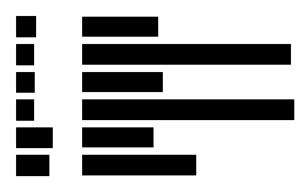




Briefing Note



Subject: Muchea Battery – Flora, Vegetation and Fauna Survey to Support Clearing of Six Trees

1.0 Introduction

Neoen Australia Pty Ltd (Neoen) has received Development Approval (P063/22; DAP/22/02230) for the construction and operation of a utility-scale Battery Energy Storage System (BESS) (the Project) in the Shire of Chittering. The Project is located within a cleared portion of Lot 2364 on Deposited Plan 124489 held in the Certificate of Title Volume 2908, Folio 693.

The Project is located 1.2 km west of Brand Highway along Byrne Road, as shown in Figure 1. The only access to the Project site is via Byrne Road, which also provides access to the Western Power Muchea Substation, Neerabup Gas Transfer Station, a farm, and a private residence. The Project will consist of a battery compound, internal access roads, and ancillary infrastructure (Figure 2).

Construction of the Project will require the removal of up to six trees located within the Byrne Rd road reserve. Consultation with the Shire of Chittering has confirmed that an assessment of flora, vegetation, and fauna values provided by these trees is required to support Neoen's request to undertake the clearing.

Additionally, Neoen has submitted a referral of the proposed clearing to the Department of Water and Environmental Regulation (DWER) to understand if a Clearing Permit will be required given the clearing constitutes <1 ha, is located within the southwest intensive land use zone, and is considered low impact due to the degraded nature of the road reserve and limited clearing proposed. Neoen is currently awaiting a response from DWER on the referral.

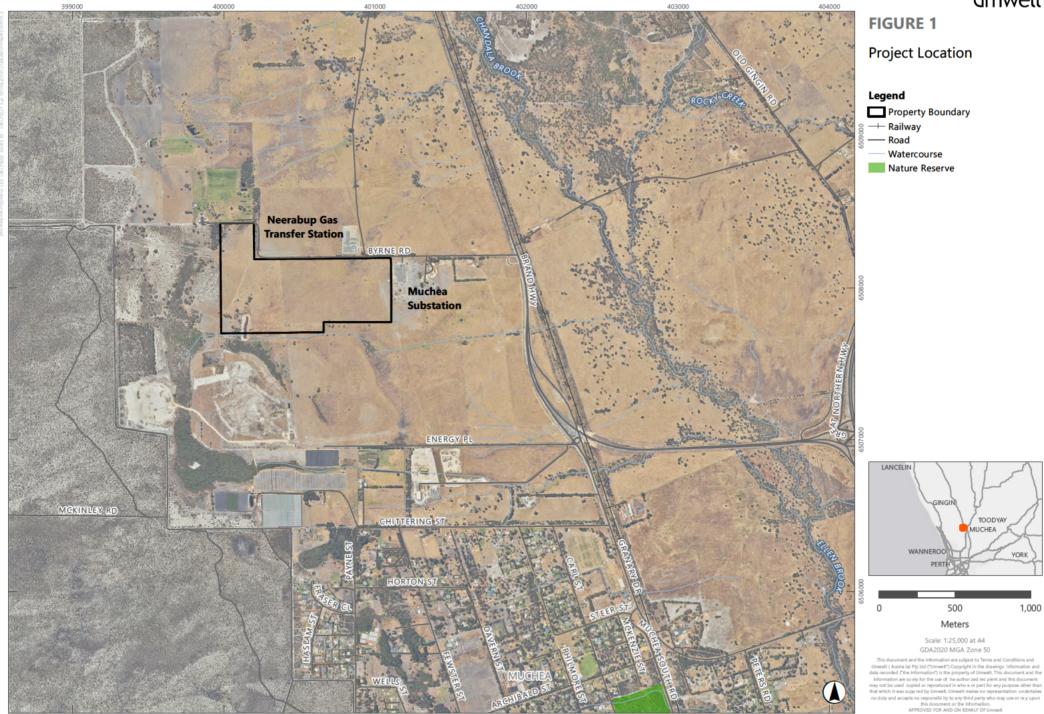
Umwelt (Australia) Pty Limited

ABN 18 059 519 041

T| 1300 793 267 E| info@umwelt.com.au

www.umwelt.com.au

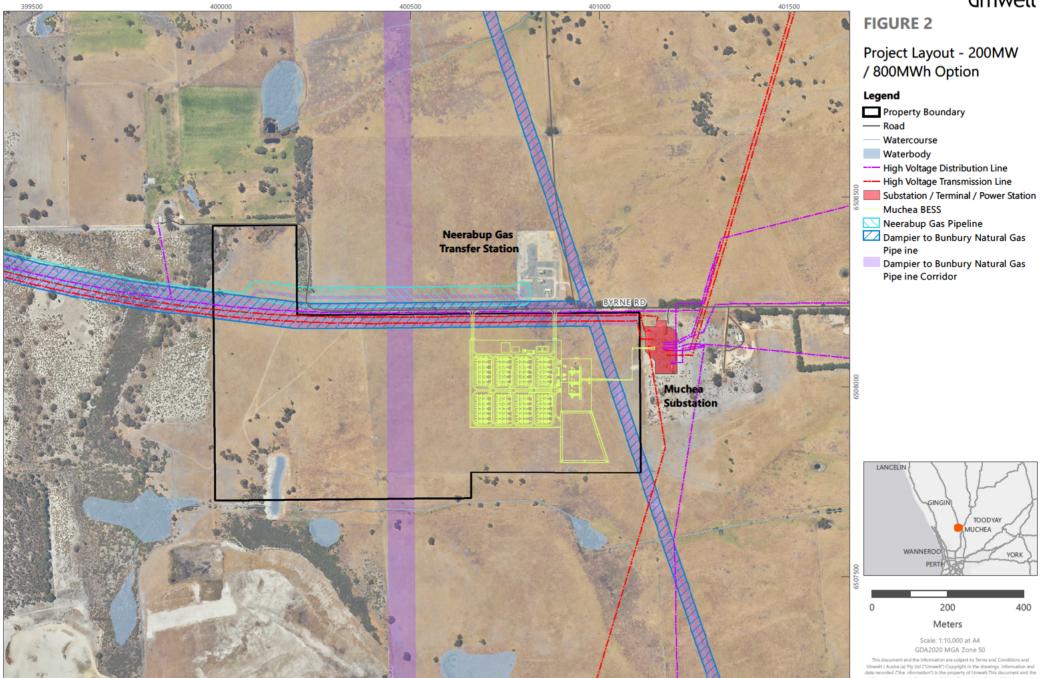






no duty and accepts no responsibility to any third party who may use or rely upon this documentor the information.

APPROVED FOR AND ON BEHALF OF Umwelt





2.0 Previous Flora and Vegetation Assessment – October 2021

In October 2021, Umwelt completed a reconnaissance and targeted flora and vegetation assessment of the Project (Umwelt, 2021). The assessment's Study Area, which encompasses 57 ha, did not include the Byrne Rd road reserve and therefore the six trees now proposed to be cleared were not captured by this assessment.

