



SELICKS BEACH GROWTH AREA

Ecological Assessment

FINAL

April 2025

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Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Department for Housing and Urban Development

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Report No.: 31560/R01
Date: April 2025



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Acknowledgement of Country

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Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
V1	C.J. Panozzo	24/10/2024	E. West & Dr. M. Louter	24/10/2024
V2	E. West	9/12/2024	Dr. T. How	16/12/2024
V3	E. West, J. Skewes	28/03/2025	Dr. M. Louter	02/04/2025
V4	E. West, J. Skewes	09/04/2025	Dr. M. Louter	09/04/2025
V5	E. West, J. Skewes	15/04/2025	Dr. M. Louter	15/04/2025

Executive Summary

The Department for Housing and Urban Development (DHUD) commissioned Umwelt to undertake an ecological assessment for the Project, consisting of a desktop assessment and flora and fauna field surveys to inform the development of an Integrated Structure Plan, infrastructure planning and code amendment (the Project), focusing on the Sellicks Beach Growth Area (Deferred Urban Zone and Rural Zoned land). The Sellicks Beach Growth Area covers approximately 130 hectares (ha) in Sellicks Beach, South Australia (SA) (the Project Area), with the potential to support up to 1,700 dwellings. This ecological assessment summarises the relevant environmental legislation, the desktop assessment results (ecological database searched), the key ecological values and constraints, the assessment of the risk of development impacting on any ecological matters and associated recommendations.

A previous assessment of the Project Area was completed by EBS in 2020, evaluated that there were six different broad vegetation associations and at least 74 trees which classified as either Regulated or Significant Trees. Since the 2020 assessment, the Planning, Development and Infrastructure (General) Regulations 2017 under the *Planning, Development and Infrastructure Act 2016* (PDI Act) has reduced the requirements in the qualifying circumference for designation of Regulated and Significant trees, as well as narrowing the prescribed exemption criteria. Regulated trees have a circumference of >1 meter (m) and Significant trees a circumference of >2 m. To ensure compliance with applicable legislation, it was recommended that an additional onground field assessment was to be undertaken for native vegetation and Regulated and Significant trees (EBS 2020). PDI Act Significant and Regulated Trees were identified and presented in the Sellicks Beach Growth Area Preliminary Trees Assessment Report (Umwelt 2024). The findings of all previous works undertaken for the Project were taken into account in this ecological assessment.

Desktop Assessment

A desktop assessment was undertaken to determine the potential for any threatened flora and fauna species and Threatened Ecological Communities (TECs) (both Commonwealth and State listed) to occur within the 5 km of the Project Area (Search Area). This was achieved by reviewing previous desktop assessments and reports, satellite imagery and undertaking database searches using a 5 km buffer of the Project Area (Search Area).

The key results of the desktop assessment include:

- three Threatened Ecological Communities (TECs).
- 18 flora species and 28 terrestrial fauna species listed nationally under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).
- 30 flora species and 38 fauna species listed under the *National Parks and Wildlife Act 1972* (NPW Act).
- No roadside significant sites or wetlands of national importance are found within 5 km of the Search Area.
- One nationally important wetland Washpool Lagoon is located 1 km from the Project Area.
- Two *Phytophthora* records have been observed within the Search Area.

Field Assessment

The field survey was undertaken in September and early October in 2024. The Project Area was traversed where possible to map vegetation associations (VAs) and assess vegetation that is protected under the *Native Vegetation Act 1991* (NV Act). Key results of the field assessment include:

- A total of five broad VAs were mapped within the Project Area:
 - o VA 1: Amenity vegetation – 11.54 ha
 - o VA 2: Horticulture – 18.15 ha
 - o VA 3: Exotic patch – 18.32 ha
 - o VA 4: Revegetated patch – 4.29 ha
 - o VA 5: Exotic grassland – 77.59 ha.
- A total of 887 trees were surveyed across the Project Area. Of these,
 - o A total of 191 trees were recorded as native and protected under the NV Act
 - o A total of 696 trees are protected under the PDI Act, consisting of 200 Significant and 496 Regulated Trees (Umwelt 2024).
- The field survey identified 75 flora species within the Project Area, including 23 native and 52 introduced species.
- No EPBC Act listed flora species were identified within the Project Area.
- A total six saplings of State Rare *E. fasciculosa* in Property 2 (VA 4) which were regenerated from a mature individual nearby. These regenerated individuals are protected under the NV Act and the NPW Act.
- Of the 52 introduced flora species, 19 are classified as Declared weeds under the *Landscape South Australia Act 2019* (LSA Act), with six also listed as Weeds of National Significance (WoNS).
- A total of 34 fauna species (29 birds and five mammals) including 27 native and 7 introduced species.
- The State Vulnerable Yellow-tailed Black Cockatoo (*Zanda Funerea Whiteae*) and the State Rare Common Brushtail Possum (*Trichosurus vulpecula*) were recorded during the field assessment. Groups between five to 14 Yellow-tailed Black Cockatoos were observed multiple times flying overhead and landing on planted *Pinus halepensis* (Aleppo Pines) on Sellicks Beach Road to forage. Multiple scat and claw marks of the Common Brushtail Possums were found in separate locations along Gulf View Road, along with the species being heard during the nocturnal survey near the creek line.

Recommendations

Based on the ecological assessment, the following recommendations are made in regards to the proposed development:

- Avoid and minimise the clearance of native vegetation (scattered trees), which are protected under the NV Act.
- Avoid and minimise the clearance to the revegetated areas (VA 4), which provide moderate suitable habitat for common and threatened local fauna species within the Project Area.
- Avoid and minimise impact to large hollow bearing trees such as Eucalypt species and *Allocasuarina verticillata* (Drooping Sheoak), which provide habitat for fauna and threatened fauna.
- Where clearance of the above-mentioned vegetation is not avoidable, minimising impact by retaining areas of higher ecological importance where possible and consider planning and developing project designs that avoid these areas. This includes but is not limited to areas of:
 - Revegetated stream and creek lines of VA 4 (Sellicks Creek).
 - Native and planted trees which are large or hollow bearing consisting of Eucalypt species and *Allocasuarina verticillata* (Drooping Sheoak) as found in VA 1 (Amenity Plantings).
- Consider incorporating revegetation and Water sensitive urban design (WSUD) principles into project designs. This includes reintroducing native plant species to restore and enhance local ecosystems. Additionally, integrating WSUD practices will help manage stormwater sustainably, promote natural filtration processes, and reduce the risk of flooding, ultimately creating a healthier environment for both residents and wildlife.
- Implement management actions that maintain good weed hygiene to avoid introducing or spreading Declared weeds and WoNS, as per LSA Act requirements.
- Engage a local community (Friends of Aldinga) or group to participate in revegetation events.
- Approval from the Native Vegetation Council (NVC) will be required if the Project plans to impact native scattered trees protected by the NV Act. Any impact to native vegetation that meets the definition of native vegetation under the NV Act will require approval from the NVC. For approval, it would be contingent on following the mitigation hierarchy, as per (<https://www.environment.sa.gov.au/topics/native-vegetation/clearing/mitigation-hierarchy>):
 - Avoid
 - Minimize
 - Rehabilitate or restore
 - Offset.

Abbreviations

Term/Abbreviation	Definition
BDBSA	Biological Database of South Australia
cm	Centimetre(s)
DCCEEW	Department of Climate Change, Energy, the Environment and Water (Commonwealth)
DEW	Department of Environment and Water
DHUD	Department for Housing and Urban Development
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
GPS	Global Positioning System
ha	Hectare(s)
IBRA	Interim Biogeographic Regionalisation of Australia
km	Kilometre(s)
LSA Act	<i>Landscape South Australia Act 2019</i>
m	Metre(s)
MNES	Matters of National Environmental Significance, as defined under the EPBC Act
NatureMaps	Initiative of DEW that provides a common access point to maps and geographic information about South Australia's natural resources in an interactive online mapping format
No.	Number
NPW Act	<i>National Parks and Wildlife Act 1972</i>
NV Act	<i>Native Vegetation Act 1991</i>
NVC	Native Vegetation Council
PDI Act	<i>Planning, Development and Infrastructure Act 2016</i>
PDI Regs	Planning, Development and Infrastructure (General) Regulations 2017
PMST	Protected Matters Search Tool
SA	South Australia(n)
SEB	Significant Ecological Benefit
sp.	Species (singular)
spp.	Species (plural)
SRZ	structural root zone(s)
ssp.	Subspecies
TEC(s)	Threatened Ecological Community(s)
the Project	Sellicks Beach Growth Area
the Project Area	Deferred Urban Zone and Primary Production Zone at Sellicks Beach
The Search Area	A 5 km buffer around the Project Area
TPZ	tree protection zone(s)

Term/Abbreviation	Definition
Umwelt	Umwelt (Australia) Pty Ltd
VA	Vegetation Association(s)
var.	Variety –a taxonomic rank below that of species and sub-species, but above that of form
WoNS	Weed(s) of National Significance
WSUD	Water sensitive urban design

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1.0 Introduction

Umwelt has been engaged by the Department for Housing and Urban Development (DHUD) to undertake an ecological assessment for the Sellicks Beach Growth Area (the Project). The Sellicks Beach Growth Area (SBGA) is approximately 130 hectares (ha) of land currently zoned Rural and Deferred Urban. DHUD are seeking to amend the Planning and Design Code to rezone land at Sellicks beach for residential development. This code amendment will facilitate a future urban growth area within the 30 Year Plan for Greater Adelaide. SBGA will have the capacity to accommodate up to 1,700 dwellings and approximately 3,400–4,250 people in a master planned community. On top of the developing more dwellings, the SBGA is likely to include a local centre, upgrades of the roads, new conservation area and parks with walking paths to support the proposed residential development in the area. Indicative land uses envisaged for the site is shown in the City of Onkaparinga's Sellicks Beach Structure Plan. It is understood that an Integrated Structure Plan will be developed following the completion of a suite of investigations, building on from the Council's Structure Plan (**Figure 1.1**).

The location and extent of the Project Area (Deferred Urban Zone and Rural Zone at Sellicks beach is outlined in **Figure 1.2**. Encompassing approximately 130 ha of land in Sellicks Beach in South Australia (SA), which is located approximately 50 km south-west of the Adelaide, and to the immediate south of the Aldinga township (the Project Area). As the metropolitan Adelaide has gradually expanded southward the population of Sellicks Beach has increased, however it remains physically separate from the northern residential area of Aldinga.

All Significant and Regulated Trees were identified under the PDI Act in the Project Area. Refer to the *Sellicks Beach Growth Area Preliminary Trees Assessment* (Umwelt 2024) for more details on the trees assessed under the PDI Act.

As the Project is still in the investigation phase, this ecological assessment aims to identify and survey existing native vegetation within the Project Area to help assist DHUD with the development of an Integrated Structure Plan and infrastructure planning and to inform the proposed code amendment.

1.1 Objectives

The objectives of the ecological assessment include:

- Undertake a desktop assessment to determine the flora and fauna species, and ecological communities potentially occurring within the Project Area, with particular focus on species and communities threatened nationally under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act), and in South Australia (SA) under the *SA National Parks and Wildlife Act 1972* (NPW Act).
- Review of relevant literature and data, including the Sellicks Beach Structure Plan Ecological Assessment (EBS 2020).
- Undertake a field survey to identify and assess the native vegetation of the Project Area under the *Native Vegetation Act 1991* and the *Native Vegetation Regulations 2017*.
- Undertake a field assessment of the Project Area to gain understanding of conditions and constraints.

- Undertake nocturnal survey to identify threatened fauna species i.e. Common Brushtail Possum or Grey-headed Flying Fox.
- Determine and map the presence of significant vegetation and flora and fauna species, including native vegetation, declared weeds and Weeds of National Significance (WoNS).
- Provide an overview of the Regulated and Significant trees protected under the *SA Planning, Development and Infrastructure Act 2016* (PDI Act) and the Planning, Development and Infrastructure (General) Regulations 2017 within the Project Area.
- Discuss the ecological importance of the Project Area, with consideration to its value as a linkage / transitional zone between the hills and coastal ecosystems.
- Provide recommendations, particularly around how the ecological values as a linkage can be strengthened / improved.
- Global Positioning System (GPS) coordinates of the remnant vegetation.

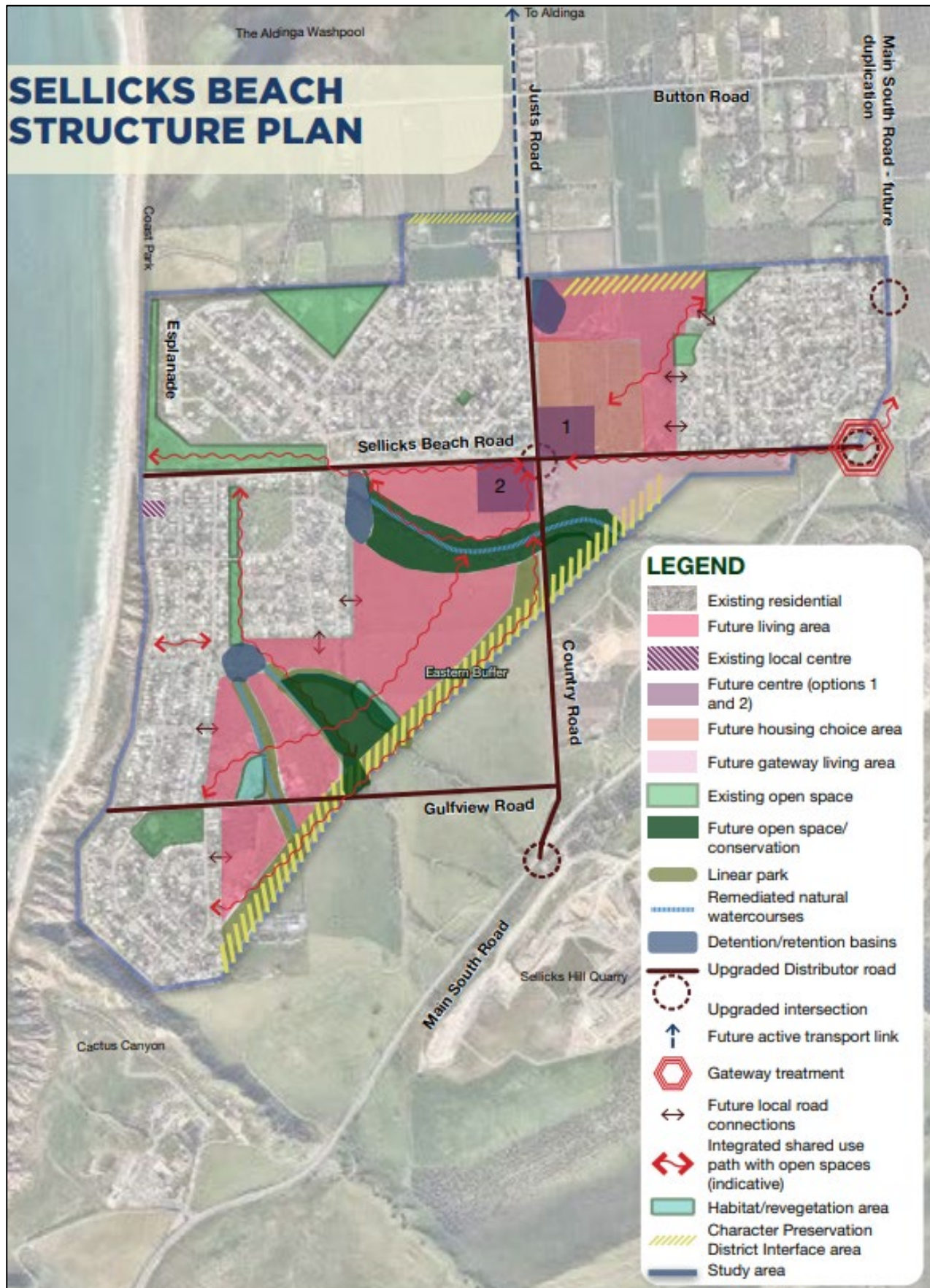


Figure 1.1 City of Onkaparinga Sellicks Beach Structure Plan (2021) Excerpt

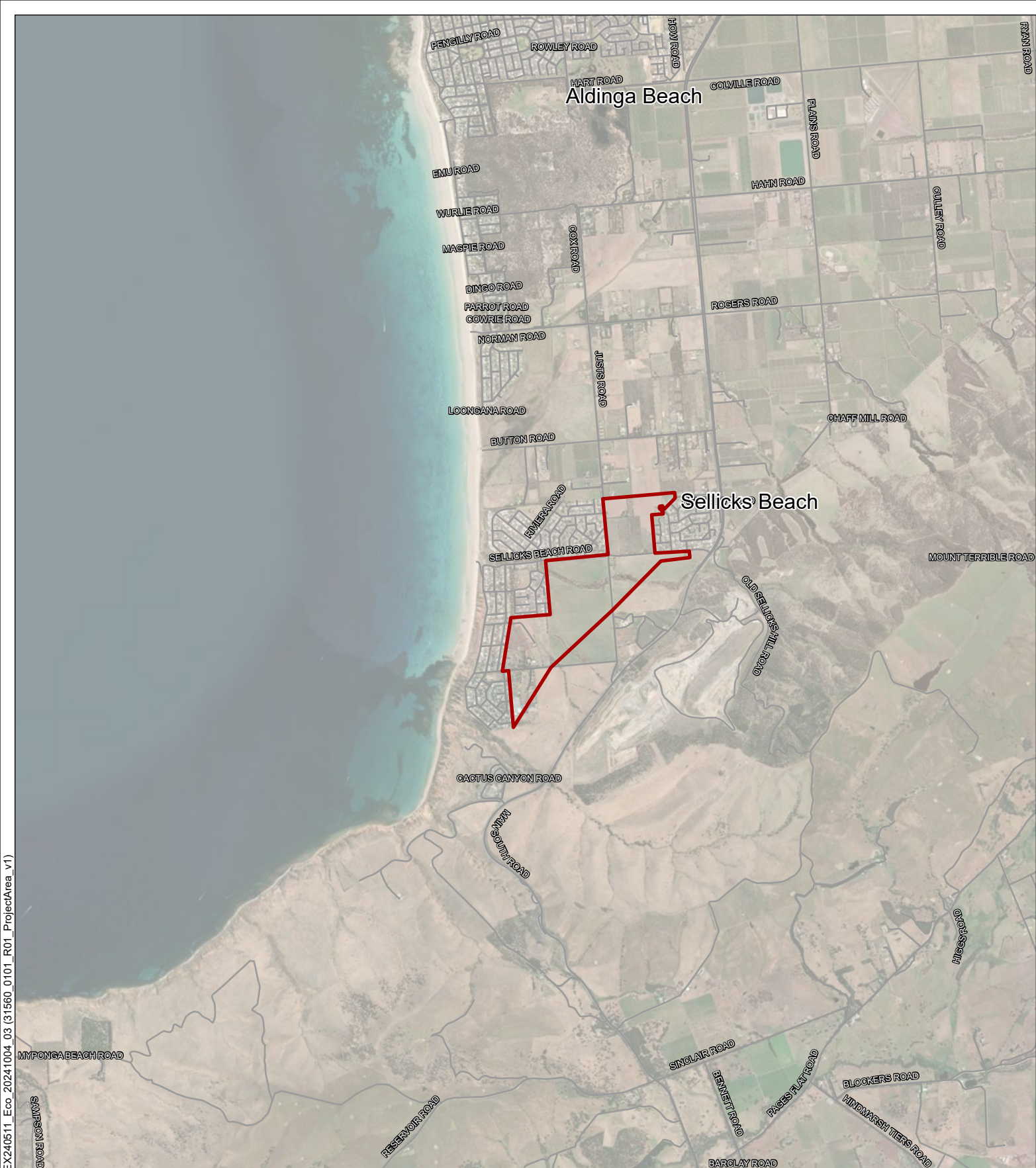


FIGURE 1.2 Location and Extent of the Project Area

Legend
 Project Area



2.0 Background Information

2.1 Compliance and Legislative Summary

Impacts on ecological matters resulting from the proposed Project, including clearing of vegetation and potential impact to threatened species and ecological communities, are subject to Commonwealth and SA legislation (**Table 2.1**). The relevance of this legislation to the Project is discussed further in the following sections. A summary of the environmental legislation relevant to the Project is provided in **Appendix 1**.

Table 2.1 Commonwealth and South Australian Legislation Relevant to Biodiversity Impacts of the Project Area

Authority	Legalisation
Commonwealth	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act)
South Australia	<i>National Parks and Wildlife Act 1972</i> (NPW Act)
	<i>Native Vegetation Act 1991</i> (NV Act)
	<i>Landscape South Australia Act 2019</i> (LSA Act)
	<i>Planning, Development and Infrastructure Act 2016</i> (PDI Act) Planning, Development and Infrastructure (General) Regulations 2017

2.2 Previous Assessments Conducted

To inform the development of Council's Sellicks Beach Structure Plan (2021) the City of Onkaparinga engaged EBS Ecology (now Umwelt) to undertake a desktop based Ecological Assessment in 2020. With the aim to identify flora and fauna, ecological value and constraints, and ecological linkage options (**Table 2.2**).

Table 2.2 Summary of a Previous Report Relevant to the Project

Project name	Year	Field dates	Report type	EBS Project Code and reference
Sellicks Beach Structure Plan Ecological Assessment	2020	14–15 July 2020	Ecological report highlighting baseline flora and fauna findings and outline of constraints associated with the Project Area.	<u>EX200506 (EBS Ecology 2020)</u>

2.3 Administrative Boundaries

The Project Area falls within the administrative regions shown in **Table 2.3**.

There is a total of 26 parcels across the Project Area (**Table 2.4**) with 23 different landowners. **Figure 2.1** shows the parcels boundaries along with numbering for referencing further into this report.

Table 2.3 Administrative Regions of the Project Area

Project Area	Administration	Region
Sellick Beach Growth Area	State Government Region	Southern Adelaide
	Local Government Area	Onkaparinga
	Hundred	Willunga
	Landscape Management Region	Green Adelaide
	Soil Conservation District	Southern Hills

Table 2.4 Parcel and Title ID of the Different Properties across the Project Area

Property Number	Parcel	Title
1	D113256 Q5	CT/6178/548
2	D113256 Q3	CT/6178/548
3	F6792 A1	CT/5397/884
4	F5905 A1	CT/6110/924
5	F6792 A5	CT/5080/976
6	D10748 A3	CT/5149/87
7	F6792 A3	CT/5507/403
8	F6792 A2	CT/5370/789
9	F6791 A2	CT/5506/548
10	F6791 A5	CT/5932/805
11	F132918 A1	CT/5245/135
12	F6791 A1	CT/5314/20
13	D10748 A5	CT/5962/371
14	D10748 A4	CT/6093/977
15	D10748 A1	CT/5715/243
16	F6791 A4	CT/5477/310
17	D85889 A50	CT/6105/741
18	D133089 A102	CT/6303/32
19	D57661 A11	CT/5853/875
20	D64507 A21	CT/5921/803
21	D6906 A305	CT/5754/854
22	F6791 A3	CT/5505/756
23	D10748 A6	CT/5737/53
24	D10748 A2	CT/5930/783
25	D85889 A51	CT/6105/740
26	F214800 A94	CT/5749/461



Figure 2.1 Map of the property boundaries within the Project Area along with numbering provided by DHUD

2.4 Environmental Setting

2.4.1 Interim Biogeographical Regionalisation of Australia

The Interim Biogeographical Regionalisation of Australia (IBRA) is a landscape-based approach to classifying the land surface across a range of environmental attributes, which is used to assess and plan for the protection of biodiversity. The Project Area is located within the Flinders Lofty Block IBRA region, Mount Lofty Ranges IBRA subregion and Aldinga (northwest) and Mt Wilson (southeast) IBRA environmental associations. Approximately 3% of the Aldinga IBRA environmental association is mapped as remnant vegetation and 6% for Mt Wilson. For more details on the IBRA Bioregions, environmental association and landscape summaries refer to **Table 2.5**.

Table 2.5 IBRA Bioregion, Subregion, and Environmental Association Environmental Landscape Summary

IBRA subregion / environmental association	Remnant native vegetation (%)	Remnant native vegetation (ha)	Conserved remnant native vegetation (%)	Conserved remnant native vegetation (ha)
Mount Lofty Ranges IBRA subregion	15%	46,432 ha	27%	12,706 ha
Aldinga IBRA environment association	3%	902 ha	44%	399 ha
Mt Wilson IBRA environment association	6%	980 ha	4%	37 ha

3.0 Methods

3.1 Desktop Assessment

A desktop assessment was undertaken to determine the potential for any threatened flora and fauna species as well as Threatened Ecological Communities (TECs) (both Commonwealth and State listed) to occur within the Project Area.

3.1.1 Database Searches

The Protected Matters Search Tool (PMST) was used to generate a report on 10 July 2024 (DCCEEW 2024a) to identify threatened flora and fauna, migratory fauna and TECs under the EPBC Act relevant to the Project Area. This was achieved by undertaking database search using a 5 km buffer of the Project Area (the Search Area). Species and TECs identified in the PMST report were assessed for their likelihood of occurrence within the Project Area. Species considered exclusively marine (including whales, sharks, fish, dolphins, marine turtles and marine birds) were not assessed in this desktop assessment report as the Project Area is entirely terrestrial.

A Biological Database of South Australia (BDBSA) search was obtained from the Department of Environment and Water (DEW) on 15 July 2024 (Recordset number: DEWNRBDBSA240710-2). This was achieved by undertaking database search using the Search Area to identify threatened flora and fauna records relevant to the Project Area (DEW 2024a). The BDBSA is comprised of an integrated collection of species records from the South Australian Museum, conservation organisations, private consultancies, Birds SA, Birdlife Australia and the Australasian Wader Study Group, which meet DEWs standards for data quality, integrity and maintenance. Only species with a spatial reliability of less than 1 km were assessed for their likelihood of occurrence.

3.1.2 Literature Review

Existing information and literature relevant to the Project Area was reviewed, including:

- satellite imagery from 1968 to 1986 (provided by the City of Onkaparinga on 4 October 2024)
- spatial datasets, e.g., DEW biological survey sites, IBRA, vegetation cover, protected areas, vegetation floristic mapping, surface and ground water and roadside significant sites from NatureMaps (DEW 2024b)
- reports, plans and web-based information, including:
 - SA Planning and Property Atlas (Planning and Design Code – Overlays)
 - EPBC Act species profiles, conservation advice and recovery plans.

The aforementioned information was used to assess:

- review legislation relevant to the Project Area
- vegetation cover within the Project Area and immediate surrounds

- potential vegetation associations (VAs) present (including TECs)
- flora and fauna species of conservation significance known or likely to occur within the area.

3.1.3 Assessment of the Likelihood of Occurrence

Each threatened flora and fauna species, and TECs identified in the PMST report and BDBSA search were assigned a rating (Known, Likely, Possible and Unlikely), which described their likelihood of occurrence within the Project Area (**Table 3.1**). The following criteria were considered when assigning each likelihood rating:

- Date of the most recent record (taking into consideration the date of the last surveys undertaken in the area).
- Proximity of the records (i.e. distance to the Project Area).
- Landscape, vegetation remnancy and vegetation type at the location of records (taking into the consideration of the landscape, remnancy and vegetation type of the Project Area, with higher likelihood assigned to species that were found in similar locations, conditions and/or vegetation associations.
- Knowledge of the species' habitat preferences causes of its decline, the conspicuousness of the species and local population trends.

Table 3.1 Likelihood of Occurrence Criteria

Likelihood category	Criteria
Unlikely	No BDBSA records (or older than 1995) despite survey effort considered adequate, or No BDBSA records. Survey effort is not considered adequate, but no suitable habitat is known to occur in the area and species of similar habitat needs have no records either.
Possible	No BDBSA records but no adequate survey effort despite suitable habitat being present (or unknown if habitat present). Species of similar habitat needs have been recorded in the area, or BDBSA records within the last 40 years, but vegetation in the area is not largely intact, or BDBSA records in the last 10 years, the species does not have highly specific needs, and habitat is not largely intact.
Likely	BDBSA records in the last 20 years, vegetation in the area is largely intact, the species does not have highly specific habitat needs, or BDBSA records in the last 20 years, vegetation in the area is not largely intact, the species does have highly specific habitat needs, and these needs occur in the area.
Known	Species was recorded during a field assessment.

3.2 Field Assessment

The field surveys were undertaken by Umwelt ecologists in September and early October 2024 and all vegetation was assessed in accordance with the PDI Act or the NV Act by using the Scattered Tree Assessment Method (STAM).

The following information was captured during the field assessment:

- native vegetation protected under the NV Act
- Regulated and Significant Trees protected under the PDI Act
- VAs
- weeds listed under the LSA Act
- threatened flora or fauna records.

Native vegetation is vegetation indigenous to South Australia, which is not planted and which falls within the NV Act boundary.

VAs present in the Project Area were broadly categorised and mapped according to dominant vegetation and historical usage, during the 2020 assessment (EBS Ecology 2020). During the subsequent 2024 assessment, it was evident that the VAs do not meet the requirements and definition of native vegetation under the NV Act, as the VAs were not comprised of remnant native vegetation and consisted of either amenity plantings, horticulture, exotic grasslands and exotic and revegetation patches. Therefore, the condition of these areas was not re-assessed with the Bushland Assessment Method (BAM) in 2024, but instead the condition data of VAs as previously assessed in 2020 are current and applicable, and these data were therefore utilized in this report.

3.2.1 Scattered Tree Assessment Method

Native scattered trees were assessed using the STAM methodology which is derived from the Scattered Tree Clearance Assessment in SA: *Streamlining, Guidelines for Assessment and Rural Industry Extension report* (Cutten and Hodder 2002). The STAM is suitable for assessing native scattered trees in the following instances:

- Individual scattered trees (i.e., canopy does not overlap).
 - o The spatial distribution of trees may vary from approaching what would be considered their original distribution (pre-European) through to single isolated trees in the middle of a paddock.
- Dead trees (when a dead tree is considered native vegetation)
- Clumps of trees (contiguous overlapping canopies) if the clump is small (approximately <0.1 ha)
- For both scattered trees and clumps:
 - o The ground layer comprises wholly or largely of introduced species
 - o Some scattered colonising native species may be present but represent <2% of the ground cover.
 - o The area around the trees consists of introduced pasture or crops.

If the vegetation does not fit within this definition, then the Native Vegetation Council (NVC's) Bushland Assessment should be applied.

Tree measurements and data collected during the field survey has been entered into the STAM scoresheet to calculate the biodiversity value of each tree and the SEB obligations of the proposed clearance (Attachment 4). Details of the scattered tree Point Scoring System are outlined in the *Scattered Tree Assessment Manual* (NVC 2024).

3.2.2 Native Vegetation Risk Assessment

The data from the native vegetation risk assessment undertaken by EBS Ecology in 2020 were utilised for this report. **Table 3.2** highlights how the risk to native vegetation was assessed.

Table 3.2 Risk to Native Vegetation Categories (EBS 2020)

Risk category	NV Act applies	Comment
Very High	Yes	TEC listed under the EPBC Act or threatened ecosystem of SA.
High	Yes	Patch of native vegetation.
Moderate	Yes	Scattered trees, small degraded native vegetation patch.
Low	Yes	Regenerating native species in disturbed / revegetated areas.
	No	Native amenity trees, native revegetation.
Very Low	No	Declared weed patches, exotic vegetation, exotic plantings, horticulture.

3.2.3 Habitat Value Assessment

During the field assessment, areas of suitable habitat for fauna species were identified. Suitable habitat was determined by evaluation of areas of vegetation, to assess if these areas had the capability to support nesting, roosting or foraging habitat for fauna species that may utilize the Project Area. The habitat value for fauna was determined by the presence of hollows, large branches, size and diversity of vegetation and trees. The habitat within each VA in the Project Area was divided into three categories of habitat value, being 'Low', 'Moderate' and 'High' fauna habitat value, based on the description below in **Table 3.3**.

Table 3.3 Value Descriptions of Habitat for Fauna Species

Value	Description
Low	Dominated by weeds which provides minimal habitat and food resources for limited fauna species.
Moderate	Dominated by planted species but provides habitat and or food resources for limited fauna species.
High	A remnant patch dominated by native species which provides good habitat and food resources for a large range of fauna species.

3.2.4 Flora

In addition to undertaking flora and fauna assessments in line with the NV Act, native and exotic flora species were recorded opportunistically whilst traversing the site, concurrently with the vegetation assessment across the Project Area. Particular attention was given to species that are listed by threatened under either the EPBC and NPW Act or listed as declared under the LSA Act.

3.2.5 Fauna

Similarly to flora, all native and exotic vertebrate fauna species opportunistically encountered during the

field survey (directly observed, or tracks, scats, burrows, nests, and other signs of presence) were recorded. Where possible, potential fauna refuge sites, such as creek lines were noted as an indication of availability of suitable fauna habitat. Particular attention was given to identifying potential habitat for threatened species. For each opportunistic fauna observation, the species, number of individuals, GPS location, and detection methodology (sight, sound, or sign) were recorded.

3.2.5.1 Nocturnal Survey

A nocturnal survey was conducted by Umwelt on 25 September 2024 between 7–8 pm. The survey involved using a handheld spotlight while driving transects along areas thought to be suitable habitat for threatened nocturnal species. The weather conditions were optimal for the nocturnal survey (mild temperatures with a light breeze) with the temperature ranging from 10°C to 19°C during the day.

3.3 Limitations

The findings and conclusions expressed by Umwelt are based solely upon information in existence at the time of the assessment.

3.3.1 Desktop Assessment

The BDBSA only includes verified flora and fauna records submitted to DEW or partner organisations. It is recognised that knowledge is poorly captured and the presence of species may not be adequately represented by database records. Hence, the BDBSA results that have been extracted to a 5 km buffer of the Project Area may not highlight all potential threatened flora and fauna species that may occur in the Project Area. Fauna species, in particular birds, can traverse distances greater than the 5 km search buffer, and therefore, additional species may occur. Inadequate search effort (i.e. previous surveys) is another factor that can lead to threatened species not being represented by database records.

BDBSA flora and fauna records were filtered to a spatial reliability of less than 1 km. The spatial reliability of the BDBSA data ranges from 0–5 m to over 100 km, and therefore additional species may occur but have been discounted due to unreliable data collection.

Although much of the BDBSA data has been through a variety of validation processes, the records may contain errors and should be used prudently. DEW gives no warranty that the data is accurate or fit for any particular purpose of the user or any person to whom the user discloses the information.

3.3.2 Field Assessment

During the field assessment five broad VAs were mapped across the Project Area, as well as STAM. The Project Area was traversed by car and on foot, and as much ground as possible was covered. Access in some areas was difficult, in particular rocky areas and steep creeklines, or areas near bodies of water and dams. In these areas it is possible that some inconspicuous flora species were present but not detected.

At the time the survey was undertaken, not all plant species may have been visibly present. Some species such as native orchids and lilies are particularly hard to detect when not in flower. It is possible that some flora species were present but not detected.

Fauna records were limited to opportunistic observations. Therefore, species additional to those recorded during the field survey may occur within the Project Area.

3.3.3 Spatial Data Limitations

All spatial data has been captured or converted to the following coordinate reference system.

Datum: Geocentric Datum of Australia 2020 (GDA2020).

Projection: Map Grid of Australia 2020 (MGA2020), Zone 54.

All location coordinates listed in this report are expressed using this system. Spatial data converted from other coordinate reference systems may have accuracy limitations.

4.0 Desktop Assessment Results

4.1 Pre-European Vegetation

A total of three pre-European vegetation associations have been identified as historically occurring within the Project Area (**Figure 4.1**), this includes:

- Riparian woodlands, dominated by *Eucalyptus camaldulensis* var. *camaldulensis* (River Red Gum) throughout the creeks and drainage lines (DEW 2024b).
- *Eucalyptus porosa* (Grey Mallee Box) woodlands growing with a mix of mid-storey species such as *Allocasuarina verticillata* (Drooping Sheoak), *Melaleuca lanceolata* (Dryland Tea-tree) throughout the undulating plains (DEW 2024b).
- A small portion of shrubland is located on the fringe of the western boundary of the Project Area which was dominated by *Beyeria lechenaultii* (Pale Turpentine Bush), *Calytrix tetragona* (Common Fringe-myrtle), *Alyxia buxifolia* (Sea Box), *Acacia cupularis* (Cup Wattle), *Santalum acuminatum* (Quandong), and *Pomaderris paniculosa* ssp. *paralia* (Coast Pomaderris) (DEW 2024b).

