Kingdom	Phylum	Class	Order	Family	Vernacular Name
https://biodiversity.org.au/afd/taxa/c74464f4-57fd-4386-90fe-c68e1d629729	Simoselaps bertholdi	(Jan, 1859)	species	Animalia	Chordata	Reptilia	Squamata	Elapidae	Jan's Banded Snake
https://biodiversity.org.au/afd/taxa/cf17c9bb-09d1-47ce-adfe-dc060ba0b04c	Morus serrator	(G.R. Gray, 1843)	species	Animalia	Chordata	Aves	Pelecaniformes	Sulidae	Australasian Gannet
https://biodiversity.org.au/afd/taxa/d6156ed3-bda2-42d6-a948-07d94c7e6559	Chalcites basalis	(Horsfield, 1821)	species	Animalia	Chordata	Aves	Cuculiformes	Cuculidae	Horsfield's Bronze-cuckoo
https://id.biodiversity.org.au/node/apni/2893374	Tricoryne elatior	R.Br.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Hemerocallidaceae	Yellow Rush Lily
https://id.biodiversity.org.au/node/apni/2897217	Astroloma xerophyllum	(DC.) Sond.	species	Plantae	Charophyta	Equisetopsida	Ericales	Ericaceae	
https://id.biodiversity.org.au/node/apni/2898215	Thysanotus manglesianus	Kunth	species	Plantae	Charophyta	Equisetopsida	Asparagales	Asparagaceae	Fringed Lily
https://id.biodiversity.org.au/node/apni/2904766	Hemiandra pungens	R.Br.	species	Plantae	Charophyta	Equisetopsida	Lamiales	Lamiaceae	Snakebush
https://id.biodiversity.org.au/node/apni/2916623	Hibbertia subvaginata	(Steud.) F.Muell.	species	Plantae	Charophyta	Equisetopsida		Dilleniaceae	
https://id.biodiversity.org.au/node/apni/2918220	Calectasia narragara	R.L.Barrett & K.W.Dixon	species	Plantae	Charophyta	Equisetopsida	Dasypogonales	Dasypogonaceae	
https://id.biodiversity.org.au/node/apni/2920944	Briza minor	L.	species	Plantae	Charophyta	Equisetopsida	Poales	Poaceae	Small Shivery Grass
https://id.biodiversity.org.au/taxon/apni/51291824	Lysimachia arvensis	(L.) U.Manns & Anderb.	species	Plantae	Charophyta	Equisetopsida	Ericales	Primulaceae	
https://id.biodiversity.org.au/taxon/apni/51399117	Caladenia latifolia	R.Br.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	Pink Fairies
https://id.biodiversity.org.au/taxon/apni/51412440	Pterostylis vittata	Lindl.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	Banded Greenhood
https://biodiversity.org.au/afd/taxa/33cc201a-3634-4cec-bd9c-c2859966203c	Brachyurophis semifasciatus	GÃ¼nther, 1863	species	Animalia	Chordata	Reptilia	Squamata	Elapidae	Southern Shovel-nosed Snake
https://biodiversity.org.au/afd/taxa/c7d8dbc8-dcde-4182-85ba-907182f95ea9	Latrodectus hasseltii	Thorell, 1870	species	Animalia	Arthropoda	Arachnida	Araneae	Theridiidae	Jockey Spider
https://id.biodiversity.org.au/node/apni/2890796	Burchardia umbellata	R.Br.	species	Plantae	Charophyta	Equisetopsida	Liliales	Colchicaceae	Milkmaids
https://id.biodiversity.org.au/node/apni/2893007	Hakea prostrata	R.Br.	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	Harsh Hakea
https://id.biodiversity.org.au/node/apni/2893288	Phyllanthus calycinus	Labill.	species	Plantae	Charophyta	Equisetopsida	Malpighiales	Phyllanthaceae	False Boronia
https://id.biodiversity.org.au/node/apni/2897232	Crassula colorata	(Nees) Ostenf.	species	Plantae	Charophyta	Equisetopsida	Saxifragales	Crassulaceae	Stonecrop
https://id.biodiversity.org.au/node/apni/2900587	Spyridium globulosum	(Labill.) Benth.	species	Plantae	Charophyta	Equisetopsida	Rosales	Rhamnaceae	Basket Bush
https://id.biodiversity.org.au/node/apni/2902062	Hypolaena exsulca	R.Br.	species	Plantae	Charophyta	Equisetopsida	Poales	Restionaceae	
https://id.biodiversity.org.au/node/apni/2903217	Phlebocarya ciliata	R.Br.	species	Plantae	Charophyta	Equisetopsida	Commelinales	Haemodoraceae	
https://id.biodiversity.org.au/node/apni/2920050	Ptilotus drummondii	(Moq.) F.Muell.	species	Plantae	Charophyta	Equisetopsida	Caryophyllales	Amaranthaceae	Narrowleaf Mulla Mulla
https://id.biodiversity.org.au/node/fungi/60095231	Schizophyllum commune	Fr.	species	Fungi	Basidiomycota	Agaricomycetes	Agaricales	Schizophyllaceae	
https://biodiversity.org.au/afd/taxa/1142a7e2-ff49-4b09-9e2b-50587ce05801	Cryptoblepharus buchananii	(Gray, 1838)	species	Animalia	Chordata	Reptilia	Squamata	Scincidae	Buchananâ€™s Snake-eyed Skink
https://biodiversity.org.au/afd/taxa/234cf7f3-11a6-4525-8ee2-11337ccaee8c	Hydrophis platurus	(Linnaeus, 1766)	species	Animalia	Chordata	Reptilia	Squamata	Elapidae	
https://biodiversity.org.au/afd/taxa/4c642a6d-3dd9-41bd-bd6d-79c981d9c197	Gryllotalpa pluvialis	(MjÃ¶berg, 1913)	species	Animalia	Arthropoda	Insecta	Orthoptera	Gryllotalpidae	