The key findings of the 2021 reconnaissance and targeted flora and vegetation assessment are presented below:

- The majority of the Study Area consisted of heavily disturbed and cleared paddock which had a vegetation condition of Completely Degraded.
- Two small pockets of vegetation communities classified as Degraded condition were recorded in the north-western and south-western corners of the Study Area, both of which are outside of the Project footprint.
- No vegetation in the Study Area was representative of listed Threatened Ecological Communities (TEC) or Priority Ecological Communities (PEC) and was not considered to be significant under the EPA Technical Guidance or Factor Guideline (EPA, 2016a, 2016b).
- No conservation significant flora taxa were recorded in the Study Area.
- A total of 43 discrete vascular flora taxa were recorded in the Study Area, representing 14 families and 38 genera.
- The majority of flora taxa recorded were introduced taxa (weeds), with a total of 31 weed taxa recorded in the Study Area (72 % of the total 43 taxa).
- Two Declared Pests were recorded, being Arum Lily (*Zantedeschia aethiopica) and Oneleaf Cape Tulip (*Moraea flaccida)

A copy of the corresponding report is provided in **Appendix A**.

3.0 Flora, Vegetation and Fauna Assessment – November 2023

To support Neoen's application to the Shire for the removal of six trees, Umwelt undertook an additional reconnaissance flora and basic fauna assessment. The six trees are required to be removed to allow safe access and transport of materials to the Project site. The location of each tree proposed to be cleared is illustrated in **Figure 3**.







3.1 Survey Methodology

A reconnaissance flora and basic fauna assessment was undertaken by two Umwelt ecologists (Kyler Rowson and Brittany Osborn) on 29 November 2023.

Brief notes were recorded on each taxon identified, including photos, health condition, height and habitat value, and status (planted or remnant).

3.2 Results

Six trees were assessed, with five of these identified to be remnant, and one planted (Table 3.1). None of the trees identified are considered to have any significant conservation value in either a flora or fauna context.

Forest Red-tailed Black-cockatoos (*Calyptorhynchus banksii naso*) were observed flying over the Study Area during the 2023 survey, flying in the direction of Gnangara-Moore River State Forest located west of the Study Area.

Table 3.1 Notes recorded by the November 2023 field survey

Note	Easting ¹	Northing ¹	Comment	Photo
1	400654	6508199	Planted <i>^Eucalyptus camaldulensis</i> , height is approximately 6 metres. Healthy. Too small to provide significant habitat value for fauna.	3.1
2	400996	6508210	4 Melaleuca preissiana, remnant. Approximately 4 metres tall. Pair to north of road are looking a little unhealthy, the pair south are healthy. Not a suitable habitat for Black Cockatoos, or any other fauna of significance.	3.2
3	400930	6508221	Lone remnant <i>Xanthorrhoea preissii</i> , to 2.5 metres tall. Healthy. No Black Cockatoo value, or for any fauna of significance.	3.3

Note. ¹Coordinates are provided in GDA2020 Zone 50





Photo 3.1 Planted ^Eucalyptus camaldulensis.



Photo 3.2 The four remnant *Melaleuca preissiana* trees.





Photo 3.3 Remnant Xanthorrhoea preissii.

4.0 Conclusion

The mitigation hierarchy has been applied throughout the design and planning of the Project to avoid and minimise any potential clearing of native vegetation. As a result, only six trees (five remnant, one planted) within the road reserve are required to be removed in order to facilitate safe access and transport of materials to the site.

The six trees were identified as *Eucalyptus camaldulensis* (planted), *Melaleuca preissiana* (remnant – four trees) and *Xanthorrhoea preissii* (remnant). The removal of these trees would result in minimal impact to the ecology of the Study Area, as it is considered that there is no habitat value for significant fauna, and none of these trees are considered to be significant in a flora and vegetation context.

The Project has developed a Landscaping Plan that commits to planting native vegetation representative of locally occurring species (*Corymbia calophylla*, *Melaleuca preissiana*, and *Kunzea glaberscens*) over an area at least 10% of the Project's disturbance footprint. With a current estimated disturbance footprint of 4.0 ha, the Project will plant approximately 0.4 ha of native vegetation resulting in a net-gain of vegetation despite the proposed clearing. The Landscaping Plan has been approved by the Shire.



5.0 References

environmental-impact-assessment

prepared for Neoen Australia Pty Ltd, December 2021.

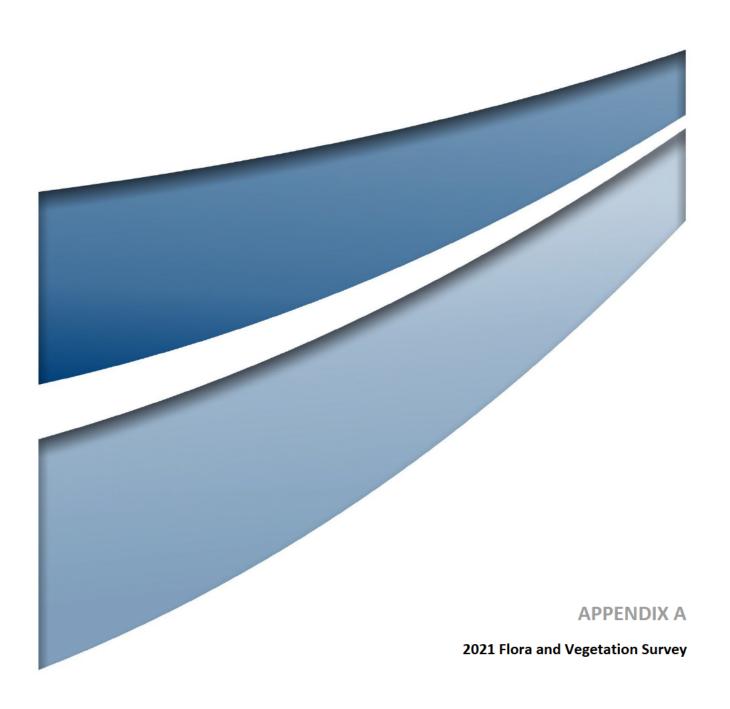
Environmental Protection Authority (EPA). (2016a). *Environmental Factor Guideline—Flora and Vegetation*.