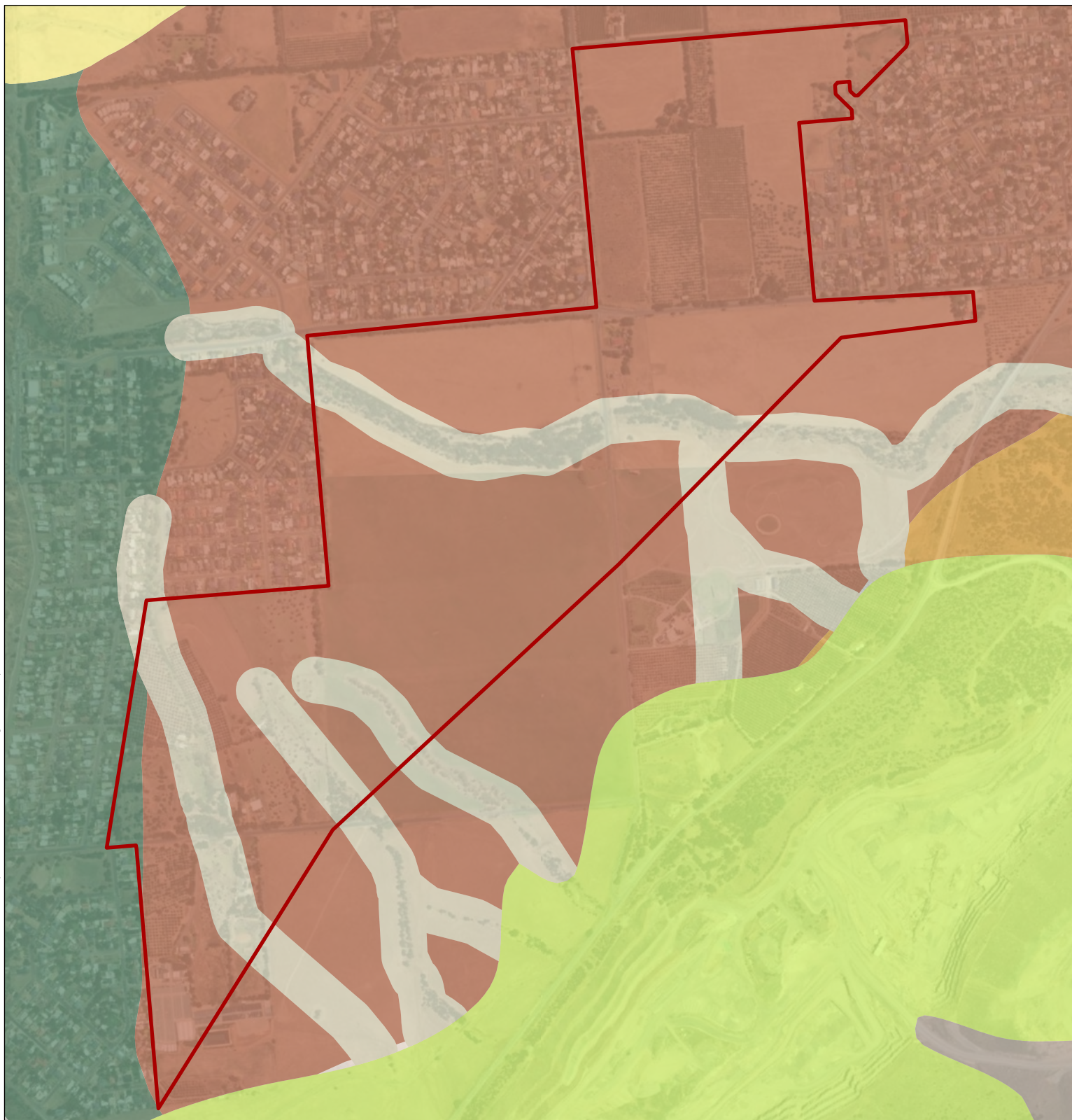


Figure 4.1 Pre-European native vegetation across the Project Area

Legend

Project Area

Pre-European Vegetation

- Allocasuarina verticillata* Low Woodland over an open grassy and herbaceous understorey. Typical understorey plants include *Lomandra multiflora* ssp. *dura*, *dura*, *L. effusa*, *Austrodanthonia* spp., *Austrostipa* spp.
- Beyeria lechenaultii* +/- *Calytrix tetragona* +/- *Alyxia buxifolia* +/- *Acacia cupularis* +/- *Santalum acuminatum* +/- *Pomaderris paniculosa* ssp. Shrubland

Eucalyptus camaldulensis var. *camaldulensis* Woodland over an open understorey of sedges, rushes, grasses and herbs.

Eucalyptus fasciculosa Low Woodland over sclerophyll shrub understorey (eg. *Allocasuarina muelleriana* ssp. *muelleriana*, *Banksia marginata*, *Cryptandra tomentosa*, *Hakea carinata*, *H. rostrata*, *Leptospermum myrsinoides*, *Spyridium vexilliferum* var. *vexillifer*)

Eucalyptus porosa + *Allocasuarina verticillata* + *Melaleuca lanceolata* Low Woodland

Eucalyptus porosa + *E. odorata* + *Allocasuarina verticillata* +/- *E. microcarpa* +/- *E. leucoxylon* ssp. Low Woodland

Gahnia filum Sedgeland

4.2 Review of Satellite Imagery

By the 1980s, the Project Area was largely used for agriculture and was devoid of native vegetation and remnant trees (**Figure 4.2**).

The Project Area now largely consists of land currently being utilised for stock grazing and horticulture of Olive Groves, Grape Vines, and Fruit Trees. Majority of the trees and vegetation within the Project Area consists of either horticulture, amenity plantings, or weeds with a mixture of native and introduced species found along roadsides and within residential properties (EBS 2020).

However, minor revegetation was done in 2014 by the City of Onkaparinga along the creek lines with native species like *Eucalyptus cladocalyx* (Sugar Gum), *Themeda triandra* (Kangaroo Grass) and more.

EX240511_Eco_20241004_03-PersonalVDI-17 (31560_0302_R01_Historical_v1)

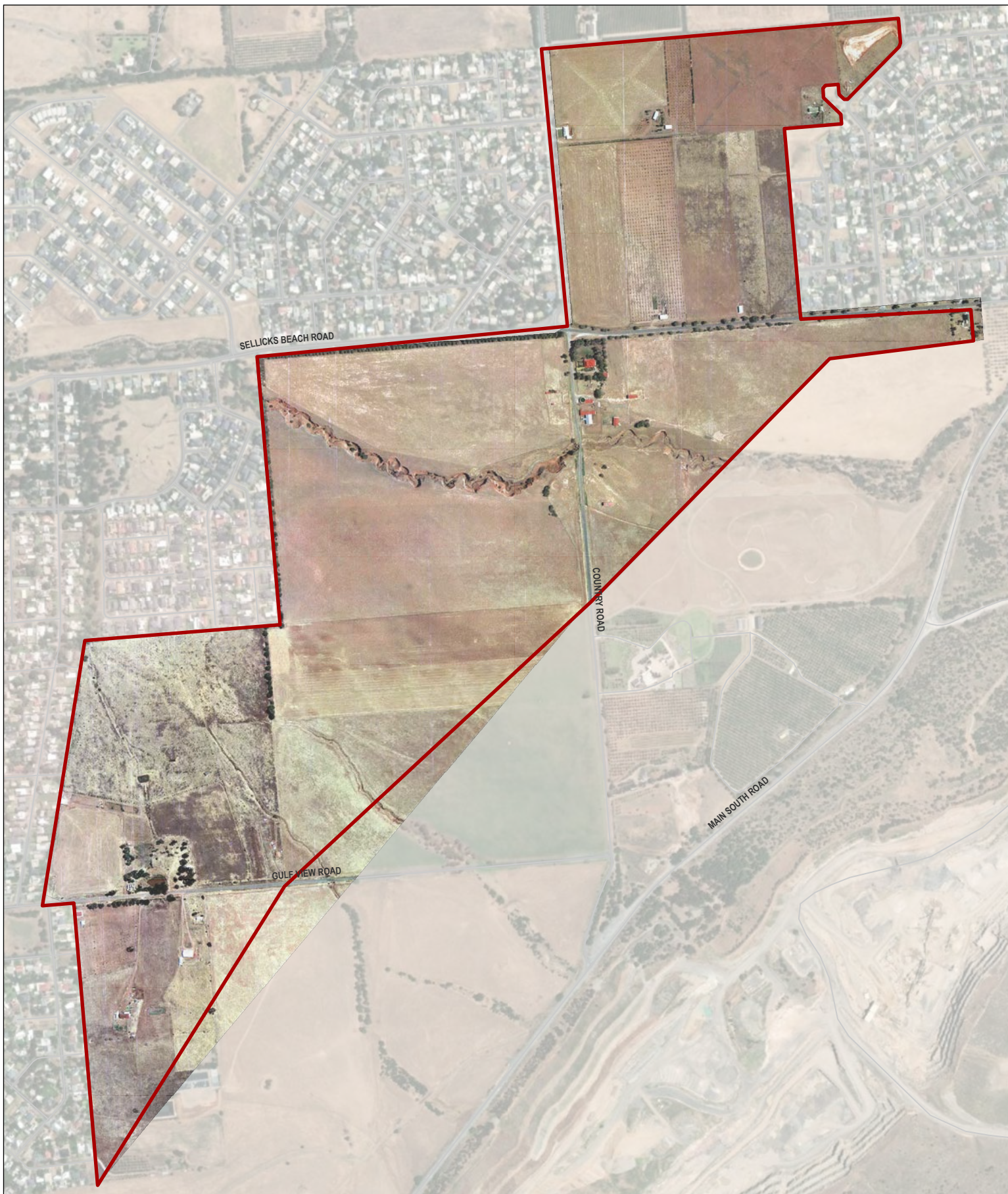


FIGURE 4.2 Historical satellite images of the Project Area from 1986 supplied by the City of Onkaparinga

Legend
 Project Area
 Roads

4.3 Wetlands and Watercourses

No wetlands of international importance were identified nearby the Project Area by the Wetlands of international importance (Ramsar Convention on Wetlands 2024). However, the nationally important wetland Washpool Lagoon is approximately 1 km northwest of the Project Area (DEW 2024b).

Sellicks Creek has multiple streams that flows through of the Project Area on the southern side of Sellicks Beach Road (**Figure 4.3**).

4.4 Roadside Significant Sites

There is no roadside significant site within the Project Area, with the closest site being 5.5 km south along Reservoir Road (DEW 2024b) (**Figure 4.3**).

4.5 Phytophthora Risk

Phytophthora cinnamomi poses a significant threat to the Australian environment. Dieback caused by the root-rot fungus *Phytophthora cinnamomi* is listed as a key threatening process under the EPBC Act. This plant pathogen can spread easily, causing disease, death and potential extinction in susceptible plants, and loss of habitat for animals. The disease, Phytophthora dieback, is often difficult to detect and can cause permanent damage to ecosystems and landscapes before it is identified.

The Project Area is within the area of SA mapped as High Risk in the *Phytophthora (Dieback) Control Environmental Instruction* (DIT 2021) and areas within High Potential Threat Areas each site must be assessed prior to commencement of works to determine the likelihood risk of Phytophthora being established or spreading. Two potential Phytophthora records have been observed within 5 km of the Project Area in the Aldinga Scrub Conservation Park. However, these sites have not yet been tested (**Figure 4.3**).

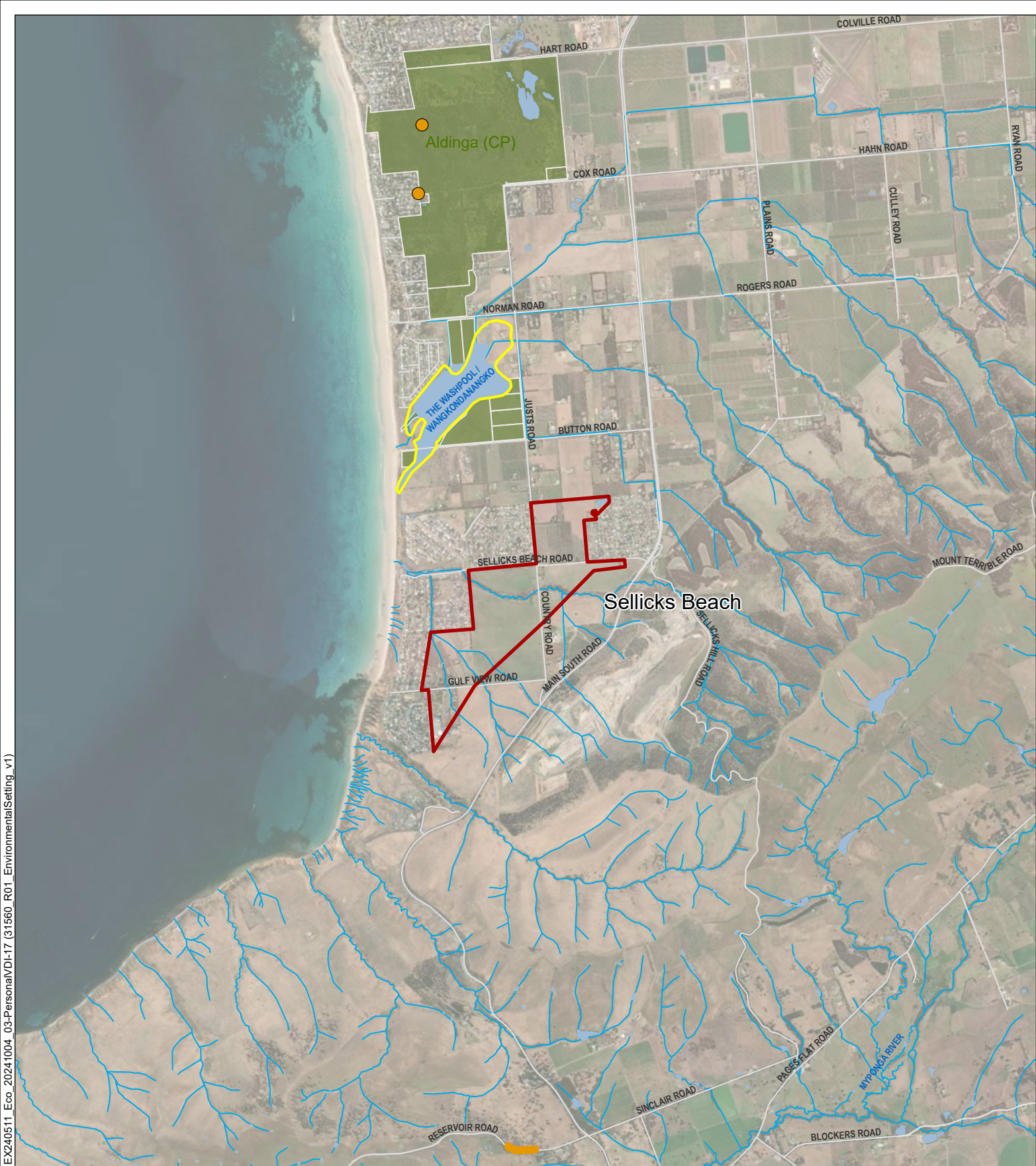


Figure 4.3 Watercourses, Roadside Significant Sites, and *Phytophthora* Records near the Project Area (DEW 2024a).

Legend

- Project Area
- Wetlands National Importance
- Reserve
- Roadside Significant Sites
- *Phytophthora* Risk
- Roads
- Water Courses
- Water Bodies

4.6 Matters of National Environmental Significance

The results on the PMST are summarised in **Table 4.1** and the relevant MNES protected by the EPBC Act are discussed in further detail below. Species listed as marine under the EPBC Act, which are not also listed as threatened or migratory, only require EPBC Referral if they are likely to be significantly impacted within a Commonwealth Marine Area. As Commonwealth Marine Areas commence three nautical miles from shore, marine species are not relevant to this Project and have been excluded from further assessment. Further, fauna that complete their life cycle in marine habitats (e.g. sharks, whales, etc.) have also been excluded from further assessment due to their irrelevance to the Project, which is located on terrestrial land.

Table 4.1 Summary of the Protected Matters Search Tool Report for the Project Area (DCCEEW 2024a)

MNES under the EPBC Act		Search Area PMST Results
 Project Area with 5 km Buffer (Search Area)	World Heritage Properties	None
	National Heritage Properties	None
	Wetlands of International Significance	None
	Great Barrier Reef Marine Park	None
	Commonwealth Marine Areas	None
	Listed Threatened Ecological Communities	3
	Listed Threatened Species	69 (18 flora and 51 fauna)
	Listed Migratory Species	42
	Other Matters Protected by the EPBC Act	
	Commonwealth Lands	None
	Commonwealth Heritage Places	None
	Listed Marine Species	77
	Whales and other Cetaceans	8
	Critical Habitats	None
	Commonwealth Reserves Terrestrial	None
	Australian Marine Parks	None
	Habitat Critical to the Survival of Marine Turtles	None
	Extra Information	
	State and Territory Reserves	2
	Regional Forest Agreements	None
Nationally Important Wetlands	1	
EPBC Act Referrals	7	
Key Ecological Features (Marine)	None	
Biologically Important Areas	4	
Bioregional Assessments	None	
Geological and Bioregional Assessments	None	

4.6.1 Threatened Ecological Communities

A total of three TECs listed under the EPBC Act were identified in the PMST report that are likely or known to occur within the Search Area, this includes:

- Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia.
- Subtropical and Temperate Coastal Saltmarsh.
- Swamps of the Fleurieu Peninsula.

The conservation status and likelihood of occurrence within the Project Area for each TEC are summarised in **Table 4.2**.

Table 4.2 Threatened Ecological Communities Likelihood of Occurrence within the Project Area

TEC	Conservation status	PMST likelihood of occurrence (DCCEW 2024a)	Umwelt likelihood of occurrence within Project Area and rationale
Grey Box (<i>Eucalyptus microcarpa</i>) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	EN	May occur	Unlikely – occurs on the drier edge of the temperate grassy eucalypt woodland belt.
Subtropical and Temperate Coastal Saltmarsh	VU	Likely to occur	Unlikely – occurs in coastal areas under regular or intermittent tidal influence. The Project Area is inland, lacking connectivity with the coast.
Swamps of the Fleurieu Peninsula	CE	Known to occur	Unlikely – occurs as densely vegetated patches on peat, silt, peat silt or black clay soils, in and adjacent to waterlogged areas near low-lying creeks and flats. Although the Project Area contains creek lines, having been extensively cleared in the past, it lacks densely vegetated patches.

Conservation status: Conservation Codes under the Environment Protection and Biodiversity Conservation Act 1999: CE: Critically Endangered. EN: Endangered. VU: Vulnerable.

4.6.2 Threatened Flora

4.6.2.1 Nationally Threatened Flora

The PMST identified 18 EPBC Act threatened flora species that may occur within the Search Area (**Table 4.3**). Of the identified species, two were assessed as possible to occur in the Project Area:

- *Calochilus cupreus* (Copper Beard Orchid) – EPBC Act: EN and NPW Act: E.
- *Glycine latrobeana* (Clover Glycine) – EPBC Act: VU and NPW Act: V.

4.6.2.2 State Threatened Flora

The BDBSA identified an additional 29 threatened flora species protected under the NPW Act. Of the identified species, 27 were assessed as possible to occur in the Project Area (**Table 4.3**).

A detailed likelihood assessment of all threatened species identified in database searches including distribution and preferred habitat information for the Project Area is provided in **Appendix 2**.

A map of all records of threatened flora species within the Search Area is provided in **Appendix 3**.

Table 4.3 Threatened Flora Species Potentially Occurring within the Search Area by the BDBSA Search (DEW 2024a and DCCEE 2024a). Green highlights known Species

Scientific Name	Common Name	Conservation status		Data Source	BDBSA Last Sighting (DEW 2024a) / PMST likelihood (DCCEE 2024a)	Umwelt Likelihood of occurrence in Project Area
		EPBC Act	NPW Act			
<i>Acacia iteaphylla</i>	Flinders Ranges Wattle	-	R	2, 3	2009	Known – planted
<i>Allocasuarina robusta</i>	Mount Compass Oak-bush	EN	E	1	Likely	Unlikely
<i>Aristida australis</i>	-	-	R	2	1990	Possible
<i>Atriplex australasica</i>	Native Orache	-	R	2	2022	Possible
<i>Blechnum nudum</i>	Fishbone Water-fern	-	R	2	2006	Possible
<i>Caladenia argocalla</i>	White-beauty Spider-orchid	EN	E	1	Likely	Unlikely
<i>Caladenia concolor</i>	Crimson Spider-orchid	VU	-	1	May	Unlikely
<i>Caladenia tensa</i>	Green comb Spider-orchid	EN	-	1	Likely	Unlikely
<i>Calochilus cupreus</i>	Copper Beard Orchid	CE	E	1, 2	Known/2022	Possible
<i>Correa calycina</i>	Hindmarsh Correa	VU	V	1	Likely	Unlikely
<i>Corybas expansus</i>	Dune Helmet-orchid	-	V	2	2010	Possible
<i>Dampiera lanceolata</i> var. <i>intermedia</i>	Aldinga Dampiera	-	E	2	2022	Possible
<i>Dodonaea procumbens</i>	Trailing Hop-bush	VU	V	1	May	Unlikely
<i>Drosera praefolia</i>	Early Sundew	-	R	2	1989	Possible
<i>Eleocharis atricha</i>	Tuber Spike-rush	-	V	2	1986	Possible
<i>Eucalyptus fasciculosa</i>	Pink Gum	-	R	2,3	2021	Known
<i>Eucalyptus paludicola</i>	Mount Compass Swamp Gum	EN	E	1	May	Unlikely
<i>Eucalyptus viminalis</i> ssp. <i>viminalis</i>	Manna Gum	-	R	2	2000	Possible

Scientific Name	Common Name	Conservation status		Data Source	BDBSA Last Sighting (DEW 2024a) / PMST likelihood (DCCEW 2024a)	Umwelt Likelihood of occurrence in Project Area
		EPBC Act	NPW Act			
<i>Euphrasia collina</i> ssp. <i>osbornii</i>	Osborn's Eyebright	EN	E	1	May	Unlikely
<i>Gleichenia microphylla</i>	Coral Fern	-	R	2	2006	Possible
<i>Glycine latrobeana</i>	Clover Glycine	VU	V	1, 2	Likely/ 1992	Possible
<i>Hibbertia tenuis</i>	-	CE	E	1	Likely	Unlikely
<i>Hypolepis rugosula</i> ssp. <i>rugosula</i>	Ruddy Ground-fern	-	R	2	2006	Possible
<i>Machaerina laxa</i>	Lax Twig-rush	-	R	2	2006	Possible
<i>Maireana rohrlachii</i>	Rohrlach's Bluebush	-	R	2	2005	Possible
<i>Myoporum parvifolium</i>	Creeping Boobialla	-	R	1	1996	Possible
<i>Olearia pannosa</i> ssp. <i>pannosa</i>	Silver Daisy-bush	VU	V	1	Likely	Unlikely
<i>Olearia passerinoides</i> ssp. <i>glutescens</i>	Sticky Daisy-bush	-	R	2	2023	Possible
<i>Podolepis decipiens</i>	-	-	R	2	2022	Possible
<i>Podolepis muelleri</i>	Button Podolepis	-	V	2	2011	Possible
<i>Prasophyllum murfetii</i>	Fleurieu Leek Orchid	CE	R	1	Likely	Unlikely
<i>Prasophyllum pallidum</i>	Pale Leek-orchid	VU	R	1	Likely	Unlikely
<i>Prasophyllum tortilis</i>	Goldsack's Leek-orchid	-	E	2	2022	Possible
<i>Pterostylis uliginosa</i>	-	-	E	2	1994	Possible
<i>Ptilotus angustifolius</i>	Narrow-leaf Yellow-tails	-	E	2	2023	Possible
<i>Pultenaea dentata</i>	Clustered Bush-pea	-	V	2	2008	Possible
<i>Schoenus latelaminatus</i>	Medusa Bog-rush	-	V	2	1993	Possible
<i>Schoenus lepidosperma</i> ssp. <i>lepidosperma</i>	Slender Bog-rush	-	R	2	1986	Possible
<i>Schoenus tesquorum</i>	Grassy Bog-rush	-	R	2	1993	Possible
<i>Senecio macrocarpus</i>	Large-fruit Fireweed	VU	V	1	May	Unlikely
<i>Sprengelia incarnata</i>	Pink Swamp-heath	-	R	2	2006	Possible
<i>Thelymitra epipactoides</i>	Metallic Sun-orchid	EN	E	1	May	Unlikely
<i>Thelymitra holmesii</i> (NC)	Blue Star Sun-orchid		V	2	2009	Possible

Scientific Name	Common Name	Conservation status		Data Source	BDBSA Last Sighting (DEW 2024a) / PMST likelihood (DCCEEW 2024a)	Umwelt Likelihood of occurrence in Project Area
		EPBC Act	NPW Act			
<i>Thelymitra matthewsii</i>	Spiral Sun-orchid	VU	E	1	Likely	Unlikely
<i>Veronica derwentiana</i> subsp. <i>homalodonta</i>	Mount Lofty Speedwell	CE	E	1	Likely	Unlikely
<i>Veronica gracilis</i>	Slender Speedwell	-	V	2	1982	Possible
<i>Viminaria juncea</i>	Native Broom	-	R	2	2006	Possible
<i>Xyris operculata</i>	Tall Yellow-eye	-	R	2	2008	Possible

Conservation status

EPBC Act (Environment Protection and Biodiversity Conservation Act 1999). NPW Act (National Parks and Wildlife Act 1972). Conservation Codes: CE: Critically Endangered. EN/E: Endangered. VU/V: Vulnerable. R: Rare.

Source of Information

1. EPBC Act Protected Matters Report (DCCEEW 2024a) – 5 km buffer applied to Project Area.
2. Biological Database of South Australia data extract (DEW 2024a) – 5 km buffer applied to Project Area.
3. Recorded during the 2024 field survey.

4.6.3 Threatened Fauna

4.6.3.1 Nationally Threatened Fauna

The PMST Report identified 29 EPBC Act threatened fauna species (24 birds, three mammals, one reptile and one fish) that may occur within the Search Area. Of the identified fauna species, one was assessed as likely to occur: the Grey-headed Flying-fox (*Pteropus poliocephalus*). A total of 12 threatened fauna species was assessed as possible to occur within the Project Area (**Table 4.4**).

4.6.3.2 Migratory Species

A total of 19 Migratory species (which excludes 24 marine species) have been identified by the PMST Report, excluding species also listed as threatened under either the EPBC Act or NPW Act. Of those species, a total of four migratory species could potentially occur within the Search Area. Of the identified Migratory species, one was assessed as possible to occur: the Pacific Swift (*Apus pacificus pacificus*).

A detailed likelihood assessment of all Migratory species identified in database searches including distribution and preferred habitat information for the Project Area is provided in **Appendix 7**.

4.6.3.3 State Threatened Fauna

The BDBSA database search identified 32 NPW Act threatened fauna species with records within the Search Area. Of the identified species, two were recorded during the field assessment within the Project Area: the State Vulnerable Yellow-tailed Black Cockatoo (*Zanda funerea whiteae*) and the State Rare Common Brushtail Possum (*Trichosurus vulpecula*). One species was assessed as likely to occur: the State Rare Elegant Parrot (*Neophema elegans elegans*) (**Table 4.4**).

A detailed likelihood assessment of all threatened species identified in database searches including distribution and preferred habitat information for the Project Area is provided in **Appendix 4**.

A map of all records of threatened fauna species within the Search Area is provided in **Appendix 5**.

Appendix 6 lists the 31 marine species that was identified by the database searches that have been omitted from further assessment, as the Project Area is not marine.

Table 4.4 Threatened Fauna Species Identified within the Search Area by the Database Searches (DEW 2024a and DCCEW 2024a). Green highlights Species Known to Occur and Orange highlights Species Likely to Occur within the Project Area

Scientific Name	Common Name	Conservation Status		Data Source	PMST Likelihood / BDBSA Last Sighting Year	Likelihood of Occurrence in Project Area
		EPBC Act	NPW Act			
Aves						
<i>Actitis hypoleucos</i>	Common Sandpiper	Mi (W)	R	1, 2	Known, 2007	Possible
<i>Anhinga novaehollandiae novaehollandiae</i>	Australasian Darter	-	R	2	2020	Possible
<i>Aphelocephala leucopsis</i>	Southern Whiteface	VU	-	1	Known	Unlikely
<i>Apus pacificus pacificus</i>	Pacific Swift	Mi (Ma)	-	1, 2	Likely, 2017	Possible
<i>Ardeotis australis</i>	Australian Bustard	-	V	2	2022	Possible
<i>Biziura lobata menziesi</i>	Musk Duck	-	R	2	2020	Possible
<i>Botaurus poiciloptilus</i>	Australasian Bittern	EN	E	1, 2	Known, 1998	Possible
<i>Burhinus grallarius</i>	Bush Stonecurlew	-	R	2	1978	Unlikely
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	VU, Mi (W)	-	1, 2	Known, 2021	Possible
<i>Calidris canutus</i>	Red Knot	VU, Mi (W)	-	1	May	Unlikely
<i>Calidris ferruginea</i>	Curlew Sandpiper	CE, Mi (W)	E	1	Likely	Unlikely
<i>Calidris melanotos</i>	Pectoral Sandpiper	Mi (W)	R	1	May	Unlikely
<i>Cereopsis novaehollandiae novaehollandiae</i>	Cape Barren Goose	-	R	2	2021	Possible
<i>Charadrius leschenaultii leschenaultii</i>	Greater Sand Plover	VU, Mi (W)	-	1	May	Unlikely
<i>Cladorhynchus leucocephalus</i>	Banded Stilt	-	V	2	2021	Possible
<i>Coracina papuensis robusta</i>	White-bellied Cuckooshrike	-	R	2	2008	Possible

Scientific Name	Common Name	Conservation Status		Data Source	PMST Likelihood / BDBSA Last Sighting Year	Likelihood of Occurrence in Project Area
		EPBC Act	NPW Act			
<i>Coturnix ypsilophora australis</i>	Brown Quail	-	V	2	2012	Possible
<i>Egretta garzetta nigripes</i>	Little Egret	-	R	2	2003	Possible
<i>Falco hypoleucos</i>	Grey Falcon	VU	R	1	Likely	Unlikely
<i>Falco peregrinus macropus</i>	Peregrine Falcon	-	R	2	2020	Possible
<i>Falco subniger</i>	Black Falcon	-	R	2	2003	Possible
<i>Falcunculus frontatus frontatus</i>	Eastern Shrike-tit	-	R	2	2020	Possible
<i>Gallinago hardwickii</i>	Latham's Snipe	VU, Mi (W)	R	1, 2	Known, 2000	Possible
<i>Gerygone olivacea olivacea</i>	White-throated Gerygone	-	R	2	1981	Unlikely
<i>Grantiella picta</i>	Painted Honeyeater	VU	R	1	Likely	Unlikely
<i>Haematopus fuliginosus fuliginosus</i>	Sooty Oystercatcher	-	R	2	2018	Possible
<i>Haliaeetus leucogaster</i>	White-bellied Sea Eagle	-	E	2	2000	Possible
<i>Hieraaetus morphnoides</i>	Little Eagle	-	V	2	2007	Possible
<i>Hirundapus caudacutus caudacutus</i>	White-throated Needletail	VU, Mi (T)	V	1	Likely	Unlikely
<i>Hylacola cauta cauta</i>	Shy Heathwren	-	R	2	2007	Possible
<i>Hylacola pyrrhopygia parkeri</i>	Chestnut-rumped Heathwren (Mount Lofty Ranges)	EN	E	1	May	Unlikely
<i>Lewin pectoralis pectoralis</i>	Lewin's Rail	-	V	2	2006	Possible
<i>Limosa lapponica baueri</i>	Nunivak Bar-tailed Godwit	EN, Mi (W)	R	1, 2	Likely, 2021	Possible
<i>Melanodryas cucullata cucullata</i>	Hooded Robin (south-eastern)	EN	R	1, 2	Known, 2022	Possible
<i>Melithreptus gularis gularis</i>	Black-chinned Honeyeater	-	V	2	2007	Possible
<i>Microeca fascians fascians</i>	Jacky Winter	-	R	2	2002	Possible
<i>Motacilla cinerea</i>	Grey Wagtail	Mi (T)	-	1	May	Unlikely

Scientific Name	Common Name	Conservation Status		Data Source	PMST Likelihood / BDBSA Last Sighting Year	Likelihood of Occurrence in Project Area
		EPBC Act	NPW Act			
<i>Motacilla flava</i>	Yellow Wagtail	Mi (T)	-	1	May	Unlikely
<i>Myiagra cyanoleuca</i>	Satin Flycatcher	Mi (T)	E	1	Likely	Unlikely
<i>Neophema chrysostoma</i>	Blue-winged Parrot	VU	V	1	Known	Unlikely
<i>Neophema elegans elegans</i>	Elegant Parrot	-	R	2	2023	Likely
<i>Numenius madagascariensis</i>	Eastern Curlew	CE, Mi (W)	E	1	Likely	Unlikely
<i>Oxyura australis</i>	Blue-billed Duck	-	R	2	2020	Possible
<i>Pachyptila turtur subantarctica</i>	Fairy Prion (southern)	VU	-	1	Known	Unlikely
<i>Pandion haliaetus cristatus</i>	Eastern Osprey	Mi (W)	E	1	Likely	Unlikely
<i>Petroica boodang boodang</i>	Scarlet Robin	-	R	2	2005	Possible
<i>Petroica phoenicea</i>	Flame Robin	-	V	2	2014	Possible
<i>Plegadis falcinellus</i>	Glossy Ibis	Mi (W)	R	2	2007	Possible
<i>Rhipidura rufifrons</i>	Rufous Fantail	Mi (T)	-	1	May	Unlikely
<i>Rostratula australis</i>	Australian Painted Snipe	EN	E	1, 2	Known, 2007	Possible
<i>Spatula rhynchotis</i>	Australasian Shoveler	-	R	2	2021	Possible
<i>Stagonopleura bella samueli</i>	Western Beautiful Firetail (Mt Lofty Range and Kangaroo Island)	EN	R	1, 2	Known, 2007	Possible
<i>Stagonopleura guttata</i>	Diamond Firetail	VU	V	1	Known	Unlikely
<i>Sternula albifrons</i>	Little Tern	Mi (Ma)	E	1	May	Unlikely
<i>Sternula nereis nereis</i>	Australian Fairy Tern	VU	E	1, 2	Known, 2004	Possible
<i>Stictonetta naevosa</i>	Freckled Duck	-	V	2	2014	Possible
<i>Stipiturus malachurus intermedius</i>	Fleurieu Peninsula Southern Emu-wren	EN	E	1	Likely	Unlikely
<i>Thinornis cucullatus cucullatus</i>	Eastern Hooded Plover	VU	V	1, 2	Known, 2022	Possible
<i>Tringa glareola</i>	Wood Sandpiper	-	R	2	2020	Possible

Scientific Name	Common Name	Conservation Status		Data Source	PMST Likelihood / BDBSA Last Sighting Year	Likelihood of Occurrence in Project Area
		EPBC Act	NPW Act			
<i>Tringa nebularia</i>	Common Greenshank	EN, Mi (W)	-	1, 2	Likely, 2011	Possible
<i>Turnix varius varius</i>	Painted Buttonquail	-	R	2	2020	Possible
<i>Zanda funerea whiteae</i>	Yellow-tailed Black Cockatoo	-	V	2, 3	2022	Known
<i>Zapornia tabuensis</i>	Spotless Crane	-	R	2	2020	Possible
<i>Zoothera lunulata halmaturina</i>	South Australian Bassian Thrush	EN	R	1, 2	Likely, 2010	Possible
Mammalia						
<i>Isodon obesulus obesulus</i>	Southern Brown Bandicoot	EN	V	1	Known	Unlikely
<i>Neophoca cinerea</i>	Australian Sea Lion	EN	V	1	Known	Unlikely
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	VU	R	1, 2	Likely, 2020	Likely
<i>Rattus lutreolus</i>	Swamp Rat	-	R	2	2017	Possible
<i>Trichosurus vulpecula</i>	Common Brushtail Possum	-	R	2, 3	2021	Known
Reptilia						
<i>Aprasia pseudopulchella</i>	Flinders Ranges Worm-lizard	VU	-	1	May	Unlikely
Fish						
<i>Nannoperca australis</i>	Southern Pygmy Perch	VU	-	2	2011	Unlikely

Conservation status

EPBC Act (Environment Protection and Biodiversity Conservation Act 1999). NPW Act (National Parks and Wildlife Act 1972). Conservation Codes: CE: Critically Endangered. EN/E: Endangered. VU/V: Vulnerable. R: Rare. Mi: Migratory. Ma: Listed as a marine species under the EPBC Act. T: Listed as a terrestrial species under the EPBC Act. W: Listed as a wetland species under the EPBC Act.

Source of Information

1. EPBC Act Protected Matters Report (DCCEEW 2024a) – 5 km buffer applied to Project Area.
2. Biological Database of South Australia data extract (DEW 2024a) - 5 km buffer applied to Project Area.
3. Recorded during the 2024 field survey.

5.0 Field Assessment Results

5.1 Broad Vegetation Associations

A total of five broad Vegetation Associations (VAs) were mapped across the Project Area. A majority of the Project Area consists of either exotic grassland (77.59 ha) followed by exotic patches (18.32 ha) and areas of horticulture (18.15 ha). Amenity vegetation is prominent across the Project Area with a majority located along roads and property boundaries (11.54 ha).

The description and area of the VAs is shown in **Table 5.1** and the mapping is shown in **Figure 5.1**. VAs are described in more detail in **Table 5.2** to **Table 5.6**.