https://biodiversity.org.au/afd/taxa/8fa8d059-9ce9-41f4-b604-63408d1de0b4	Tringa (Rhyacophilus) stagnatilis	(Bechstein, 1803)	species	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Marsh Sandpiper
https://biodiversity.org.au/afd/taxa/ba72b1cb-a2f8-431c-b75c-b15494851978	Orthetrum caledonicum	(Brauer, 1865)	species	Animalia	Arthropoda	Insecta	Odonata	Libellulidae	
https://biodiversity.org.au/afd/taxa/fae9cb67-45a7-4adf-bb03-90afc3a9bccc	Cylindraustralia kochii	de Saussure, 1877	species	Animalia	Arthropoda	Insecta	Orthoptera	Cylindrachetidae	
https://id.biodiversity.org.au/node/apni/2889203	Vulpia myuros	(L.) C.C.Gmel.	species	Plantae	Charophyta	Equisetopsida	Poales	Poaceae	Rat's Tail Fescue
https://id.biodiversity.org.au/node/apni/2904122	Millotia tenuifolia	Cass.	species	Plantae	Charophyta	Equisetopsida	Asterales	Asteraceae	Soft Millotia
https://id.biodiversity.org.au/node/apni/2908167	Macarthuria australis	HÃ¼gel ex Endl.	species	Plantae	Charophyta	Equisetopsida	Caryophyllales	Limeaceae	
https://id.biodiversity.org.au/node/apni/2908888	Hibbertia cuneiformis	(Labill.) Sm.	species	Plantae	Charophyta	Equisetopsida		Dilleniaceae	Cutleaf Hibbertia
https://id.biodiversity.org.au/node/apni/2917802	Lachenalia reflexa	Thunb.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Asparagaceae	
https://id.biodiversity.org.au/node/apni/2918338	Heliophila pusilla	L.f.	species	Plantae	Charophyta	Equisetopsida	Brassicales	Brassicaceae	
https://id.biodiversity.org.au/node/apni/2918606	Dasypogon bromeliifolius	R.Br.	species	Plantae	Charophyta	Equisetopsida	Dasypogonales	Dasypogonaceae	Pineapple Bush
https://id.biodiversity.org.au/node/apni/2919519	Calytrix fraseri	A.Cunn.	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	Pink Summer Calytrix
https://biodiversity.org.au/afd/taxa/2118456c-631c-4c4c-b995-72ce9d40d16e	Occasitermes occasus	(Silvestri, 1909)	species	Animalia	Arthropoda	Insecta	Blattodea	Termitidae	
https://biodiversity.org.au/afd/taxa/44dea5cf-f8a3-4d2b-9b8a-9a94647dc6ab	Suta gouldii	(Gray, 1841)	species	Animalia	Chordata	Reptilia	Squamata	Elapidae	Gould's Hooded Snake
https://biodiversity.org.au/afd/taxa/72b23d0a-7050-413f-9100-3562d383888e	Gelochelidon nilotica	(Gmelin, 1789)	species	Animalia	Chordata	Aves	Charadriiformes	Laridae	Gull-billed Tern
https://biodiversity.org.au/afd/taxa/7ab4afa0-70ec-4a57-8429-7299ea4440eb	Isoodon fusciventer	(J.E. Gray, 1841)	species	Animalia	Chordata	Mammalia	Peramelemorphia	Peramelidae	Quenda
https://biodiversity.org.au/afd/taxa/908e6ef4-de96-4951-a603-cb62caae6fdc	Neophema (Neonanodes) elegans	(Gould, 1838)	species	Animalia	Chordata	Aves	Psittaciformes	Psittacidae	Elegant Parrot
https://id.biodiversity.org.au/node/apni/2886946	Boronia purdieana	Diels	species	Plantae	Charophyta	Equisetopsida	Sapindales	Rutaceae	Winter Boronia
https://id.biodiversity.org.au/node/apni/2894254	Lomandra preissii	(Endl.) Ewart	species	Plantae	Charophyta	Equisetopsida	Asparagales	Asparagaceae	
https://id.biodiversity.org.au/node/apni/2894848	Verticordia nitens	(Lindl.) Endl.	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	Yellow Morrison
https://id.biodiversity.org.au/node/apni/2895473	Daviesia physodes	A.Cunn. ex G.Don	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	
https://id.biodiversity.org.au/node/apni/2906779	Hibbertia aurea	Steud.	species	Plantae	Charophyta	Equisetopsida		Dilleniaceae	
https://id.biodiversity.org.au/node/apni/2912814	Banksia marginata	Cav.	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	Honeysuckle
https://id.biodiversity.org.au/node/apni/2916956	Microlaena stipoides	(Labill.) R.Br.	species	Plantae	Charophyta	Equisetopsida	Poales	Poaceae	Rice Grass
https://id.biodiversity.org.au/node/apni/2918789	Waitzia suaveolens	(Benth.) Druce	species	Plantae	Charophyta	Equisetopsida	Asterales	Asteraceae	Fragrant Waitzia
https://id.biodiversity.org.au/node/apni/2919672	Stylidium schoenoides	DC.	species	Plantae	Charophyta	Equisetopsida	Asterales	Stylidiaceae	Cow Kicks
https://id.biodiversity.org.au/node/apni/2920110	Wahlenbergia preissii	de Vriese	species	Plantae	Charophyta	Equisetopsida	Asterales	Campanulaceae	
https://id.biodiversity.org.au/node/apni/6285445	Conostylis candicans	Endl.	species	Plantae	Charophyta	Equisetopsida	Commelinales	Haemodoraceae	Grey Cottonhead