Government of Western Australia. https://www.epa.wa.gov.au/policies-guidance/environmental-factor-guideline-flora-and-vegetation

Environmental Protection Authority (EPA). (2016b). *Technical Guidance—Flora and Vegetation Surveys for Environmental Impact Assessment*. Government of Western Australia.

https://www.epa.wa.gov.au/policies-guidance/technical-guidance-flora-and-vegetation-surveys-

Umwelt. (2021). *Muchea Battery—Flora and Vegetation Assessment*. Unpublished report (21461/R03)







Briefing Note





Date:

15 December 2021

Subject: Muchea Battery - Flora and Vegetation Assessment

In this document

1.0	Backgro	Background		
2.0	Method	Methods		
	2.1	Desktop Assessment	4	
	2.2	Personnel and Licensing Information	4	
	2.3	Flora and Vegetation Field Survey Methods	5	
	2.4	Plant Collection and Identification	7	
	2.5	Vegetation Definition, Mapping and Description	7	
	2.6	Vegetation Condition	7	
	2.7	Significant Flora and Vegetation	8	
3.0	Results		8	
	3.1	Desktop Assessment	8	
	3.2	Field Survey	10	
4 0	Referen	nces	13	

Umwelt (Australia) Pty Limited

ABN 18 059 519 041

T| 1300 793 267 E| info@umwelt.com.au

www.umwelt.com.au



1.0 Background

Neoen Australia Pty Ltd (Neoen) is proposing to establish a Battery Energy Storage System (BESS) near Perth in the Shire of Chittering. Neoen has identified a location for the battery development (the Project) as a single property (the Study Area) located approximately 2 kilometres (km) north of Muchea. The Study Area is equivalent to Lot 2364 on deposited plan 124489, which covers an area of 57 hectares (ha) as presented on **Figure 1.1**. The battery footprint (the Project Area) is proposed to be located within a cleared area in a compound of between 2 and 5 ha.

Neoen commissioned Umwelt Australia (Umwelt) to undertake a reconnaissance and Targeted flora and vegetation assessment of the Study Area. This report presents the results of this assessment. The above works have been undertaken in accordance with the Environmental Protection Authority's (EPA) Technical Guide – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA 2016a) and Environmental Factor Guideline – Flora and Vegetation (EPA 2016b), with specific regard to the Targeted Survey guidance.

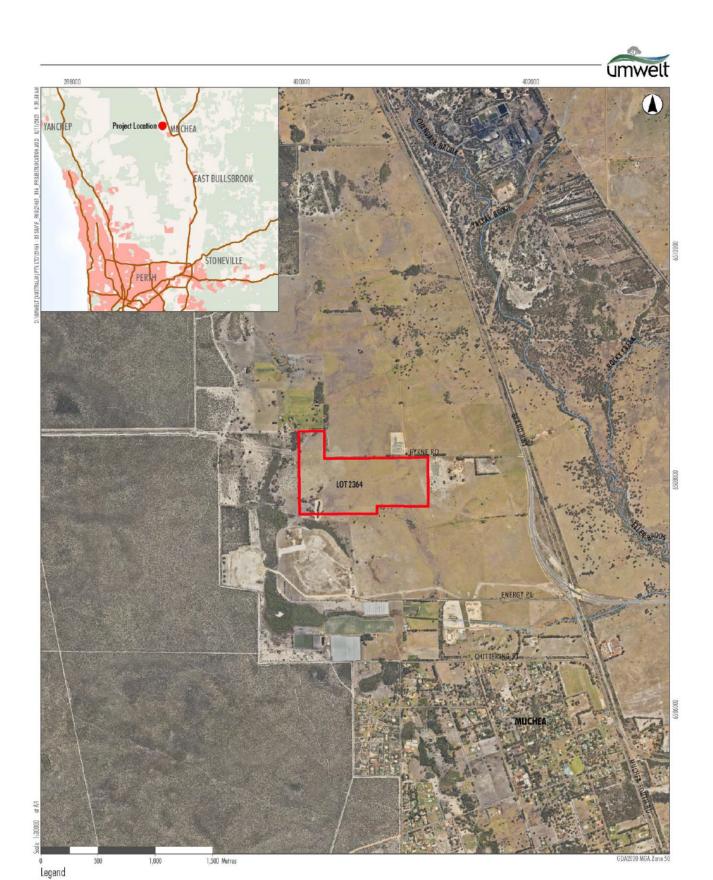


FIGURE 1.1

Project Location

Image Source: Landgate [2021] Data source: Landgate (2021), MRWA (2020)

Study Area Roads Waterways



2.0 Methods

2.1 Desktop Assessment

For the purposes of conducting the desktop review, database searches were undertaken to include the Study Area with a buffer of approximately 5 km. Data sources relating to environmental values of the Study Area are listed in **Table 1**.

Table 1 Searches Undertaken for the Desktop Review of the Study Area

Source	Search Attributes	Search Purpose
DBCA Threatened and Priority Ecological Communities Database (DBCA 2021a)	Database interrogated using Desktop Study Area boundary. No additional buffer applied.	Obtain records of DBCA-classified TECs and/or DBCA-classified PECs within the Desktop Study Area
DBCA TEC and PEC lists (DBCA 2018; DBCA 2021c)	Review of current DBCA TEC and PEC lists	Identify whether there are any additional DBCA listed TECs or PECs that could occur within the Desktop Study Area
DBCA Significant Flora Databases (WA Herbarium specimen database (WAHerb) and Threatened and Priority Flora (TPFL) database) (DBCA 2021b)	Database interrogated using Desktop Study Area boundary. No additional buffer applied.	Obtain records of listed significant flora within the Desktop Study Area
Department of Agriculture, Water and the Environment (DAWE) Species Profile and Threats (SPRAT) Database (interrogated using the Protected Matters Search Tool (DAWE 2021a))	Database interrogated using approximate Desktop Study Area boundary (exact boundary cannot be used) Co-ordinates of database search provided in Appendix A ; buffer 1km.	Identify Matters of National Environmental Significance (MNES), including Threatened flora and TECs, listed under the EPBC Act, that occur or have the potential to occur within the Desktop Study Area
DBCA NatureMap (WA Herbarium and TPFL records) (DBCA 2007–)	Database interrogated using approximate Desktop Study Area boundary (exact boundary cannot be used)	Obtain records of listed significant flora and introduced flora within the Desktop Study Area
2018 Statewide Vegetation Statistics (formerly the CAR Reserve Analysis) (Government of Western Australia 2019a)	Study Area	Identify extent of Vegetation System Associations within the Study Area

2.2 Personnel and Licensing Information

Table 2 lists the personnel involved in fieldwork for the survey. The Field Manager has extensive experience (> 10 years) in conducting similar flora surveys in the Swan Coastal Plain region. All plant material was collected under the Flora Taking (Biological Assessment) licences and Authorisation to Take or Disturb Threatened Species pursuant to the *Biodiversity Conservation Act 2016*, sections 40, 274 and 275.

Table 2 Personnel and Licensing Information

Personnel	Flora Collecting Permit (BC Act/WC Act)	Role
Kim Kershaw	FB62000054,TFL 22-1819	Field manager



2.3 Flora and Vegetation Field Survey Methods

The flora and vegetation survey was undertaken during one field visit on 22 October 2021. The timing of the survey was selected to coincide with the most appropriate time to survey in the Swan Coastal Plain; this is considered to be Spring as most of the taxa in these regions flower at this time. This includes the majority of significant taxa that potentially occur in the Study Area (see **Section 3.1.2**).