Table 5.1 Broad Vegetation Associations Mapped within the Project Area

VA No.	VA	Description	Area (ha)
1	Amenity Plantings	Mixed amenity plantings including indigenous native, non-indigenous native and exotic species along roadsides and within private properties.	11.54
2	Horticulture	Horticulture areas including olive groves, grape vines and fruit trees over dense exotic ground cover.	18.15
3	Exotic Patch	Areas usually containing exotic species such as Olive over dense exotic ground cover often <i>Echium plantagineum</i> (Salvation Jane) and <i>Oxalis pes-caprae</i> (Soursobs).	18.32
4	Revegetated Patch	Revegetated areas including mixed indigenous and non-indigenous native species over dense exotic ground cover within and adjacent to drainage lines.	4.29
5	Exotic Grassland	Pasture paddocks previously cleared and dominated by exotic grasses and broad leaf herbs.	77.59
Total			129.89

EX240511_Eco_20241004_03 (31560_R01_VegetationAssociation_v1)

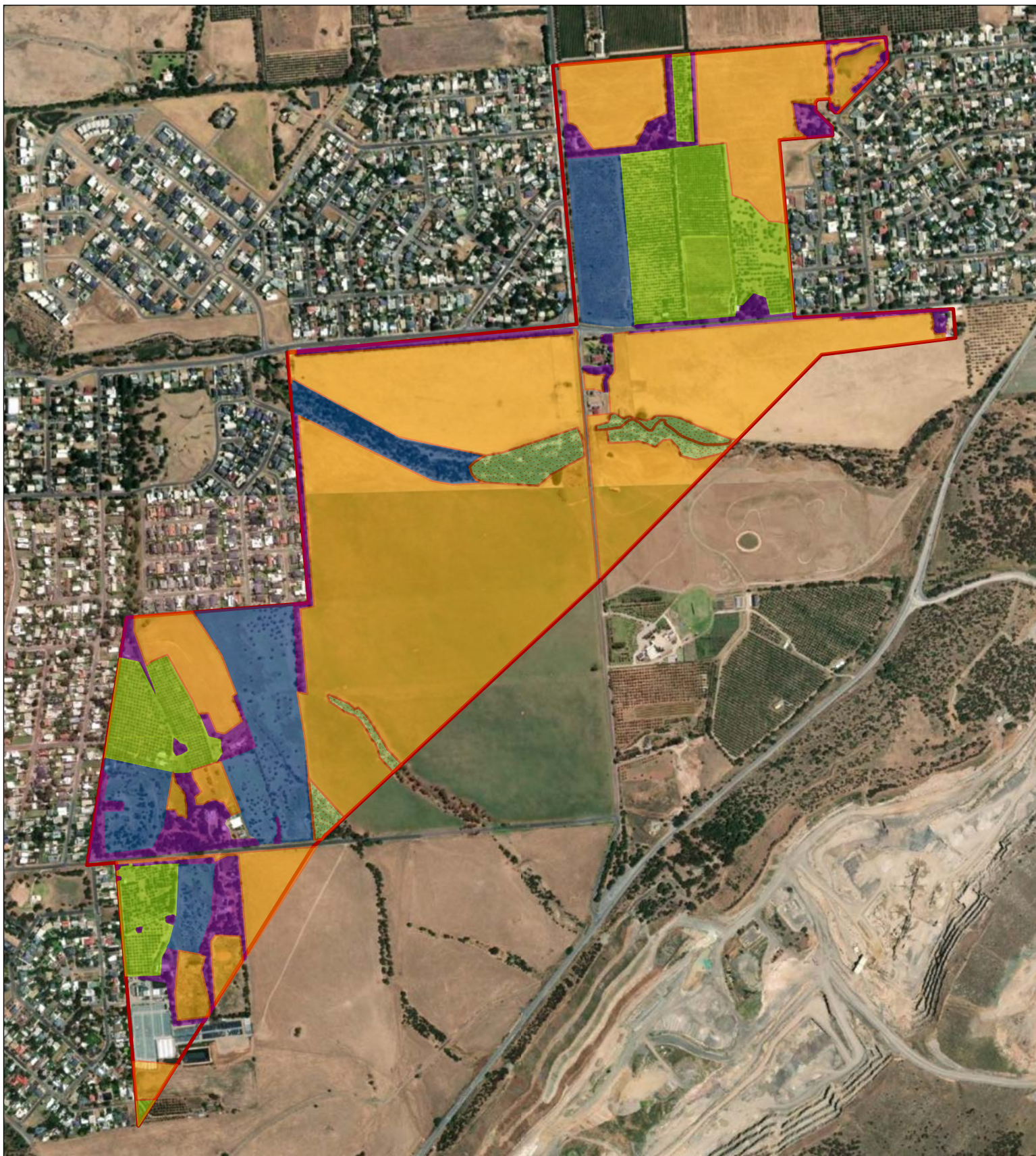


Figure 5.1 Broad Vegetation Associations Mapped in the Project Area Identified During the Field Survey

Legend

 Project Area

Vegetation Association

VA1: Amenity Plantings

VA2: Horticulture

VA3: Exotic Patch

VA4: Revegetated Patch

VA5: Exotic Grassland

Table 5.2 Summary of VA 1: Amenity Plantings

VA Name:	Amenity Planting
Area (ha)	11.54
Landforms	Roadsides and gardens of gently undulating plains.
Description	Mixed amenity plantings including indigenous native, non-indigenous native and exotic species along roadsides and within private properties.
Native Flora	Planted <i>Eucalyptus</i> spp. and <i>Acacia</i> spp., including <i>E. camaldulensis</i> (River Red Gum) and <i>E. leucoxylon</i> (SA Blue Gum), <i>A. cyclops</i> (Western Coastal Wattle), <i>A. iteaphylla</i> (Flinders Ranges Wattle), <i>A. paradoxa</i> (Kangaroo Thorn) and <i>A. pycnantha</i> (Golden Wattle), and <i>Allocasuarina verticillata</i> (Drooping Sheoak).
Threatened Flora	Unlikely.
Declared Weeds (LSA Act)	Planted <i>Casuarina glauca</i> (Grey Bullock), <i>Eucalyptus globulus</i> spp. <i>globulus</i> (Tasmanian Blue Gum), <i>Fraxinus angustifolia</i> ssp. <i>oxycarpa</i> (Desert Ash), <i>Pinus halepensis</i> (Aleppo Pine), <i>Salix babylonica</i> (Weeping Willow), and <i>Tamarix aphylla</i> (Athele Pine). Species occasionally growing in the understory, include, <i>Coprosma repens</i> (Mirror-bush), <i>Cynara cardunculus</i> ssp. <i>flavescens</i> (Artichoke Thistle), <i>Echium plantagineum</i> (Salvation Jane), <i>Marrubium vulgare</i> (Horehound), <i>Olea europaea</i> ssp. (Olive trees), <i>Rhamnus alaternus</i> (Blowfly Bush) and <i>Silybum marianum</i> (Variegated Thistle).
WoNS	<i>Asparagus asparagoides</i> (Bridal Creeper), <i>Chrysanthemoides monilifera</i> (Boneseed), <i>Lycium ferocissimum</i> (African Boxthorn), and <i>Opuntia</i> sp. (Prickly Pear).
Other Exotic Flora	<i>Acacia saligna</i> (Golden Wreath Wattle), <i>Avena barbata</i> (Bearded Oat), <i>Oxalis pes-caprae</i> (Sourb), <i>Pinus radiata</i> (Radiata Pine), <i>Scabiosa atropurpurea</i> (Pincushion), <i>Schinus molle</i> (Pepper-tree).
Habitat Value	Moderate – Planted mature <i>Eucalyptus</i> spp. provides hollows. Planted <i>Eucalyptus</i> spp., <i>Acacia</i> spp., <i>A. verticillata</i> and <i>Pinus</i> spp. provide food resources and structural diversity.
Risk to Native Vegetation	Low (EBS 2020).
Subject to NV Act	No – some native vegetation species were found to be regenerating in the understory of this VA. However, the VA did not meet the criteria for native vegetation protected under the NV Act as the native species within the ground layer represented <2% of the vegetation present. Regenerating native tree species within this VA that meet the definition of native vegetation were assessed separately using STAM and are addressed in Section 5.3.1 .
Condition	Poor (EBS 2020).



Photo of Amenity Plantings facing southeast (-35.329248, 138.455994)

Table 5.3 Summary of VA 2: Horticulture

VA Name:	Horticulture
Area (ha)	18.15
Landform(s)	Level and gently undulating plains.
Description	Horticulture areas including olive groves, grape vines and fruit trees over dense exotic ground cover.
Native Flora	Little to none.
Threatened Flora	Unlikely.
Declared Weeds (LSA Act)	<i>Coprosma repens</i> (Mirror-bush), <i>Cynara cardunculus</i> ssp. <i>flavescens</i> (Artichoke Thistle), <i>Echium plantagineum</i> (Salvation Jane), <i>Gazania</i> sp. (Gazania), <i>Olea europaea</i> ssp. (Olive trees), and <i>Rhamnus alaternus</i> (Blowfly Bush).
WoNS	<i>Asparagus asparagoides</i> f. <i>asparagoides</i> (Bridal Creeper), <i>Lycium ferocissimum</i> (African Boxthorn) and <i>Opuntia</i> spp. (Prickly Pear).
Other Exotic Flora	<i>Avena barbata</i> (Bearded Oat), <i>Oxalis pes-caprae</i> (Soursob), <i>Pelargonium</i> sp. (Storks-bill), and <i>Scabiosa atropurpurea</i> (Pincushion).
Habitat Value	Low.
Risk to Native Vegetation	Very Low (EBS 2020).
Subject to NV Act	No.
Condition	Very poor (EBS 2020).



Photo of Horticulture facing southeast (-35.325583, 138.464406).

Table 5.4 Summary of VA 3: Exotic Patch

VA Name:	Exotic Patch
Area (ha)	18.32
Landform(s)	Level and gently undulating plains as well as in creek line of undulating plain.
Description	Previously cleared areas adjacent to Olive groves containing Olive escapees over dense exotic ground cover often <i>Echium plantagineum</i> (Salvation Jane) and <i>Oxalis pes-caprae</i> (Soursobs).
Native Flora	Little to none.
Threatened Flora	Unlikely.
WoNS	<i>Asparagus asparagoides</i> f. <i>asparagoides</i> (Bridal Creeper), <i>Chrysanthemoides monilifera</i> ssp. <i>monilifera</i> (Bitou Bush), <i>Lycium ferocissimum</i> (African Boxthorn) and <i>Opuntia</i> spp. (Prickly Pear).
Declared Weeds (LSA Act)	<i>Coprosma repens</i> (Mirror-bush), <i>Cynara cardunculus</i> ssp. <i>flavescens</i> (Artichoke Thistle), <i>Echium plantagineum</i> (Salvation Jane), <i>Gazania</i> sp. (Gazania), <i>Lycium ferocissimum</i> (African Boxthorn), <i>Marrubium vulgare</i> (Horehound), <i>Olea europaea</i> ssp. (Olive trees), <i>Rhamnus alaternus</i> (Blowfly Bush), and <i>Silybum marianum</i> (Variegated Thistle).
Other Exotic Flora	<i>Avena barbata</i> (Bearded Oat), <i>Oxalis pes-caprae</i> (Soursob), <i>Pelargonium</i> sp. (Storks-bill), and <i>Scabiosa atropurpurea</i> (Pincushion).
Habitat Value	Low.
Risk to Native Vegetation	Very Low (EBS 2020).
Subject to NV Act	No.
Condition	Very Poor (EBS 2020).
 Photo of an exotic patch on a level plain facing south (-35.337158, 138.453559).  Photo of an exotic patch in a creek line facing northwest (-35.3317626, 138.4594139).	

Table 5.5 Summary of VA 4: Revegetated Patch

VA Name:	Revegetated Patch
Area (ha)	4.29
Landform(s)	Draining lines of undulating plain.
Description	Revegetated areas including mixed indigenous and non-indigenous native species over dense exotic ground cover within and adjacent to drainage lines.
Native Flora	Regenerating <i>Austrostipa</i> sp. (Spear-grass), <i>Atriplex semibaccata</i> (Climbing Saltbush), <i>Cyperus</i> sp. (Flat-sedge), <i>Enchylaena tomentosa</i> (Ruby Saltbush), <i>Enneapogon</i> sp. (Bottle-washers) and <i>Rhagodia parabolica</i> (Mealy Saltbush). Planted <i>Eucalyptus</i> spp. and <i>Acacia</i> spp., including <i>E. camaldulensis</i> (River Red Gum), <i>E. cladocalyx</i> (Sugar Gum), <i>E. leucoxylon</i> (SA Blue Gum), <i>E. microcarpa</i> (Grey Box), <i>A. paradoxa</i> (Kangaroo Thorn), <i>A. pycnantha</i> (Golden Wattle), <i>A. rupicola</i> (Rock Wattle), and <i>Allocasuarina verticillata</i> (Drooping Sheoak).
Threatened Flora	Possible.
Declared Weeds (LSA Act)	<i>Cynara cardunculus</i> ssp. <i>flavescens</i> (Artichoke Thistle), <i>Echium plantagineum</i> (Salvation Jane), <i>Marrubium vulgare</i> (Horehound), <i>Olea europaea</i> ssp. (Olive trees), <i>Rosa canina</i> (Dog Rose), and <i>Silybum marianum</i> (Variegated Thistle).
WoNS	<i>Asparagus asparagoides</i> f. <i>asparagoides</i> (Bridal Creeper), <i>Lycium ferocissimum</i> (African Boxthorn) and <i>Opuntia</i> spp. (Prickly Pear).
Other Exotic Flora	<i>Avena barbata</i> (Bearded Oat), <i>Brassica</i> sp., <i>Oxalis pes-caprae</i> (Soursob), <i>Salvia verbenaca</i> (Wild Sage), <i>Scabiosa atropurpurea</i> (Pincushion), and <i>Schinus molle</i> (Pepper-tree).
Habitat Value	Moderate - Planted mature <i>Eucalyptus</i> spp. provides hollows. Planted <i>Eucalyptus</i> spp., <i>Acacia</i> spp. and <i>A. verticillata</i> provide food resources and structural diversity.
Risk to Native Vegetation	Low (EBS 2020).
Subject to NV Act	No – some native vegetation species were found to be regenerating in the understory of this VA. However, the VA did not meet the criteria for native vegetation protected under the NV Act as the native species within the ground layer represented <2% of the vegetation present. Regenerating native tree species within this VA that meet the definition of native vegetation were assessed separately using STAM and are addressed in Section 5.3.1 .
Condition	Poor – Moderate (EBS 2020).



Photo of a Revegetation Patch facing south (-35.338137, 138.455576).

Table 5.6 Summary of VA 5: Exotic Grassland

VA Name:	Exotic Grassland
Area (ha)	77.59
Landform(s)	Gently undulating and level plains with drainage lines dissecting in some areas.
Description	Pasture paddocks previously cleared and dominated by exotic grasses and broad leaf herbs.
Native Flora	Little to none.
Threatened Flora	Unlikely
WoNS	Likely scattered <i>Lycium ferocissimum</i> (African Boxthorn).
Declared Weeds (LSA Act)	<i>Cynara cardunculus</i> ssp. <i>flavescens</i> (Artichoke Thistle), <i>Echium plantagineum</i> (Salvation Jane), <i>Marrubium vulgare</i> (Horehound), and <i>Silybum marianum</i> (Variegated Thistle).
Other Exotic Flora	Pasture grasses.
Habitat Value	Low.
Risk to Native Vegetation	Very Low (EBS 2020).
Subject to NV Act	No.
Condition	Very Poor (EBS 2020).



Photo of an Exotic Grassland facing southeast (-35.3290009, 138.465699).

5.2 Threatened Ecological Communities

The database searches indicated that three TEC might occur within the Search Area:

- Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia – EPBC Act: Endangered.
- Subtropical and Temperate Coastal Saltmarsh – EPBC Act: Vulnerable.
- Swamps of the Fleurieu Peninsula – EPBC Act: Critically Endangered.

However, these TEC were not present in the Project Area as no species associated with these TEC were identified during the field assessment.

5.3 Trees

A total of 887 trees were found to be protected under the NV Act or PDI Act in the Project Area during the field work.

The GPS locations of all trees are provided in **Attachment 1** (GIS Spatial Data Package). Tree data is provided in **Attachment 2** (Tree data excel file). Photos of trees are provided as **Attachment 3** (Tree Photos).

5.3.1 Scattered Trees (Protected under the NV Act)

Of these 887 trees, a total of 191 were recorded as native and protected under the NV Act (**Figure 5.2**), with most these native trees being small individuals which have regenerated from plantings of native species. The native trees consisted of six different species with one of them being listed as threatened under the NPW Act, this includes a clump of six NPW Act Rare *Eucalyptus fasciculosa* (Pink Gum) trees located in Property 2 in VA 4 (Tree ID 64 in **Figure 5.2**). Planted amenity *Eucalyptus fasciculosa* trees are not protected under the NV Act, as planted trees are not considered native vegetation.

Refer to **Appendix 8** for further details on the native scattered trees assessed within the Project Area.

5.3.2 Regulated and Significant Trees (Protected under the PDI Act)

Of the 887 trees surveyed within the Project Area, a total of 696 trees are protected under the PDI Act, this includes 200 Significant Trees and 496 Regulated Trees. Refer to the *Sellicks Beach Growth Area Preliminary Trees Assessment* (Umwelt 2024) for more details on the trees assessed under the PDI Act.

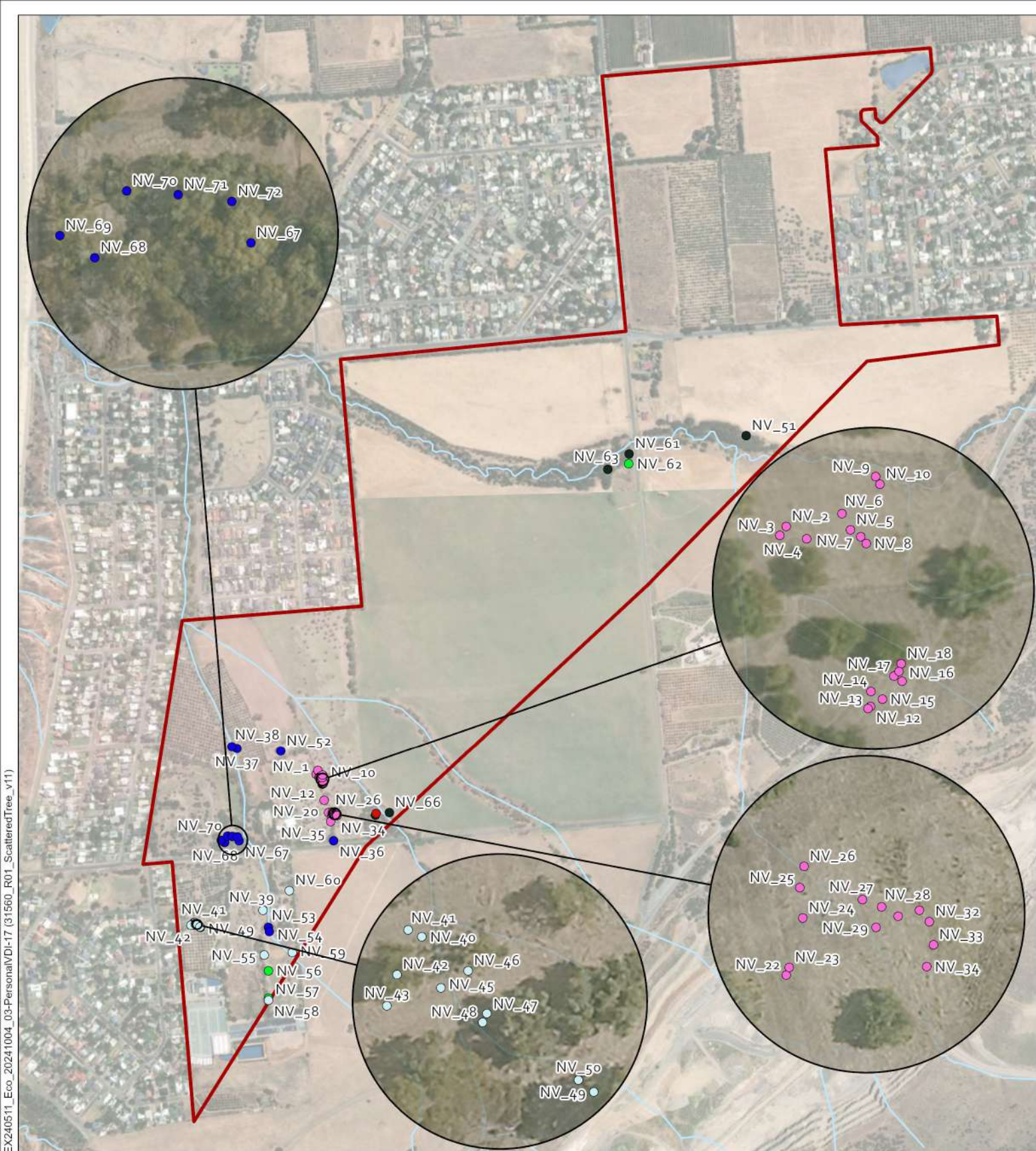


Figure 5.2 Scattered Native Trees Mapped in the Project Area Identified During the Field Survey

Legend

 Project Area

— Water Courses

 WaterBodies

Scattered trees protected under Native Vegetation Act 1991

• *Acacia pycnantha*

● *Allocasuarina verticillata*

● *Eucalyptus camaldulensis*

● *Eucalyptus fasciculosa*

● *Eucalyptus leucoxylon*

● *Pittosporum angustifolium*

5.4 Flora

The field survey recorded 75 flora species (23 native and 52 weed species) within the Project Area. A few of these species were observed as regenerating individuals from planted specimens. The following two VAs were found to have regenerating species:

- **VA 1** – *Enchylaena tomentosa* (Ruby Saltbush) and *Rhagodia parabolica* (Mealy Saltbush).
- **VA 4** – *Austrostipa* sp. (Spear-grass), *Atriplex semibaccata* (Climbing Saltbush), *Cyperus* sp. (Flat-sedge), *Enchylaena tomentosa* (Ruby Saltbush), *Enneapogon* sp. (Bottle-washers) and *Rhagodia parabolica* (Mealy Saltbush).

However, these VAs did not meet the criteria for native vegetation protected under the NV Act as the native species within the ground layer represented <2% of the vegetation present.

A list of all flora species recorded during the survey is provided in **Appendix 9**.

5.4.1 Threatened Flora

5.4.2 Nationally Threatened Flora

No EPBC Act listed flora species were recorded during the field survey.

5.4.3 State Threatened Flora

A total of six regenerating individuals of the State Rare *Eucalyptus fasciculosa* (Pink Gum) was observed in Property 2 (VA 4 - Revegetated Patch). Pink Gum is a protected species under the NPW Act and the NV Act. All six regenerating individuals were saplings from a mature planted individual Pink Gum nearby.

Regenerating individuals from planted amenity native tree species meet the definition of native vegetation and are protected under the NV Act. Planted amenity *Eucalyptus fasciculosa* trees are not protected under the NV Act, as planted trees are not considered native vegetation.

The State Rare *Acacia Iteaphylla* (Flinders Ranges Wattle) was also observed within the Project Area. Many shrubs of this species were found planted across the Project Area, alongside other planted trees and shrubs, often along roadsides or boundaries. Flinders Ranges Wattle is a protected species under the NPW Act and the NV Act. However, these planted individuals were well outside of the natural distribution of this Flinders Ranges Wattle which is the Gawler Ranges east to southern Flinders Ranges and Northern Lofty Ranges. Therefore, the individuals within the Project Area are not protected under the NV Act.

5.4.4 Weeds

A majority of the Project Area was impacted by weed species and Declared plants. Of the 52 weed species recorded in the Project Area, 19 species are classified as Declared weeds under the LSA Act, with six also listed as a WoNS.

The properties which the declared species were recorded in is provided in **Appendix 10** and their LSA Act requirements of Green Adelaide region is presented in **Appendix 11**.

5.5 Fauna

A total of 34 fauna species (29 birds and five mammal) were recorded during the field assessment, consisting of 27 native species and 7 introduced species. All species observed within the Project Area are commonly occurring fauna species within metropolitan Adelaide.

5.5.1 Threatened Fauna

5.5.2 Nationally Threatened Fauna

No EPBC Act listed fauna species were recorded during the field survey.

5.5.3 State Threatened Fauna

A total of two fauna species listed as threatened under the NPW Act was recorded during the field surveys:

- Yellow-tailed Black Cockatoo (*Zanda Funerea Whiteae*) – NPW Act Vulnerable.
- Common Brushtail Possum (*Trichosurus vulpecula*) - NPW Act Rare.

Multiple groups (ranging from 5 to 14 individuals) of Yellow-tailed Black Cockatoo were observed flying overhead and landing on planted *Pinus halepensis* (Aleppo Pines) (a Declared weed under the LSA Act) along the roadside of Sellicks Beach Road to forage.

Scat and claw marks of Common Brushtail Possum were found in Properties 11, 15, and 17, which are all along Gulf View Road. Common Brushtail Possum was also heard during the nocturnal survey, in habitat near the creek line. A list of all fauna species observed during the field survey is provided in **Appendix 12**.

5.5.4 Fauna Habitat

The Project Area has been historically cleared of native vegetation for agricultural and development purposes and now provides limited habitat for common or threatened fauna species. VAs that provide moderate habitat value include VA 1 (Amenity Plantings) and VA 4 (Revegetated Patch) (see **Figure 6.1**). These two VAs both contained large hollow-bearing trees such as *Eucalyptus camaldulensis* (River Red Gum), which provide nesting sites, roosting sites, hollows and food resources for fauna. The State Rare Common Brushtail Possum is reliant upon large hollow-bearing trees for habitat, shelter, and feeding. Claw marks and scats from the species were found on nearby trees which were hollow bearing and located in vegetated areas.

Bird nests were found in trees during the field survey, as detailed in **Attachment 2** (Tree data excel file). The presence of nests indicates that the trees within the Project Area provide suitable breeding habitat for local bird species. Furthermore, VA 4 (see **Table 5.5**) contained a large cover of fallen timber, surface rock, and significant deposits of leaf-litter, which all are an important habitat resources for birds as well as reptiles. VA 4 is also likely to provide marginal habitat for the State Rare Elegant Parrot (*Neophema elegans*) as it has a suitable planted overstory trees with some native understorey, which is similar to the native woodlands that are known to be utilised by the species.

Certain flora species identified in VA 1 (see **Table 5.2**) provide important habitat for local fauna species within the Project Area, given the limited availability of natural habitats. Planted *Pinus halepensis* (Aleppo Pines) (a Declared weed under the LSA Act) and *Allocasuarina verticillata* (Drooping Sheoak) provide suitable foraging habitat for the State Vulnerable Yellow-tailed Black Cockatoos, which was observed within the Project Area during the field survey. VA 1 also contained Eucalypts and introduced tree species that are the primary food source for the nationally Vulnerable and State Rare Grey-headed Flying-fox (*Pteropus Poliocephalus*). Although not directly observed during the field assessment, records for the Grey-headed Flying-fox have been observed within the Search Area (**Appendix 6**). It is deemed likely that Grey-headed Flying-fox forage on the trees within the Project Area that are large fruit and flower bearing.

6.0 Discussion

6.1 Vegetation across the Project Area

There is little native vegetation present within the Project Area. Vegetation that meets the definition of native vegetation under the NV act is limited to the scattered trees (which include regenerated saplings) within the Project Area. None of the VAs meet the definition of native vegetation under the NV Act, but VA 1 and VA 4 have some native understory (native species within the ground layer of these two VAs represented <2% of the vegetation present).

The Project Area is largely dominated by exotic grasslands (VA 5), areas of horticulture (VA 2) and exotic patches (VA 3) which provide low habitat value (mapped as green in **Figure 6.1**) and are considered unlikely habitat for common and threatened species. Development in these low(er) quality habitat areas is considered to have negligible impact on vegetation and a low impact on fauna species.

The vegetation within the Project Area that is considered to have ecological importance include VAs with moderate fauna habitat value (mapped as yellow in **Figure 6.1**). These areas are VA 4 (Revegetated Patch) along Sellicks Creek and native and planted trees within VA 1 (Amenity Plantings). Both these VAs contain large or hollow bearing trees, and native species within the ground layer (the latter being <2% of the vegetation present). VA 1 and VA 4 provide habitat resources including breeding, foraging, nesting and roosting habitat for fauna species.

Development of VA 1 and VA 4 will likely have a localised impact on common fauna species, and the potential to have a localised impact on threatened fauna species. Retention of moderate fauna habitat areas (VA 1 and VA 4) will retain biodiversity, provide habitat for local wildlife and add amenity value to a largely developed landscape. Retention of the large hollow-breeding trees and regenerating native flora in the understory of VA 1 and VA 4 (see **Table 5.2** and **Table 5.5**), together with revegetation of recommended flora species (**Appendix 13**) in VA 4, and a proposed open space or streetscape, would further contribute to biodiversity and amenity value of the area.

6.2 Threatened Flora

A total of six regenerating individuals of *E. fasciculosa* (Pink Gum) located on Property 2 in the revegetated patch VA 4 are protected under the NPW Act and NV Act. Although these individuals are small regenerating individuals, conserving State threatened species will help to reduce the immediate extinction risks and improve their conservation status.

6.3 Threatened Fauna

The State Vulnerable Yellow-tailed Black Cockatoo and State Rare Common Brushtail Possum were recorded within the Project Area during the surveys. The Project Area contains suitable food resources for the Yellow-tailed Black Cockatoo in planted *Pinus halepensis* (Aleppo Pine) and *Allocasuarina verticillata* (Drooping Sheoak) trees. Similarly, for the Common Brushtail Possum, large trees (both native and non-native) within the Project Area provide suitable breeding and foraging habitat for this species. Removal of these trees may have an impact on the local populations of these species. Planted *Pinus halepensis* are potential foraging habitat for Yellow-tailed Black Cockatoos, but this species is a Declared weed under the

LSA Act. If these trees are removed, consider planting native forage flora species such as *Allocasuarina verticillata* in landscaping plans to replace lost foraging habitat for this species.

Species not observed, but likely to occur within the Project Area include the nationally Vulnerable and State Rare Grey-headed Flying-fox (*Pteropus Poliocephalus*) and the State Rare Elegant Parrot (*Neophema elegans*). The primary food source for the Grey-headed Flying-fox is blossom from Eucalypts and related genera, with introduced tree species in urban areas also utilised (DCCEEW 2024b), both of which occur throughout the Project Area. However, as the Project Area does not contain a Grey-headed Flying-fox roosting camp, it is unlikely that this species will be significantly impacted by impacts to vegetation as a result of the proposed development.

The Elegant Parrot prefers open woodland, grassland, saltmarsh and rough pasture (Menkhorst *et al.* 2019). VA 4 could be potential habitat for this species within the Project Area, as this area is similar to its preferred habitat. However, due to the quality and condition of the habitat within VA 4, it is unlikely that removal of this habitat will have an impact on local Elegant Parrot populations. Large amounts of suitable habitat for Elegant Parrot exist outside of the Project Area and within the broader Search Area, specifically where records have been observed approximately 4–5 km north of the Project Area (**Appendix 5**).

Preserving and restoring habitat within the Project Area will help retain threatened and local fauna species in the area. Retaining areas with native vegetation, large or hollow-bearing trees, and food resources. Additionally, conservational efforts can be done by providing further resources (e.g. nest boxes).

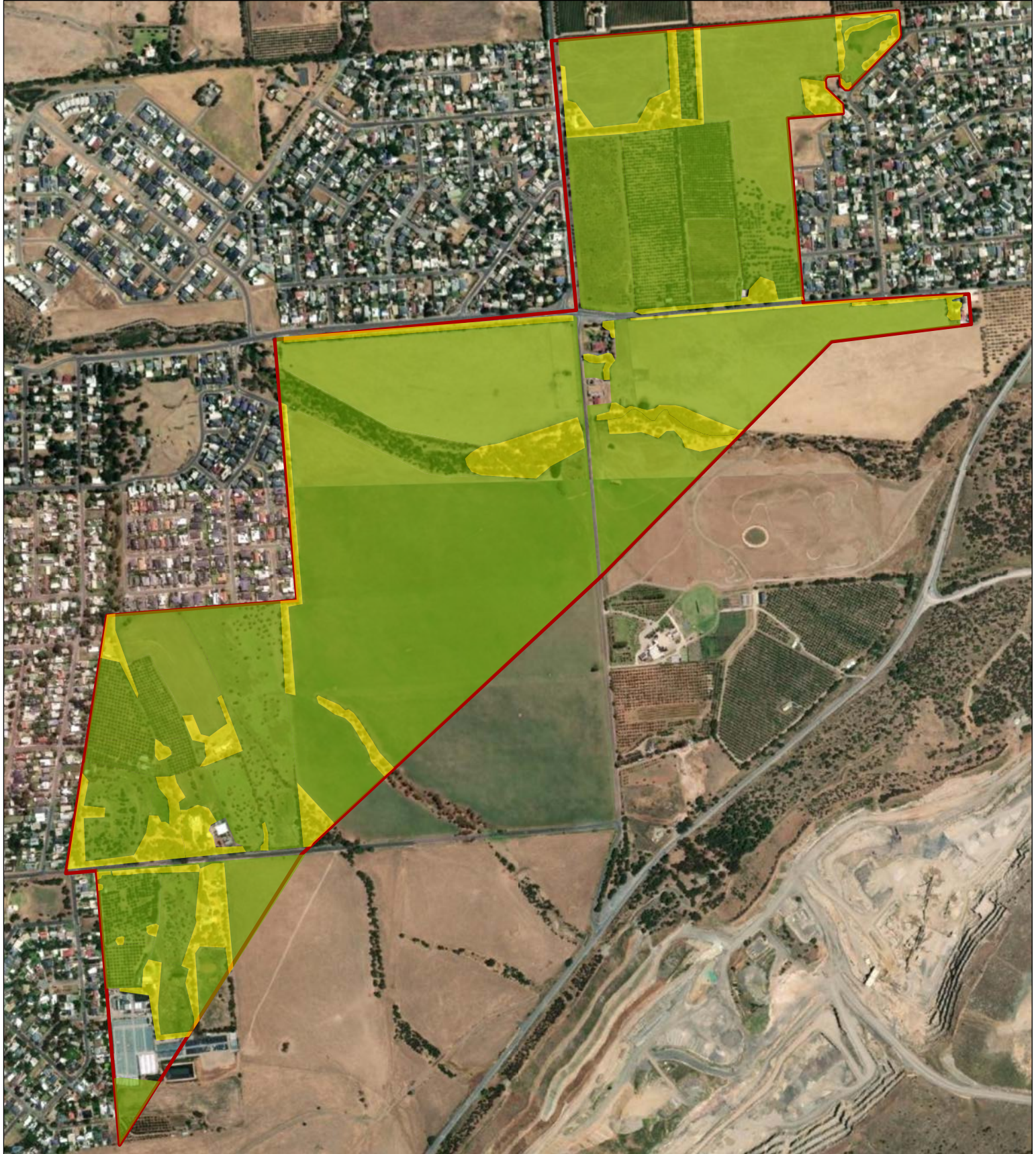


Figure 6.1 Habitat value across the Project Area

Legend

 Project Area

Habitat Value

Low

Moderate

6.4 Restoration Opportunities

The Project Area has limited restoration opportunities. Targeted restoration within priority/practical areas of moderate habitat value (such as vegetation identified within VA 1 and VA 4, as mapped in **Figure 6.1**) would provide greater biodiverse habitat for local fauna species while subsequently providing aesthetic appeal and urban cooling for the general public. Often the best form of restoration is encouraging and supporting the natural regeneration of native species that are currently present (Greening Australia 2003). Natural regeneration of native species such as *Acacia pycnantha* (Golden Wattle) and *Eucalyptus* species is already occurring from the amenity plantings in VA 1 and within the revegetated patches of VA 4. Further restoration effort could focus on protecting these areas from impacts of grazing (i.e. rabbits) and or weeds incursion.

Another method of restoration is reintroducing flora species which were once local to the Project Area. Reintroducing locally endemic flora species through direct seeding and planting enhances the quality of remaining vegetation by filling in gaps and creating small clusters that serve as habitat refuges for native wildlife in areas lacking much cover and native vegetation. Reintroducing flora species which are now threatened and rare in the Green Adelaide region may enhance their survival, improve their conservation status, and increase the species diversity on site.

Restoration efforts should focus on enhancing key areas of moderate vegetation value (described below), as well as potentially revegetating suitable and practical areas within the Project Area with native flora species identified during the field survey, species that were present in the pre-European habitat as discussed in **Section 4.1**, or species listed as threatened. A list of these flora species is provided in **Appendix 13**.

6.4.1 Restoration Key Areas

The revegetated areas (VA 4) are suitable habitat for fauna species within the heavily degraded Project Area, making these areas important to conserve and a good baseline for further restoration. Conserving and further restoring the revegetated areas that are scattered throughout the Project Area, would enhance biodiversity, improve ecosystem resilience, and provide essential habitat for local wildlife.