https://biodiversity.org.au/afd/taxa/10dbd908-00f3-4ec2-9a9c-a2fd4782eaf1	Petroica (Petroica) goodenovii	(Vigors & Horsfield, 1827)	species	Animalia	Chordata	Aves	Passeriformes	Petroicidae	Red-capped Robin
https://biodiversity.org.au/afd/taxa/5457e4b9-38c9-4f26-82dc-4b2c8ef10ab6	Vanessa kershawi	(McCoy, 1868)	species	Animalia	Arthropoda	Insecta	Lepidoptera	Nymphalidae	Australian Painted Lady
https://biodiversity.org.au/afd/taxa/ab455a0c-4545-4c5d-b2e8-1d8f112e413f	Sternula nereis	(Gould, 1843)	species	Animalia	Chordata	Aves	Charadriiformes	Laridae	Fairy Tern
https://biodiversity.org.au/afd/taxa/b129c2db-7d93-4688-a17f-2f77f1a09ae1	Archimantis sobrina	Saussure, 1872	species	Animalia	Arthropoda	Insecta	Mantodea	Mantidae	Large Brown Mantid
https://biodiversity.org.au/afd/taxa/f0c40591-1d07-4b81-9b0e-426d9a8c2d7f	Physalia utriculus	(La MartiniÃ©rÃ©, 1787)	species	Animalia	Cnidaria	Siphonophora	Cystonectae	Physaliidae	Bluebottle
https://id.biodiversity.org.au/node/apni/2886123	Lomandra suaveolens	(Endl.) Ewart	species	Plantae	Charophyta	Equisetopsida	Asparagales	Asparagaceae	
https://id.biodiversity.org.au/node/apni/2887259	Conostylis aurea	Lindl.	species	Plantae	Charophyta	Equisetopsida	Commelinales	Haemodoraceae	
https://id.biodiversity.org.au/node/apni/2887445	Pimelea sulphurea	Meisn.	species	Plantae	Charophyta	Equisetopsida	Malvales	Thymelaeaceae	
https://id.biodiversity.org.au/node/apni/2889040	Wahlenbergia capensis	(L.) A.DC.	species	Plantae	Charophyta	Equisetopsida	Asterales	Campanulaceae	Cape Bluebell
https://id.biodiversity.org.au/node/apni/2891835	Bromus diandrus	Roth	species	Plantae	Charophyta	Equisetopsida	Poales	Poaceae	Giant Brome
https://id.biodiversity.org.au/node/apni/2893649	Opercularia vaginata	Labill. ex Juss.	species	Plantae	Charophyta	Equisetopsida	Gentianales	Rubiaceae	Dog Weed
https://id.biodiversity.org.au/node/apni/2894800	Gastrolobium capitatum	(Benth.) G.Chandler & Crisp	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	
https://id.biodiversity.org.au/node/apni/2895373	Acacia sessilis	Benth.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	
https://id.biodiversity.org.au/node/apni/2899357	Ehrharta longiflora	Sm.	species	Plantae	Charophyta	Equisetopsida	Poales	Poaceae	Annual Veldt Grass
https://id.biodiversity.org.au/node/apni/2900212	Melaleuca seriata	Lindl.	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	
https://id.biodiversity.org.au/node/apni/2900859	Silene gallica	L.	species	Plantae	Charophyta	Equisetopsida	Caryophyllales	Caryophyllaceae	French Catchfly
https://id.biodiversity.org.au/node/apni/2902954	Austrostipa flavescens	(Labill.) S.W.L.Jacobs & J.Everett	species	Plantae	Charophyta	Equisetopsida	Poales	Poaceae	

Species	Species Name	Scientific Name Authorship	Taxon Rank	Kingdom	Phylum	Class	Order	Family	Vernacular Name
https://id.biodiversity.org.au/node/apni/2905928	Poranthera microphylla	Brongn.	species	Plantae	Charophyta	Equisetopsida	Malpighiales	Phyllanthaceae	Small Poranthera
https://id.biodiversity.org.au/node/apni/2911846	Pimelea leucantha	Diels	species	Plantae	Charophyta	Equisetopsida	Malvales	Thymelaeaceae	
https://id.biodiversity.org.au/node/apni/2912739	Quinetia urvillei	Cass.	species	Plantae	Charophyta	Equisetopsida	Asterales	Asteraceae	Grey Zig-zag
https://id.biodiversity.org.au/node/apni/2913902	Calytrix flavescens	A.Cunn.	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	Summer Starflower
https://id.biodiversity.org.au/node/apni/2916418	Grevillea vestita	(Endl.) Meisn.	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	
https://id.biodiversity.org.au/node/apni/2919924	Gastrolobium linearifolium	G.Chandler & Crisp	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	
https://id.biodiversity.org.au/node/apni/6475313	Monotaxis grandiflora	Endl.	species	Plantae	Charophyta	Equisetopsida	Malpighiales	Euphorbiaceae	Diamond Of The Desert
https://id.biodiversity.org.au/node/apni/7392107	Scaevola canescens	Benth.	species	Plantae	Charophyta	Equisetopsida	Asterales	Goodeniaceae	Grey Scaevola
https://id.biodiversity.org.au/taxon/apni/51398952	Caladenia discoidea	Lindl.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	Dancing Spider Orchid
https://id.biodiversity.org.au/taxon/apni/51404199	Diuris corymbosa	Lindl.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	Common Donkey Orchid