A total of five relevés were undertaken during the survey. Aspects recorded at each relevé included dominant flora taxa, GPS (Global Positioning System) coordinates, vegetation condition (as per the scale presented in **Section 2.6**) and site photograph.

Targeted survey for significant flora taxa was undertaken as part of the survey, with a list of significant flora taxa likely to be encountered compiled as part of the desktop study. Intact native vegetation was traversed on foot. If populations of known significant flora taxa were identified, a representative collection of material was made, and the abundance and spatial distribution (using GPS coordinates) of individuals within each population was recorded. Plant taxa were also recorded opportunistically to develop a list of the common taxa present within the Study Area. Observations on the extent of vegetation present and the condition of the vegetation was also recorded.

Traverses and sites undertaken as part of the field survey in the Study Area are presented on Figure 2.1.



21461_R03_Flora and Vegetation_20211215_BN 6



2.4 Plant Collection and Identification

Specimens of any unknown taxa that were collected were pressed for later identification. Taxon nomenclature generally follows *FloraBase* (WA Herbarium 1998) with all names checked against the current DBCA Max database to ensure their validity. However, in cases where names of plant taxa have been published recently in scientific literature but have not yet been adopted on *FloraBase* due to time constraints (WA Herbarium 1998), nomenclature in the published literature is followed. The conservation status of each taxon was checked against *FloraBase*, which provides the most up-to-date information regarding the conservation status of flora taxa in Western Australia.

2.5 Vegetation Definition, Mapping and Description

Vegetation in the Study Area was mapped and described using structural vegetation classification as described in Section 8.1 of the EPA Technical Guidance (EPA 2016a). Vegetation community descriptions have been adapted from the National Vegetation Information System (NVIS) Australian Vegetation Attribute Manual Version 6.0 (Executive Steering Committee for Australian Vegetation Information (ESCAVI) 2003), as stipulated by EPA (2016a). This model follows nationally-agreed guidelines to describe and represent vegetation types, so that comparable and consistent data are produced nation-wide.

The locations of relevés were used in conjunction with aerial photograph interpretation and field notes taken during survey to develop vegetation community polygon boundaries. Mapping boundaries were selected using aerial photography. These vegetation mapping polygon boundaries were then digitised using Geographic Information System (GIS) software.

2.6 Vegetation Condition

Vegetation condition within the Study Area was described using the vegetation condition scale presented in EPA (2016a) as presented in Table 3.

Table 3 Vegetation Condition Scale for the South-West and Interzone Botanical Provinces (EPA 2016B)

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



2.7 Significant Flora and Vegetation

2.7.1 Significant Flora

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

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

2.7.2 Significant Vegetation

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

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

3.0 Results

3.1 Desktop Assessment

3.1.1 Regional Vegetation

The Study Area is located within the Swan Coastal Plain Interim Biogeographic Regionalisation for Australia (IBRA) region, specifically within the SWA02 Perth IBRA subregion (Commonwealth of Australia 2012). The Study Area intersects two vegetation system associations as defined by Shepherd et al. (2002), (Government of Western Australia 2019) including Bassendean_949 and Pinjarra_1018. The majority of the Study Area including the entire Potential Footprint is within Pinjarra_1018. A small area in the north-west of the Study Area is within Bassendean_949. **Table 4** presents the current extent of each vegetation system association (VSA) in relation to its pre-European extent within the state, and the percentage of the current extent of each VSA currently protected for conservation within the state.



Table 4 Vegetation System Associations Occurring in the Study Area

Vegetation System Association	Description	Current Extent (ha)	Percentage of Pre-European Extent Remaining	Percentage of Current Extent Protected for Conservation
Bassendean_949	Low woodland; banksia	69,992.3	60.8	34.3
Pinjarra_1018	Mosaic: Medium forest; jarrah- marri/Low woodland; banksia/Low forest; teatree/Low woodland; Casuarina obesa	1,249.7	20.6	7.1

3.1.2 Significant Flora

A summary of significant flora taxa known from 5 km of the Study Area is presented in Table 5. This list has been compiled from the results of the desktop searches (including DBCA database searches (DBCA 2021b) and DAWE's SPRAT Database (DAWE 2021a - Appendix A)) (only those with actual records within 5 km of the Study Areas have been included in Table 5). A total of 12 significant flora taxa are known to occur within 5 km of the Study Area including four Threatened taxa (under the BC Act and EPBC Act) and eight DBCA-classified Priority taxa. There are no records of significant flora within the Study Area itself.

Table 5 Significant Flora Known from within 5 km of the Study Area

Significant Flora Taxon	Status	Habitat (WAHerb 1998-).	Source
Acacia anomala	Threatened	Lateritic soils. Slopes.	DBCA (2021b)
Acacia drummondii subsp. affinis	Р3	Lateritic gravelly soils.	DBCA (2021b)
Chamaescilla gibsonii	Р3	Winter-wet flats, shallow water-filled claypans.	DBCA (2021b)
Cyathochaeta teretifolia	P3	Grey sand, sandy clay. Swamps, creek edges.	DBCA (2021b)
Darwinia foetida	Threatened	Plains, flats and drainage lines with grey/brown sand or sandy loam	DAWE (2021a), DBCA (2021b)
Diuris drummondii	Threatened	Low-lying depressions, swamps.	DBCA (2021b)
Grevillea curviloba	Threatened	Grey sand, sandy loam. Winter-wet heath.	DAWE (2021a), DBCA (2021b)
Hypolaena robusta	P4	White sand. Sandplains.	DBCA (2021b)
Isotropis cuneifolia subsp. glabra	P3	Sand, clay loam. Winter-wet flats.	DBCA (2021b)
Leucopogon squarrosus subsp. trigynus	P2	Plains, flats, depressions and slopes with grey/white sand.	DBCA (2021b)
Ornduffia submersa	P4	Wetlands, creeks with grey/black sand or sandy clay.	DBCA (2021b)
Verticordia serrata var. linearis	Р3	White sand, brown loam, gravel. Slopes, often with laterite.	DBCA (2021b)



3.1.3 Significant Vegetation

The interrogations of the DBCA TEC and PEC Database for the Study Area (DBCA2021a) and DAWE's SPRAT Database (DAWE 2021a) returned six significant communities within 5 km of the Study Area (Table 6). There are no records of significant vegetation known from within the Study Area itself.