There are four creek lines, which traverse across the Project Area and flow into the ocean at Sellicks Beach (see **Figure 4.3**). These creek lines are another key area to consider for restoration (**Figure 6.2**). Some sections along Sellicks Creek are already revegetated with previously planted native species now well established, mapped as Revegetation Patch (VA 4) on **Figure 5.1**. However, the understorey of these Revegetation Patch areas is dominated by weed species. Other sections of Sellicks Creek were assessed as an Exotic Patch (VA 3) (see **Figure 5.1**). Further revegetation works as well as the removal of weeds in these Exotic Patch areas would expand on the rehabilitation project undertaken in Sellicks Creek, which has provided the following benefits:

- Biodiversity / environmental – removal of weeds, revegetation of local native plants and incorporation of ephemeral water bodies to enhance local native flora and fauna.
- Amenity – the creation of a visually pleasing environment and provision of safe access through a network of paths, footbridge and gently sloping creek embankments.

- Water quality – incorporation of sedimentation pond and macrophyte filter zone (reed bed), treatment of urban stormwater flows to ensure cleaner water is discharged to the sea and a design to prevent erosion.
- Stormwater management – ponds and native reeds to limit flow speeds.

Other restoration opportunities exist in the two smaller creek lines running northwest from Gulf View Road. These creek lines have been subject to revegetation activities and provide important linkages between the vegetated hill face areas east of the Project Area and amenity areas of moderate habitat value. Retention of these creek line areas along with further vegetation and the removal of weeds will provide biodiversity and amenity value amongst any future development.

Additionally, expanding revegetation across the Project Area would enhance habitat availability and connectivity. More revegetation activities could be conducted along established or new roads, within parks, and further along the creek lines (**Figure 6.2**).

6.4.2 Water Sensitive Urban Design

Water Sensitive Urban Design (WSUD) is an important element in delivering more liveable urban environments, and a key objective for the SA Government to increase the state's water sensitivity. The aim of WSUD is to reduce the impact of development on the natural water cycle, by creating urban environments that enables the water cycle to operate as it would naturally. As the Project Area has been largely cleared and used for grazing and horticulture purposes, it has likely resulted in changes to the local hydrology of the area. With the surrounding area being largely developed, a WSUD is important to establish. There are four creek lines, all ranging in sizes and erosion, which traverse across the Project Area and flow into the ocean at Sellicks Beach (see **Figure 6.2**). Weeds infestations are prominent along all these creek lines, with native species limited to the revegetated area. There are opportunities to undertake WSUD in these areas.

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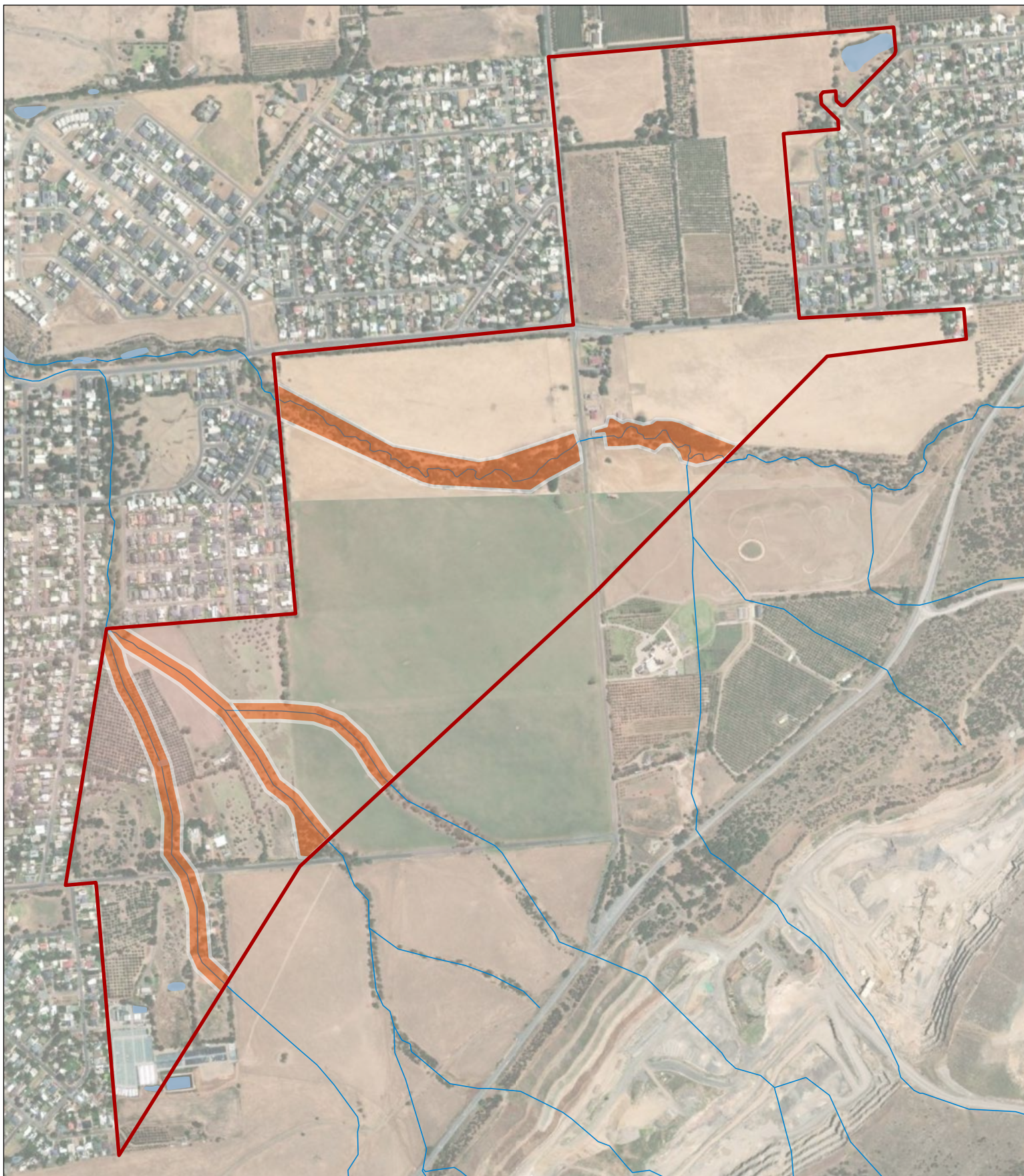


Figure 6.2 Areas suitable for revegetation

Legend

 Project Area

 Revegetation Opportunity

 Waterbodies

 Water courses

6.5 Recommendations

Based on the ecological assessment, the following recommendations are made in regards to the proposed development:

- Avoid and minimise the clearance of native vegetation (scattered trees), which are protected under the NV Act.
- Avoid and minimise the clearance to the revegetated areas (VA 4), which provide moderate suitable habitat for common and threatened local fauna species within the Project Area.
- Avoid and minimise impact to large hollow bearing trees such as Eucalypt species and *Allocasuarina verticillata* (Drooping Sheoak), which provide habitat for fauna and threatened fauna.
- Where clearance of the above-mentioned vegetation is not avoidable, minimising impact by retaining areas of higher ecological importance where possible and consider planning and developing project designs that avoid these areas. This includes but is not limited to areas of:
 - Revegetated stream and creek lines of VA 4 (Sellicks Creek).
 - Native and planted trees which are large or hollow bearing consisting of Eucalypt species and *Allocasuarina verticillata* (Drooping Sheoak) as found in VA 1 (Amenity Plantings).
- Consider incorporating revegetation and WSUD principles into project designs. This includes reintroducing native plant species to restore and enhance local ecosystems. Additionally, integrating WSUD practices will help manage stormwater sustainably, promote natural filtration processes, and reduce the risk of flooding, ultimately creating a healthier environment for both residents and wildlife.
- Implement management actions that maintain good weed hygiene to avoid introducing or spreading declared weeds and WoNS. Refer to **Appendix 11** for the LSA Act requirements for Green Adelaide region for the species.
- Engage a local community (Friends of Aldinga) or group to participate in revegetation events.
- Approval from NVC will be required if the Project plans to impact native scattered trees protected by the NV Act. Any impact to native vegetation that meets the definition of native vegetation under the NV Act will require approval from the NVC. For approval, it would be contingent on following the mitigation hierarchy, as per (<https://www.environment.sa.gov.au/topics/native-vegetation/clearing/mitigation-hierarchy>):
 - Avoid
 - Minimize
 - Rehabilitate or restore
 - Offset.

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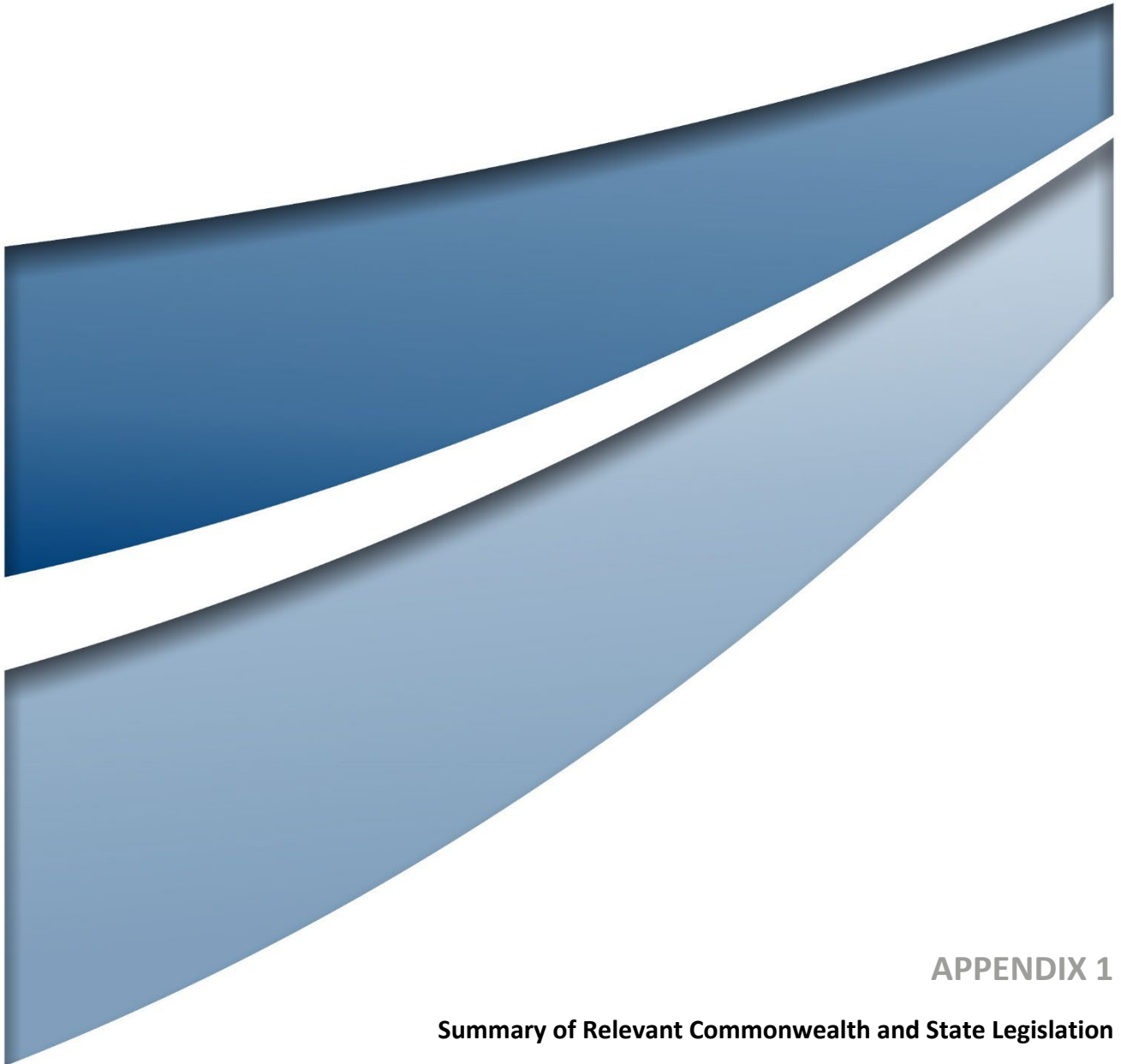
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APPENDIX 1

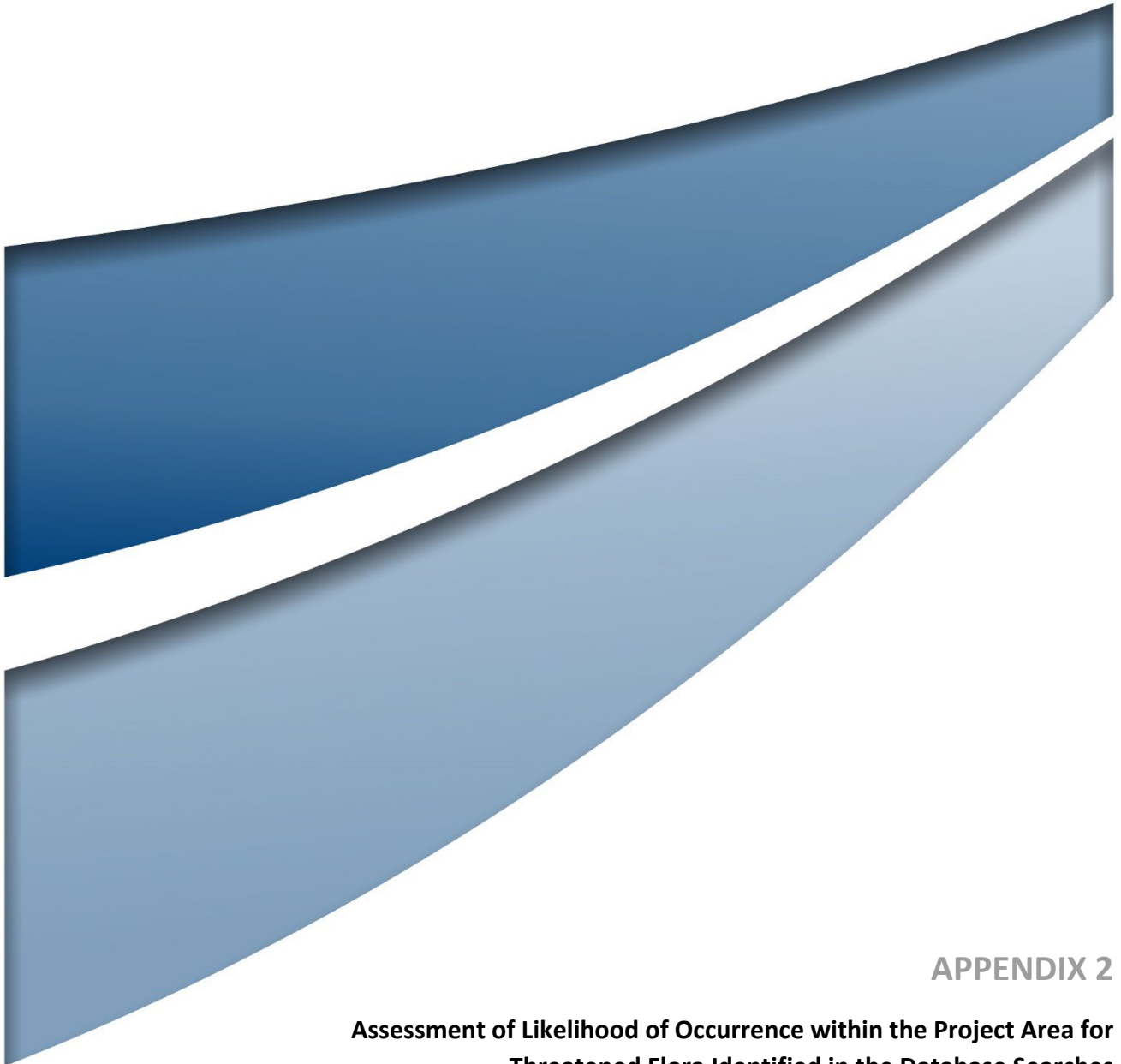
Summary of Relevant Commonwealth and State Legislation

Legislation	Summary	Relevance
Commonwealth		
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	The EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places — defined in the Act as matters of national environmental significance (MNES). The nine MNES to which the EPBC Act applies are: • World heritage properties; • National heritage places; • Wetlands of international importance (listed under the Ramsar Convention); • Listed threatened species and ecological communities; • Migratory species protected under international agreements; • Commonwealth marine areas; • The Great Barrier Reef Marine Park; • Nuclear actions (including uranium mines); and • A water resource, in relation to coal seam gas development and large coal mining development.	Under the EPBC Act, actions that have, or are likely to have, a significant impact on a matter of national environmental significance require approval from the Australian Government Minister for the Environment. The Minister will decide whether assessment and approval is required under the EPBC Act. An action is defined broadly in the EPBC Act and includes: a project, a development, an undertaking, an activity or a series of activities, or an alteration of any of these things. The <u>significant impact guidelines</u> provide overarching guidance on determining whether an action is likely to have a significant impact on a matter of national environmental significance protected by the EPBC Act. The MNES relevant to the Project include: • Listed threatened species and ecological communities. Also, of relevance is the protection of the environment, where actions proposed are on, or will affect Commonwealth land and the environment.
South Australia		
<i>National Parks and Wildlife Act 1972</i>	The NPW Act: • Allows for the protection of habitat and wildlife through the establishment of parks and reserves (both on land and in State waters); • Provides for the protection of native flora and fauna; • Identifies flora and fauna species considered to be of conservation significance (under Schedules 7, 8, and 9 of the Act); and • Provides for the use of approved wildlife through a system of permits allowing certain actions, i.e. keeping and selling (s.58), harvesting (s.60G), farming (s.60C), hunting (s.68A), releasing (s.55) and undertaking scientific research (s.53) on/of native fauna species, and for the taking of plants (s.49).	A person must not “take” a native plant, protected animal or the eggs of a protected animal without approval (s.48A). Significant penalties apply. To take a native plant means to remove the plant or part of the plant, from the place in which it is growing; or to damage the plant. To take a protected animal means to remove, hunt, catch, restrain, kill or injure an animal, or attempt to do so. A person may take non-prescribed plant species from private land with the consent of the owner; however, these species may also be covered under the <i>Native Vegetation Act 1991</i>. There are a number of non-complying activities in parks and reserves that result in penalty (parts 4-6).

Legislation	Summary	Relevance
<i>Planning, Development and Infrastructure Act 2016</i>	The PDI Act repealed the <i>Development Act 1993</i>. The PDI Act, along with the Planning, Development and Infrastructure (General) Regulations 2017 (PDI Regs) and Planning and Design Code, provide the legislative framework for carrying out planning and development works within the state. The Planning and Design Code is the cornerstone of the new system and has replaced all council development plans to become the single source of planning policy for assessing development applications. No development can be undertaken without an appropriate Development Approval being obtained from the relevant authority after an application and assessment process.	The State Planning Strategy establishes the broad vision for sustainable land use and the built development of SA. The Planning Strategy informs and guides local council development plans. No development can be undertaken without an appropriate Development Approval being obtained from the relevant authority after an application and assessment process. Any activity that damages a 'Regulated Tree' or 'Significant Tree' is 'development', and as such requires a development approval. Specifically, development approval is required for removal, killing or destruction, branch or limb lopping, ringbarking or topping, or any other substantial damage to a Regulated or Significant Tree, including to its root system other than maintenance pruning. Significant fines apply.
<i>Native Vegetation Act 1991</i>	The NV Act provides protection for native vegetation in South Australia and sets out a process for applying to clear vegetation. The <i>Native Vegetation Regulations 2017</i> allow certain clearance activities to be exempt from the Act. The <i>Native Vegetation (Credit for Environmental Benefits) Regulations 2015</i> relate to Credit and Third Party Significant Environmental Benefit (SEB) Offsets and the SEB Register. This NV Act applies on public and private land throughout South Australia, with the exception of some areas of metropolitan Adelaide. Native vegetation refers to any naturally occurring local plant species that is indigenous to South Australia, from small ground covers and native grasses to large trees and water plants. It also includes naturally occurring regrowth and in certain circumstances, dead trees. In some circumstances, the management of native vegetation is protected by legislation. The Native Vegetation Council (NVC) is responsible for providing advice and making decisions about the removal and re-establishment of native vegetation in line with the Act. The NVC will take into account the impacts of the proposed clearance and may grant consent, refuse consent or grant consent subject to certain conditions. Applications will usually be denied when the vegetation is considered an 'intact stratum', meaning it has not been seriously degraded by human activity within the last 20 years. A net environment benefit is generally conditional on an approval being granted.	Approval is required for the clearance of native vegetation. Clearance activities include but are not limited to: • The killing, destruction or removal of whole plants; • The removal of branches, limbs, stems or trunks (including brushcutting and woodcutting); • The burning, poisoning and slashing of native vegetation; • Any other substantial damage to native vegetation including activities such as drainage for reclamation of wetlands or flooding of land; and • Grazing by animals (in some circumstances). When assessing an application to clear native vegetation, the NVC must consider the principles of clearance as set out in the Act, except where the vegetation has been considered exempt under the <i>Native Vegetation Regulations 2017</i>. Significant penalties apply if a person clears native vegetation without consent. The NVC can also take civil enforcement proceedings in the District Court for an order that the native vegetation be re-instated. The Act also provides the opportunity for landholders to enter into voluntary "Heritage Agreement(s)" to ensure vegetation on private land is protected for perpetuity.

Legislation	Summary	Relevance
<i>Landscape South Australia Act 2019</i>	The LSA Act promotes and facilitates integrated and sustainable management of all natural resources (water, soil, biodiversity, etc.), and provides for arrangements to involve the community in the development and implementation of regional initiatives to improve the management of the natural resources. Key components of the Act include: • The establishment of eight new regional landscape boards, and a new metropolitan board, Green Adelaide, to administer the Act and partner with government and regional communities; • Facilitate the sustainable management of the SA's landscapes to promote prosperous long-term businesses, thriving native species and ecosystems, and resilient communities; and • Requirement to control pest plants and animals, and activities that might result in land degradation.	A 'duty of care' is a fundamental component of this Act, i.e. ensuring one's environmental and civil obligation by taking reasonable steps to prevent land and water degradation. Persons can be prosecuted if they are considered negligent in meeting their obligations. An owner of land who is, or is likely to be, in breach of the general statutory duty under the Act resulting or likely to result in land degradation may be required to prepare an action plan. Failure to comply with a notice requiring preparation of an action plan is an offence. A landscape board authority or a State authorised officer may issue a reparation order in certain circumstances where a person has caused harm to a landscape and repair is necessary. Enforcement action in the Environment, Resources and Development Court can be taken if necessary.

Note: this summary is not intended to be a substitute for particular legal advice and does not address the legal implications of every set of circumstances.



APPENDIX 2

Assessment of Likelihood of Occurrence within the Project Area for Threatened Flora Identified in the Database Searches

Scientific Name	Common Name	Conservation status		Data Source	Last Sighting BDBSA year (DEW 2024a)/ PMST (DCCEEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
Flora							
<i>Acacia iteaphylla</i>	Flinders Ranges Wattle		R	2	2009	In its natural environment, the Flinders Ranges Wattle grows in semi-arid and temperate South Australia, where the species grows mainly among rocky outcrops on hillsides or along rocky creeks in valleys (SASCC 2024).	Known – Species was recorded in the Project Area. However, individuals were planted and is out of its natural distribution.
<i>Allocasuarina robusta</i>	Mount Compass Oak-bush	EN	E	1	Likely	The Mount Compass Oak-bush occurs in upland heath or open woodland with heath understorey. It has been recorded from sandy soils, typically in low-lying, poorly drained areas or areas bordering swamps or drains. These areas may be waterlogged for part of the year. Associated vegetation includes Prickly- Tea-tree, Slender Twine-rush and Hairy Beard-heath in upland heath and Eucalyptus and Acacia species in open woodland. The species is known from 16 populations on the Fleurieu Peninsula, in the Mount Compass and Hindmarsh Valley area, SA. Three populations occur in reserves and the other populations are on roadsides or private property (DEWHA 2008b).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Aristida australis</i>			R	2	1990	The species is restricted to coastal and inland SA and grows in sandy soil (Flora of Australia 2024).	Possible – Despite historical records (<40 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Atriplex australasica</i>	Native Orache		R	2	2022	The Native Orache is found mostly in the southern Mount Lofty Ranges and Murray regions, with scattered records on York Peninsula, Kangaroo Island and South-east, growing in blackish soil near the coast. Also found in New South Wales, Victoria and Tasmania (SASSC 2024).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

Scientific Name	Common Name	Conservation status		Data Source	Last Sighting BDBSA year (DEW 2024a)/ PMST (DCCEEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Blechnum nudum</i>	Fishbone Waterfern		R	2	2006	The Fishbone Waterfern is found on Kangaroo Island and southern Mount Lofty Ranges in SA, growing along stream banks in shaded gullies. Also found in Queensland, New South Wales, Victoria and Tasmania (SASSC 2024).	Possible – Despite recent historical records (<20 years old) in the Search Area and suitable habitat being present, the Project Area is not largely intact.
<i>Caladenia argocalla</i>	White-beauty Spider-orchid	EN	E	1	Likely	The White-beauty Spider-orchid grows in a diversity of Eucalyptus woodland communities, usually containing Yellow Box. The species generally grows on gentle hill slopes, often with a southerly aspect. Soils are typically clay loams with high humus content in the surface layer (TSSC 2021a).	Unlikely – Despite suitable habitat being present, there is no historical records in the Search Area.
<i>Caladenia concolor</i>	Crimson Spider-orchid	VU		1	May	The Crimson Spider-orchid can be found on grassy or heathy open woodlands, on well drained, gravely sand and clay loams. It also occurs within dry eucalypt forests, heathlands, closed scrubs and grasslands (TSSC 2016a).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Caladenia tensa</i>	Greencomb Spider-orchid	EN		1	Likely	The Greencomb Spider-orchid occurs in aeolian sand deposits in Native Pine, Blue Gum Woodland and Broombush mallee in Murray-Darling Depression bioregion. Winter active geophyte, with long narrow leaf emerging, followed by 1–2 flowers (TSSC 2016b).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Calochilus cupreus</i>	Copper Beard Orchid	CE	E	1, 2	Known, 2022	The singular known population of the Cooper Beard Orchid occurs in pink gum and drooping Sheoak woodland on the deep sand of low hind dunes and adjoining undulating sand plains approximately 1 km inland from the coast. The species is endemic to the Willunga Basin within the southern Mount Lofty Ranges subregion in SA, with the current known distribution is now restricted to a small area within Aldinga Scrub Conservation Park (TSSC 2016c).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

Scientific Name	Common Name	Conservation status		Data Source	Last Sighting BDBSA year (DEW 2024a)/ PMST (DCCEEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Correa calycina</i>	Hindmarsh Correa	VU	V	1	Likely	The Hindmarsh Correa occurs on dark reddish-brown to brown loams and fine sandy clay loams on riverbanks sometimes in Sugar Gums. The species is only found on Kangaroo Island and the Fleurieu Peninsula of mainland SA (DEWHA 2008c).	Unlikely – Despite suitable habitat being present, there is no historical records in the Search Area.
<i>Corybas expansus</i>	Dune Helmet-orchid		V	2	2010	The Dune Helmet-orchid is locally common in coastal areas and further inland, growing mainly on swales of coastal dunes in deep, moist sand, and less common in shrubland and shrubby forests in limey sand and red soil over limestone. The species is widespread throughout SA (Flora of Australia 2024).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Dampiera lanceolata</i> var. <i>intermedia</i>	Aldinga Dampiera		E	2	2022	The Aldinga Dampiera is often found on sandstone cliffs and in sand and occurs in the southern part of Mt Lofty Ranges, SA (Flora of Australia 2024).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Dodonaea procumbens</i>	Trailing Hopbush	VU	V	1	May	The Trailing Hopbush grows in low-lying, often winter-wet areas in woodland, low open forests, heathland and grasslands, on sands and clays. SA populations have been recorded in open Eucalyptus species woodlands in low-lying areas, and in native grasslands (Carter 2010).	Unlikely – Despite suitable habitat being present, there is no historical records in the Search Area.
<i>Drosera praefolia</i>	Early Sundew		R	2	1989	Little is known about the preferred habitat about the Early Sundew but the species is endemic to SA and found on Kangaroo Island and the southern Mount Lofty Ranges.	Possible – Despite historical records (<40 years old) in the Search Area, the Project Area is not largely intact.
<i>Eleocharis atricha</i>	Tuber Spike-rush		V	2	1986	The Tuber Spike-rush occurs at the edge of swamps with the preferred broad vegetation being wetlands. In SA, the species may occur from south of the Mount Lofty Ranges to the Southeast regions (DEH 2014b).	Possible – Despite historical records (<40 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

Scientific Name	Common Name	Conservation status		Data Source	Last Sighting BDBSA year (DEW 2024a)/ PMST (DCCEEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Eucalyptus fasciculosa</i>	Pink Gum		R	2	2021	Pink Gums are mainly found in SA, on Kangaroo Island, southern Mount Lofty Ranges and the South-east, growing on well-drained sandy soils of low fertility. Also found in Victoria (SASCC 2024).	Known – Species was recorded in the Project Area. However, individuals were planted and is out of its natural distribution.
<i>Eucalyptus paludicola</i>	Mount Compass Swamp Gum	EN	E	1	May	The Mount Compass Swamp Gum is associated with seasonally swampy areas, depressions and broad gullies, or occasionally on hillsides near permanent creeks where the soil is waterlogged over winter. The distribution of Mount Compass Swamp Gum is highly fragmented, with about 15 known subpopulations. The species occurs in two locations in SA, on Fleurieu Peninsula and Kangaroo Island (DEWHA 2008d).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Eucalyptus viminalis</i> ssp. <i>viminalis</i>	Manna Gum		R	2	2000	The Manna Gum is found in the southern Mount Lofty Ranges in SA, growing in high rainfall areas on well-drained soils in open forest vegetation. Also found in New South Wales, Victoria and Tasmania (SASCC 2024).	Possible – Despite historical records (<40 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat, and the species was not recorded during the field survey.
<i>Euphrasia collina</i> ssp. <i>osbornii</i>	Osborn's Eyebright	EN	E	1	May	There are specific habitat types that appear to be preferred by the Osborn's Eyebright which includes open eucalyptus woodland, coastal cliffs and inland swamps. Even though these habitats vary greatly, they have two features in common; they are relatively moist and relatively open (Moritz and Bickerton 2010).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Gleichenia microphylla</i>	Coral Fern		R	2	2006	The Coral Fern is found southern Mount Lofty and the lower Southeast in SA, growing in sunny damp sites around swamps and at bases of cliffs in open forest. Also found in Queensland, New South Wales, Victoria and Tasmania (SASCC 2024).	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

Scientific Name	Common Name	Conservation status		Data Source	Last Sighting BDBSA year (DEW 2024a)/ PMST (DCCEEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Glycine latrobeana</i>	Clover Glycine, Purple Clover	VU	V	1, 2	Likely, 1992	Clover Glycine is found across south-eastern Australia in native grasslands, dry sclerophyll forests, woodlands and low open woodlands with a grassy ground layer. Soils generally have a sandy component being either sand or loamy sand, but Clover Glycine has also been found on clay soils. Soils with Clover Glycine populations in Tasmania are generally well draining, however the associated soils in SA are reported to have water retaining capacity (DCCEEW 2024b).	Possible – Despite historical records (<40 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Hibbertia tenuis</i>		CE	E	1	Likely	The species occurs in the Swamp of the Fleurieu Peninsula TEC and is endemic to the Southern Mount Lofty Ranges in SA. The species is known from a single location, on private property near Yundi (DEWHA 2010).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Hypolepis rugosula</i> ssp. <i>rugosula</i>	Ruddy Ground-fern		R	2	2006	The Ruddy Ground-fern grows along streambeds, ditches and gullies in clearings, forest margins and open situations. The species is Endemic to coastal south-eastern SA, as well as south-eastern Queensland, coastal New South Wales, Victoria and Tasmania (Flora of Australia 2024).	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Machaerina laxa</i>	Lax Twig-rush		R	2	2006	Little is known about the preferred habitat about the Lax Twig-rush but the species is found on Kangaroo Island, Southern Mount Lofty Ranges and lower South-east in SA. Also found in Western Australia and Victoria (SASCC 2024).	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact.
<i>Maireana rohrlachii</i>	Rohrlach's Bluebush		R	2	2005	Rohrlach's Bluebush is found from northern Eyre Peninsula, SA to western Victoria. Usually growing in loamy soils (Flora of Australia 2024).	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and the species was not recorded during the field survey.

Scientific Name	Common Name	Conservation status		Data Source	Last Sighting BDBSA year (DEW 2024a)/ PMST (DCCEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Myoporum parvifolium</i>	Creeping Boobialla		R	1	1996	The Creeping Boobialla is widespread along the Murray River where it grows on the limestone cliffs or along the river flats in open River Red Gum Woodlands on sandy silty loams. Elsewhere it grows on calcareous or volcanic soils, often in shallow depressions in Eucalyptus Woodlands, open grasslands or disturbed sites (Chinnock 2007).	Possible – Despite historical records (<40 years old) in the Search Area and suitable habitat being present, the Project Area is not largely intact.
<i>Olearia pannosa ssp. pannosa</i>	Silver Daisy-bush	VU	V	1	Likely	The Silver Daisy-bush occurs in sandy, flat areas and in hilly, rocky areas in woodland or mallee. Hilly area soil types include hard pedal mottled-yellow duplex and hard pedal red duplex (DotE 2013).	Unlikely – Despite suitable habitat being present, there is no historical records in the Search Area.
<i>Olearia passerinoides ssp. glutescens</i>	Sticky Daisy-bush		R	2	2023	The Sticky Daisy-bush is found in the wetter parts of SA within mallee and forest communities, on the tip of Yorke Peninsula, southern Mount Lofty Ranges and in the Murray (SASCC 2024).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Podolepis decipiens</i>	Bright Podolepis		R	2	2022	The Bright Podolepis grows in woodland, mallee, heath and more arid vegetation types (SASCC 2024).	Possible – Despite recent historical records (<10 years old) in the Search Area and suitable habitat being present, the Project Area is not largely intact.
<i>Podolepis muelleri</i>	Button Podolepis		V	2	2011	The Button Podolepis is found mainly in the Flinders Ranges and the Mount Lofty Ranges, growing on coastal cliffs and on stony sites in woodland and grassland further inland. Also found in New South Wales and Victoria (SASCC 2024).	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Prasophyllum murfetii</i>	Fleurieu Leek Orchid	CE	R	1	Likely	The Fleurieu Leek Orchid is found on brown to black wet loam and hot dry summers and cool wet winter characterise the region with rainfall varying from 850 mm at Mount Compass to 950 mm at Parawa. Associated vegetation communities include	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.

Scientific Name	Common Name	Conservation status		Data Source	Last Sighting BDBSA year (DEW 2024a)/ PMST (DCCEEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
						heathlands dominated by Swamp Wattle and Tea-tree species as well as sedges and rushes. The species is endemic to SA and is known from two locations south of Adelaide on Fleurieu Peninsula, being the Mount Compass area and the Parawa area (DEWHA 2008e).	
<i>Prasophyllum pallidum</i>	Pale Leek-orchid	VU	R	1	Likely	The Pale Leek-orchid is known singly or in groups in better soils of woodland and grassy open forest. Recorded in woodlands and forests dominated by Eucalypts species and Drooping Sheoak (Bates 2009).	Unlikely – Despite suitable habitat being present, there is no historical records in the Search Area.
<i>Prasophyllum tortilis</i>	Goldsack's Leek-orchid		E	2	2022	The Goldsack's Leek-orchid is found mostly on hills inland from the coast, growing in woodland in freely draining sand and loam. The species is locally common in SA to the South of the Mount Lofty Ranges to the Eyre Peninsula (Flora of Australia 2024).	Possible – Despite recent historical records (<10 years old) in the Search Area and suitable habitat being present, the Project Area is not largely intact.
<i>Pterostylis uliginosa</i>			E	2	1994	The Hale Greenhood occurs in permanent freshwater swamps/peat mounds. Herbarium records indicate it grows in shrubland with sedge and fern understorey, cooccurring with species such as Prickly Tea-tree, Coral Fern, Swamp Honey-myrtle, Native Broom, Wirilda, Pink Swamp-heath, Forked Comb-fern, Tangle Rope-rush, Reeds, and Bulrushes. In SA, the species occurs in the south of the Mount Lofty Ranges. Also occurs in New South Wales and Victoria (DEH 2014h).	Possible – Despite historical records (<40 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Ptilotus angustifolius</i>	Narrow-leaf Yellowtails		E	2	2023	The Narrow-leaf Yellowtail is endemic to SA and from near Quorn, north-east of Port Augusta, south to Victor Harbor, growing on rocky slopes or hills, occurring in Grey Box association (SASCC 2024).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

Scientific Name	Common Name	Conservation status		Data Source	Last Sighting BDBSA year (DEW 2024a)/ PMST (DCCEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Pultenaea dentata</i>	Clustered Bush-pea		V	2	2008	The Clustered Bush-pea usually occurs in swamps or along the edge of streams in shrubland and sedgeland with emergent trees. In SA, the species occurs south of the Mount Lofty Ranges, Kangaroo Island, and Southeast of the state. Also occurs in New South Wales, Queensland, Victoria, and Tasmania (DEH 2014i).	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Schoenus latelaminatus</i>	Medusa Bog-rush		V	2	1993	The Medusa Bog-rush occurs in freshwater boggy, swampy areas and drainage lines and temporarily wet places, including swampy valley sites under River Red Gum and damp depressions amongst Joint-leaf Rush, Dwarf Brooklime and Milfoil. In SA, the species occurs in the southeast of the state up to the Mid-north (DEH 2014j).	Possible – Despite historical records (<40 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Schoenus lepidosperma</i> ssp. <i>lepidosperma</i>	Slender Bog-rush		R	2	1986	The Slender Bog-rush grows in damp areas in heath or woodland and occurs on Kangaroo Island, Mount Lofty and Southeast regions of SA. Also occurs in New South Wales, Victoria, and Tasmania (SASCC 2024).	Possible – Despite historical records (<40 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Schoenus tesquorum</i>	Grassy Bog-rush		R	2	1993	The Grassy Bog-rush grows on swamp margins and wet heathlands and occurs on Kangaroo Island, Mount Lofty Ranges and in the southeast of SA. Also occurs in New South Wales and Victoria (SASCC 2024).	Possible – Despite historical records (<40 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Senecio macrocarpus</i>	Large-fruit Fireweed	VU	V	1	May	The Large-fruit Fireweed occurs most commonly in depressions in low lying closed sedgeland but may occur in sedgeland, herb land, low shrubland to low open woodland where competition from understorey plants is low. The soils range from clay to loamy sand. (DCCEW 2024b).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.