https://biodiversity.org.au/afd/taxa/00b1b9a2-70c9-45be-8019-9c7fd755afc8	Trichosurus vulpecula	(Kerr, 1792)	species	Animalia	Chordata	Mammalia	Diprotodontia	Phalangeridae	Common Brushtail Possum
https://biodiversity.org.au/afd/taxa/0cbb688f-7d9c-4d2b-9956-844e71d1cd80	Lampropholis delicata	(De Vis, 1888)	species	Animalia	Chordata	Reptilia	Squamata	Scincidae	Dark-flecked Garden Sunskink
https://biodiversity.org.au/afd/taxa/0e1b5b3c-e18b-4ec7-b60a-ca45364acb2a	Cimex lectularius	Linnaeus, 1758	species	Animalia	Arthropoda	Insecta	Hemiptera	Cimicidae	Bed Bug
https://biodiversity.org.au/afd/taxa/383daf29-74b1-40b1-9014-51bbf3af8898	Chlidonias (Chlidonias) leucopterus	(Temminck, 1815)	species	Animalia	Chordata	Aves	Charadriiformes	Laridae	White-winged Tern
https://biodiversity.org.au/afd/taxa/4090ad27-9c69-454d-aa47-23860b9ee50b	Xenus cinereus	(GÃ¼ldenstÃ¤dt, 1775)	species	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Terek Sandpiper
https://biodiversity.org.au/afd/taxa/41d32c25-20dd-4dd4-b52c-cbccfafa38a0	Austrolestes analis	(Rambur, 1842)	species	Animalia	Arthropoda	Insecta	Odonata	Lestidae	
https://biodiversity.org.au/afd/taxa/48bd256d-536d-4ca8-96eb-950f17e80184	Rhipidura (Rhipidura) fuliginosa	(Sparrman, 1787)	species	Animalia	Chordata	Aves	Passeriformes	Rhipiduridae	New Zealand Fantail
https://biodiversity.org.au/afd/taxa/67c256a8-6a31-46de-9dde-d75d5578496c	Turnix (Austroturnix) varius	(Latham, 1801)	species	Animalia	Chordata	Aves	Turniciformes	Turnicidae	Scrub Quail
https://biodiversity.org.au/afd/taxa/6e61b4ab-a84f-42e7-ad78-d2f84c02d3bb	Ommatoiulus moreleti	(Lucas, 1860)	species	Animalia	Arthropoda	Diplopoda	Julida	Julidae	
https://biodiversity.org.au/afd/taxa/8af934d1-3d47-4d4a-aac6-0d7ed64745b7	Heteronympha merope	(Fabricius, 1775)	species	Animalia	Arthropoda	Insecta	Lepidoptera	Nymphalidae	Common Brown
https://biodiversity.org.au/afd/taxa/92358f59-80ae-482f-8979-5679b23e92cc	Lalage (Lalage) tricolor	(Swainson, 1825)	species	Animalia	Chordata	Aves	Passeriformes	Campephagidae	Australian White-winged Triller
https://biodiversity.org.au/afd/taxa/b89f6072-46a2-4c1f-a417-fd45ee4d5c3f	Hemicordulia tau	(Selys, 1871)	species	Animalia	Arthropoda	Insecta	Odonata	Corduliidae	
https://biodiversity.org.au/afd/taxa/c4fdfce4-238c-4cfe-9abd-c365b6782b15	Amitermes conformis	Gay, 1968	species	Animalia	Arthropoda	Insecta	Blattodea	Termitidae	
https://biodiversity.org.au/afd/taxa/d37d230d-c913-4248-b32e-c601761d1813	Austrothemis nigrescens	(Martin, 1901)	species	Animalia	Arthropoda	Insecta	Odonata	Libellulidae	
https://biodiversity.org.au/afd/taxa/d9061bb7-6e32-4e47-bb5c-ebd6f1919ec0	Hippotion celerio	(Linnaeus, 1758)	species	Animalia	Arthropoda	Insecta	Lepidoptera	Sphingidae	
https://id.biodiversity.org.au/node/apni/2888190	Acacia cyclops	A.Cunn. ex G.Don	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Western Coastal Wattle
https://id.biodiversity.org.au/node/apni/2889387	Drosera pallida	Lindl.	species	Plantae	Charophyta	Equisetopsida	Caryophyllales	Droseraceae	Pale Rainbow
https://id.biodiversity.org.au/node/apni/2889830	Orthrosanthus laxus	(Endl.) Benth.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Iridaceae	Morning Iris
https://id.biodiversity.org.au/node/apni/2891893	Podolepis gracilis	Graham	species	Plantae	Charophyta	Equisetopsida	Asterales	Asteraceae	Slender Podolepis
https://id.biodiversity.org.au/node/apni/2899222	Arnocrinum preissii	Lehm.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Hemerocallidaceae	
https://id.biodiversity.org.au/node/apni/2904117	Caesia micrantha	Lindl.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Hemerocallidaceae	Pale Grass Lily
https://id.biodiversity.org.au/node/apni/2904465	Corynotheca micrantha	(Lindl.) Druce	species	Plantae	Charophyta	Equisetopsida	Asparagales	Hemerocallidaceae	Sand Lily
https://id.biodiversity.org.au/node/apni/2915917	Melaleuca systena	Craven	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	Coastal Honeymyrtle
https://id.biodiversity.org.au/node/apni/2919436	Lepidosperma squamatum	Labill.	species	Plantae	Charophyta	Equisetopsida	Poales	Cyperaceae	
https://id.biodiversity.org.au/node/apni/2919475	Macrozamia fraseri	Miq.	species	Plantae	Charophyta	Equisetopsida	Cycadales	Zamiaceae	
https://id.biodiversity.org.au/taxon/apni/51287560	Dianella revoluta	R.Br.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Hemerocallidaceae	Black-anther Flax-lily