Table 6 Significant Vegetation Known from within 5 km of the Study Area

Community	Conservation Status (W.A.)	EPBC Act Ranking	Source
Banksia dominated woodlands of the Swan Coastal Plain	Priority 3	Endangered	DAWE (2021a), DBCA (2021a)
Communities of Tumulus Springs (Organic Mound Springs, Swan Coastal Plain)	Critically Endangered	Endangered	DBCA (2021a)
Shrublands and woodlands on Muchea Limestone of the Swan Coastal Plain	Endangered	Endangered	DBCA (2021a)
SCP 23b- Swan Coastal Plain <i>Banksia attenuata</i> - Banksia menziesii woodlands	Priority 3	Endangered	DBCA (2021a)
SCP 25 - Southern Eucalyptus gomphocephala-Agonis flexuosa woodlands	Priority 3	Critically Endangered	DBCA (2021a)
Tuart (<i>Eucalyptus gomphocephala</i>) Woodlands and Forests of the Swan Coastal Plain	Priority 3	Critically Endangered	DAWE (2021a)

3.2 Field Survey

3.2.1 Flora

A total of 43 discrete vascular flora taxa were recorded in the Study Area by this survey representing 14 families and 38 genera. The majority of flora taxa recorded were introduced taxa (weeds), with a total of 31 weed taxa (of the total 43 taxa) recorded in the Study Area. No significant flora taxa were recorded in the Study Area. A full list of taxa recorded during the field survey is presented in **Appendix B**.

Two Declared Pests were recorded in the Study Area, being Arum Lily (*Zantedeschia aethiopica*) and Oneleaf Cape Tulip (*Moraea flaccida*). These are Declared Pests under *the Biosecurity and Agriculture*Management Act 2007 (BAM Act) for the whole of state (DAWE 2021b) and require management in accordance with the BAM Act. The locations of these Declared Pests are presented on **Figure 3.1** with GPS locations presented in **Appendix C**.

3.2.2 Vegetation

The majority of the Study Area consisted of cleared paddock which was Completely Degraded. Two vegetation communities were recorded in the Study Area as presented on Figure 3.1. These were small pockets of Degraded vegetation occurring on the north-western and south-western corners of the Study Area located outside of the Potential Footprint. These are described below.

Community 1 (Degraded): Low woodland of Melaleuca preissiana over tall shrubland of Astartea

scoparia and Kunzea glabrescens over mixed pasture weeds on flats and

depressions with black sandy loam.

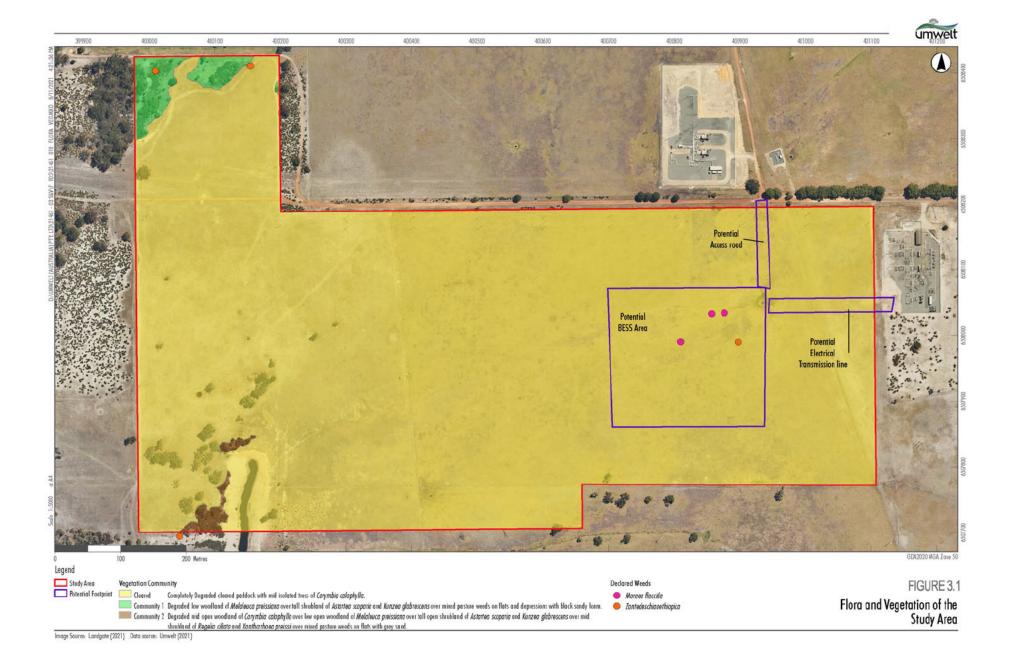


Community 2 (Degraded): Mid open woodland of Corymbia calophylla over low open woodland of

Melaleuca preissiana over tall open shrubland of Astartea scoparia and Kunzea glabrescens over mid shrubland of Regelia ciliata and Xanthorrhoea

preissii over mixed pasture weeds on flats with grey sand.

No vegetation in the Study Area was representative of any listed TECs or PEC and was not considered to be significant under the EPA Technical Guidance or Factor Guideline (EPA 2016a, b).





4.0 References

Commonwealth of Australia (2012)

Interim Biogeographic Regionalisation for Australia, Version 7. Department of Sustainability, Environment, Water, Population and Communities. Available:

http://www.environment.gov.au/parks/nrs/science/bioregion-framework/ibra/index.html#ibra

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

NatureMap: Mapping Western Australia's Biodiversity. Available: https://naturemap.dpaw.wa.gov.au/. Accessed October 2021.

Department of the Agriculture, Water and the Environment (DAWE) (2021a)

EPBC Act Protected Matters Report. Created using Protected Matters Search Tool; available: https://www.environment.gov.au/epbc/protected-matters-search-tool.Report Reference: O2XUHD.

Department of the Agriculture, Water and the Environment (DAWE) (2021b)

Western Australian Organism List. Available: https://www.agric.wa.gov.au/organisms. Accessed November 2021.

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

List of Threatened Ecological Communities endorsed by the Western Australian Minister for Environment. Department of Parks and Wildlife, Species and Communities Branch. Published 28th June 2018.

Department of Biodiversity, Conservation and Attractions (DBCA) (2021a)

Interrogation of the DBCA Threatened Ecological Communities and Priority Ecological Communities database, performed 9/06/2019. Reference: 15-0621.

Department of Biodiversity, Conservation and Attractions (DBCA) (2021b)

Interrogation of the DBCA Western Australian Herbarium specimen database, Threatened and Priority Flora database and Threatened and Priority Flora List, performed 16/06/2021. Reference: 17-0621FL.

Department of Biodiversity, Conservation and Attractions (DBCA) (2021c)

Priority Ecological Communities for Western Australia Version 32. Species & Communities Branch, Department of Parks and Wildlife. Published 15th July 201`1. Available: https://www.dpaw.wa.gov.au/images/documents/plants-animals/threatened-species/Listings/priority_ecological_communities_list.pdf

Environmental Protection Authority (2016a)

Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment. Environmental Protection Authority, Western Australia. Published 13th December, 2016.



Environmental Protection Authority (2016b)

Environmental Factor Guideline – Flora and Vegetation. Environmental Protection Authority, Western Australia. Published 13th December, 2016.