Scientific Name	Common Name	Conservation status		Data Source	Last Sighting BDBSA year (DEW 2024a)/ PMST (DCCEEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Sprengelia incarnata</i>	Pink Swamp-heath		R	2	2006	The Pink Swamp-heath is found on Kangaroo Island, southern Mount Lofty Ranges and the lower South-east in SA, growing in wet heathland, sedgeland and other swampy vegetation on peaty or sandy soils. Also found in New South Wales, Victoria and Tasmania (SASCC 2024).	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Thelymitra epipactoides</i>	Metallic Sun-orchid	EN	E	1	May	The metallic sun-orchid is found primarily in mesic coastal heathlands, grasslands and woodlands, but may also be found in drier inland heathlands, open forests and woodlands. The species occurs across south-eastern Australia from the Eyre Peninsula in SA to East Gippsland west of Bairnsdale in Victoria. Formerly, the species was also found in the Mount Lofty ranges, although the species is considered extinct in this area (TSSC 2016e).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Thelymitra holmesii</i> (NC)	Blue Star Sun-orchid		V	2	2009	The Blue Star Sun-orchid occurs in swamps, peat bogs, creeks and waterholes which may be up to 2 m deep in winter. Can rapidly colonise sand borrow-pits. The species is found in the southern Mount Lofty Ranges, the west end of Kangaroo Island and the lower South-east in SA, growing in areas of high rainfall, in sandy heathland around swamp margins, Prickly Tea-tree shrubland with sedge and fern understorey and creek lines. Also found in Victoria and Tasmania (DEH 2014k).	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

Scientific Name	Common Name	Conservation status		Data Source	Last Sighting BDBSA year (DEW 2024a)/ PMST (DCCEEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Thelymitra matthewsii</i>	Spiral Sun-orchid	VU	E	1	Likely	Little is known of the specific habitat requirements of the Spiral Sun-orchid. It grows in heathy open forest and woodlands, on well-drained sand, gravel and clay loam soils, especially areas where there has been some soil disturbance, such as around old quarries and gravel pits, and on road and track verges, including those periodically slashed for fire breaks. Most sites tend to have a relatively open ground layer (DAWE 2021).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Veronica derwentiana</i> subsp. <i>homalodonta</i>	Mount Lofty Speedwell	CE	E	1	Likely	The Mount Lofty Speedwell has restricted habitat requirements for high moisture, with excellent drainage and a high light requirement. On creek lines, the subspecies typically occurs above the waterline where there is a gap in the tree canopy or where rocky outcrops create high light conditions with good drainage. The Mount Lofty Speedwell has been recorded from Woolly Tea Tree closed shrubland and rocky gully banks. Most records for the species are from Stringybark forests with or without additional overstorey species such as Eucalyptus species. Associated species include Blackthorn, Golden Wattle, Myrtle Wattle, and Native Cherry. Soil types are acidic siliceous sands to coarse-grained quartz rich sands in high rainfall areas (DCCEEW 2024b).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Veronica gracilis</i>	Slender Speedwell		V	2	1982	The Slender Speedwell is found in the southern Mount Lofty Ranges and the lower South-east in SA, growing in damp sites. Also found in New South Wales, Victoria and Tasmania (SASCC 2024).	Unlikely – Old historical records (>40 years old) in the Search Area and suitable habitat is not present in the Project Area.

Scientific Name	Common Name	Conservation status		Data Source	Last Sighting BDBSA year (DEW 2024a)/ PMST (DCCEEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Viminaria juncea</i>	Native Broom		R	2	2006	The Native Broom is found on Kangaroo Island, the southern Mount Lofty Ranges and the lower South-east in SA, growing in swampy depressions in heathland or woodland. Also found in all other states except in the Northern Territory (SASCC 2024).	Possible – Despite recent historical records (<20 years old) in the Search Area and suitable habitat being present, the Project Area is not largely intact.
<i>Xyris operculata</i>	Tall Yellow-eye		R	2	2008	The Tall Yellow-eye grows on the edges of marshes and swamps in the Mount Lofty region. Outside the region, the species also occurs on Kangaroo Island and in the southeast in coastal and riparian zones in damp and swampy areas (DEH 2014I).	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

Conservation status

EPBC Act (Environment Protection and Biodiversity Conservation Act 1999). NPW Act (National Parks and Wildlife Act 1972). Conservation Codes: CE: Critically Endangered. EN/E: Endangered. VU/V: Vulnerable. R: Rare.

Light blue cells indicate species that are known.

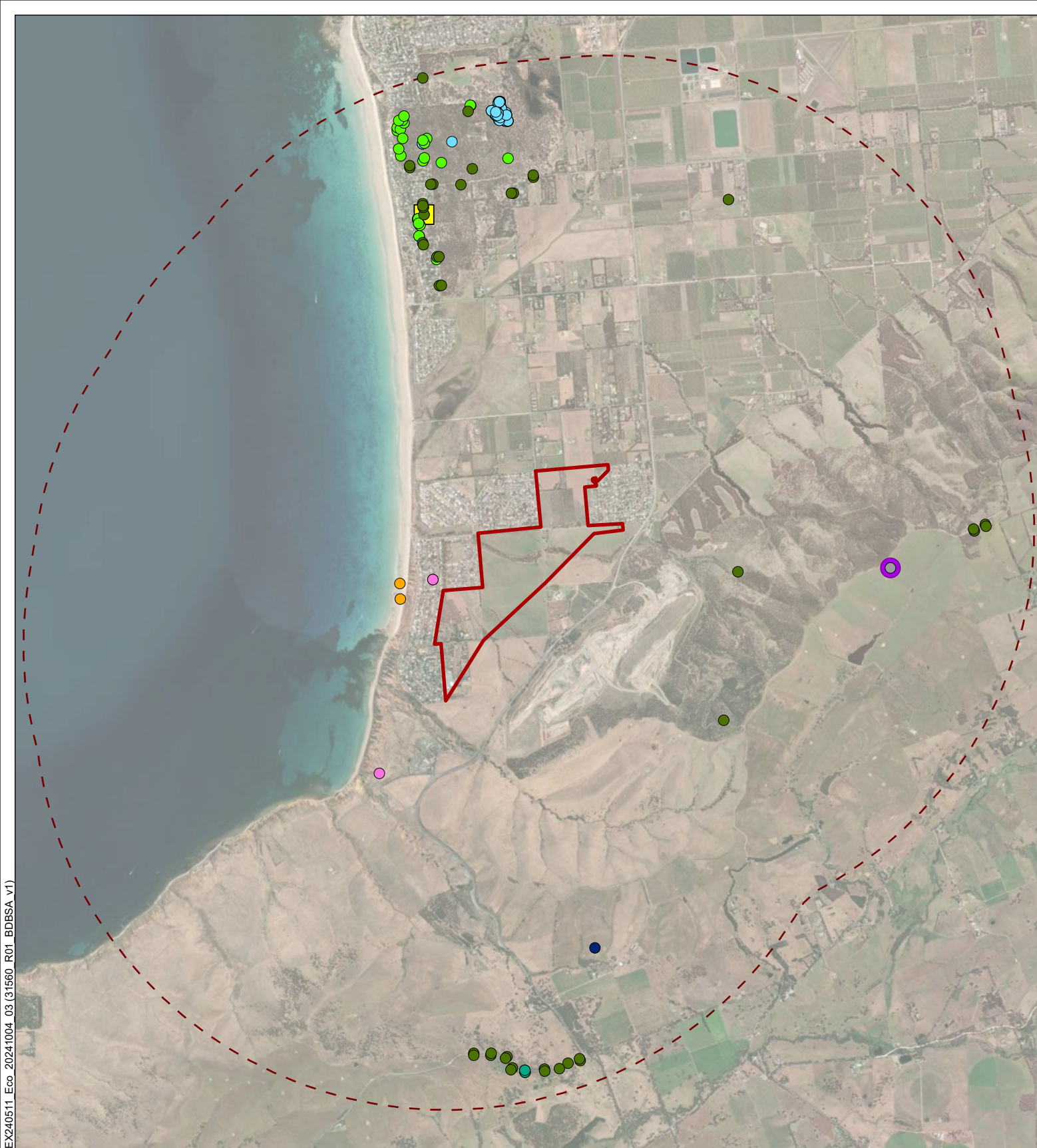
Source of Information

1. EPBC Act Protected Matters Report (DCCEEW 2024a) – 5 km buffer applied to Project area.
2. Biological Database of South Australia data extract (DEW 2024a) – 5 km buffer applied to Project area.
3. Recorded during the field survey.



APPENDIX 3

**EPBC Act and NPW Act Listed Threatened Flora Records within 5 km of
the Project Area (<1 km Reliability) (DEW 2024b)**



Project Area

Buffer (5km)

BDBSA Threatened Flora

Acacia iteaphylla (Flinders Ranges Wattle) NPW: R

● *Calochilus cupreus* (Copper Beard-orchid) NPW: E, EPBC: CR

● *Dampiera lanceolata* var. *intermedia* (Aldinga Dampiera) NPW: E

● *Drosera praefolia* (Early Sundew) NPW: R

● *Eleocharis atricha* (Tuber Spike-rush) NPW: V

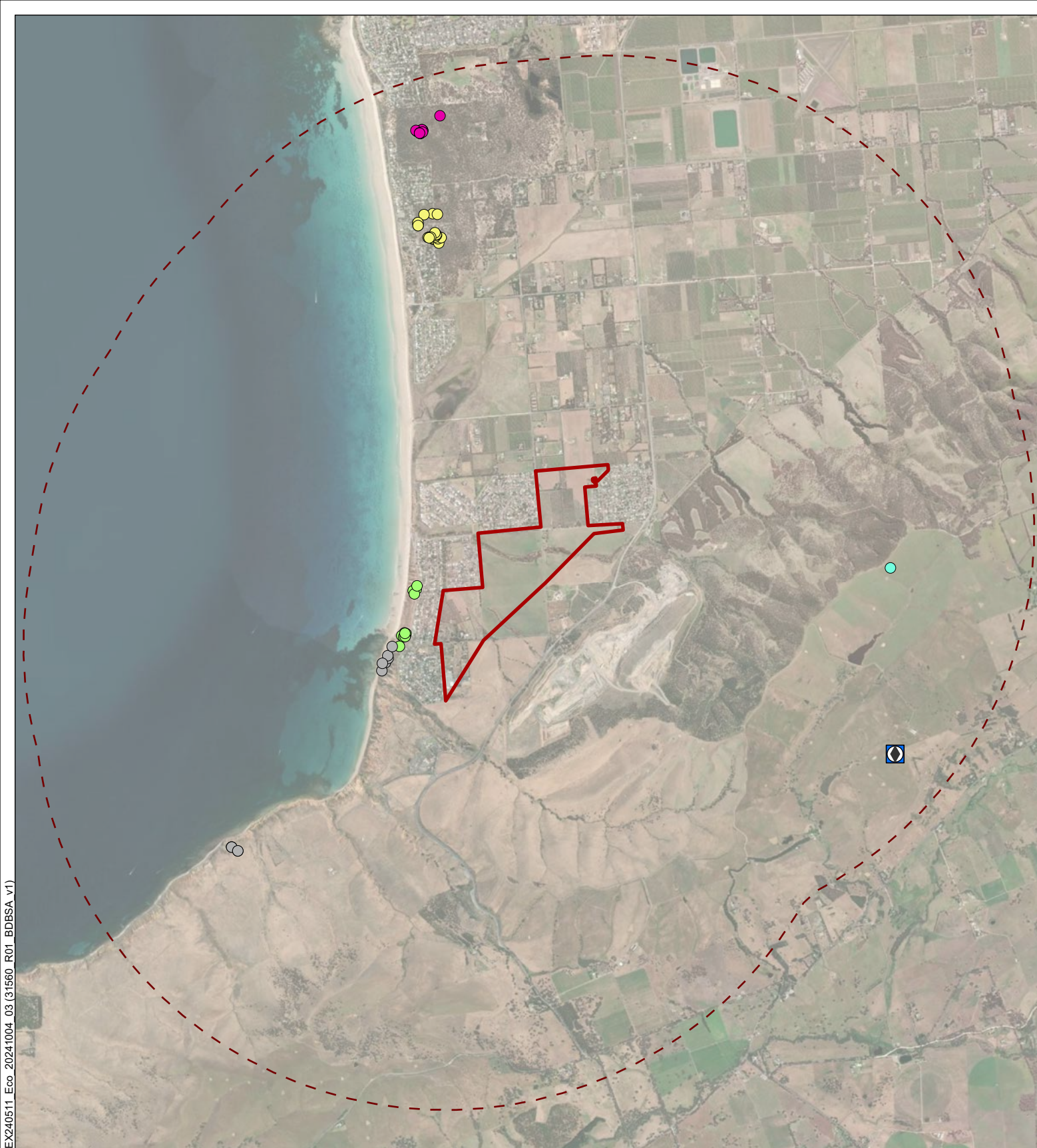
● *Eucalyptus fasciculosa* (Pink Gum) NPW: R

● *Eucalyptus viminalis* ssp. *viminalis* (Manna Gum) NPW: R

● *Glycine latrobeana* (Clover Glycine) NPW: V, EPBC: VU

● *Maireana rohrlachii* (Rohrlach's Bluebush) NPW: R

● *Myoporum parvifolium* (Creeping Boobialla) NPW: R



Project Area
 Buffer (5km)

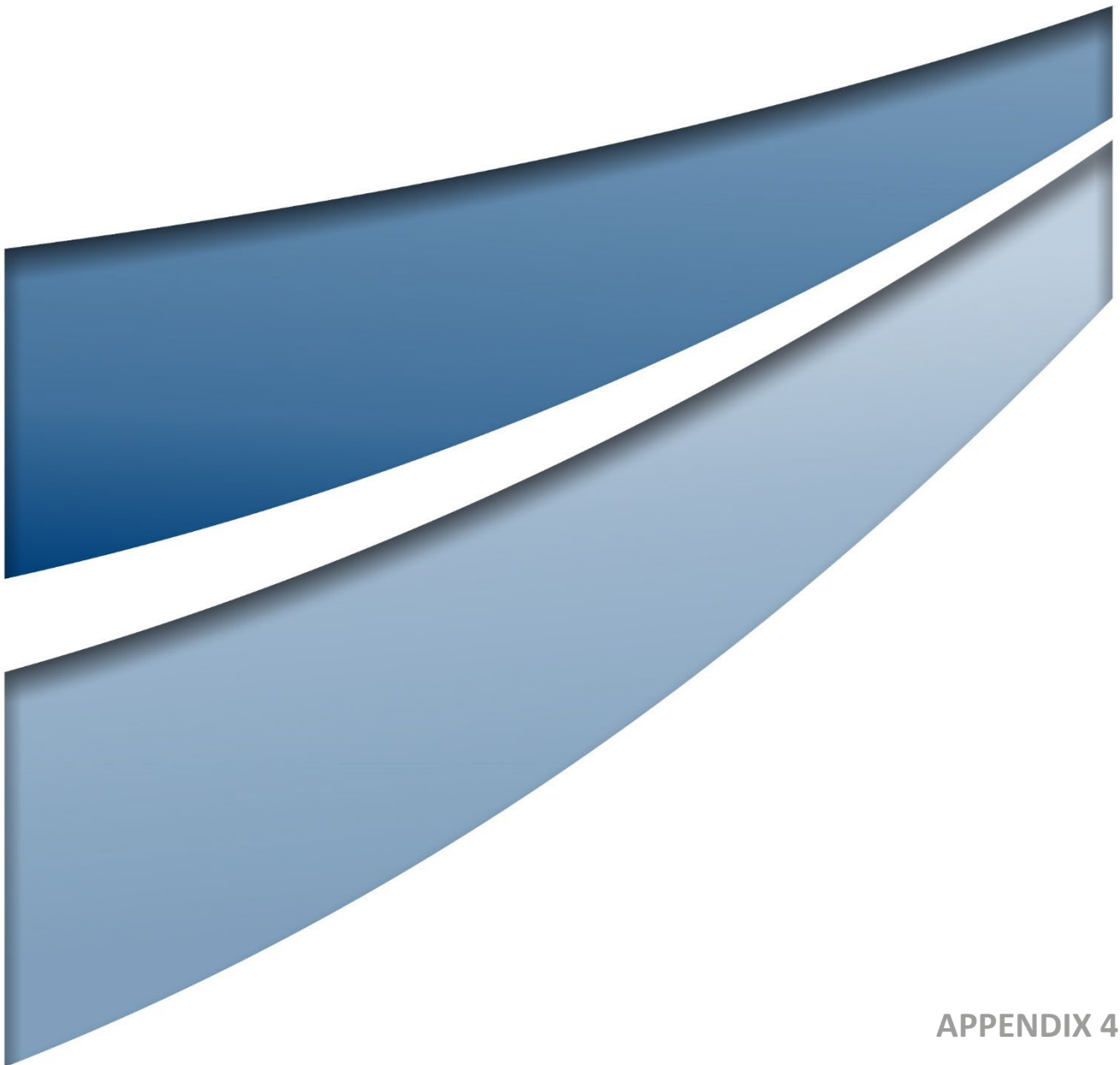
BDBSA Threatened Flora

- *Olearia passerinoides* ssp. *glutescens* (Sticky Daisy-bush) NPW: R
- *Podolepis muelleri* (Button Podolepis) NPW: V

- *Prasophyllum tortilis* (Goldsack's Leek-orchid) NPW: E*

- *Pterostylis uliginosa* NPW: E
- *Ptilotus angustifolius* (Narrow-leaf Yellow-tails) NPW: E
- Schoenus latelaminatus* (Medusa Bog-rush) NPW: V

- ◆ *Schoenus tesquorum* (Grassy Bog-rush) NPW: R
- *Veronica gracilis* (Slender Speedwell) NPW: V



APPENDIX 4

Assessment of Likelihood of Occurrence within the Project Area for Threatened Fauna Identified in the Database Searches

Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
Aves							
<i>Actitis hypoleucos</i>	Common Sandpiper	Mi (W)	R	1, 2	Known/ 2007	The Common Sandpiper can be found in varied coastal and interior wetlands like narrow muddy edges of billabongs, river pools, mangroves, among rocks reefs and rocky beaches (Morcombe 2021). The habitat of the species includes is banks, rocks and sandy beaches near water. Found in coastal or inland wetlands, both saline or fresh (Birdlife 2022).	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Anhinga novaehollandiae novaehollandiae</i>	Australasian Darter		R	2	2020	The Australasian Darter is found in wetlands and sheltered coastal waters. It prefers smooth, open waters, for feeding, with tree trunks, branches, stumps or posts fringing the water, for resting and drying its wings. Most often seen inland, around permanent and temporary water bodies at least half a metre deep, but may be seen in calm seas near shore, fishing. The species is not affected by salinity or murky waters but does need waters with sparse vegetation that allow it to swim and dive easily. It builds its nests in trees standing in water and will move to deeper waters if the waters begin to dry up (Birdlife Australia 2024 (Bird profile).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Aphelocephala leucopsis</i>	Southern Whiteface	VU		1	Known	Southern whitefaces live in a wide range of open woodlands and shrublands where there is an understorey of grasses or shrubs, or both. These areas are usually in habitats dominated by acacias or eucalypts on ranges, foothills and lowlands, and plains (DCCEEW 2023a).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.

Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Ardeotis australis</i>	Australian Bustard		V	2	2022	Australian Bustards are found on dry plains, grasslands and open woodland. They are ground-dwelling bird. Once widespread in open habitats across much of mainland Australia they are still widespread in the north but are increasingly rare or extinct in the south (Birdlife Australia 2024b).	Possible – Despite recent historical records (<10 years old) in the Search Area and suitable habitat being present, the Project Area is not largely intact.
<i>Biziura lobata menziesi</i>	Musk Duck		R	2	2020	Musk Ducks tend to be found in deep freshwater lagoons, with dense reed beds. They are normally seen singly or in pairs but may form medium to large groups in the winter (Australian Museum 2023).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Botaurus poiciloptilus</i>	Australasian Bittern	EN	E	1, 2	Known/ 1998	The Australasian Bittern is found mainly in freshwater wetlands and, rarely, in estuaries or tidal wetlands, favouring wetlands dominated by sedges, rushes and reeds growing over a muddy or peaty substrate. It favours wetlands with tall dense vegetation, where it forages in still and shallow water, often at the edges of pools or waterways, or from platforms or mats of vegetation over deep water. It also favours permanent and seasonal freshwater habitats, particularly those dominated by sedges, rushes and reeds or cutting grass growing over a muddy or peaty substrate (TSSC 2019a).	Possible – Despite historical records (<40 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Burhinus grallarius</i>	Bush Stonecurlew		R	2	1978	The Bush Stone-curlew is a ground-dwelling bird found throughout grasslands, heathlands, and the bush and are sometimes found in cemeteries and golf courses. The range of the species extends throughout mainland Australia (Birdlife Australia 2024b).	Unlikely – Old historical records (>40 years old) in the Search Area and suitable habitat is not present in the Project Area.

Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	VU, Mi (W)		1, 2	Known/ 2021	Sharp-tailed sandpipers occur within all states of Australia. They are found mostly in the southeast and are widespread in both inland and coastal locations. The species also occurs in both freshwater and saline habitats. The species is widely but sparsely scattered inland. Sharp-tailed sandpipers are considered widespread in the eastern half of SA and may be found as far north as Lake Eyre (DCCEEW 2024c).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Calidris canutus</i>	Red Knot, Knot	VU, Mi (W)		1	May	Whilst in Australia, the Red Knot mainly inhabits intertidal mudflats, sandflats, and sandy beaches of sheltered coasts, estuaries, bays, inlets, lagoons, and harbours. They are occasionally seen on terrestrial saline wetlands near the coast and have been recorded on sewage ponds and saltworks (DCCEEW 2024d).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Calidris ferruginea</i>	Curlew Sandpiper	CE, Mi (W)	E	1	Likely	The Curlew Sandpiper mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They occur in both fresh and brackish waters. Occasionally they are recorded around floodwaters (DCCEEW 2023b).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Calidris melanotos</i>	Pectoral Sandpiper	Mi (W)	R	1	May	The Pectoral Sandpiper shallow fresh to saline wetlands ranging from coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains, and artificial wetlands (DCCEEW 2024b).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.

Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Cereopsis novaehollandiae novaehollandiae</i>	Cape Barren Goose		R	2	2021	The Cape Barren Goose occurs on offshore islands and rocks, and at adjacent sites on the mainland. It inhabits grasslands and low fields of succulent herbs, and occasionally occurs in open areas in taller and denser vegetation. The bird has also been recorded on beaches, and near lakes and freshwater 'soaks', on the mainland (DCCEW 2024b).	Possible – Despite recent historical records (<10 years old) in the Search Area and suitable habitat being present, the Project Area is not largely intact.
<i>Charadrius leschenaultii leschenaultii</i>	Greater Sand Plover	VU, Mi (W)		1	May	The Greater Sand Plover usually forges within sheltered sandy, shelly, or muddy coastal areas, as well as around large intertidal mudflats, sandbanks, saltmarshes, estuaries, coral reefs, rocky islands tidal lagoons and dunes near the coast. They feed on wet ground away from the edge of the water but may sometimes feed around coastal grasslands (DCCEW 2023c).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Cladorhynchus leucocephalus</i>	Banded Stilt		V	2	2021	Banded Stilts are endemic to Australia, mainly in the south and inland. Banded Stilts are found mainly in saline and hypersaline waters of the inland and coast, typically large, open and shallow (Birdlife Australia 2024b).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Coracina papuensis robusta</i>	White-bellied Cuckooshrike		R	2	2008	The White-bellied Cuckooshrike inhabits rainforests, gallery forests, eucalyptus forests, woodlands, mangroves, and riverside tree belts. The species occurs in Northern and eastern Australia (Morcombe 2021)	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Coturnix ypsilophora australis</i>	Brown Quail		V	2	2012	Brown Quails are cryptic species that occurs in dense crops (especially oats), irrigated pastures, rank grasslands and sedgelands, especially where native species predominate, and often bordering swamps. Prefers dense grasslands, often on the edges of open forests and bracken (DEH 2014a).	Possible – Despite recent historical records (<20 years old) in the Search Area and suitable habitat being present, the Project Area is not largely intact.
<i>Egretta garzetta nigripes</i>	Little Egret		R	2	2003	The little Egret inhabits wetlands, both fresh and marine, usually forages in shallows of open waters like swamps, billabongs, floodplain pools, mudflats and mangroves channels (Morcombe 2021).	Possible – Despite historical records (<40 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Falco hypoleucos</i>	Grey Falcon	VU	R	1	Likely	The Grey Falcon occurs in arid and semi-arid Australia, including the Murray-Darling Basin, Eyre Basin, central Australia and Western Australia. The species frequents timbered lowland plains, particularly acacia shrublands that are crossed by tree-lined water courses. The species has been observed hunting in treeless areas and frequents tussock grassland and open woodland, especially in winter (TSSC 2020a).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Falco peregrinus macropus</i>	Peregrine Falcon		R	2	2020	The Peregrine Falcon is found in most habitats, from rainforests to the arid zone, and at most altitudes, from the coast to alpine areas. Sparsely distributed in SA, with most records in Red Gum woodlands (especially near water), in gorges with rock faces and along coastal cliffs (DEH 2014c).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

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		EPBC Act	NPW Act				
<i>Falco subniger</i>	Black Falcon		R	2	2003	The Black Falcon is endemic to Australia and is sparsely spread in the inland and across northern, eastern, southern and central Australia. The Black Falcon is found along tree-lined watercourses and in isolated woodlands, mainly in arid and semi-arid areas (Birdlife Australia 2024a).	Possible – Despite historical records (<40 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Falcunculus frontatus frontatus</i>	Eastern Shriketit		R	2	2020	The Eastern Shriketit occurs predominantly in Eucalypt woodlands and forests. This species has a predilection for Eucalypts with decorticated bark, their preferred foraging substrate, however they will occupy a wide range of woodland/forest communities, including those dominated by stringybarks (DEH 2014d).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Gallinago hardwickii</i>	Latham's Snipe	VU, Mi (W)	R	1, 2	Known/ 2000	The Latham's Snipe usually inhabit open, freshwater wetlands with low, dense vegetation. However, they can also occur in habitat with saline or brackish water, in modified or artificial wetlands, and in areas located close to humans or human activity. Smaller numbers inhabit drier habitat, including open woodlands and high-altitude grasslands or herblands usually those being in proximity to surface water (DCCEW 2024e).	Possible – Despite recent historical records (<10 years old) in the Search Area and suitable habitat being present, the Project Area is not largely intact.
<i>Gerygone olivacea olivacea</i>	White-throated Gerygone		R	2	1981	The White-throated Gerygone ranges from south-eastern Australia through Queensland and across northern Australia to the Kimberley region, Western Australia. This species is found in open eucalypt woodlands and forests and in vegetation along watercourses (Australian Museum 2023).	Unlikely – Despite suitable habitat being present in the Project Area, the is only old historical records (>40 years old) in the Search Area.

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<i>Grantiella picta</i>	Painted Honeyeater	VU	R	1	Likely	The Painted Honeyeater is dependent on mistletoe berries (Morecombe 2021) and is found in dry open forests and woodlands and is strongly associated with mistletoe. It may also be found along rivers, on plains with scattered trees and on farmland with remnant vegetation. It has been seen in urban parks and gardens where large eucalypts are available (Birdlife Australia 2024b)	Unlikely – No historical records in the Search Area and suitable habitat is limited in the Project Area.
<i>Haematopus fuliginosus fuliginosus</i>	Sooty Oystercatcher		R	2	2018	The Sooty Oystercatcher is strictly coastal, usually within 50 m of the ocean. It prefers rocky shores but will be seen on coral reefs or sandy beaches near mudflats. It breeds on offshore islands and isolated rocky headlands (Birdlife Australia 2024a).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Haliaeetus leucogaster</i>	White-bellied Sea Eagle		E	2	2000	The White-bellied Sea-Eagle is found in coastal habitats and around terrestrial wetlands in tropical and temperate regions of mainland Australia and its offshore islands. The habitats occupied by the sea-eagle are characterised by the presence of large areas of open water. Birds have been recorded in a variety of terrestrial habitats. The species is mostly recorded in coastal lowlands but can occupy habitats up to 800 m above sea level in SA (DCCEEW 2024b).	Possible – Despite recent historical records (<40 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Hieraaetus morphnoides</i>	Little Eagle		V	2	2007	The Little Eagle is seen over woodland, forested lands and open country, extending into the arid zone. It tends to avoid rainforest and heavy forest (Birdlife Australia 2024 (BIB)).	Possible – Despite recent historical records (<20 years old) in the Search Area and suitable habitat being present, the Project Area is not largely intact.

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<i>Hirundapus caudacutus</i>	White-throated Needletail	VU, Mi (T)	V	1	Likely	White-throated Needletails occur over most types of habitat, they are recorded most often above wooded areas, including open forest and rainforest, and may also fly below the canopy between trees or in clearings. When flying above farmland, they are more often recorded above partly cleared pasture, plantations or remnant vegetation at the edge of paddocks. In coastal areas, they have been observed flying over sandy beaches or mudflats, and often around coastal cliffs and other areas with prominent updraughts, such as ridges and sand-dunes (TSSC 2019b).	Unlikely – Despite suitable habitat being present in the Project Area, there is no historical records in the Search Area.
<i>Hylacola cauta</i>	Shy Heathwren		R	2	2007	The Shy Heathwren inhabits mallee woodlands with a relatively dense understorey of shrubs and heath plants. Appears to occur in all age classes of vegetation, though believed to prefer either one to five years following fire when the resprouting eucalypts provide dense vegetation cover or in long unburnt (greater than 40 years) areas which have a well-developed shrub layer (OEH 2024).	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Hylacola pyrrhopygia parkeri</i>	Chestnut-rumped Heathwren (Mount Lofty Ranges)	EN	E	1	May	The Chestnut-rumped Heathwren occurs in dense heathland and undergrowth in Eucalyptus forests and woodlands and is most found in rocky areas (such as those that occur on hillsides). The vegetation in these areas consists of a mixture of dense shrubs (such as Banksia, Hakea and Leptospermum), grass trees and ferns, beneath a canopy of Eucalyptus trees and (in at least some sites) scattered Allocasuarina trees (DCCEEW 2024b).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.

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<i>Lewin pectoralis pectoralis</i>	Lewin's Rail		V	2	2006	The Eastern Lewin's Rail inhabit permanent to ephemeral, fresh to saline wetlands with dense emergent or fringing vegetation. Also use artificial habitats with similar structural features. Occurs as a disjunct distribution through near-coastal environments across southern Australia from Kangaroo Island, Fleurieu Peninsula, across Victoria and following the coast north to Townsville in Queensland (DEH 2014e).	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Limosa lapponica baueri</i>	Nunivak Bar-tailed Godwit	EN, Mi (W)	R	1, 2	Likely/ 2021	Bar-tailed godwits usually forage near the edge of water or in shallow water within tidal estuaries and harbours. Most feeding takes place on exposed sandy or soft mud substrates on intertidal flats and beaches. Roosting tends to occur on large intertidal sandflats, spits, and banks. Less frequently, roosting occurs within mudflats, estuaries, coastal lagoons, and bays. These sites are often near beds of seagrass and sometimes near saltmarshes (DCCEEW 2024f).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Melanodryas cucullata cucullata</i>	Hooded Robin (south-eastern)	EN	R	1, 2	Known/ 2022	The Hooded Robin (south-eastern) prefers dry eucalypt and acacia woodlands and shrublands with an open understorey, some grassy areas and a complex ground layer. They avoid woodlands with tall trees or dense tree cover but sometimes occur in tall, dense heaths with scattered open areas. While they can occur in patches as small as 2.9 ha, in agricultural landscapes they prefer larger patches greater than 10 ha with moderately deep to deep soils (DCCEEW 2023d).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

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<i>Melithreptus gularis gularis</i>	Black-chinned Honeyeater		V	2	2007	The Black-chinned Honeyeater is found in the upper levels of open Eucalypt forests and woodlands dominated by box and ironbark eucalypts. It is often found along waterways, especially in arid and semi-arid areas and in northern Australia. It is occasionally seen in gardens and street trees (Birdlife Australia 2024a).	Possible – Despite recent historical records (<20 years old) in the Search Area and suitable habitat being present, the Project Area is not largely intact, and Project Area is on the edge of species distribution.
<i>Microeca fascians fascians</i>	Jacky Winter		R	2	2002	The Jacky Winter prefers open woodland (Eucalypt and Mallee) with an open shrub layer and bare ground. Often seen in farmland and parks (DEH 2014f).	Possible – Despite historical records (<40 years old) in the Search Area and suitable habitat being present, the Project Area is not largely intact.
<i>Myiagra cyanoleuca</i>	Satin Flycatcher	Mi (T)	E	1	Likely	The Satin Flycatcher is known to inhabit heavily vegetated gullies in Eucalypt-dominated forests and taller woodlands, and on migration, occur in coastal forests, woodlands, mangroves and drier woodlands and open forests. Prefers dense, wet gullies of heavy Eucalypt forest in breeding season (DCCEEW 2024b).	Unlikely – Despite suitable habitat being present in the Project Area, there is no historical records in the Search Area.
<i>Neophema chrysostoma</i>	Blue-winged Parrot	VU	V	1	Known	The Blue-winged Parrot inhabits a range of habitats from coastal, sub-coastal and inland areas, through to semi-arid zones. They tend to favour grasslands and grassy woodlands and are often found near wetlands both near the coast and in semi-arid zones. The species can also be seen in altered environments such as airfields, golf-courses and paddocks (DCCEEW 2023e).	Unlikely – Despite suitable habitat being present in the Project Area, there is no historical records in the Search Area.

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<i>Neophema elegans elegans</i>	Elegant Parrot		R	2	2023	The Elegant Parrot can be found in a wide variety of habitats, including grasslands, shrublands, mallee, woodlands and thickets, bluebush plains, heathlands, saltmarsh and farmland (Birdlife Australia 2024a).	Likely – Recent historical records (<10 years old) in the Search Area and suitable habitat is present in the Project Area.
<i>Numenius madagascariensis</i>	Eastern Curlew	CE, Mi (W)	E	1	Likely	The far eastern curlew exhibits substantial site-specific differences in its foraging behaviour. During the non-breeding season, the far eastern curlew mainly forages around sheltered intertidal sandflats or mudflats that are open and without vegetation or seagrass. The species often also forages near mangroves, on salt flats or saltmarsh, around rockpools, amongst rubble on coral reefs, and on ocean beaches near the tideline (DCCEEW 2023f).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Oxyura australis</i>	Blue-billed Duck		R	2	2020	The Blue-billed Duck is almost wholly 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 (Birdlife Australia 2024a).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Pachyptila turtur subantarctica</i>	Fairy Prion (southern)	VU		1	Known	The burrows of fairy prions (southern) are usually in crevices, in hollows beneath cushions of <i>Colobanthus muscoides</i> or in burrows in peaty soil held together by a thick cover of <i>Cotula plumosa</i> (TSSC 2015b).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.