https://id.biodiversity.org.au/taxon/apni/51288833	Beaufortia elegans	Schauer	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	Elegant Beaufortia
https://id.biodiversity.org.au/taxon/apni/51406630	Microtis media	R.Br.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	Common Mignonette Orchid
https://id.biodiversity.org.au/taxon/apni/51412234	Pterostylis nana	R.Br.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	Dwarf Greenhood
https://biodiversity.org.au/afd/taxa/0b73e8bb-c141-4f07-8b14-47c3510c9c98	Badumna insignis	(L. Koch, 1872)	species	Animalia	Arthropoda	Arachnida	Araneae	Desidae	
https://biodiversity.org.au/afd/taxa/2c33a1fd-34f4-48ec-9ae6-38b51f2aa7ea	Cacatua (Cacatua) galerita	(Latham, 1790)	species	Animalia	Chordata	Aves	Psittaciformes	Cacatuidae	Sulphur-crested Cockatoo
https://biodiversity.org.au/afd/taxa/522a22ec-3318-4e17-97e7-8d8af150146b	Coptotermes michaelseni	Silvestri, 1909	species	Animalia	Arthropoda	Insecta	Blattodea	Rhinotermitidae	
https://biodiversity.org.au/afd/taxa/71c9326f-b797-4286-9fae-375b7fc2f53d	Xanthagrion erythroneurum	(Selys, 1876)	species	Animalia	Arthropoda	Insecta	Odonata	Coenagrionidae	
https://biodiversity.org.au/afd/taxa/71f334b1-42bb-4ea3-bcfd-3262ea069946	Ctenophorus adelaidensis	(Gray, 1841)	species	Animalia	Chordata	Reptilia	Squamata	Agamidae	Western Heath Dragon
https://biodiversity.org.au/afd/taxa/7f0b5430-3e37-4dd4-8dff-d6b288cde445	Turdus merula	Linnaeus, 1758	species	Animalia	Chordata	Aves	Passeriformes	Turdidae	Eurasian Blackbird
https://biodiversity.org.au/afd/taxa/8833cc4a-73e7-48b6-9a8f-37b76b612dd6	Castiarina pallidiventris	(Gory & Laporte, 1838)	species	Animalia	Arthropoda	Insecta	Coleoptera	Buprestidae	
https://biodiversity.org.au/afd/taxa/984bf7f3-3089-4e55-b494-a285eda21b1d	Motacilla (Budytes) tschutschensis	Gmelin, 1789	species	Animalia	Chordata	Aves	Passeriformes	Motacillidae	Eastern Yellow Wagtail
https://biodiversity.org.au/afd/taxa/eba0227f-f618-41b7-b5f6-1e4041ae1d5c	Ischnura aurora	(Brauer, 1865)	species	Animalia	Arthropoda	Insecta	Odonata	Coenagrionidae	
https://id.biodiversity.org.au/node/apni/2888982	Conostephium preissii	Sond.	species	Plantae	Charophyta	Equisetopsida	Ericales	Ericaceae	
https://id.biodiversity.org.au/node/apni/2889975	Scaevola globulifera	Labill.	species	Plantae	Charophyta	Equisetopsida	Asterales	Goodeniaceae	
https://id.biodiversity.org.au/node/apni/2893109	Acacia lasiocarpa	Benth.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	
https://id.biodiversity.org.au/node/apni/2893312	Conospermum stoechadis	Endl.	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	Common Smokebush
https://id.biodiversity.org.au/node/apni/2896509	Jacksonia furcellata	(Bonpl.) DC.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Grey Stinkwood
https://id.biodiversity.org.au/node/apni/2898242	Gazania linearis	(Thunb.) Druce	species	Plantae	Charophyta	Equisetopsida	Asterales	Asteraceae	Gazania Daisy
https://id.biodiversity.org.au/node/apni/2900959	Eucalyptus todtiana	F.Muell.	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	Blackbutt
https://id.biodiversity.org.au/node/apni/2903335	Drosera pulchella	Lehm.	species	Plantae	Charophyta	Equisetopsida	Caryophyllales	Droseraceae	Pretty Sundew
https://id.biodiversity.org.au/node/apni/2903478	Jacksonia sericea	Benth.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	
https://id.biodiversity.org.au/node/apni/2904201	Lysinema ciliatum	R.Br.	species	Plantae	Charophyta	Equisetopsida	Ericales	Ericaceae	Curry Flower
https://id.biodiversity.org.au/node/apni/2907808	Pithocarpa pulchella	Lindl.	species	Plantae	Charophyta	Equisetopsida	Asterales	Asteraceae	Dark-stigma Pithocarpa
https://id.biodiversity.org.au/node/apni/2907847	Lepidosperma angustatum	R.Br.	species	Plantae	Charophyta	Equisetopsida	Poales	Cyperaceae	
https://id.biodiversity.org.au/node/apni/2908654	Gonocarpus pithyoides	Nees	species	Plantae	Charophyta	Equisetopsida	Saxifragales	Haloragaceae	
https://id.biodiversity.org.au/node/apni/2915505	Thysanotus patersonii	R.Br.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Asparagaceae	Twining Fringe Lily
https://id.biodiversity.org.au/node/apni/2921305	Synaphea spinulosa	(Burm.f.) Merr.	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	
