Native Vegetation Clearance

Carcuma Road Upgrade, Tintinara

Coorong District Council

Data Report

Clearance under the *Native Vegetation Regulations 2017*

Prepared by Ecosphere Ecological Solutions

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1. Application information

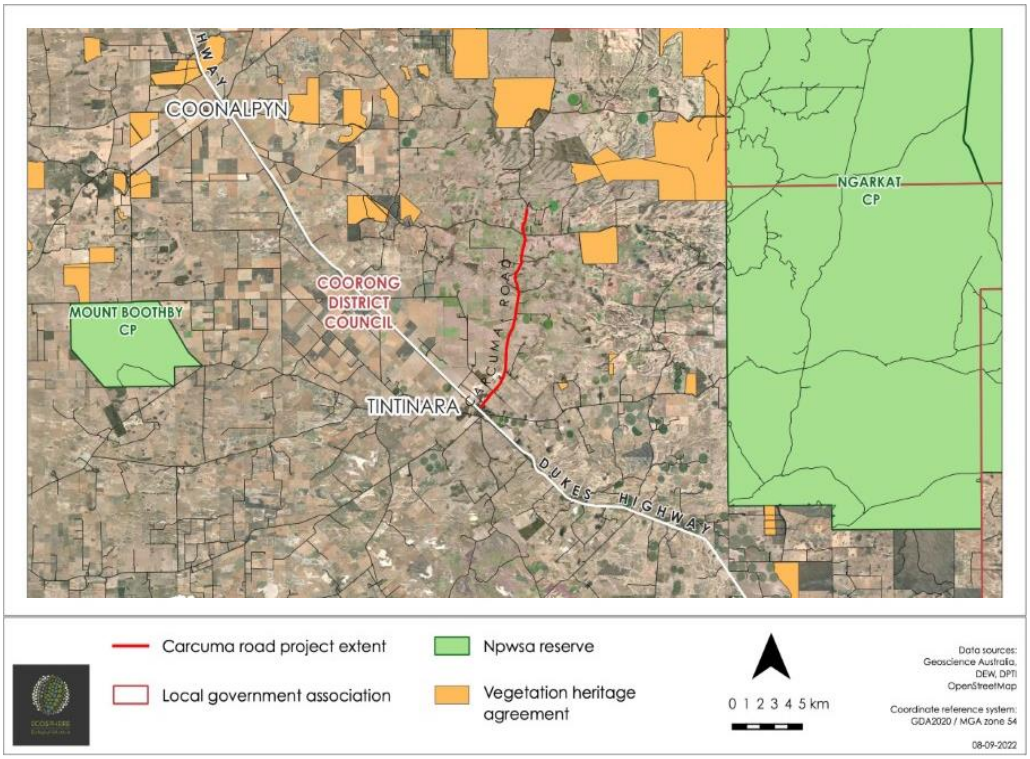
Application Details

Applicant:	Coorong District Council		
Key contact:			
Landowner:	Coorong District Council		
Site Address:	Carcuma Rd, Tintinara		
Local Government Area:	Coorong District Council	Hundred:	Coombe, Lewis
Title ID:	Road Reserve	Parcel ID	Road Reserve

Summary of proposed clearance

Purpose of clearance	Clearance for road pavement widening.
Native Vegetation Regulation	Regulation 12, Schedule 1, Clause 34 - Infrastructure
Description of the vegetation under application	Intergrades *between Eucalyptus leucoxylon subsp. stephaniae* (SA Blue-gum) *E. fasciculosa* (Pink Gum) Woodland over open sclerophyllous heath on the flats and *E. incrassata* (Ridge Fruited Mallee) / *Leptospermum coriaceum* (Tea Tree) on dune ridges with deeper white sands.
Total proposed clearance - area (ha) and number of trees	24 scattered trees are proposed to be cleared.
Level of clearance	Level 4
Overlay (Planning and Design Code)	Native Vegetation Overlay

Map of proposed clearance area



Mitigation hierarchy	The number of trees initially proposed for removal has been reduced through road realignment and the use of barriers. Clearance in areas of intact vegetation has also been avoided. Hollow-bearing trees have been retained where possible.
SEB Offset proposal	Payment of $40,990.37

2. Purpose of clearance

2.1 Description

Carcuma Road is a sealed road that carries two-way traffic located at Tintinara, approximately 169 km south-east of the Adelaide metropolitan area
The clearance proposed is to allow for the road pavement widening of 14km of Carcuma Road. The project starts at the intersection of Wendt Terrance and Carcuma Road in Tintinara and extends approximately 14km North. This road upgrade will improve access via heavy vehicle to the Thomas Food International (TFI) Feedlot which is accessible from Carcuma Road via an access road approximately 2km North of the Carcuma Road and Webb Road intersection.

2.2 Background

Carcuma Road starts in the township of Tintinara and extends north through agricultural land (predominantly sheep, beef and cropping land use). The wider area includes numerous heritage agreements and conservation areas. The most significant areas include Ngarkat Conservation Park (CP) (approx. 15km east) and Carcuma CP (approx. 12km north).

Carcuma Road is a regionally significant freight link to the Thomas Food International (TFI) Feedlot. The TFI Feedlot is a regionally significant industry generator which requires significant freight movements to operate.

Project Outcomes:

- Provide improved access to regionally significant freight generator
- Improved road safety
- Improved heavy vehicle efficiency
- Reduction in road maintenance requirement
- Upgrade of a regionally significant transport route.