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<i>Pandion haliaetus cristatus</i>	Eastern Osprey	Mi (W)	E	1	Likely	Eastern ospreys occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands. They require extensive areas of open fresh, brackish or saline water for foraging. They frequent a variety of wetland habitats including inshore waters, reefs, bays, coastal cliffs, beaches, estuaries, mangrove swamps, broad rivers, reservoirs and large lakes and waterholes (DCCEEW 2024b).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Petroica boodang boodang</i>	Scarlet Robin		R	2	2005	The Scarlet Robin occurs predominantly in Eucalypt woodlands and forests. Good leaf litter, perches in the height range 1-2 m, and fallen logs are important components of habitat. Within the Mount Lofty Ranges, the preferred broad vegetation groups are Grassy Woodland, Heathy Woodland, and Heathy Forest. The species forage extensively on Manna Gum, due to support high invertebrate abundance (DEH 2014g).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Petroica phoenicea</i>	Flame Robin		V	2	2014	Flame Robins prefer forests and woodlands up to about 1800 m above sea level (Birdlife Australia 2024a).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

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<i>Plegadis falcinellus</i>	Glossy Ibis	Mi (W)	R	2	2007	The Glossy Ibis' preferred habitat for foraging and breeding are freshwater marshes at the edges of lakes and rivers, lagoons, floodplains, wet meadows, swamps, reservoirs, sewage ponds, rice-fields and cultivated areas under irrigation. The species is occasionally found in coastal locations such as estuaries, deltas, saltmarshes and coastal lagoons. Within Australia, the largest contiguous areas of prime habitat is inland and northern floodplains (DCCEEW 2024b).	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Rostratula australis</i>	Australian Painted Snipe	EN	E	1, 2	Known, 2007	The Australian Painted Snipe occurs in shallow freshwater wetlands, both ephemeral and permanent, such as lakes, swamps, claypans, inundated or waterlogged grassland/saltmarsh, dams, rice crops, sewage farms and bore drains, rushes and reeds, low scrub, open timber or samphire (DCCEEW 2024b).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Spatula rhynchotis</i>	Australasian Shoveler		R	2	2021	The Australasian Shoveler uses wide variety of wetlands but prefers large permanent lakes or swamps that have abundant cover (Morcombe 2021).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

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<i>Stagonopleura bella samueli</i>	Western Beautiful Firetail	EN	R	1, 2	Known, 2007	The Western Beautiful Firetail likely inhabits shrubland and woodland, especially those containing casuarinas, paperbarks, and tea-trees. The subspecies is also likely to inhabit eucalypt woodlands and forests with a shrubby/healthy understory. Areas near watercourses, swamps, and marshes tend to support the highest density of individuals. Low shrubby habitats such as grasslands, heathlands and sedgelands also provide possible habitat for the subspecies (TSSC 2021c).	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Stagonopleura guttata</i>	Diamond Firetail	VU	V	1	Known	Diamond firetails occur in eucalypt, acacia or casuarina woodlands, open forests and other lightly timbered habitats, including farmland and grassland with scattered trees. They prefer areas with relatively low tree density, few large logs, and little litter cover but high grass cover (DCCEEW 2023g).	Unlikely – Despite suitable habitat being present in the Project Area, there is no historical records in the Search Area.
<i>Sternula albifrons</i>	Little Tern	Mi (Ma)	E	1	May	In Australia, Little Terns inhabit sheltered coastal environments, including lagoons, estuaries, river mouths and deltas, lakes, bays, harbours and inlets, especially those with exposed sandbanks or sand-spits, and also on exposed ocean beaches (DCCEEW 2024b).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Sternula nereis nereis</i>	Australian Fairy Tern	VU	E	1, 2	Known, 2004	Fairy Terns utilise a variety of habitats including offshore, estuarine or lacustrine (lake) islands, wetlands, beaches and spits. Fairy Terns nest above the high-water mark often in clear view of the water and on sites where the substrate is sandy and the vegetation low and sparse (DSEWPC 2011).	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

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<i>Stictonetta naevosa</i>	Freckled Duck		V	2	2014	The Freckled Duck prefers permanent freshwater swamps and creeks with heavy growth of bullrushes, lignum or tea-tree. During drier times, the Freckled Duck moves from ephemeral breeding swamps to more permanent waters such as lakes, reservoirs, farm dams and sewerage ponds. They generally rest in dense cover (Birdlife Australia 2024a).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Stipiturus malachurus intermedius</i>	Fleurieu Peninsula Southern Emu-wren	EN	E	1	Likely	The Fleurieu Peninsula Southern Emu-wren generally occurs in two habitat types - swamp and dry-heath. Their preferred swamp habitat comprises peat-bog vegetation or 'open forest-wet heath' dominated by Prickly tea-tree, Silky tea-tree, Red-fruit cutting-grass, sedges and ferns. The preferred dry-heath habitat includes shrubland with species such as Common oak-bush, Tall oak-bush, Beaked hakea, Mount Lofty bush-pea, Thyme-leaf Spyridium and Yacca, or sometimes low open forest with a heath understorey and open canopy of stringybark species. The species is restricted to south-eastern SA, where it is found only on the Fleurieu Peninsula and in the southern Mount Lofty Ranges (TSSC 2016d).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Thinornis cucullatus cucullatus</i>	Eastern Hooded Plover	VU	V	1, 2	Known, 2022	The Hooded Plover (Eastern) is widely dispersed on or near sandy beaches in south-eastern Australia. There are around 620 individuals in SA, two-thirds of which are concentrated on Kangaroo Island and Yorke Peninsula (DotE 2014).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

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<i>Tringa glareola</i>	Wood Sandpiper		R	2	2020	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 and often with fallen timber. They also frequent inundated grasslands, short herbage or wooded floodplains, where floodwaters are temporary or receding, and irrigated crops. This species uses artificial wetlands, including open sewage ponds, reservoirs, large farm dams, and bore drains (DCCEEW 2024b).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Tringa nebularia</i>	Common Greenshank	EN, Mi (W)		1, 2	Likely, 2011	The Common Greenshank is found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity. It occurs in sheltered coastal habitats, typically with large mudflats and saltmarsh, mangroves or seagrass. The species uses both permanent and ephemeral terrestrial wetlands, including swamps, lakes, dams, rivers, creeks, billabongs, waterholes and inundated floodplains, claypans and salt flats. It will also use artificial wetlands, including sewage farms and saltworks dams, inundated rice crops and bores (DCCEEW 2024b).	Possible – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

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<i>Turnix varius varius</i>	Painted Buttonquail		R	2	2020	The Painted Buttonquail is found in temperate and eastern tropical forests and woodlands form the habitats. They appear to prefer closed canopies with some understory and deep leaf litter on the ground (Birdlife Australia 2024a).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Zanda funerea whiteae</i>	Yellow-tailed Black Cockatoo		V	2, 3	2022	The Yellow-tailed Black-Cockatoo inhabits a variety of habitat types but favours eucalypt woodland and pine plantations. Small to large flocks can be seen in these areas, either perched or flying on slowly flapping wings (Birdlife Australia 2024b).	Known – Species was recorded during the field survey.
<i>Zapornia tabuensis</i>	Spotless Crake		R	2	2020	The Spotless Crake is found in well vegetated freshwater wetlands with rushes, reeds and cumbungi. Will also frequent muddy areas, reedbeds or wetlands (DEH 2007).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Zoothera lunulata halmaturina</i>	South Australian Bassian Thrush	EN	R	1, 2	Likely, 2010	The SA Bassian Thrush mostly inhabits damp eucalypt forest or woodland. Its habitat consists of densely forested areas and gullies, usually with a thick canopy overhead, a thick understorey of small trees and tall shrubs, and leaf-litter below. However, birds have also been recorded breeding in exotic Monterey Pine plantations, and on Kangaroo Island within mature mallee eucalypt woodland. In much of the subspecies' range, suitable habitat is confined to creek lines or mallee swales where birds forage for worms among damp leaf litter. Damp habitats have been suggested to be particularly important in summer (DAWE 2022 (Conversation Advice).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

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Mammalia							
<i>Isoodon obesulus obesulus</i>	Southern Brown Bandicoot	EN	V	1	Known	Southern Brown Bandicoots (eastern) are known to inhabit a variety of habitats including heathland, shrubland, sedgeland, heathy open forest and woodland and are usually associated with infertile, sandy and well drained soils, but can be found in a range of soil types. Within these vegetation communities they typically inhabit areas of dense ground cover. Species experts define suitable habitat for the species to be any patches of native or exotic vegetation, within their distribution, which contains understorey vegetation structure with 50–80% average foliage density in the 0.2 – 1 m height range (DCCEEW 2024b).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Neophoca cinerea</i>	Australian Sea Lion	EN	V	1	Known	The Australian Sea Lion uses a variety of habitats when onshore, including exposed islands and reefs, rocky terrain, sandy beaches and vegetated foredunes and swales. They also use caves and deep cliff overhangs as haul-out sites or breeding habitat (TSSC 2020b).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	VU	R	1, 2	Likely, 2020	The Grey-headed Flying-fox requires foraging resources and roosting sites. It is a canopy-feeding frugivore and nectarivore, which utilises vegetation communities including rainforests, open forests, closed and open woodlands, Melaleuca swamps and Banksia woodlands. It also feeds on commercial fruit crops and on introduced tree species in urban areas (DCCEEW 2024b).	Likely – Recent historical records (<10 years old) in the Search Area and suitable habitat is present in the Project Area.

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<i>Rattus lutreolus</i>	Swamp Rat		R	2	2017	The Swamp Rat prefers the wetter areas of wet/dry sclerophyll forests, dense heathlands, grassland or sedgeland. The species occurs from SA around the coast up to Queensland with a few isolated populations further north, as well as Tasmania. In SA, the species can be found in the Mount Loft Ranges, Kangaroo Island, and in the southeast (Van Dyck et al 2013).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Trichosurus vulpecula</i>	Common Brushtail Possum		R	2	2021	In Central Australia, the Common Brushtail Possum once occupied a wide range of habitats including rocky ranges, smaller rocky outcrops, eucalypt-lined watercourses, Coolibah claypans, limestone sinkholes and spinifex grasslands with scattered eucalypts. (Burbidge et al. 1988; Kerle et al. 1992).	Known – Species was recorded during the field survey.
Reptilia							
<i>Aprasia pseudopulchella</i>	Flinders Ranges Worm-lizard	VU		1	May	The Flinders Ranges Worm-lizard inhabits open woodland, native tussock grassland, riparian habitats, and rocky isolates, preferring stony or clay soils with a stony / rocky surface, but has also been found sheltering in soil beneath stones and rotting stumps (DEWHA 2008a).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.

Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
Fish							
<i>Nannoperca australis</i>	Southern Pygmy Perch	VU		2	2011	Southern Pygmy Perch prefer habitats in low-gradient waterways and floodplains with slow flowing or still water and aquatic macrophyte cover or wood at shallow depths, which may have little or no flow in summer. Found in the Murray-Darling Basin in three major regions being from the lowland to the upland zones, coastal river catchments in SA and Victoria, and coastal river catchments in northern Tasmania (TSSC 2021b).	Unlikely – Despite recent historical records (<20 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.

Conservation status

EPBC Act (Environment Protection and Biodiversity Conservation Act 1999). NPW Act (National Parks and Wildlife Act 1972). Conservation Codes: CE: Critically Endangered. EN/E: Endangered. VU/V: Vulnerable. R: Rare. Mi: Migratory. Ma: Listed as a marine species under the EPBC Act. T: Listed as a terrestrial species under the EPBC Act. W: Listed as a wetland species under the EPBC Act.

Green cells highlight species that are likely to occur, and light blue cells indicate species that are known.

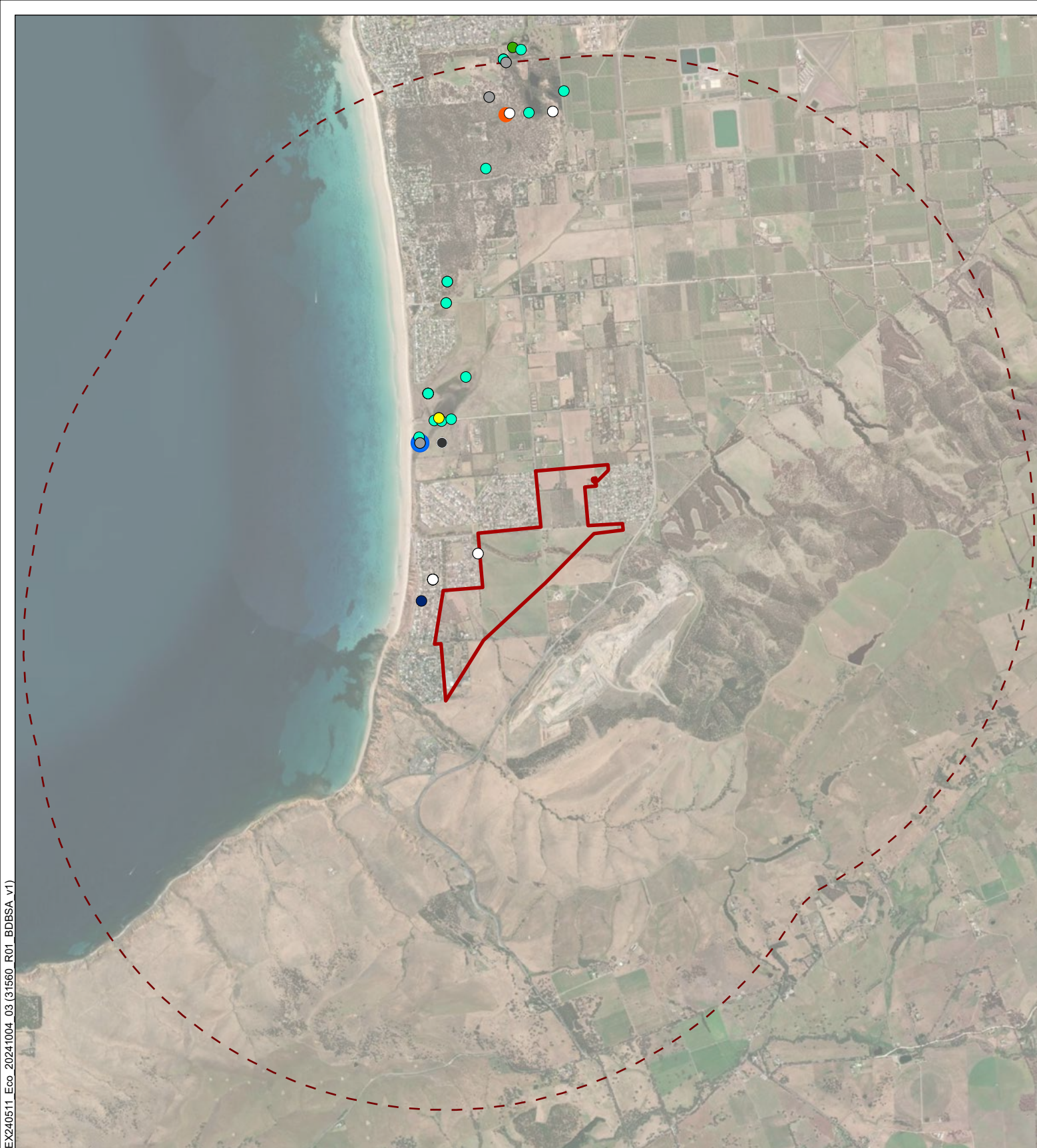
Source of Information

1. EPBC Act Protected Matters Report (DCCEEW 2024a) – 5 km buffer applied to Project area.
2. Biological Database of South Australia data extract (DEW 2024a) – 5 km buffer applied to Project area.
3. Recorded during the 2024 field survey.



APPENDIX 5

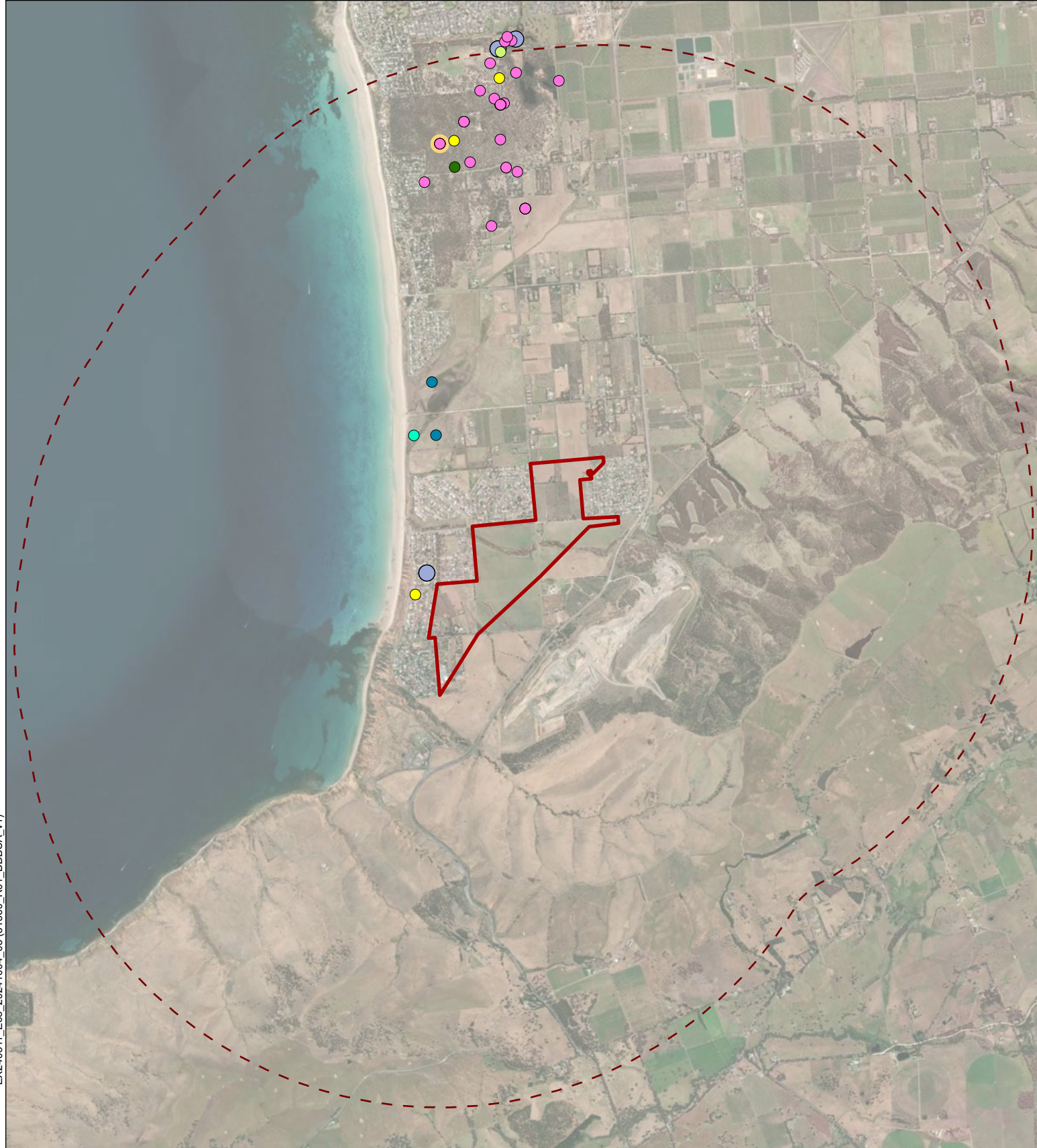
**EPBC Act and NPW Act Listed Threatened Fauna Records within 5 km of
the Project Area (<1 km Reliability) (DEW 2024b)**



Project Area
 Buffer (5km)

BDBSA Threatened Fauna

- | | | |
|---|---|--|
| Australasian Bittern (<i>Botaurus poiciloptilus</i>) NPW: E, EPBC: EN | Australasian Shoveler (<i>Spatula rhynchotis</i>) NPW: R | Banded Stilt (<i>Cladorhynchus leucocephalus</i>) NPW: V |
| Australasian Darter (<i>Anhinga novaehollandiae novaehollandiae</i>) NPW: R | Australian Bustard (<i>Ardeotis australis</i>) NPW: V | Black Falcon (<i>Falco subniger</i>) NPW: R |
| | Australian Painted-snipe (<i>Rostratula australis</i>) NPW: E, EPBC: EN | Blue Petrel (<i>Halobaena caerulea</i>) EPBC: VU |
| | | Blue-billed Duck (<i>Oxyura australis</i>) NPW: R |



 Project Area

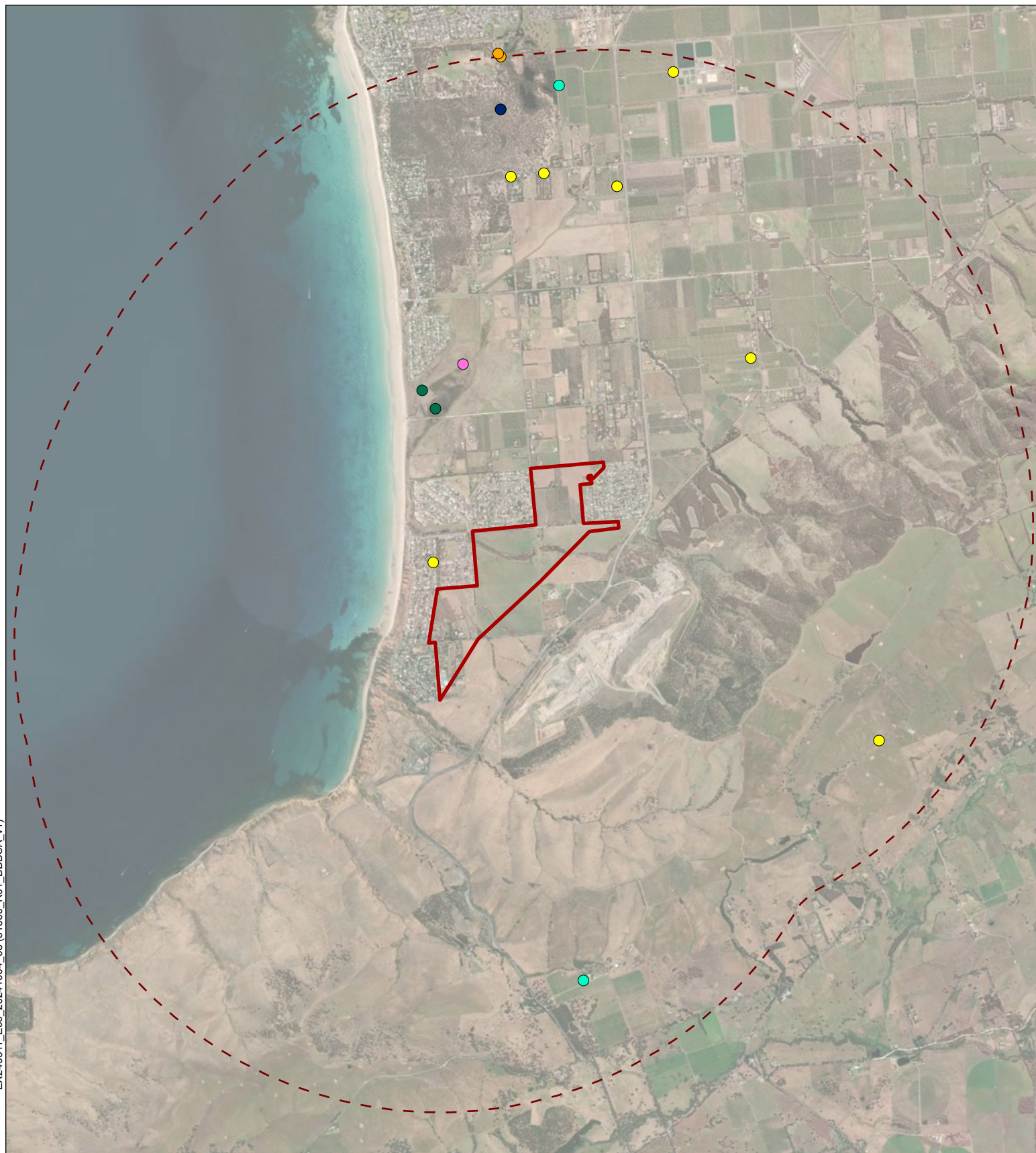
Buffer (5km)

BDBSA Threatened Fauna

- Brown Quail (*Coturnix ypsilophora australis*) NPW: V
- Bush Stonecurlew (*Burhinus grallarius*) NPW: R

- Cape Barren Goose (*Cereopsis novaehollandiae novaehollandiae*) NPW: R
- Common Brushtail Possum (*Trichosurus vulpecula*) NPW: R
- Common Greenshank (*Tringa nebularia*) EPBC: EN, Mi

- Common Sandpiper (*Actitis hypoleucos*) NPW: R, EPBC: Mi
- Eastern Shrike-tit (*Falcunculus frontatus frontatus*) NPW: R
- Elegant Parrot (*Neophema elegans elegans*) NPW: R



Project Area

Buffer (5km)

BDBSA Threatened Fauna

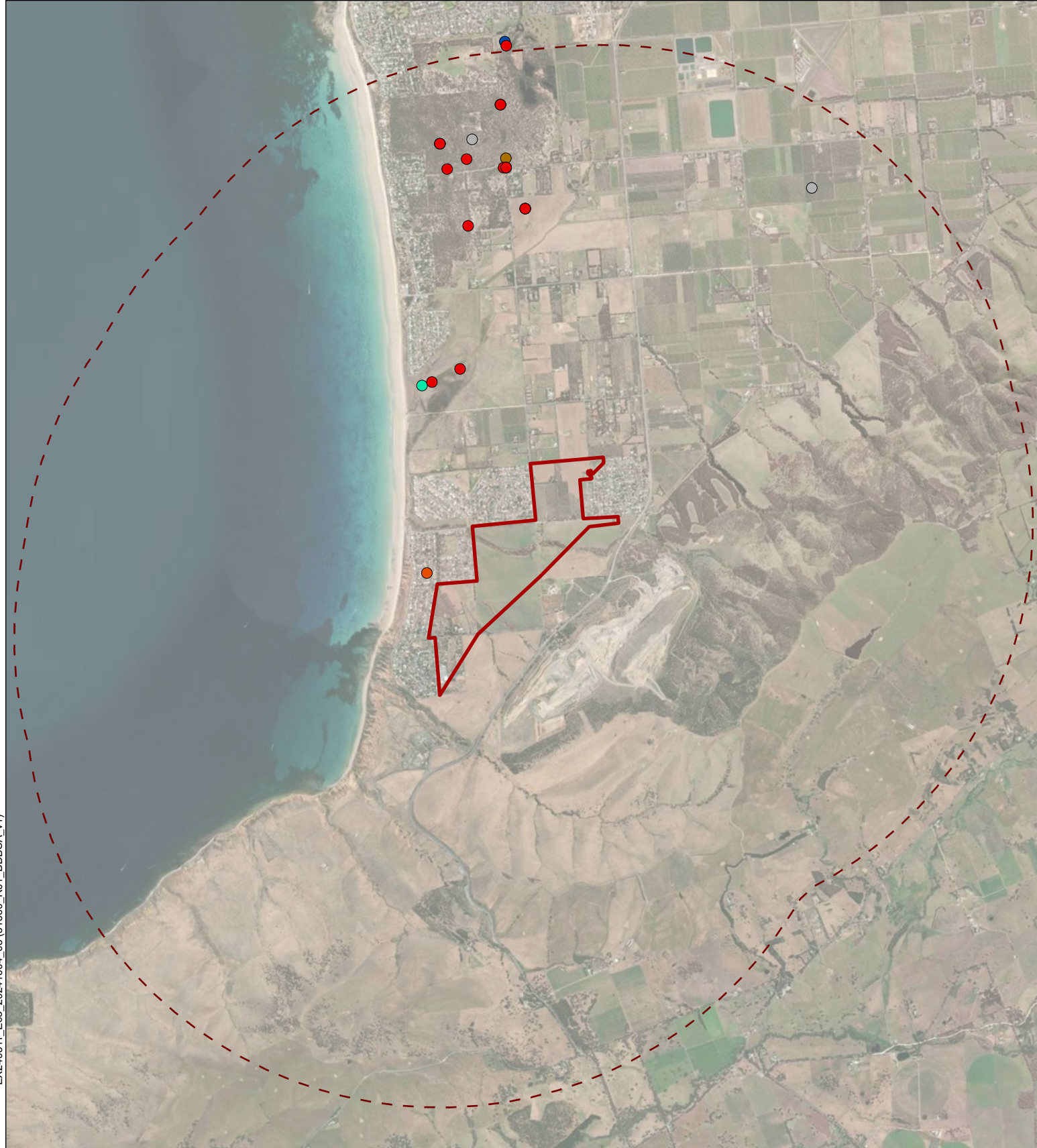
- Flame Robin (*Petroica phoenicea*) NPW: V
- Freckled Duck (*Stictonetta naevosa*) NPW: V

● Glossy Ibis (*Plegadis falcinellus*) NPW: R

● Grey-headed Flying-fox (*Pteropus poliocephalus*) NPW: R, EPBC: VU

● Hooded Plover (*Thinornis cucullatus cucullatus*) NPW: V, EPBC: VU

● Hooded Robin (YP, MN, AP, MLR, MM, SE) (*Melanodryas cucullata cucullata*) NPW: R, EPBC: EN



Project Area

Buffer (5km)

BDBSA Threatened Fauna

- Jacky Winter (*Microeca fascians fascians*) NPW: R
- Latham's Snipe (*Gallinago hardwickii*) NPW: R, EPBC: VU, Mi

Lewin's Rail (*Lewin pectoralis pectoralis*) NPW: V

Little Egret (*Egretta garzetta nigripes*) NPW: R

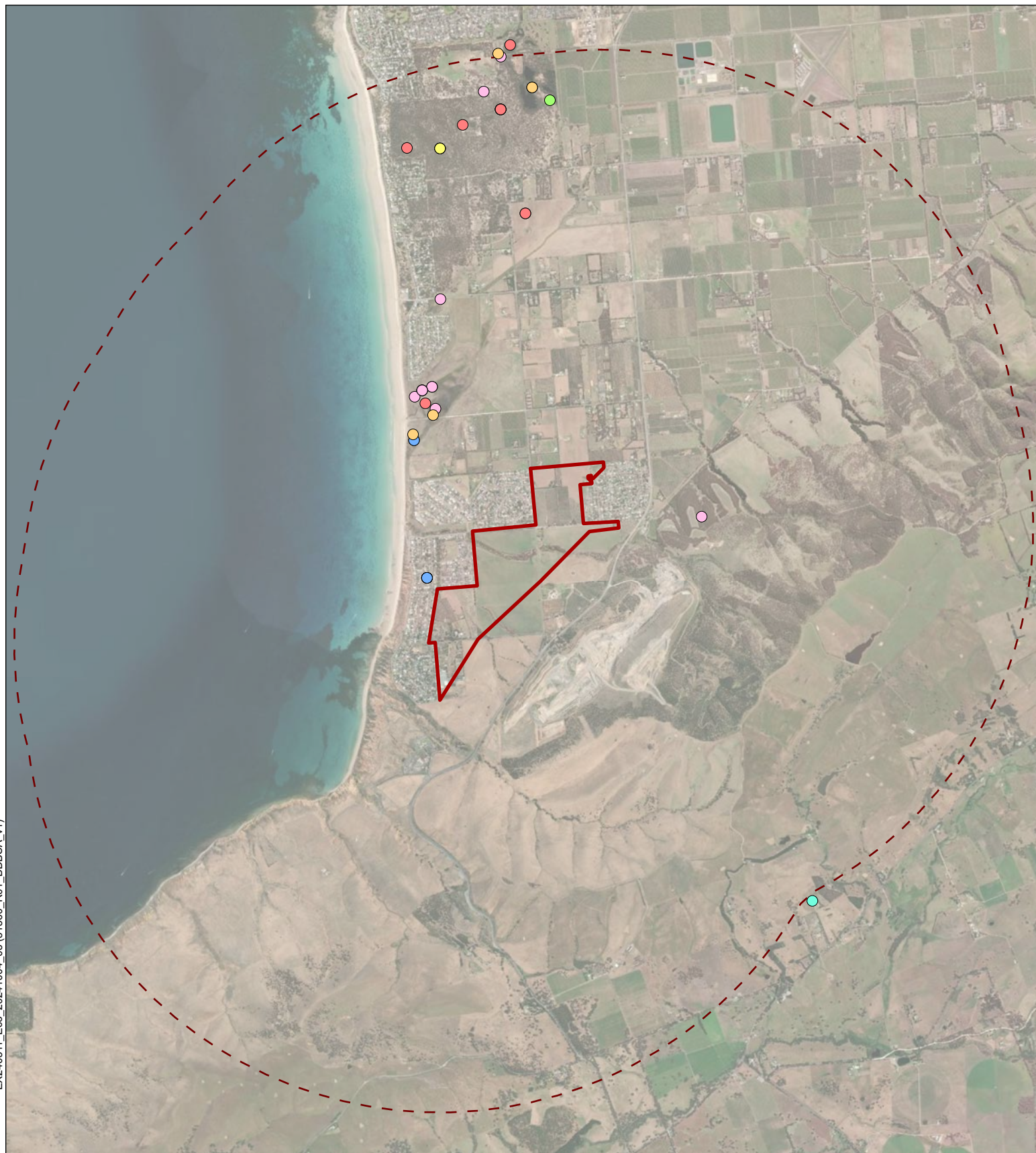
Musk Duck (*Biziura lobata menziesi*) NPW: R

Nunivak Bar-tailed Godwit (*Limosa lapponica baueri*) NPW: R, EPBC: EN, Mi

Painted Buttonquail (*Turnix varius varius*) NPW: R

Peregrine Falcon (*Falco peregrinus macropus*) NPW: R

Scarlet Robin (*Petroica boodang boodang*) NPW: R



 Project Area

Buffer (5km)

BDBSA Threatened Fauna

● Sharp-tailed Sandpiper
(*Calidris acuminata*) EPBC: VU,
Mi

● Spotless Crane (*Zapornia
tabuensis*) NPW: R

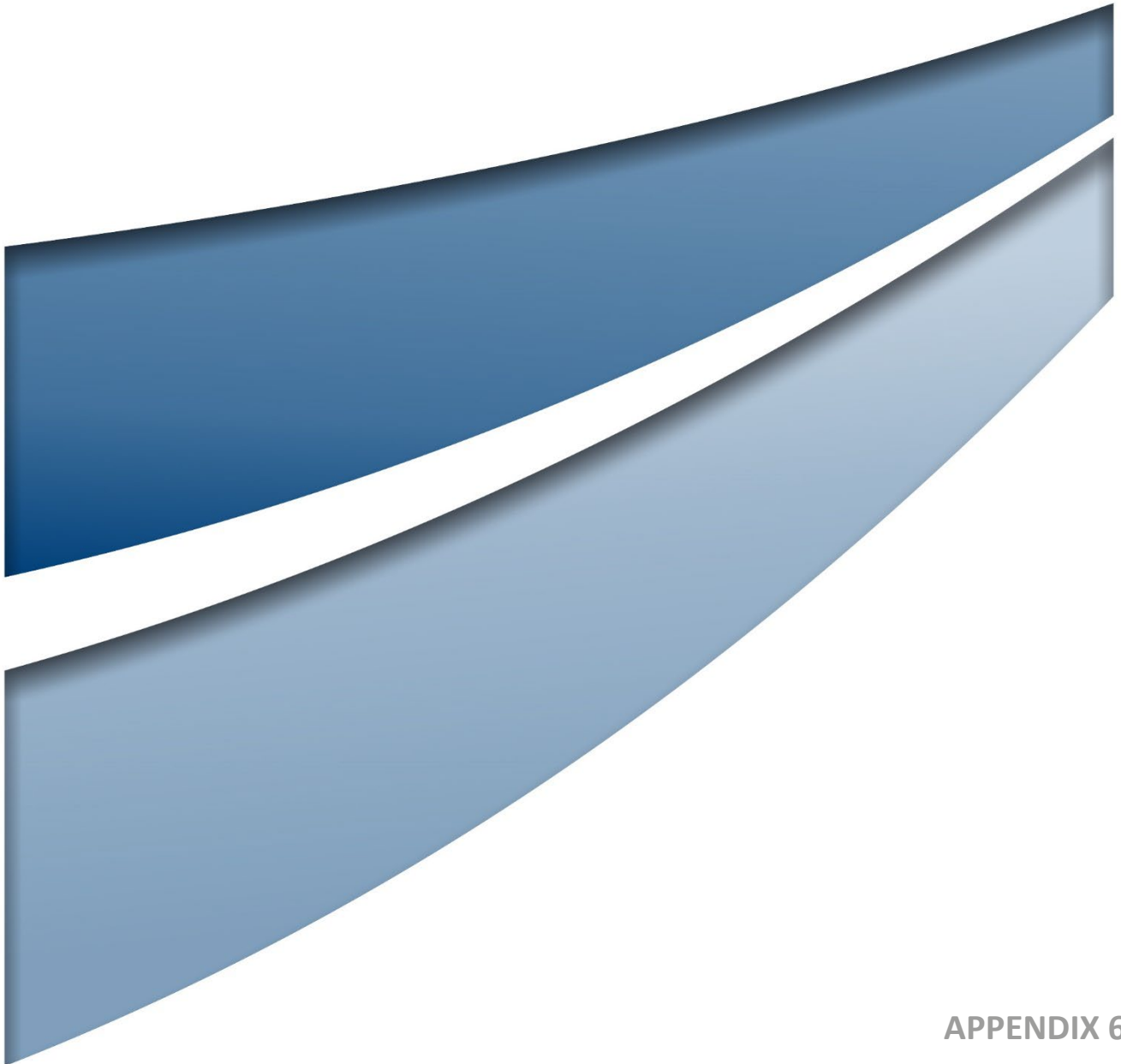
● Swamp Rat (*Rattus lutreolus*)
NPW: R

● White-bellied Cuckooshrike
(*Coracina papuensis robusta*)
NPW: R

● White-throated Gerygone
(*Gerygone olivacea olivacea*)
NPW: R

● Wood Sandpiper (*Tringa
glareola*) NPW: R

● Yellow-tailed Black Cockatoo
(*Zanda funerea whiteae*) NPW:
V



APPENDIX 6

Assessment of Likelihood of Occurrence within the Project Area for Marine Species Identified in the Database Searches

Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
Marine							
<i>Ardenna carneipes</i>	Flesh-footed Shearwater	Mi (Ma)	R	1	Likely	The Flesh-footed Shearwater mainly occurs in the subtropics over continental shelves and slopes and occasionally inshore waters. Individuals also pass through the tropics and over deeper waters when on migration. Individuals have been recorded over waters of 12.9–22.9 °C in the south-western Pacific Ocean and over waters of 11–16 °C in the northern Pacific Ocean (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Ardenna grisea</i>	Sooty Shearwater	VU, Mi (Ma)		1	May	The Sooty Shearwater forages in pelagic (open ocean) sub-tropical, sub-Antarctic and Antarctic waters. The species migrates and forages in the North Pacific and Atlantic Oceans during the non-breeding season. Sooty Shearwaters may forage inshore occasionally, especially during rough weather. In Australian waters, the Sooty Shearwater has been recorded in areas with sea surface-temperatures of 8.7–22.0° C (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Balaenoptera edeni</i>	Bryde's Whale	Mi (Ma)	R	1	May	Bryde's Whales are found year-round in waters between 40° S and 40° N, primarily in temperatures exceeding 16.3 °C. The coastal form of Bryde's Whale appears to be limited to the 200 m depth isobar, moving along the coast in response to availability of suitable prey. The offshore form is found in deeper water (500 m to 1,000 m). Dive times are relatively short, averaging 1.27 minutes but potentially lasting 9 minutes (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.

Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Caperea marginata</i>	Pygmy Right Whale	Mi (Ma)	R	1	May	Pygmy Right Whales have primarily been recorded in areas associated with upwellings and with high zooplankton abundance, particularly copepods and small euphausiids which constitute their main prey. There is some evidence to indicate that the area south of 41° S is important for weaned Pygmy Right Whales, possibly because of the higher prey abundance in these waters. Pygmy Right Whales have been seen in sheltered shallow bays, but it appears that these are predominantly juveniles and sub-adults (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Carcharodon carcharias</i>	White Shark	VU, Mi (Ma)		1	Known	Great White Sharks can be found from close inshore around rocky reefs, surf beaches and shallow coastal bays to outer continental shelf and slope areas. They also make open ocean excursions and can cross ocean basins (for instance from South Africa to the western coast of Australia and from the eastern coast of Australia to New Zealand). Great White Sharks are often found in regions with high prey density, such as pinniped colonies (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Caretta caretta</i>	Loggerhead Sea Turtle	EN, Mi (Ma)	E	1	Known	In Australia, Loggerhead Turtles nest on open, sandy beaches. Hatchlings enter the open ocean and begin feeding on small animals. Small Loggerhead Turtles live at or near the surface of the ocean and move with the ocean currents. In eastern Australia, there is evidence that they spend around 15 years or more in the open ocean, with much of their feeding in the top 5 m of water, before recruiting to their chosen inshore or neritic feeding area. Loggerhead Turtles choose a wide variety of tidal and sub-tidal habitat as feeding areas (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.

Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Chelonia mydas</i>	Green Turtle	VU, Mi (Ma)		1	May	Green Turtles spend their first five to ten years drifting on ocean currents. During this pelagic (ocean-going) phase, they are often found in association with drift lines and rafts of Sargassum (a floating marine plant that is also carried by currents). Once Green Turtles reach 30 to 40 cm curved carapace length, they settle in shallow benthic foraging habitats such as tropical tidal and sub-tidal coral and rocky reef habitat or inshore seagrass beds. The shallow foraging habitat of adults contains seagrass beds or algae mats on which Green Turtles mainly feed (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Dermochelys coriacea</i>	Leatherback Turtle	EN, Mi (Ma)	V	1	Known	The Leatherback Turtles is a highly pelagic species, venturing close to shore mainly during the nesting season. It is known from waters all around Australia and can be found foraging year-round in Australian waters over Australian continental shelf waters. Adults feed mainly on pelagic soft-bodied creatures such as jellyfish and tunicates, which occur in greatest concentrations at the surface in areas of upwelling or convergence. The regular appearance of Leatherback Turtles in cool temperate waters is probably due to the seasonal occurrence of large numbers of jellyfish (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Diomedea antipodensis</i>	Antipodean Albatross	VU, Mi (Ma)		1	Likely	The Antipodean Albatross nests in open patchy vegetation, such as among tussock grassland or shrubs on ridges, slopes and plateaus. On Antipodes Island, they nest in relatively uniform densities but avoid areas of tall vegetation on steep coastal slopes, or amongst the tall ferns on poorly drained parts of the peaks near the island's centre (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.

Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Diomedea epomophora</i>	Southern Royal Albatross	VU, Mi (Ma)		1	May	Australia is within the foraging range of the Southern Royal Albatross. Tracking studies indicate that during the breeding season the birds mostly forage in New Zealand waters, but dispersal is circumpolar during non-breeding periods, including southern, sub-Antarctic Australia, and the Australian Antarctic Territory (DCCEEW 2022).	Marine (Pelagic) – Not assessed.
<i>Diomedea exulans</i>	Wandering Albatross	VU, Mi (Ma)		1	Likely	The Wandering Albatross is marine, pelagic and aerial. It occurs where water surface temperatures range from -2° to 24°C. On breeding islands, the Wandering Albatross nests on coastal or inland ridges, slopes, plateaux and plains, often on marshy ground. Nests of the Wandering Albatross are sited on moss terraces, in dense tussocks, and often in loose aggregations on the west (windward) side of islands. It prefers open or patchy vegetation (tussocks, ferns or shrubs), and it requires nesting areas that are near exposed ridges or hillocks so that it can take off (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Diomedea sanfordi</i>	Northern Royal Albatross	EN, Mi (Ma)		1	May	The Northern Royal Albatross is marine, pelagic and aerial. Its habitat includes subantarctic, subtropical, and occasionally Antarctic waters. It occurs where the surface temperature of the water is between 6–20 °C. The Northern Royal Albatross flies low or moderately high over open waters, using updraft from wave fronts for lift (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.

Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Eubalaena australis</i>	Southern Right Whale	EN, Mi (Ma)		1	Known	The Southern Right Whale prefers near-shore, shallow water depths and being in close proximity to other individuals whilst on calving grounds in Australian waters. In breeding areas, non-calving whales are highly social whilst calving whales remain apart from robust socialising groups. Habitat selection and habitat use on Australian calving grounds is influenced by breeding status and/or the type of calving ground, in addition to other environmental factors such as swell height (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Galeorhinus galeus</i>	School Shark, Eastern School Shark, Snapper Shark, Tope, Soupfin Shark	CD		1	May	The School Shark is most abundant in cold to temperate continental seas, from the surf line and very shallow water to well offshore. It is primarily a deep water demersal (bottom-dwelling) species, although individuals have been recorded undertaking daily vertical migrations, remaining at depths of around 500 metres during the day and moving up to around 100 metres at night. Females and juveniles utilise inshore coastal areas around Victoria, Tasmania and parts of South Australia for nursery areas (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Halobaena caerulea</i>	Blue Petrel	VU		1, 2	May/1984	Blue petrels nest in colonies, laying a single egg in rock crevices or burrows dug among rocks or tussock grasses. The blue petrel forages in Antarctic and subantarctic waters for pelagic crustaceans, fish, cephalopods and insects (TSSC 2015a).	Marine (Pelagic) – Not assessed.

Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Lagenorhynchus obscurus</i>	Dusky Dolphin	Mi (Ma)		1	May	Dusky Dolphins occur mostly in temperate and sub-Antarctic waters. They are considered to primarily inhabit inshore waters but may also be pelagic at times. All sightings of Dusky Dolphins in Australian waters have been correlated with abnormally warm sea surface temperatures (more than 0.5 °C above normal temperature). It is postulated that such oceanographic changes may promote conditions suitable for aggregation of Dusky Dolphin prey species, thereby increasing abundance of the dolphins (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Lamna nasus</i>	Porbeagle, Mackerel Shark	Mi (Ma)		1	Likely	The Porbeagle primarily inhabits oceanic waters and areas around the edge of the continental shelf. They occasionally move into coastal waters, but these movements are temporary. The Porbeagle utilises a broad vertical range of the water column and is known to dive to depths exceeding 1300 m. The Porbeagle is thought to be reasonably flexible in the types of habitat used for foraging (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Macronectes giganteus</i>	Southern Giant Petrel	EN, Mi (Ma)	V	1, 2	May, 1978	Southern giant petrels range widely throughout the southern oceans with foraging areas varying due to sexual segregation. Foraging range of breeding adults may vary markedly. Adults were observed foraging 30 km from their colony at Hawker Island in the Australian Antarctic Territory, however birds have been recorded foraging over 2000 km from other Antarctic breeding sites (DCCEEW 2022).	Marine (Pelagic) – Not assessed.
<i>Macronectes halli</i>	Northern Giant Petrel	VU, Mi (Ma)		1	Likely	Northern Giant Petrel disperse widely throughout the southern oceans, mainly north of the Antarctic Convergence. The species Petrel nests on Macquarie Island (DCCEEW 2022).	Marine (Pelagic) – Not assessed.

Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Megaptera novaeangliae</i>	Humpback Whale	Mi (Ma)	V	1	Likely	Humpback Whales are found in all ocean basins worldwide. Across this range there are multiple subpopulations. The species principally feed on krill in the Southern Ocean and migrate annually to the northern coastlines of Australia to breed (TSSC 2022).	Marine (Pelagic) – Not assessed.
<i>Phoebastria fusca</i>	Sooty Albatross	VU, Mi (Ma)		1	Likely	The Sooty Albatross is marine and pelagic. In summer, the species occurs mainly south of 35° S in subtropical and subantarctic waters, but it is most abundant near the Subtropical Convergence. In late autumn and winter, the Sooty Albatross occurs mainly in the Subtropical Zone. The species breeds on subtropical and subantarctic islands in the Indian and Atlantic Oceans, on vegetated cliffs and steep slopes that are sheltered from prevailing winds, often amongst tussock grass (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Pterodroma mollis</i>	Soft-plumaged Petrel	VU		1	May	The Soft-plumaged Petrel is a marine, oceanic species. Soft-plumaged Petrels are mainly subantarctic but occur over a wide range of sea surface-temperatures. They have been observed over waters of 0 to 21°C, and off south-east Australia in temperatures between 9.8 to 21.0°C (Reid et al. 2002). In the Weddell Sea, the species is attracted to areas with icebergs with a surface-temperature of 0.7 to 1.0°C. The species is mainly coastal but occasionally occurs inland (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Seriolella brama</i>	Blue Warehou	CD		1	Known	The Blue Warehou inhabits continental shelf and slope waters where the species shows preference for relatively warmer waters of between 10 and 15oC (TSSC 2015c).	Marine (Pelagic) – Not assessed.

Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Stercorarius antarcticus lonnbergi</i>	Brown Skua		V	2	2003	The distribution of the Subantarctic Skua is circumpolar at mid to high latitudes in the Southern Ocean. Around Australia, winter visitors are seen over neritic (coastal) waters or over oceanic zones, they occur less often inshore (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Thalassarche carteri</i>	Indian Yellow-nosed Albatross	VU, Mi (Ma)	E	1, 2	Likely, 1979	The Indian Yellow-nosed Albatross is a marine bird, located in subtropical and warmer subantarctic waters. The species has been observed over waters of surface-temperature 10° to 23°C but is most abundant over the warmer parts of the subtropical zone. In the Australasian region, the species occupies inshore and offshore waters, particularly where there are calm seas and light winds. The birds fly low or at medium heights over the sea, using air currents rising off swells for lift (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Thalassarche cauta cauta</i>	Shy Albatross	EN, Mi (Ma)	V	1	Likely	The Shy Albatross primarily inhabits open ocean environments, and they are commonly seen in pelagic waters. The Shy Albatross is the only albatross species that is endemic to Australia. The species has breeding colonies on three small islands off Tasmania: Albatross Island in western Bass Strait; the Mewstone and Pedra Branca in southern Tasmanian waters (TSSC 2020c).	Marine (Pelagic) – Not assessed.
<i>Thalassarche chrysostoma</i>	Grey-headed Albatross	EN	V	2	1978	The Grey-headed Albatross is marine, pelagic and migratory. Its habitat includes subantarctic, subtropical, and occasionally Antarctic waters in the Pacific, Indian, Atlantic and Southern Oceans (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.

Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Thalassarche impavida</i>	Campbell Albatross	VU, Mi (Ma)	V	1	May	The Campbell Albatross is a marine sea bird inhabiting sub-Antarctic and subtropical waters from pelagic to shelf-break water habitats (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Thalassarche melanophris</i>	Black-browed Albatross	VU, Mi (Ma)		1	Likely	The Black-browed Albatross is a marine species that inhabits Antarctic, subantarctic and temperate waters and occasionally enters the tropics. The Black-browed Albatross breeds on subantarctic and peri-Antarctic islands in colonies located on terraces of coastal cliffs, slopes of nearby hills, summits of rocky islets or on flat or gently-sloping ground. The terrain in such areas is rocky but usually supports a moderately-dense cover of tussock grasses. The species is rarely sighted over land away from its breeding islands (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.
<i>Thalassarche steadi</i>	White-capped Albatross	VU, Mi (Ma)		1	Known	The White-capped Albatross is a marine species and occurs in subantarctic and subtropical waters. The species has been noted in shelf-waters around breeding islands and over adjacent rises. During the non-breeding season, birds have been observed over continental shelves around continents. The species occurs both inshore and offshore and enters harbours and bays. The species is scarce in pelagic waters. Birds gather to scavenge at commercial fishing grounds (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.

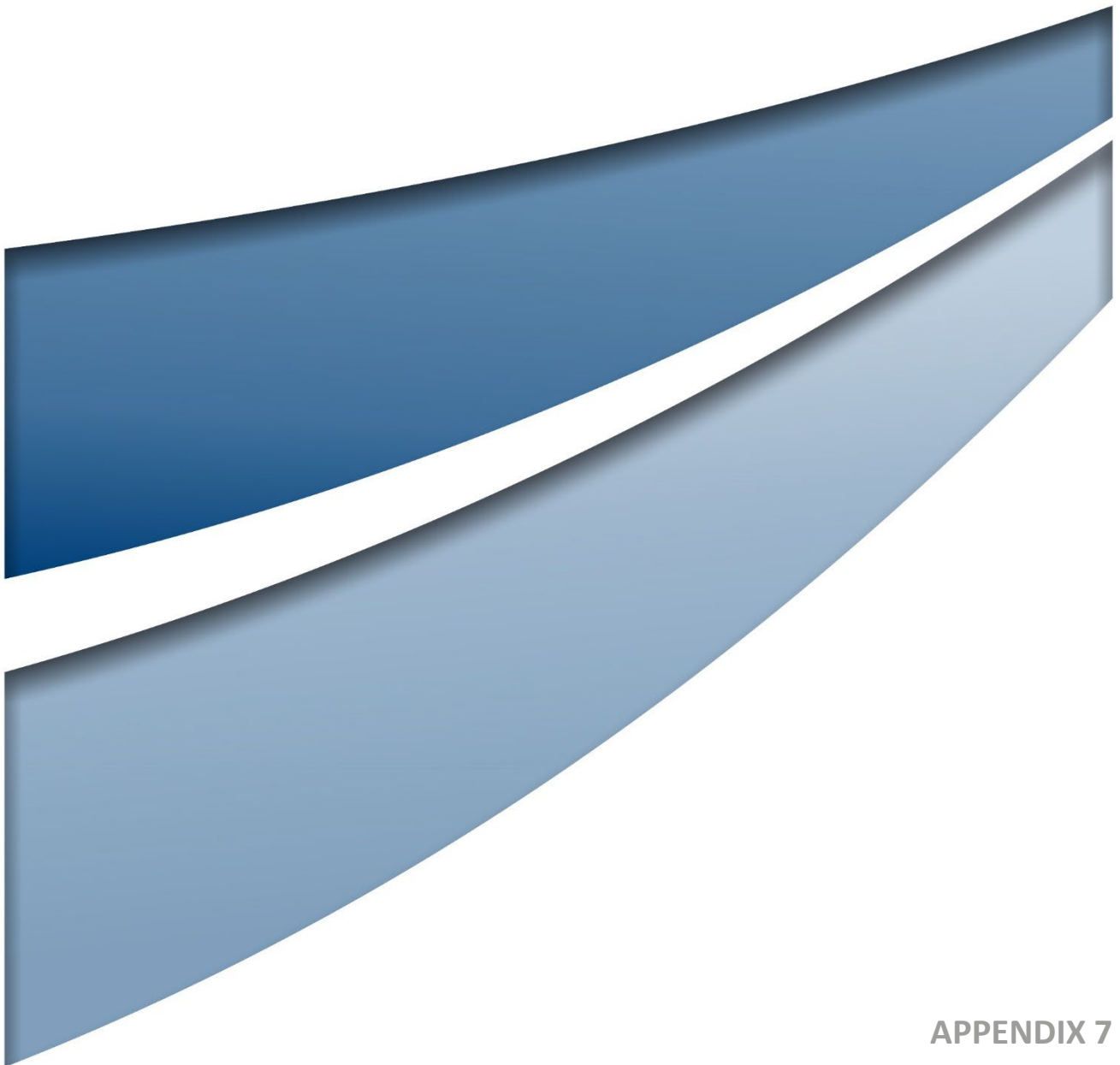
Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
<i>Thunnus maccoyii</i>	Southern Bluefin Tuna	CD		1	Known	Southern Bluefin Tuna in Australian waters, ranges widely from northern Western Australia to the southern region of the continent, including Tasmania, and to northern New South Wales, appearing in eastern Australian waters mainly during winter. Juveniles of one to two years of age inhabit inshore waters in Western Australia and South Australia (DCCEEW 2024b).	Marine (Pelagic) – Not assessed.

Conservation status

EPBC Act (Environment Protection and Biodiversity Conservation Act 1999). NPW Act (National Parks and Wildlife Act 1972). Conservation Codes: CE: Critically Endangered. EN/E: Endangered. VU/V: Vulnerable. R: Rare. CD: Data deficient. Mi: Migratory. Ma: Listed as a marine species under the EPBC Act.

Source of Information

1. EPBC Act Protected Matters Report (DCCEEW 2024a) – 5 km buffer applied to Project area.
2. Biological Database of South Australia data extract (DEW 2024a) – 5 km buffer applied to Project area.



APPENDIX 7

Assessment of Likelihood of Occurrence within the Project Area for Migratory Species Identified in the Database Searches

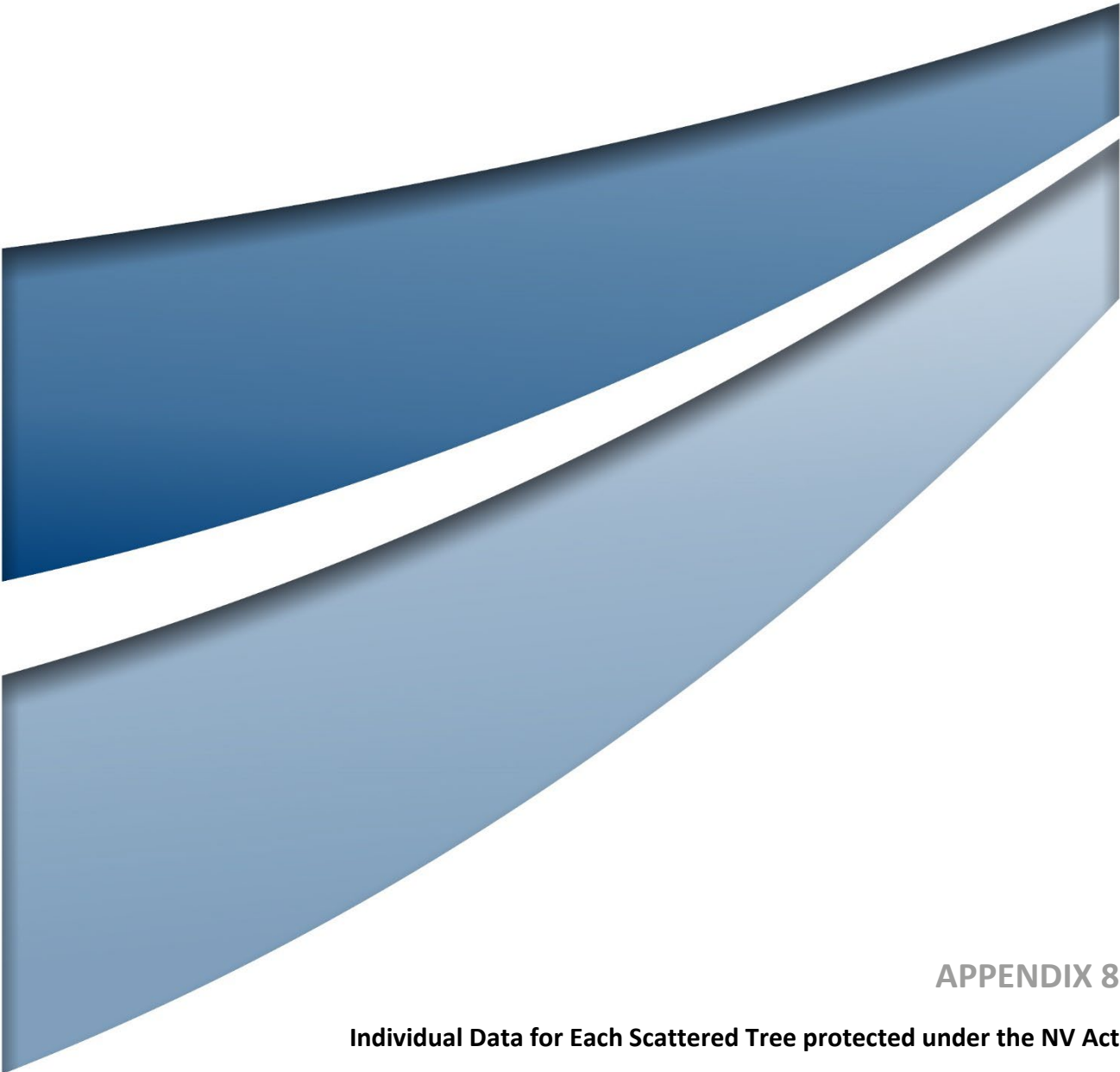
Scientific Name	Common Name	Conservation status		Data Source	PMST (DCCEEW 2024a) / BDBSA Last Sighting (DEW 2024a)	Distribution and habitat Preferences	Umwelt Likelihood of occurrence within Project Area and rationale
		EPBC Act	NPW Act				
Aves							
<i>Apus pacificus pacificus</i>	Pacific Swift	Mi (Ma)		1, 2	Likely/ 2017	The Fork-tailed Swift is widespread but almost exclusively aerial. Mostly occur over inland plains, over cliffs and beaches and sometimes well out to sea or in dry or open habitats (DCCEEW 2024b).	Possible – Despite recent historical records (<10 years old) in the Search Area, the Project Area is not largely intact and does not provide suitable habitat.
<i>Motacilla cinerea</i>	Grey Wagtail	Mi (T)		1	May	The Grey Wagtail is a European and Asian specie that Migrates south in winter, usually to Indonesia and NG. Rarely reaches Australia, but when it does, favours habitat near freshwater streams, also mown grass, ploughed land or near sewage ponds (Morcombe 2021).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Motacilla flava</i>	Yellow Wagtail	Mi (T)		1	May	The Yellow Wagtail prefers open country near swamps, salt marshes, sewage ponds, grassed surrounds to airfields, bare ground. Occasionally on drier inland plans (Morcombe 2021).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.
<i>Rhipidura rufifrons</i>	Rufous Fantail	Mi (T)		1	May	In east and south-east Australia, the Rufous Fantail mainly inhabits wet sclerophyll forests, often in gullies dominated by eucalypts, usually with a dense shrubby understorey often including ferns. They also have been recorded from parks and gardens when on passage (DCCEEW 2024b).	Unlikely – No historical records in the Search Area and suitable habitat is not present in the Project Area.

Conservation status

EPBC Act (Environment Protection and Biodiversity Conservation Act 1999). NPW Act (National Parks and Wildlife Act 1972). Conservation Codes: Mi: Migratory. Ma: Listed as a marine species under the EPBC Act.

Source of Information

1. EPBC Act Protected Matters Report (DCCEEW 2024a) – 5 km buffer applied to Project area.
2. Biological Database of South Australia data extract (DEW 2024a) – 5 km buffer applied to Project area.
3. Recorded during the field survey



APPENDIX 8

Individual Data for Each Scattered Tree protected under the NV Act

Table A8.1 Scattered Trees Protected under the NV Act within the Project Area. Bold text indicates State Rare Species.

Tree number	CT location	Waypoint number	Long	Lat	Photo number	Species	Conservation Status (NPW Act)	Number of trees in clump	Height	Diameter at 1 m (cm)	Dieback %	Hollows (S, M, L)	Comments
NV_1	5	95	-35.33744643	138.4542214	95	<i>Pittosporum angustifolium</i>		11	2	3	40	N/A	
NV_2	5	96	-35.33750274	138.4542911	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration
NV_3	5	97	-35.33750929	138.4542853	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_4	5	98	-35.3375123	138.4543094	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_5	5	99	-35.33750672	138.4543496	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_6	5	100	-35.33749427	138.4543422	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_7	5	101	-35.33751201	138.4543585	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_8	5	102	-35.33751691	138.4543635	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_9	5	103	-35.33746754	138.4543735	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_10	5	104	-35.33747314	138.4543774	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_11	5	105	-35.33737223	138.4542654	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2

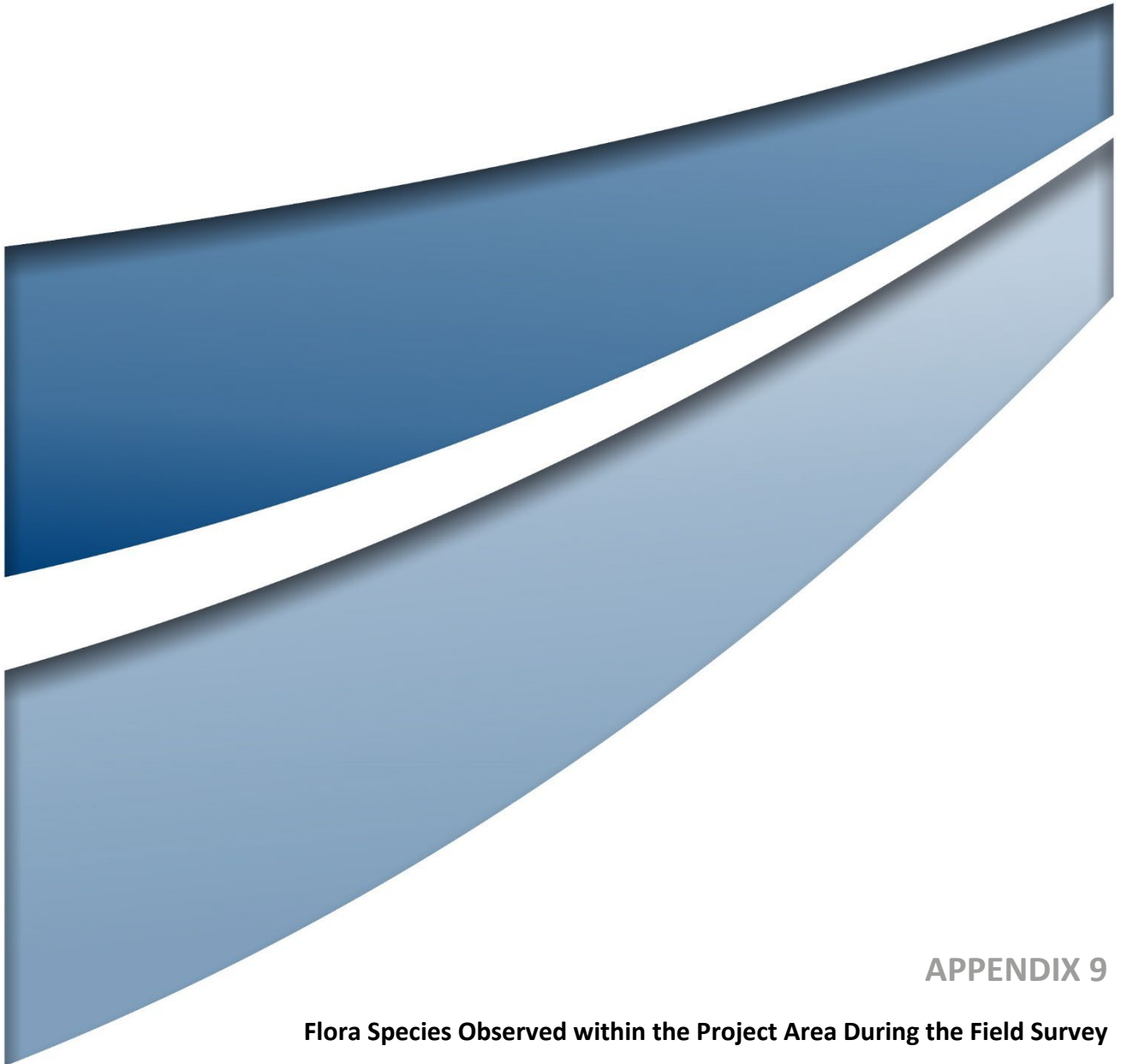
Tree number	CT location	Waypoint number	Long	Lat	Photo number	Species	Conservation Status (NPW Act)	Number of trees in clump	Height	Diameter at 1 m (cm)	Dieback %	Hollows (S, M, L)	Comments
NV_12	5	106	-35.33763831	138.4543636	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_13	5	107	-35.3376397	138.4543613	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_14	5	108	-35.33762711	138.4543643	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_15	5	109	-35.33763303	138.4543744	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_16	5	110	-35.33762	138.4543927	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_17	5	111	-35.33761617	138.4543856	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_18	5	112	-35.3376072	138.4543925	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_19	5	113	-35.33761277	138.4543905	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_20	19	114	-35.33796044	138.4543951	114	<i>Pittosporum angustifolium</i>		7	2	1	10	N/A	
NV_21	19	115	-35.33820284	138.4544883	115	<i>Pittosporum angustifolium</i>		7	2.5	3	2	N/A	
NV_22	5	117	-35.33827195	138.4545702	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_23	5	118	-35.33826681	138.4545731	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2

Tree number	CT location	Waypoint number	Long	Lat	Photo number	Species	Conservation Status (NPW Act)	Number of trees in clump	Height	Diameter at 1 m (cm)	Dieback %	Hollows (S, M, L)	Comments
NV_24	5	119	-35.33823211	138.454586	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_25	5	120	-35.33821081	138.454584	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_26	5	121	-35.33819593	138.454588	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_27	5	122	-35.33822033	138.4546373	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_28	5	123	-35.33822588	138.4546539	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_29	5	124	-35.33824018	138.4546487	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_30	5	125	-35.33823251	138.4546677	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_31	5	126	-35.33822882	138.4546861	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_32	5	127	-35.33823701	138.4546946	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_33	5	128	-35.33825352	138.4546976	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_34	5	129	-35.33826869	138.4546912	95	<i>Pittosporum angustifolium</i>		1	0.5	0	5	N/A	Small regeneration, similar data as NV_2
NV_35	19	131	-35.33838544	138.4545414	131	<i>Pittosporum angustifolium</i>		5	25	3	2	N/A	

Tree number	CT location	Waypoint number	Long	Lat	Photo number	Species	Conservation Status (NPW Act)	Number of trees in clump	Height	Diameter at 1 m (cm)	Dieback %	Hollows (S, M, L)	Comments
NV_36	19	134	-35.33876154	138.4546022	134	<i>Eucalyptus camaldulensis</i>		1	11	45	15	3,0,0	
NV_37	8	169	-35.33688881	138.4523267	169	<i>Eucalyptus camaldulensis</i>		1	7	16	5	N/A	
NV_38	8	172	-35.33685733	138.45221	172	<i>Eucalyptus camaldulensis</i>		1	4	14	5	N/A	
NV_39	16	230	-35.34008876	138.4528515	230	<i>Eucalyptus leucoxylon</i>		1	3	5.5	3	N/A	
NV_40	12	249	-35.34029797	138.4512087	249	<i>Eucalyptus leucoxylon</i>		3	2	0.5	2	N/A	
NV_41	12	250	-35.34029349	138.4511983	250	<i>Eucalyptus leucoxylon</i>		1	0.5	0	0	N/A	Small regeneration
NV_42	12	251	-35.34032105	138.4511891	250	<i>Eucalyptus leucoxylon</i>		1	0.5	0	0	N/A	Small regeneration, similar data as NV_41
NV_43	12	252	-35.34034028	138.4511807	250	<i>Eucalyptus leucoxylon</i>		1	0.5	0	0	N/A	Small regeneration, similar data as NV_41
NV_44	12	253	-35.34034926	138.4511144	250	<i>Eucalyptus leucoxylon</i>		1	0.5	0	0	N/A	Small regeneration, similar data as NV_41
NV_45	12	254	-35.34033002	138.4512221	250	<i>Eucalyptus leucoxylon</i>		1	0.5	0	0	N/A	Small regeneration, similar data as NV_41
NV_46	12	255	-35.34031984	138.4512432	250	<i>Eucalyptus leucoxylon</i>		1	0.5	0	0	N/A	Small regeneration, similar data as NV_41
NV_47	12	256	-35.34034673	138.4512565	250	<i>Eucalyptus leucoxylon</i>		1	0.5	0	0	N/A	Small regeneration, similar data as NV_41
NV_48	12	257	-35.34035212	138.4512532	250	<i>Eucalyptus leucoxylon</i>		1	0.5	0	0	N/A	Small regeneration, similar data as NV_41

Tree number	CT location	Waypoint number	Long	Lat	Photo number	Species	Conservation Status (NPW Act)	Number of trees in clump	Height	Diameter at 1 m (cm)	Dieback %	Hollows (S, M, L)	Comments
NV_49	12	258	-35.34039716	138.4513364	250	<i>Eucalyptus leucoxylon</i>		1	0.5	0	0	N/A	Small regeneration, similar data as NV_41
NV_50	16	259	-35.34038955	138.4513249	250	<i>Eucalyptus leucoxylon</i>		1	0.5	0	0	N/A	Small regeneration, similar data as NV_41
NV_51	1	22	-35.33099298	138.4647663	341	<i>Acacia pycnantha</i>		22	1.1	0.01	0	N/A	
NV_52	3	448	-35.33696738	138.4533823	448	<i>Eucalyptus camaldulensis</i>		2	0.5	0	0	N/A	
NV_53	10	474	-35.34043516	138.4529817	474	<i>Eucalyptus camaldulensis</i>		1	9	21	15	N/A	
NV_54	10	477	-35.34051268	138.4529974	477	<i>Eucalyptus camaldulensis</i>		2	1.5	3	0	N/A	
NV_55	10	481	-35.34097726	138.4528608	481	<i>Eucalyptus leucoxylon</i>		10	0.5	0.5	10	N/A	
NV_56	10	485	-35.3412839	138.45295	485	<i>Allocasuarina verticillata</i>		8	2.5	3	5	N/A	
NV_57	10	492	-35.34182568	138.4529317	492	<i>Allocasuarina verticillata</i>		6	2	3	10	N/A	
NV_58	10	494	-35.34186815	138.45293	250	<i>Eucalyptus leucoxylon</i>		1	0.5	0.5	10	N/A	Small regeneration, similar data as NV_41
NV_59	10	500	-35.3409371	138.4535329	500	<i>Eucalyptus leucoxylon</i>		1	9	48	10	N/A	
NV_60	10	522	-35.33971753	138.4535047	522	<i>Eucalyptus leucoxylon</i>			1.5	3	0	N/A	
NV_61	26	537	-35.33128991	138.4619464	537	<i>Acacia pycnantha</i>		5	0.5	0.5	0	N/A	
NV_62	26	541	-35.33148399	138.4619307	541	<i>Allocasuarina verticillata</i>		6	3.5	3.5	20	N/A	

Tree number	CT location	Waypoint number	Long	Lat	Photo number	Species	Conservation Status (NPW Act)	Number of trees in clump	Height	Diameter at 1 m (cm)	Dieback %	Hollows (S, M, L)	Comments
NV_63	26	552	-35.33158562	138.4614157	552	<i>Acacia pycnantha</i>		14	2	3	1	N/A	
NV_64	2	664	-35.33824712	138.4556413	664	<i>Eucalyptus fasciculosa</i>	Rare	6	0.2	0	0	N/A	
NV_65	2	666	-35.33828314	138.4556186	666	<i>Acacia pycnantha</i>		22	1.5	3	0	N/A	
NV_66	2	681	-35.33823877	138.4559528	681	<i>Acacia pycnantha</i>		1	6	37	10	N/A	
NV_67	7	683	-35.3387171	138.4523286	683	<i>Eucalyptus camaldulensis</i>		1	12	84	10	1,0,0	
NV_68	7	695	-35.3387369	138.4519751	695	<i>Eucalyptus camaldulensis</i>		1	12	100	10	3,1,0	
NV_69	7	701	-35.3386945	138.4518971	701	<i>Eucalyptus camaldulensis</i>		1	10	70	15	3,1,0	Nest in canopy
NV_70	7	703	-35.3386149	138.4520513	703	<i>Eucalyptus camaldulensis</i>		1	10.5	80	20	1,1,0	Nest in canopy
NV_71	7	706	-35.3386241	138.4521674	706	<i>Eucalyptus camaldulensis</i>		1	11	129	20	4,2,0	
NV_72	7	707	-35.3386395	138.4522885	707	<i>Eucalyptus camaldulensis</i>		1	11	107	20	2,1,0	Nest in canopy