https://id.biodiversity.org.au/taxon/apni/51286923	Acacia huegelii	Benth.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	
https://id.biodiversity.org.au/taxon/apni/51290326	Scholtzia involucrata	(Endl.) Druce	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	Spiked Scholtzia
https://id.biodiversity.org.au/taxon/apni/51299925	Calytrix angulata	Lindl.	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	
https://id.biodiversity.org.au/taxon/apni/51399140	Caladenia longicauda	Lindl.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	White Spider Orchid
https://id.biodiversity.org.au/taxon/apni/51404255	Diuris longifolia	R.Br.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	Common Donkey Orchid
https://biodiversity.org.au/afd/taxa/183540dd-a37f-4feb-9720-c417cfb4c9f9	Notechis scutatus	(Peters, 1861)	species	Animalia	Chordata	Reptilia	Squamata	Elapidae	Tiger Snake
https://biodiversity.org.au/afd/taxa/36f99ede-f626-4588-9c23-dfcc0241289c	Castiarina placida	(Thomson, 1879)	species	Animalia	Arthropoda	Insecta	Coleoptera	Buprestidae	
https://biodiversity.org.au/afd/taxa/386cdd45-1e01-4224-82b5-935fe3a7bb80	Cornu aspersum	(MÃ¼ller, 1774)	species	Animalia	Mollusca	Gastropoda	Stylommatophora	Helicidae	
https://biodiversity.org.au/afd/taxa/6ed80e89-7fcb-467e-b3c1-b09fcbb1be5b	Aedes (Ochlerotatus) ratcliffei	Marks, 1959	species	Animalia	Arthropoda	Insecta	Diptera	Culicidae	

Species	Species Name	Scientific Name Authorship	Taxon Rank	Kingdom	Phylum	Class	Order	Family	Vernacular Name
https://biodiversity.org.au/afd/taxa/81aa2878-5c8c-45b1-9517-834a03e477ea	Rhytidoponera metallica	(Smith, 1858)	species	Animalia	Arthropoda	Insecta	Hymenoptera	Formicidae	
https://biodiversity.org.au/afd/taxa/c875d96f-82a1-459b-ac49-35057cfa0e70	Geitoneura minyas	(Waterhouse & Lyell, 1914)	species	Animalia	Arthropoda	Insecta	Lepidoptera	Nymphalidae	Western Xenica
https://biodiversity.org.au/afd/taxa/e8d7b862-1d56-4d27-84a1-937f7915a0de	Vanellus (Lobivanellus) tricolor	(Vieillot, 1818)	species	Animalia	Chordata	Aves	Charadriiformes	Charadriidae	Banded Lapwing
https://biodiversity.org.au/afd/taxa/ec1da3d8-9780-48d0-b328-7d75e1ad0ebf	Buddelundia cinerascens	(Budde-Lund, 1912)	species	Animalia	Arthropoda	Malacostraca	Isopoda	Armadillidae	
https://biodiversity.org.au/afd/taxa/ef82ba0e-0d48-447e-963d-40517d3b25f9	Neelaps calonotus	(DumÃ©ril, Bibron & DumÃ©ril, 1854)	species	Animalia	Chordata	Reptilia	Squamata	Elapidae	Black-striped Burrowing Snake
https://biodiversity.org.au/afd/taxa/f777ebe8-250f-4b8e-9e25-b5944a2ea023	Pogona minor	(Sternfeld, 1919)	species	Animalia	Chordata	Reptilia	Squamata	Agamidae	Dwarf Bearded Dragon
https://id.biodiversity.org.au/node/apni/2890836	Laxmannia squarrosa	Lindl.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Asparagaceae	
https://id.biodiversity.org.au/node/apni/2891662	Drosera x sidjamesii	Lowrie & Conran	species	Plantae	Charophyta	Equisetopsida	Caryophyllales	Droseraceae	
https://id.biodiversity.org.au/node/apni/2893408	Adenanthos cygnorum	Diels	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	
https://id.biodiversity.org.au/node/apni/2893469	Lagenophora huegelii	Benth.	species	Plantae	Charophyta	Equisetopsida	Asterales	Asteraceae	Coarse Bottle-daisy
https://id.biodiversity.org.au/node/apni/2895692	Hypocalymma angustifolium	(Endl.) Schauer	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	White Myrtle
https://id.biodiversity.org.au/node/apni/2896357	Romulea rosea	(L.) Eckl.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Iridaceae	Guildford Grass
https://id.biodiversity.org.au/node/apni/2900052	Schoenus clandestinus	S.T.Blake	species	Plantae	Charophyta	Equisetopsida	Poales	Cyperaceae	
https://id.biodiversity.org.au/node/apni/2900679	Thysanotus triandrus	(Labill.) R.Br.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Asparagaceae	
https://id.biodiversity.org.au/node/apni/2905345	Banksia prionotes	Lindl.	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	Acorn Banksia
https://id.biodiversity.org.au/node/apni/2909339	Athrotaxis cupressoides	D.Don	species	Plantae	Charophyta	Equisetopsida	Pinales	Cupressaceae	Pencil Pine
https://id.biodiversity.org.au/node/apni/2915549	Urospermum picroides	(L.) Scop. ex F.W.Schmidt	species	Plantae	Charophyta	Equisetopsida	Asterales	Asteraceae	False Hawkbit