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

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

Government of Western Australia (2019)

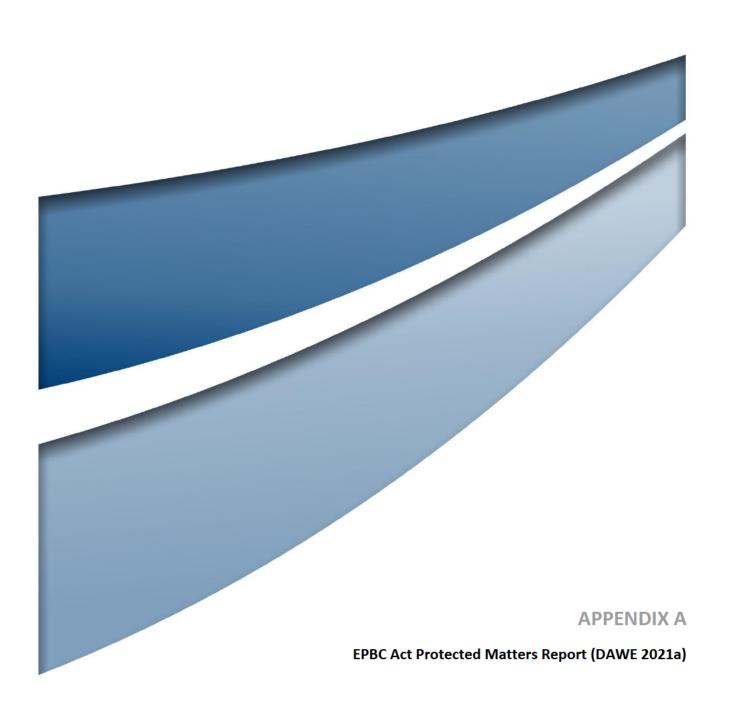
2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth. Available: https://www2.landgate.wa.gov.au/web/guest/downloader

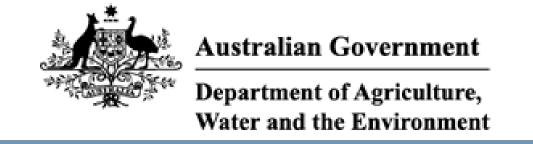
Shepherd, D., Beeston, G. & Hopkins, A. (2002)

Native Vegetation in Western Australia. Extent, Type and Status. Resource Management Technical Report 249. W.A. Department of Agriculture.

Western Australian Herbarium (WAHerb) (1998–)

FloraBase—the Western Australian Flora. Department of Parks and Wildlife. Available: https://FloraBase.dpaw.wa.gov.au/. Accessed October 2021.





EPBC Act Protected Matters Report

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

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

Information is available about <u>Environment Assessments</u> and the EPBC Act including significance guidelines, forms and application process details.

Report created: 08/11/21 13:14:48

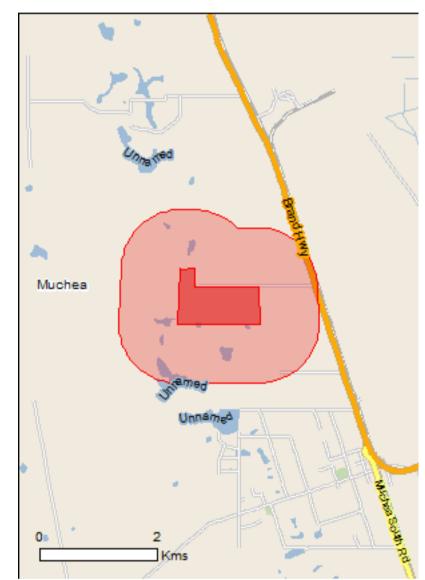
Summary

Details

Matters of NES
Other Matters Protected by the EPBC Act
Extra Information

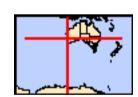
Caveat

<u>Acknowledgements</u>



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2015

Coordinates
Buffer: 1.0Km



Summary

Matters of National Environmental Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	21
Listed Migratory Species:	8

Other Matters Protected by the EPBC Act

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

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

A <u>permit</u> may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	12
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	33
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities

Listed Threatened Leological Communities		[IXCOCITCE IIIIOIIIIAIIOII]
For threatened ecological communities where the distriplans, State vegetation maps, remote sensing imagery community distributions are less well known, existing vegotation produce indicative distribution maps.	and other sources. Where	threatened ecological
Name	Status	Type of Presence
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area
Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community	Critically Endangered	Community may occur within area
Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		• •
Botaurus poiciloptilus		
Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calyptorhynchus banksii naso		
Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat likely to occur within area
Calyptorhynchus latirostris		
Carnaby's Cockatoo, Short-billed Black-Cockatoo [59523]	Endangered	Species or species habitat known to occur within area
Leipoa ocellata		
Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Rostratula australis		
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Fish		
Galaxiella nigrostriata		
Blackstriped Dwarf Galaxias, Black-stripe Minnow [88677]	Endangered	Species or species habitat may occur within area
Insects		
Hesperocolletes douglasi		
Douglas' Broad-headed Bee, Rottnest Bee [66734]	Critically Endangered	Species or species habitat may occur within area
Mammals		

[Resource Information]

Name	Status	Type of Presence
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat likely to occur within area
Plants		
Andersonia gracilis Slender Andersonia [14470]	Endangered	Species or species habitat likely to occur within area
Anigozanthos viridis subsp. terraspectans Dwarf Green Kangaroo Paw [3435]	Vulnerable	Species or species habitat likely to occur within area
Caladenia huegelii King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat may occur within area
Chamelaucium sp. Gingin (N.G.Marchant 6) Gingin Wax [88881]	Endangered	Species or species habitat may occur within area
<u>Darwinia foetida</u> Muchea Bell [83190]	Critically Endangered	Species or species habitat likely to occur within area
<u>Diuris purdiei</u> Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat may occur within area
Drakaea elastica Glossy-leafed Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat likely to occur within area
Eleocharis keigheryi Keighery's Eleocharis [64893]	Vulnerable	Species or species habitat likely to occur within area
Grevillea curviloba subsp. curviloba Curved-leaf Grevillea [64908]	Endangered	Species or species habitat known to occur within area
Grevillea curviloba subsp. incurva Narrow curved-leaf Grevillea [64909]	Endangered	Species or species habitat known to occur within area
Thelymitra stellata Star Sun-orchid [7060]	Endangered	Species or species habitat may occur within area
Listed Migratory Species * Species is listed under a different scientific name on	the EDDC Act. Threatene	[Resource Information]
* Species is listed under a different scientific name on Name	Threatened	Type of Presence
Migratory Marine Birds	THOUGHOU	1) 0 1 1 0 0 1 0 0 1 0 0
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus		
Osprey [952]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Merops ornatus

Motacilla cinerea

Grey Wagtail [642]

Rainbow Bee-eater [670]

Commonwealth Land	[Resource Information]
Commonwealth Land	I resource information i