APPENDIX 9

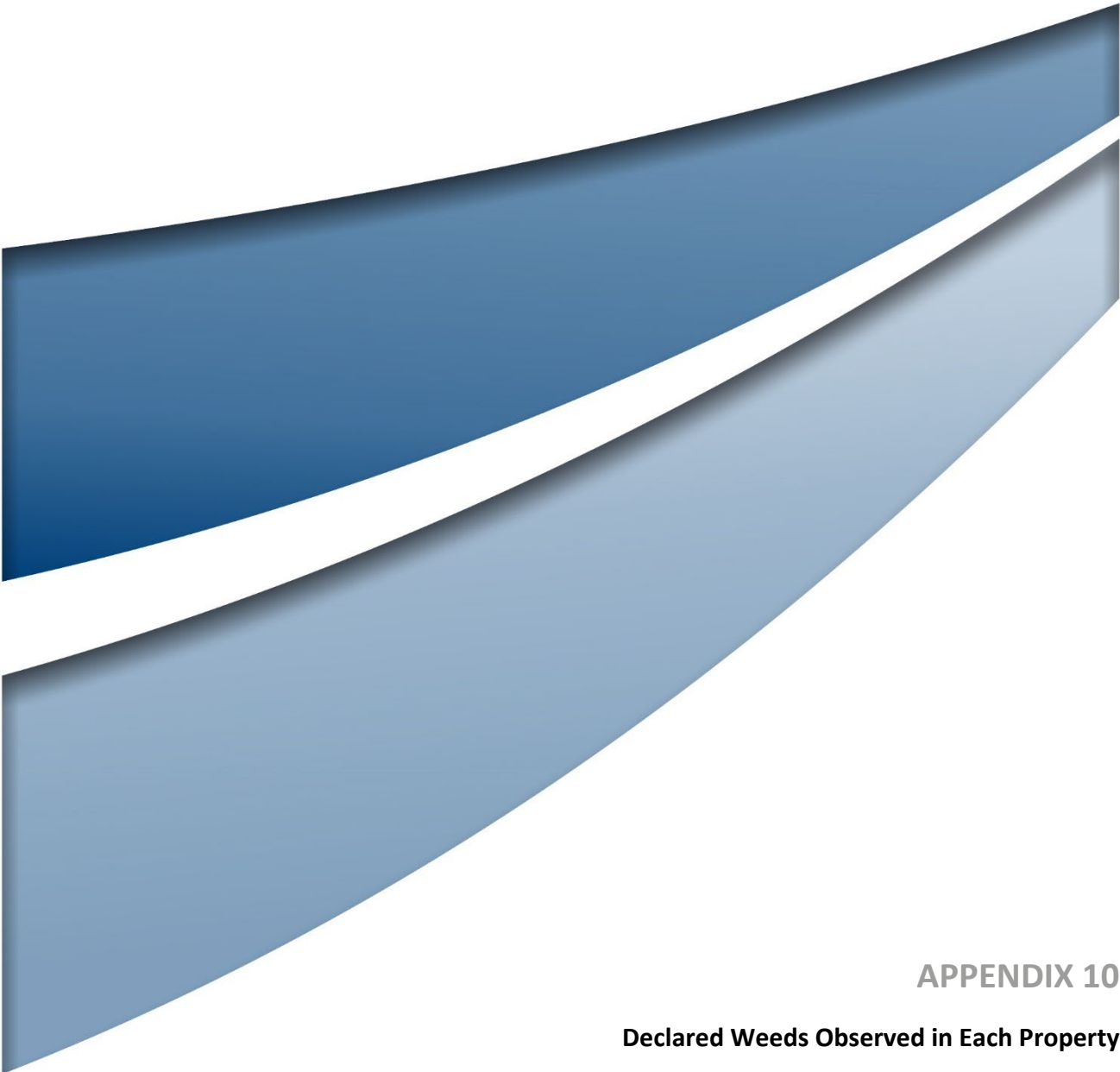
Flora Species Observed within the Project Area During the Field Survey

*	Scientific name	Common name	Weed status	Conservation status	
				EPBC Act	NPW Act
*	<i>Acacia baileyana</i>	Cootamundra Wattle			
	<i>Acacia iteaphylla</i>	Flinders Ranges Wattle			Rare
	<i>Acacia paradoxa</i>	Kangaroo Thorn			
	<i>Acacia pycnantha</i>	Golden Wattle			
*	<i>Acacia saligna</i>	Golden Wreath Wattle			
	<i>Allocasuarina verticillata</i>	Drooping Sheoak			
	<i>Amyema</i> sp.	Mistletoe			
*	<i>Asclepias curassavica</i>	Red-head Cotton-bush			
*	<i>Asparagus asparagoides</i> f. <i>asparagoides</i>	Bridal Creeper	WoNS		
*	<i>Asphodelus fistulosus</i>	Onion Weed			
	<i>Austrostipa</i> sp.	Spear-grass			
*	<i>Avena barbata</i>	Bearded Oat			
*	<i>Brassica</i> sp.	Turnip			
	<i>Callistemon rugulosus</i>	Scarlet Bottlebrush			
	<i>Callitris gracilis</i>	Slender Cypress-pine			
*	<i>Casuarina cunninghamiana</i>	River Oak			
*	<i>Casuarina glauca</i>	Grey Bul oak	D		
*	<i>Cenchrus clandestinus</i>	Kikuyu			
*	<i>Chrysanthemoides monilifera</i> ssp. <i>Monilifera</i>	Bitou Bush	WoNS		
*	<i>Coprosma repens</i>	New Zealand Mirror-bush	D		
*	<i>Corymbia citriodora</i>	Lemon-scented Gum			
*	<i>Corymbia ficifolia</i>	Red-flowering Gum			
*	<i>Corymbia maculata</i>	Spotted Gum			
*	<i>Cynara cardunculus</i> ssp. <i>flavescens</i>	Artichoke Thistle	D		
*	<i>Cynodon dactylon</i> var. <i>dactylon</i>	Couch			
*	<i>Echium plantagineum</i>	Salvation Jane	D		
	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush			
	<i>Eucalyptus baxteri</i>	Brown Stringybark			
*	<i>Eucalyptus botryoides</i>	Southern Mahogany			
	<i>Eucalyptus camaldulensis</i>	River Red Gum			
	<i>Eucalyptus cladocalyx</i> ssp.	Sugar Gum			
*	<i>Eucalyptus conferruminata</i> ssp. <i>recherche</i>	Bald Island marlock			
	<i>Eucalyptus cosmophylla</i>	Cup Gum			
	<i>Eucalyptus fasciculosa</i>	Pink Gum			Rare
*	<i>Eucalyptus globulus</i> spp. <i>globulus</i>	Tasmanian Blue Gum	D		

*	Scientific name	Common name	Weed status	Conservation status	
				EPBC Act	NPW Act
	<i>Eucalyptus largiflorens</i>	Black Box			
	<i>Eucalyptus leucoxylon</i>	Blue Gum			
*	<i>Eucalyptus platypus</i> ssp. <i>platypus</i>	Round-leaved Moort			
	<i>Eucalyptus porosa</i>	Mallee Box			
	<i>Eucalyptus</i> sp.	Gum			
*	<i>Eucalyptus sideroxylon</i>	Red Ironbark			
*	<i>Ficus carica</i>	Fig Tree			
*	<i>Fraxinus angustifolia</i> ssp. <i>oxycarpa</i>	Desert Ash	D		
*	<i>Gazmania</i> sp.	Gazania	D		
*	<i>Goodenia amplexans</i>	Clasping Goodenia			
*	<i>Lagunaria patersonii</i>	Pyramid Tree			
*	<i>Lepidium africanum</i>	Common Peppergrass			
*	<i>Lycium ferocissimum</i>	African Boxthorn	WoNS		
*	<i>Marrubium vulgare</i>	Horehound	D		
*	<i>Medicago</i> sp.	Medic			
*	<i>Melaleuca armillaris</i> ssp. <i>armillaris</i>	Bracelet Honey-myrtle			
	<i>Melaleuca halmaturorum</i>	Salt Paper-bark			
*	<i>Melaleuca hypericifolia</i>	hillock bush			
*	<i>Melaleuca nesophila</i>	Showy Honey-myrtle			
	<i>Melaleuca</i> sp.	Tea-tree			
*	<i>Morus</i> sp.	Mulberry Tree			
*	<i>Olea europaea</i> ssp.	Olives	D		
*	<i>Opuntia</i> spp.	Prickly Pear	WoNS		
*	<i>Oxalis pes-caprae</i>	Soursob			
*	<i>Pelargonium</i> sp.	Storks-bill			
*	<i>Pinus halepensis</i>	Aleppo Pine	D		
*	<i>Pinus radiata</i>	Radiata Pine			
	<i>Pittosporum angustifolium</i>	Native Apricot			
*	<i>Prunus dulcis</i>	Almond			
	<i>Rhagodia parabolica</i>	Mealy Saltbush			
*	<i>Rhamnus alaternus</i>	Blowfly Bush	D		
*	<i>Rosa canina</i>	Dog Rose	D		
*	<i>Salix babylonica</i>	Weeping Willow	WoNS		
*	<i>Scabiosa atropurpurea</i>	Pincushion			
*	<i>Schinus molle</i>	Pepper-corn			
*	<i>Silybum marianum</i>	Variegated Thistle	D		
*	<i>Sonchus oleraceus</i>	Common Sow-thistle			

*	Scientific name	Common name	Weed status	Conservation status	
				EPBC Act	NPW Act
*	<i>Tamarix aphylla</i>	Athel Pine	WoNS		
	<i>Themeda triandra</i>	Kangaroo Grass			
*	<i>Vitis vinifera</i>	Grape Vine			

* = introduced species, D = Declared species under the LSA Act 2019 and WoNS = Weed of National Significance under the LSA Act 2019.

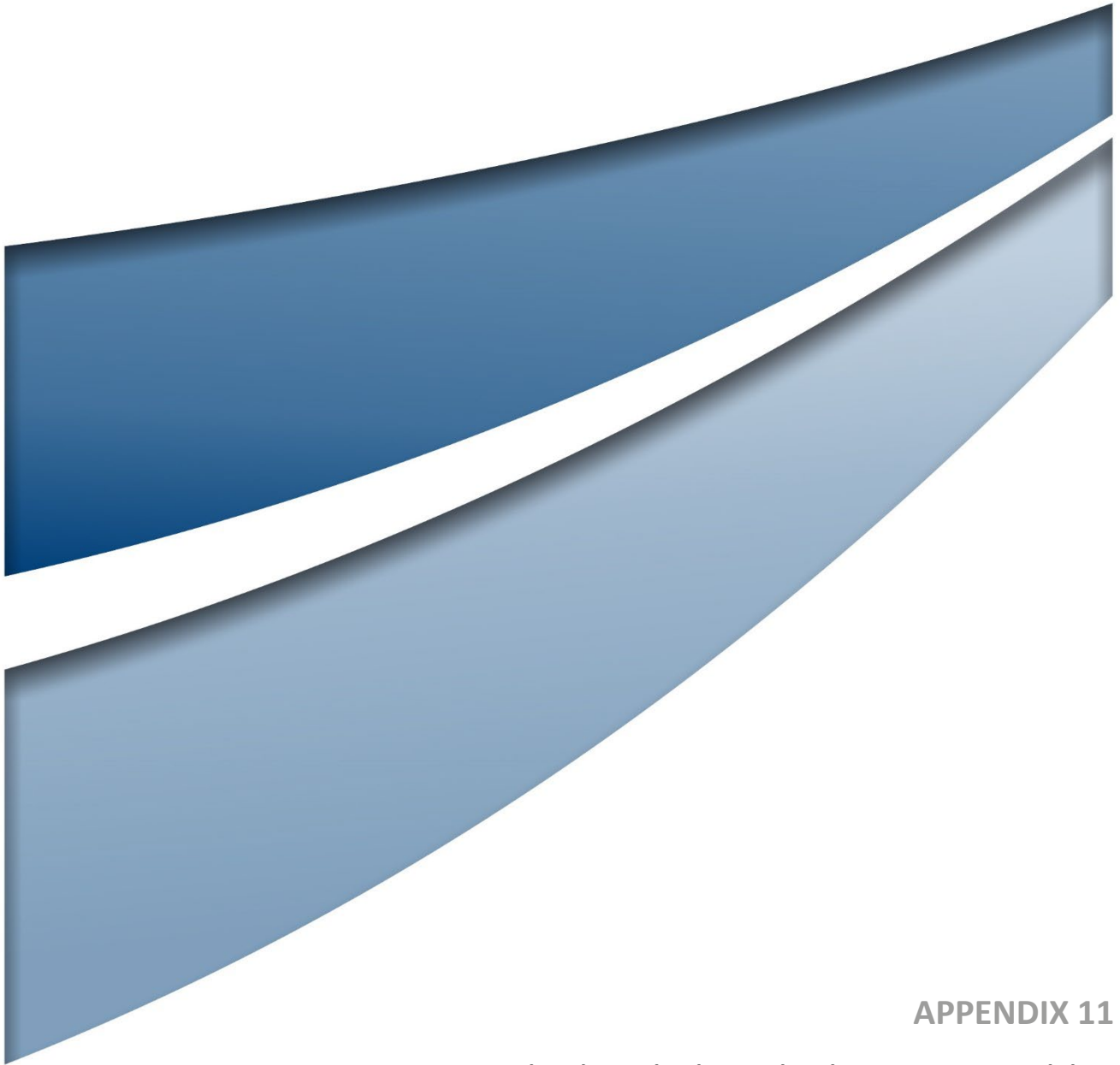


APPENDIX 10

Declared Weeds Observed in Each Property

Scientific name	Common Name	Property																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
<i>Asparagus asparagoides</i> f. <i>asparagoides</i>	Bridal Creeper	Y	Y	Y		Y	Y	Y	Y				Y		Y	Y	Y					Y	Y	Y			Y
<i>Casuarina glauca</i>	Grey Bul oak	Y	Y		Y			Y			Y		Y			Y	Y					Y					Y
<i>Chrysanthemoides monilifera</i> ssp. <i>Monilifera</i>	Bitou Bush	Y	Y			Y		Y	Y							Y	Y										Y
<i>Coprosma repens</i>	New Zealand Mirror-bush	Y																									Y
<i>Cynara cardunculus</i> ssp. <i>flavescens</i>	Artichoke Thistle	Y	Y		Y	Y	Y	Y	Y				Y		Y	Y	Y		Y	Y		Y	Y	Y	Y		Y
<i>Echium plantagineum</i>	Salvation Jane	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y	Y	Y	Y
<i>Eucalyptus globulus</i> spp. <i>globulus</i>	Tasmanian Blue Gum							Y																			
<i>Fraxinus angustifolia</i> ssp. <i>oxycarpa</i>	Desert Ash																Y										
<i>Gazania</i> sp.	Gazania																Y			Y				Y			
<i>Lycium ferocissimum</i>	African Boxthorn	Y	Y	Y		Y	Y	Y	Y				Y		Y	Y	Y			Y		Y		Y	Y		Y
<i>Marrubium vulgare</i>	Horehound	Y	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y	Y		Y			Y	Y	Y	Y		Y
<i>Olea europaea</i> ssp.	Olives	Y	Y	Y		Y	Y		Y		Y	Y	Y	Y	Y	Y	Y		Y			Y	Y	Y	Y		Y

Scientific name	Common Name	Property																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
<i>Opuntia sp.</i>	Prickly Pear	Y	Y			Y		Y	Y						Y	Y	Y					Y		Y	Y		Y
<i>Pinus halepensis</i>	Aleppo Pine	Y	Y	Y		Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y	Y		Y
<i>Rhamnus alaternus</i>	Blowfly Bush	Y	Y			Y		Y							Y		Y			Y							Y
<i>Rosa canina</i>	Dog Rose	Y				Y	Y								Y					Y							Y
<i>Salix babylonica</i>	Weeping Willow																	Y									
<i>Silybum marianum</i>	Variegated Thistle	Y	Y			Y	Y	Y	Y							Y	Y			Y					Y	Y	Y
<i>Tamarix aphylla</i>	Athel Pine															Y											



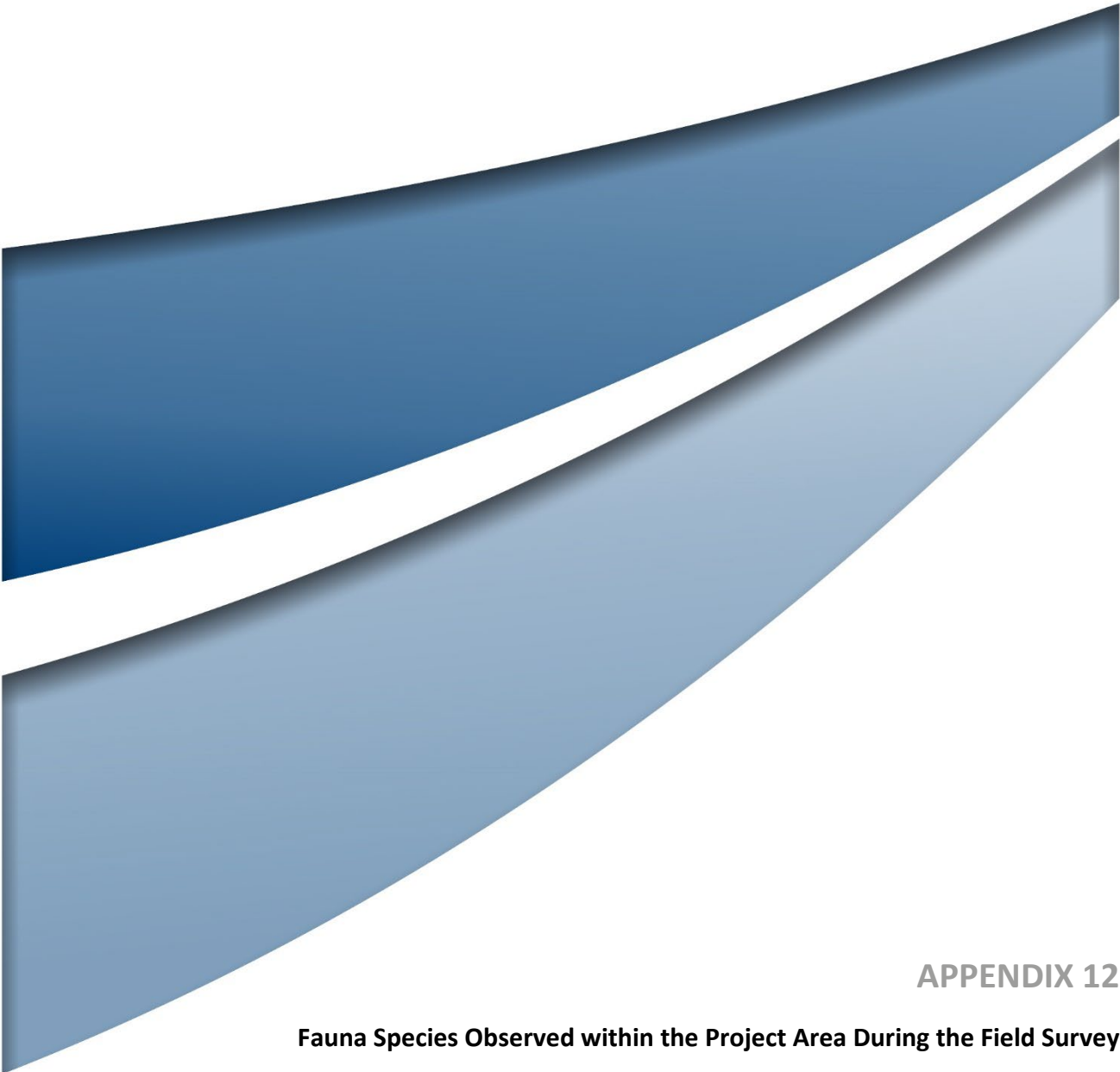
APPENDIX 11

**Declared Weeds Observed in the Project Area and their
Management Requirements under the LSA Act**

Scientific Name	Common Name	WoNS	LSA Act Requirements
<i>Asparagus asparagoides</i> f. <i>asparagoides</i>	Bridal Creeper	Yes	Landowners in this region to take reasonable steps to kill plants and prevent their spread. Enforceable by the Green Adelaide Board. Must not be sold or traded in any way, including as a contaminant of anything. Must not be transported on a public road, including as a contaminant of anything.
<i>Casuarina glauca</i>	Grey Bul oak	-	Landowners in this region to take reasonable steps to kill plants and prevent their spread. Enforceable by the Green Adelaide Board. Must not be sold or traded in any way, including as a contaminant of anything. Must not be transported on a public road, including as a contaminant of anything. Must not be imported into the region.
<i>Chrysanthemoides monilifera</i> ssp. <i>Monilifera</i>	Bitou Bush	Yes	Landowners in this region to take reasonable steps to kill plants and prevent their spread. Enforceable by the Green Adelaide Board. Must not be sold or traded in any way, including as a contaminant of anything. Must not be transported on a public road, including as a contaminant of anything. Must not be imported into the region.
<i>Coprosma repens</i>	Mirror-bush	-	Landowners in this region to take reasonable steps to kill plants and prevent their spread. Enforceable by the Green Adelaide Board. Must not be sold or traded in any way, including as a contaminant of anything.
<i>Cynara cardunculus</i> ssp. <i>flavescens</i>	Artichoke Thistle	-	Landowners in this region to take reasonable steps to kill plants and prevent their spread. Enforceable by the Green Adelaide Board. Must not be sold or traded in any way, including as a contaminant of anything. Must not be transported on a public road, including as a contaminant of anything.
<i>Echium plantagineum</i>	Salvation Jane	-	Landowners in this region to take reasonable steps to kill plants and prevent their spread. Enforceable by the Green Adelaide Board. Must not be sold or traded in any way, including as a contaminant of anything. Must not be transported on a public road, including as a contaminant of anything.
<i>Eucalyptus globulus</i> spp. <i>globulus</i>	Tasmanian Blue Gum	-	N/A

Scientific Name	Common Name	WoNS	LSA Act Requirements
<i>Fraxinus angustifolia</i> <i>ssp. oxycarpa</i>	Desert Ash	-	Landowners in this region to take reasonable steps to kill plants and prevent their spread. Enforceable by the Green Adelaide Board. Must not be sold or traded in any way, including as a contaminant of anything.
<i>Gazania sp.</i>	Gazania	-	Landowners in this region to take reasonable steps to kill plants and prevent their spread. Enforceable by the Green Adelaide Board. Must not be sold or traded in any way, including as a contaminant of anything. Must not be transported on a public road, including as a contaminant of anything. Must not be imported into the region.
<i>Lycium ferocissimum</i>	African Boxthorn	Yes	Landowners in this region to take reasonable steps to kill plants and prevent their spread. Enforceable by the Green Adelaide Board. Must not be sold or traded in any way, including as a contaminant of anything. Must not be transported on a public road, including as a contaminant of anything.
<i>Marrubium vulgare</i>	Horehound	-	Must not be sold or traded in any way, including as a contaminant of anything. Must not be transported on a public road, including as a contaminant of anything.
<i>Olea europaea ssp.</i>	Olives	-	Landowners in this region to take reasonable steps to kill plants and prevent their spread. Enforceable by the Green Adelaide Board.
<i>Opuntia sp.</i>	Prickly Pear	Yes	Landowners in this region to take reasonable steps to kill plants and prevent their spread. Enforceable by the Green Adelaide Board. Must not be sold or traded in any way, including as a contaminant of anything. Must not be transported on a public road, including as a contaminant of anything. Must not be imported into the region.
<i>Pinus halepensis</i>	Aleppo Pine	-	Landowners in this region to take reasonable steps to kill plants and prevent their spread. Enforceable by the Green Adelaide Board. Must not be sold or traded in any way, including as a contaminant of anything. Must not be transported on a public road, including as a contaminant of anything.

Scientific Name	Common Name	WoNS	LSA Act Requirements
<i>Rhamnus alaternus</i>	Blowfly Bush	-	Landowners in this region to take reasonable steps to kill plants and prevent their spread. Enforceable by the Green Adelaide Board. Must not be sold or traded in any way, including as a contaminant of anything.
<i>Rosa canina</i>	Dog Rose	-	Landowners in this region to take reasonable steps to kill plants and prevent their spread. Enforceable by the Green Adelaide Board. Must not be sold or traded in any way, including as a contaminant of anything. Must not be transported on a public road, including as a contaminant of anything.
<i>Salix babylonica</i>	Weeping Willow	Yes	N/A
<i>Silybum marianum</i>	Variegated Thistle	-	Must not be sold or traded in any way, including as a contaminant of anything. Must not be transported on a public road, including as a contaminant of anything.
<i>Tamarix aphylla</i>	Athel Pine	Yes	Landowners in this region to take reasonable steps to kill plants and prevent their spread. Enforceable by the Green Adelaide Board. Must not be sold or traded in any way, including as a contaminant of anything. Must not be transported on a public road, including as a contaminant of anything.

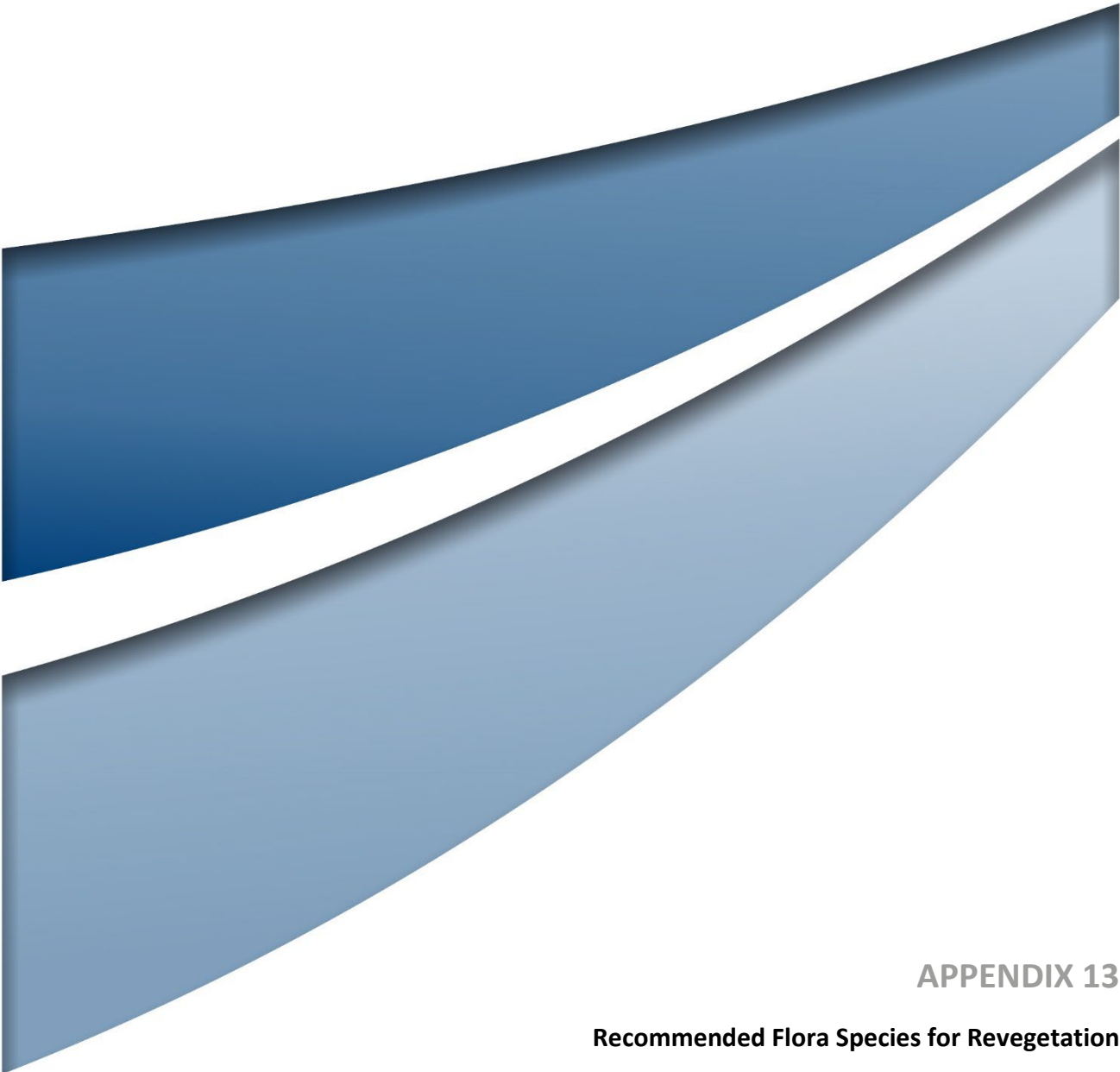


APPENDIX 12

Fauna Species Observed within the Project Area During the Field Survey

*	Scientific name	Common name	Conservation status	
			EPBC Act	NPW Act
	<i>Acanthiza chrysorrhoa leighi</i>	Yellow-rumped Thornbill		
	<i>Anthochaera carunculata woodwardi</i>	Red Wattlebird		
	<i>Cacatua galerita</i>	Sulphur-crested Cockatoo		
*	<i>Carduelis carduelis britannica</i>	European Goldfinch		
	<i>Colluricincla harmonica harmonica</i>	Grey Shrikethrush		
*	<i>Columba livia</i>	Rock Doves		
	<i>Coracina novaehollandiae</i>	Black-faced Cuckooshrike		
	<i>Corvus mellori</i>	Little Raven		
	<i>Egretta novaehollandiae</i>	White -faced Heron		
	<i>Elanus axillaris</i>	Black-shouldered Kite		
	<i>Eolophus roseicapilla albiceps</i>	Galah		
	<i>Falco longipennis murchisonianus</i>	Australian Hobby		
	<i>Grallina cyanoleuca cyanoleuca</i>	Magpielark		
	<i>Gymnorhina tibicen</i>	Australian Magpie		
	<i>Macropus fuliginosus</i>	Western Grey Kangaroo		
	<i>Malurus cyaneus leggei</i>	Superb Fairy -wren		
	<i>Neochmia temporalis temporalis</i>	Red Browed Finch		
	<i>Ocyphaps lophotes lophotes</i>	Crested Pigeon		
*	<i>Ovis aries</i>	Sheep		
	<i>Pardalotus striatus</i>	Straited Pardalote		
*	<i>Passer domesticus domesticus</i>	House Sparrow		
	<i>Phylidonyris novaehollandiae novaehollandiae</i>	New Holland Honeyeater		
	<i>Phylidonyris pyrrhopterus halmaturinus</i>	Crescent Honeyeater		
	<i>Platycercus elegans fleurieuensis</i>	Crimson Rosella		
	<i>Platycercus eximius eximius</i>	Eastern Rosella		
	<i>Ptilotula penicillata penicillata</i>	White-plumed Honeyeater		
*	<i>Spilopelia chinensis</i>	Spotted dove		
	<i>Trichoglossus moluccanus moluccanus</i>	Rainbow Lorikeet		
	<i>Trichosurus vulpecula</i>	Brush-tailed Possum		Rare
*	<i>Turdus merula merula</i>	Blackbird		
	<i>Vespertilionidae sp.</i>	Microbat		
*	<i>Vulpes vulpes</i>	Fox		
	<i>Zanda funerea whiteae</i>	Yellow-tailed Black Cockatoo		Vulnerable
	<i>Zosterops lateralis pinarochrous</i>	Silvereye		

* = introduced species



APPENDIX 13

Recommended Flora Species for Revegetation

Scientific Name	Common Name	EPBC Act	NPW Act	Vegetation type
Recorded species				
<i>Acacia paradoxa</i>	Kangaroo Thorn	-	-	Shrub
<i>Acacia pycnantha</i>	Golden Wattle	-	-	Tree
<i>Allocasuarina verticillata</i>	Drooping Sheoak	-	-	Tree
<i>Austrostipa</i> spp.	Spear Grass	-	-	Grass
<i>Callistemon rugulosus</i>	Scarlet Bottlebrush	-	-	Tree
<i>Callitris gracilis</i>	Southern Cypress Pine	-	-	Tree
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush	-	-	Shrub
<i>Eucalyptus camaldulensis</i> var. <i>camaldulensis</i>	River Red Gum	-	-	Tree
<i>Eucalyptus porosa</i>	Mallee Box	-	-	Tree
<i>Pittosporum angustifolium</i>	Native Apricot	-	-	Tree
<i>Rhagodia parabolica</i>	Mealy Saltbush	-	-	Shrub
<i>Themeda triandra</i>	Kangaroo Grass	-	-	Grass
Pre-European and other native species that occur in the Green Adelaide Region				
<i>Acacia acinacea</i>	Wreath Wattle	-	-	Shrub
<i>Acacia ligulata</i>	Umbrella Bush	-	-	Shrub
<i>Acacia retinodes</i> var. <i>retinodes</i>	Swamp Wattle	-	-	Tree
<i>Arthropodium strictum</i>	Chocolate Lily	-	-	Forb
<i>Brachyscome diversifolia</i>	Tall Daisy	-	-	Forb
<i>Bursaria spinosa</i>	Bursaria	-	-	Shrub
<i>Caladenia cardiochila</i>	Heart-lipped Spider-orchid	-	-	Forb
<i>Calostemma purpureum</i>	Pink Garland Lily	-	-	Forb
<i>Carex appressa</i>	Tall Sedge	-	-	Grass
<i>Carex inversa</i>	Knob Sedge	-	-	Grass
<i>Cullen parvum</i>	Small Scurf-pea	-	-	Forb
<i>Cymbopogon ambiguus</i>	Lemon Grass	-	-	Grass
<i>Cyprus gymnocaulos</i>	Spiny Flat-sedge	-	-	Grass
<i>Cyperus vaginatus</i>	Stiff Flat-sedge	-	-	Grass
<i>Correa glabra</i>	Rock Correa	-	-	Shrub
<i>Cullen australasicum</i>	Tall Scurf-pea	-	-	Forb
<i>Dianella revoluta</i> var. <i>revoluta</i>	Black-anther Flax-lily	-	-	Forb
<i>Dichanthium sericeum</i> spp. <i>humilius</i>	Annual Silky Blue-grass	-	-	Grass
<i>Dodonaea viscosa</i>	Sticky Hop-brush	-	-	Shrub

Scientific Name	Common Name	EPBC Act	NPW Act	Vegetation type
<i>Eclipta platyglossa</i> spp. <i>platyglossa</i>	Yellow Twin-heads	-	-	Forb
<i>Erodium crinitum</i>	Blue Heron's-bill	-	-	Forb
<i>Eucalyptus socialis</i>	Beaked Red Mallee	-	-	Tree
<i>Ficinia nodosa</i>	Knobby Club-rush	-	-	Grass
<i>Gahnia filum</i>	Thatching Grass	-	-	Grass
<i>Glycine latrobeana</i>	Clover Glycine	-	-	Forb
<i>Goodenia ovata</i>	Hop Goodenia	-	-	Shrub
<i>Hardenbergia violacea</i>	Native Lilac	-	-	Shrub
<i>Juncus pallidus</i>	Pale Rush	-	-	Grass
<i>Juncus pauciflorus</i>	Loose-flower Rush	-	-	Grass
<i>Kennedia prostrata</i>	Scarlet Runner	-	-	Shrub
<i>Lomandra multiflora</i>	Hard Mat-rush	-	-	Grass
<i>Maireana brevifolia</i>	Short-leaf Bluebush	-	-	Shrub
<i>Myoporum viscosum</i>	Sticky Boobialla	-	-	Shrub
<i>Olearia ramulosa</i>	Twiggy Daisy Bush	-	-	Shrub
<i>Pimelea glauca</i>	Smooth Riceflower	-	-	Shrub
<i>Poa labillardieri</i> var. <i>labillardieri</i>	Common Tussock-grass	-	-	Grass
<i>Podolepis jaceoides</i>	Showy Podolepis	-	-	Forb
<i>Pycnosorus chrysanthos</i>	Golden Billy-buttons	-	-	Forb
<i>Rytidosperma</i> spp.	Wallaby Grass	-	-	Grass
<i>Schoenoplectus pungens</i>	Spiky Club-rush	-	-	Grass
<i>Schoenoplectus validus</i>	River Club-rush	-	-	Grass
<i>Swainsona behriana</i>	Behr's Swainson-pea	-	-	Forb
<i>Vittadinia blackii</i>	New Holland Daisy	-	-	Shrub
Threatened species within the Green Adelaide Region				
<i>Atriplex australasica</i>	Native Orache	-	R	Shrub
<i>Bothriochloa macra</i>	Red Grass	-	R	Grass
<i>Dampiera lanceolata</i> var. <i>intermedia</i>	Aldinga Dampiera	-	E	Shrub
<i>Dianella longifolia</i> var. <i>grandis</i>	Pale Flax-lily	-	R	Forb
<i>Myoporum parvifolium</i>	Creeping Boobialla	-	R	Shrub
<i>Olearia passerinoides</i> spp. <i>glutescens</i>	Sticky Diasy-bush	-	R	Shrub

EPBC Act (Environment Protection and Biodiversity Conservation Act 1999). NPW Act (National Parks and Wildlife Act 1972). Conservation Codes: E = Endangered. R = Rare