https://id.biodiversity.org.au/node/apni/2916029	Laxmannia ramosa	Lindl.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Asparagaceae	
https://id.biodiversity.org.au/node/apni/2918533	Lechenaultia floribunda	Benth.	species	Plantae	Charophyta	Equisetopsida	Asterales	Goodeniaceae	
https://id.biodiversity.org.au/node/apni/2919971	Myriophyllum tillaeoides	Diels	species	Plantae	Charophyta	Equisetopsida	Saxifragales	Haloragaceae	
https://id.biodiversity.org.au/node/apni/5040372	Banksia dallanneyi	A.R.Mast & K.R.Thiele	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	
https://id.biodiversity.org.au/taxon/apni/51267241	Arctotheca calendula	(L.) K.Lewin	species	Plantae	Charophyta	Equisetopsida	Asterales	Asteraceae	African Marigold
https://id.biodiversity.org.au/taxon/apni/51285764	Vicia sativa	L.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Common Vetch
https://id.biodiversity.org.au/taxon/apni/51290266	Regelia ciliata	Schauer	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	
https://id.biodiversity.org.au/taxon/apni/51405072	Eriochilus dilatatus	Lindl.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	White Bunny Orchid
https://id.biodiversity.org.au/taxon/apni/51406461	Leporella fimbriata	(Lindl.) A.S.George	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	Hare Orchid
https://id.biodiversity.org.au/taxon/apni/51406465	Leptoceras menziesii	(R.Br.) Lindl.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	Hare's Ears Orchid
https://id.biodiversity.org.au/taxon/apni/51414346	Thelymitra macrophylla	Lindl.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	Scented Sun Orchid
https://biodiversity.org.au/afd/taxa/08f00850-a369-4ecf-bf74-0212ef725382	Maratus clupeatus	Otto & Hill, 2014	species	Animalia	Arthropoda	Arachnida	Araneae	Salticidae	
https://biodiversity.org.au/afd/taxa/1351b437-2eb5-4949-990b-b18eb45252af	Coccinella transversalis	Fabricius, 1781	species	Animalia	Arthropoda	Insecta	Coleoptera	Coccinellidae	Transverse Ladybird
https://biodiversity.org.au/afd/taxa/20938676-d287-43d7-a887-a15fbb3ff6bb	Ixobrychus dubius	Mathews, 1912	species	Animalia	Chordata	Aves	Ciconiiformes	Ardeidae	Minute Bittern
https://biodiversity.org.au/afd/taxa/20cf2b3c-3f38-4110-8c9f-32da03484256	Cercartetus concinnus	(Gould, 1845)	species	Animalia	Chordata	Mammalia	Diprotodontia	Burramyidae	Western Pygmy-possum
https://biodiversity.org.au/afd/taxa/3e1b019f-3659-4c9e-8d45-3e7b357aac4b	Hesperotermes infrequens	(Hill, 1927)	species	Animalia	Arthropoda	Insecta	Blattodea	Termitidae	
https://biodiversity.org.au/afd/taxa/558915f1-ed5c-4406-bdc5-41d5084abdbd	Dasypodia selenophora	GuenÃ©e, 1852	species	Animalia	Arthropoda	Insecta	Lepidoptera	Erebidae	
https://biodiversity.org.au/afd/taxa/562a5c6b-51e8-457e-9b5d-c921af5e18ed	Tarsipes rostratus	Gervais & Verreaux, 1842	species	Animalia	Chordata	Mammalia	Diprotodontia	Tarsipedidae	Honey Possum
https://biodiversity.org.au/afd/taxa/5a264c77-a7d1-43ca-ae1f-233f59b175aa	Ptilotula ornata	(Gould, 1838)	species	Animalia	Chordata	Aves	Passeriformes	Meliphagidae	Yellow-plumed Honeyeater
https://biodiversity.org.au/afd/taxa/64bbd521-e1ad-4768-9c40-bce5f6630095	Heterotermes platycephalus	Froggatt, 1897	species	Animalia	Arthropoda	Insecta	Blattodea	Rhinotermitidae	
https://biodiversity.org.au/afd/taxa/66cf9e86-f1f3-4716-a4d3-cd4650ff087a	Tringa (Heteroscelus) brevipes	(Vieillot, 1816)	species	Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Grey-tailed Tattler
https://biodiversity.org.au/afd/taxa/78106ae5-509d-4ab5-aac9-74f23b8ed9ca	Iridonyssus formicans	Raven, 2015	species	Animalia	Arthropoda	Arachnida	Araneae	Corinnidae	
https://biodiversity.org.au/afd/taxa/7de6b16a-f854-4b4b-88cf-81868ce74ad8	Felis catus	Linnaeus, 1758	species	Animalia	Chordata	Mammalia	Carnivora	Felidae	Cat
https://biodiversity.org.au/afd/taxa/8b1eb1bb-9fdb-4ef7-b2a3-2874072c7b07	Neelaps bimaculatus	(DumÃ©ril, Bibron & DumÃ©ril, 1854)	species	Animalia	Chordata	Reptilia	Squamata	Elapidae	Black-naped Snake
https://biodiversity.org.au/afd/taxa/99992944-b7c4-448e-92ae-d50205e00ab1	Castiarina mimesis	Barker, 1993	species	Animalia	Arthropoda	Insecta	Coleoptera	Buprestidae	
https://biodiversity.org.au/afd/taxa/a485d484-20b7-4687-8397-6b33bdbc1526	Apricia jovialis	(L. Koch, 1879)	species	Animalia	Arthropoda	Arachnida	Araneae	Salticidae	