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

Name Defence - MUCHEA ARMAMENT RANGE		
Listed Marine Species * Species is listed under a different scientific nam	ne on the EPRC Act - Threatene	[Resource Information]
Name	Threatened	Type of Presence
Birds		. , , , , , , , , , , , , , , , , , , ,
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea ibis		
Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Haliaeetus leucogaster		
White-bellied Sea-Eagle [943]		Species or species habitat

may occur within area

may occur within area

may occur within

Species or species habitat

Species or species habitat

Name	Threatened	Type of Presence
		area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus		
Osprey [952]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato)		
Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area

Extra Information

Invasive Species [Resource Information]

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

Name	Status	Type of Presence
Birds		
Acridotheres tristis		
Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos		
Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis		
European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia		
Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus		
House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus		
Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Streptopelia chinensis		
Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Streptopelia senegalensis		
Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
Sturnus vulgaris		
Common Starling [389]		Species or species habitat likely to occur

Name	Status	Type of Presence within area
Mammals		
Bos taurus		
Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris		
Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus		
Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Funambulus pennantii		
Northern Palm Squirrel, Five-striped Palm Squi [129]	irrel	Species or species habitat likely to occur within area
Mus musculus		
House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus		
Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus		
Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus		
Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Vulpes vulpes		
Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Asparagus asparagoides		
Bridal Creeper, Bridal Veil Creeper, Smilax, Flo Smilax, Smilax Asparagus [22473]	orist's	Species or species habitat likely to occur within area
Brachiaria mutica		
Para Grass [5879]		Species or species habitat may occur within area
Cenchrus ciliaris		
Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Chrysanthemoides monilifera		
Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Chrysanthemoides monilifera subsp. monilifera	l	
Boneseed [16905]		Species or species habitat likely to occur within area
Genista linifolia		
Flax-leaved Broom, Mediterranean Broom, Flax [2800]	x Broom	Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana		
Broom [67538]		Species or species habitat may occur within area
Lantana camara		
Lantana, Common Lantana, Kamara Lantana, leaf Lantana, Pink Flowered Lantana, Red Flow Lantana, Red-Flowered Sage, White Sage, Wil [10892]	vered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Olea europaea		
Olive, Common Olive [9160]		Species or species habitat may occur within area
Pinus radiata		
Radiata Pine Monterey Pine, Insignis Pine, Wildir Pine [20780]	ng	Species or species habitat may occur within area
Rubus fruticosus aggregate		
Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron	& S.x reichardtii	
Willows except Weeping Willow, Pussy Willow ar	nd	Species or species habitat
Sterile Pussy Willow [68497]		likely to occur within area
Salvinia molesta		
Salvinia, Giant Salvinia, Aquarium Watermoss, K	ariba	Species or species habitat
Weed [13665]		likely to occur within area
		•
Tamarix aphylla		On a sign on an asign habitat
Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk Athel Tamarix, Desert Tamarisk, Flowering Cypre		Species or species habitat likely to occur within area
Salt Cedar [16018]	,,,,	incly to occur within area
Reptiles		
Hemidactylus frenatus		
Asian House Gecko [1708]		Species or species habitat likely to occur within area

Caveat

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

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

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

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

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

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

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

- migratory and
- marine

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

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

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

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

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

Coordinates

-31.55482 115.94636,-31.554783 115.948549,-31.557051 115.948591,-31.557087 115.958205,-31.561914 115.958462,-31.561951 115.945888,-31.554747 115.946317,-31.55482 115.94636

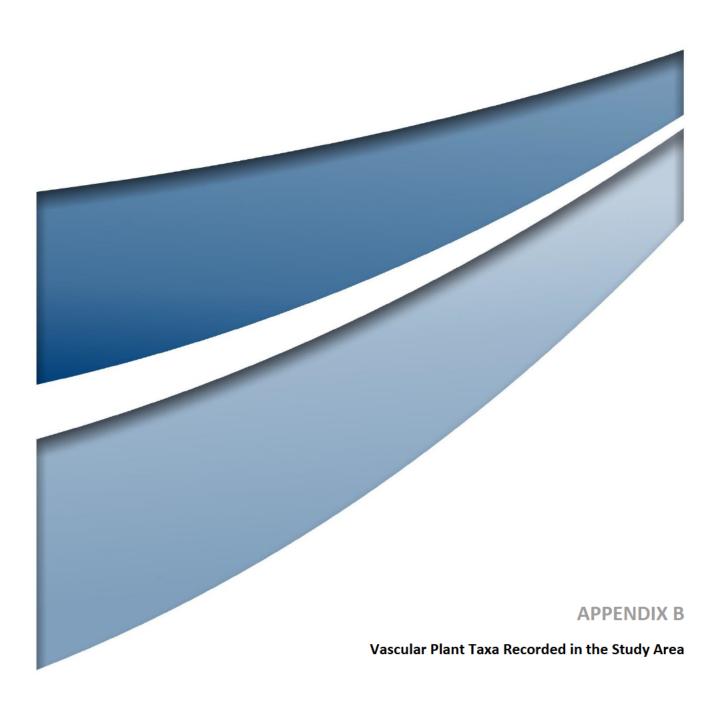
Acknowledgements

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

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

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

Please feel free to provide feedback via the Contact Us page.





Araceae *Zantedeschia aethiopica

Asteraceae *Arctotheca calendula

*Hypochaeris glabra Podotheca gnaphalioides *Ursinia anthemoides

Campanulaceae *Wahlenbergia capensis

Crassulaceae Crassula decumbens var. decumbens

*Crassula natans var. minor

Cyperaceae Isolepis marginata

Fabaceae *Lotus subbiflorus

*Lupinus cosentinii

*Ornithopus compressus *Trifolium campestre *Trifolium hirtum *Trifolium repens

*Trifolium subterraneum

Geraniaceae *Erodium botrys

Iridaceae *Moraea flaccida

*Romulea rosea

Myrtaceae Astartea scoparia

Corymbia calophylla Eucalyptus rudis Kunzea glabrescens Melaleuca preissiana

Regelia ciliata

Orobanchaceae *Orobanche minor

Poaceae *Bromus diandrus

*Cenchrus clandestinus *Cynodon dactylon *Ehrharta longiflora *Holcus lanatus

*Hordeum leporinum

Lolium spp.