https://biodiversity.org.au/afd/taxa/a4afa011-fe07-48bb-bbea-184758594291	Nephila edulis	(LabillardiÃ¨re, 1799)	species	Animalia	Arthropoda	Arachnida	Araneae	Araneidae	Australian Golden Orb-weaving Spider
https://biodiversity.org.au/afd/taxa/a7b48a73-14d8-405a-958a-17f1fe46f945	Calotemognatha varicollis	(Carter, 1913)	species	Animalia	Arthropoda	Insecta	Coleoptera	Buprestidae	
https://biodiversity.org.au/afd/taxa/bf8d2470-6c86-4483-b695-51fa1a373ec1	Kalotermes aemulus	Sewell & Gay, 1978	species	Animalia	Arthropoda	Insecta	Blattodea	Kalotermitidae	
https://biodiversity.org.au/afd/taxa/d7b2b8ef-9597-4048-9265-7c456b5ba90c	Crypsiphona ocultaria	(Donovan, 1805)	species	Animalia	Arthropoda	Insecta	Lepidoptera	Geometridae	
https://biodiversity.org.au/afd/taxa/e2b6aed6-2f82-4b7c-9966-5ef2f9190bee	Apus (Apus) pacificus	(Latham, 1801)	species	Animalia	Chordata	Aves	Apodiformes	Apodidae	Fork-tailed Swift
https://biodiversity.org.au/afd/taxa/ebfeed95-746f-40a6-b453-4e6b78aaabc1	Valanga irregularis	(Walker, 1870)	species	Animalia	Arthropoda	Insecta	Orthoptera	Acrididae	Giant Grasshopper
https://id.biodiversity.org.au/node/apni/2887115	Grevillea preissii	Meisn.	species	Plantae	Charophyta	Equisetopsida	Proteales	Proteaceae	Spider Net Grevillea
https://id.biodiversity.org.au/node/apni/2889330	Podotheca gnaphalioides	Graham	species	Plantae	Charophyta	Equisetopsida	Asterales	Asteraceae	
https://id.biodiversity.org.au/node/apni/2890986	Hovea pungens	Benth.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Devils Pins
https://id.biodiversity.org.au/node/apni/2893218	Allocasuarina humilis	(Otto & A.Dietr.) L.A.S.Johnson	species	Plantae	Charophyta	Equisetopsida	Fagales	Casuarinaceae	Dwarf Sheoak
https://id.biodiversity.org.au/node/apni/2896012	Acanthocarpus preissii	Lehm.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Asparagaceae	
https://id.biodiversity.org.au/node/apni/2896403	Hemiandra linearis	Benth.	species	Plantae	Charophyta	Equisetopsida	Lamiales	Lamiaceae	Speckled Snakebush
https://id.biodiversity.org.au/node/apni/2896656	Melaleuca preissiana	Schauer	species	Plantae	Charophyta	Equisetopsida	Myrtales	Myrtaceae	Moonah
https://id.biodiversity.org.au/node/apni/2898550	Croninia kingiana	(F.Muell.) J.M.Powell	species	Plantae	Charophyta	Equisetopsida	Ericales	Ericaceae	
https://id.biodiversity.org.au/node/apni/2898862	Calandrinia corrigioloides	F.Muell. ex Benth.	species	Plantae	Charophyta	Equisetopsida	Caryophyllales	Portulacaceae	Strap Purslane
https://id.biodiversity.org.au/node/apni/2903083	Orobanche minor	Sm.	species	Plantae	Charophyta	Equisetopsida	Lamiales	Orobanchaceae	Broomrape
https://id.biodiversity.org.au/node/apni/2911793	Lomandra nigricans	T.D.Macfarl.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Asparagaceae	
https://id.biodiversity.org.au/node/apni/2915964	Olearia axillaris	(DC.) F.Muell. ex Benth.	species	Plantae	Charophyta	Equisetopsida	Asterales	Asteraceae	Coast Daisy-bush
https://id.biodiversity.org.au/node/apni/2916661	Stylidium repens	R.Br.	species	Plantae	Charophyta	Equisetopsida	Asterales	Stylidiaceae	Matted Triggerplant
https://id.biodiversity.org.au/node/apni/2918542	Euphorbia terracina	L.	species	Plantae	Charophyta	Equisetopsida	Malpighiales	Euphorbiaceae	Terracine Spurge
https://id.biodiversity.org.au/node/apni/2919872	Trifolium arvense	L.	species	Plantae	Charophyta	Equisetopsida	Fabales	Fabaceae	Haresfoot Clover
https://id.biodiversity.org.au/node/fungi/60104069	Trichia favoginea	(Batsch) Pers.	species	Protista	Amoebozoa	Myxogastrea	Trichiida	Trichiaceae	
https://id.biodiversity.org.au/taxon/apni/51403416	Disa bracteata	Sw.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	South African Orchid
https://id.biodiversity.org.au/taxon/apni/51412026	Pterostylis aspera	D.L.Jones & M.A.Clem.	species	Plantae	Charophyta	Equisetopsida	Asparagales	Orchidaceae	Brown-veined Shell Orchid
https://biodiversity.org.au/afd/taxa/0a1b22e4-3ae9-4034-b180-060d09de40f8	Melobasis superba	(Laporte & Gory, 1837)	species	Animalia	Arthropoda	Insecta	Coleoptera	Buprestidae	
https://biodiversity.org.au/afd/taxa/2a4e373b-913a-4e2a-a53f-74828f6dae7e	Dromaius novaehollandiae	(Latham, 1790)	species	Animalia	Chordata	Aves	Struthioniformes	Casuariidae	Emu
https://biodiversity.org.au/afd/taxa/446610b7-2def-4dc1-b0c9-f57f8bb47532	Xederra gwynnei	Rentz, 1985	species	Animalia	Arthropoda	Insecta	Orthoptera	Tettigoniidae	