*Pentameris pallida

*Poa annua

*Polypogon monspeliensis

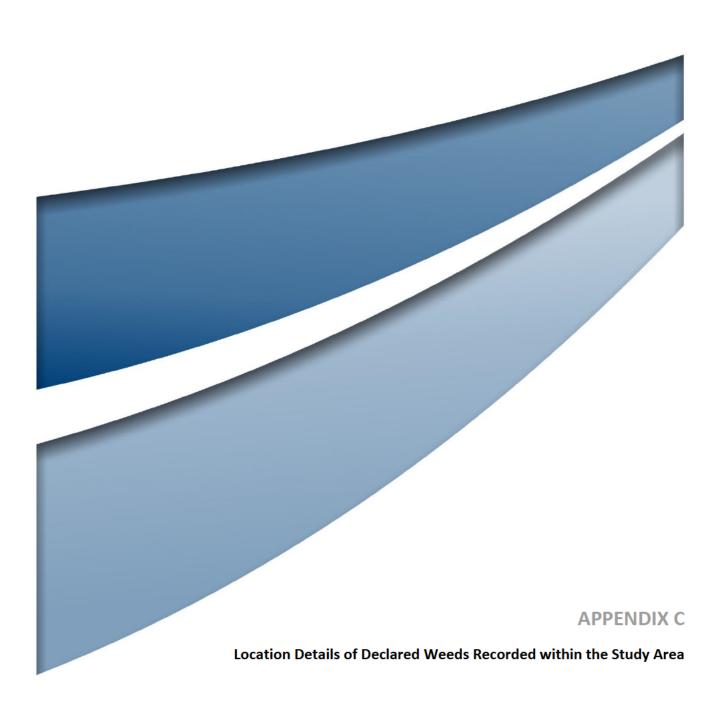
*Rostraria cristata *Vulpia bromoides *Vulpia myuros

Polygonaceae Persicaria decipiens

*Rumex acetosella

Restionaceae Desmocladus ?flexuosus

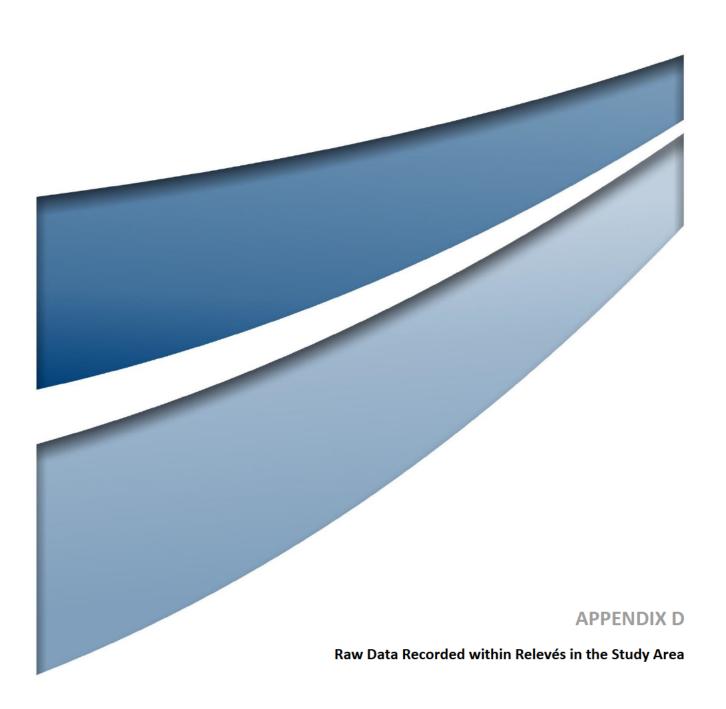
Xanthorrhoeaceae Xanthorrhoea preissii





Taxon	Easting	Northing	Count
Moraea flaccida	400897	6507990	30
Moraea flaccida	400810	6507990	30
Moraea flaccida	400857	6508033	30
Moraea flaccida	400876	6508034	50
Zantedeschia aethiopica	400897	6507990	1
Zantedeschia aethiopica	400010	6508403	10
Zantedeschia aethiopica	400155	6508410	30
Zantedeschia aethiopica	400047	6507694	10

Note all GPS locations are GDA94, Zone 50





Site Name: R01
Site Type: RESERVE
Survey Date: 22/10/2021

GPS Location: GDA94 Zone 50 400939.89E 6508195.01N

Soil Type: Sandy clay loam (other)

Soil Colour: Black

Vegetation Condition: Southern Vegetation Condition - 6 - Completely Degraded

Taxon Name	Avg. Height	Cover Alive
*Arctotheca calendula		1
*Bromus diandrus		0.3
*Cenchrus clandestinus		85
Crassula decumbens var. decumbens		0.2
*Crassula natans var. minor		0.1
*Cynodon dactylon		2
*Hordeum leporinum		0.3
*Hypochaeris glabra		0.1
Isolepis marginata		0.5
*Lolium spp.		5
*Lotus subbiflorus		2
Persicaria decipiens		0.3
*Poa annua		5
*Romulea rosea		0.1
*Rumex acetosella		0.1
*Trifolium repens		0.2
*Vulpia bromoides		0.2





Site Name: R02
Site Type: RELEVE
Survey Date: 22/10/2021

GPS Location: GDA94 Zone 50 400950.12E 6508038.14N

Landform Type: Flat
Soil Type: Sand
Soil Colour: Black

Vegetation Condition: Southern Vegetation Condition - 6 - Completely Degraded

Taxon Name	Avg. Height	Cover Alive
*Cenchrus clandestinus		80
*Hordeum leporinum		5
*Lolium spp.		5
*Moraea flaccida		
*Orobanche minor		
*Polypogon monspeliensis		
*Trifolium campestre		
*Trifolium hirtum		
*Trifolium subterraneum		
*Vulpia myuros		





Site Name: R03
Site Type: RELEVE
Survey Date: 22/10/2021

GPS Location: GDA94 Zone 50 401106.8254033E 6508049.38750029N

Landform Type: Flat
Soil Type: Sand
Soil Colour: Black

Vegetation Condition: Southern Vegetation Condition - 6 - Completely Degraded

Taxon Name	Avg. Height	Cover Alive
*Cenchrus clandestinus		80
*Erodium botrys		
*Lolium spp.		10
*Lupinus cosentinii		
*Rostraria cristata		





Site Name: R04
Site Type: RELEVE
Survey Date: 22/10/2021

GPS Location: GDA94 Zone 50 400154.71478819E 6508410.19868741N

Landform Type: Open Depression
Soil Type: Sandy Loam

Soil Colour: Black

Vegetation Condition: Southern Vegetation Condition - 5 – Degraded

Taxon Name	Avg. Height	Cover Alive
Astartea scoparia		
*Bromus diandrus		
Desmocladus ?flexuosus		
*Ehrharta longiflora		
Eucalyptus rudis		
*Holcus lanatus		
*Hypochaeris glabra		
Kunzea glabrescens		
*Lotus subbiflorus		
Melaleuca preissiana		
*Ornithopus compressus		
Podotheca gnaphalioides		
*Romulea rosea		
*Rumex acetosella		
*Ursinia anthemoides		
*Vulpia myuros		
*Wahlenbergia capensis		
*Zantedeschia aethiopica		





Site Name: R05
Site Type: RELEVE
Survey Date: 22/10/2021

GPS Location: GDA94 Zone 50 400046.74410389E 6507694.26604298N

Landform Type: Flat Soil Type: Sand Soil Colour: Grey

Vegetation Condition: Southern Vegetation Condition - 5 – Degraded

Taxon Name	Avg. Height	Cover Alive
Astartea scoparia		
Corymbia calophylla		
Kunzea glabrescens		
Melaleuca preissiana		
*Pentameris pallida		
Regelia ciliata		
Xanthorrhoea preissii		
*Zantedeschia aethiopica		