Statistics:

- Carcuma road has approximately 120 vehicles per day, which is predicted to increase by 50% due to feedlot upgrade
- Almost 30% of all vehicles using Carcuma road are heavy vehicles
- Carcuma Road is a 'Class 3' road within the council's road classification

2.3 General location map

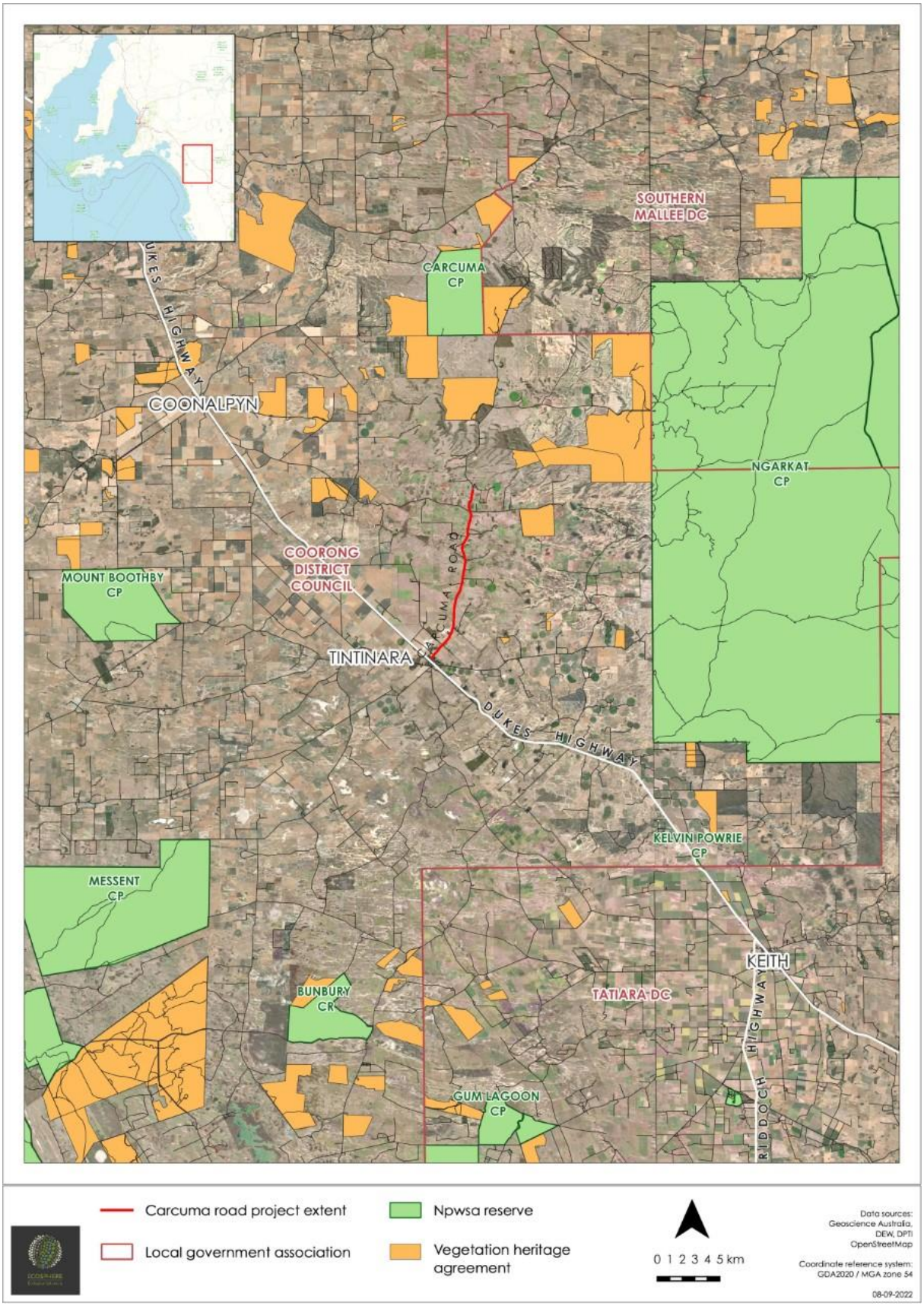


Figure 1. Location of project.

2.4 Details of the proposal

The upgrade project scope includes the widening of the existing seal from Wendt Terrace to the end of existing seal at Heinrich Road intersection.

2.5 Approvals <u>required</u> *or* <u>obtained</u>

This report discusses the findings of a desktop and field assessment and related directly to the following legislation.
Australia

- *Environment Protection and Biodiversity Conservation Act 2004* (EPBC Act)

South Australia

- *National Parks and Wildlife Act 1972* (NPW Act)
- *Native Vegetation Act 1991,* (NVC Act)
- *Landscape South Australia Act 2019* (LSA Act)
- *Planning Development and Infrastructure Act 2016* (PDI Act)

2.6 Native Vegetation Regulation

Regulation 12, Schedule 1, Clause 34 – Infrastructure. To allow clearance of vegetation incidental to the construction or expansion of a building or infrastructure (and associated services) where the Minister has declared that the clearance is in the public interest.

2.7 Development Application information (if applicable)

Under the PDI Act the site (a public road) is zoned Rural and falls within the Native Vegetation overlay.

3. Method

3.1 Desktop study

3.1.1 Protected Matters Search Tool (PMST) – EPBC Act

The online PMST was used to determine Matters of National Environmental Significance (MNES) under the EPBC Act relevant to the project area (DoEE 2020). The PMST is maintained by the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) and was used to identify flora and fauna species or ecological communities of national environmental significance that may occur or likely to have suitable habitat within 5km of the project area. Nationally threatened species potentially occurring within the project area were identified from this source.

3.1.2 Biological Database of South Australia (BDBSA) – NPW Act

A Biological Database of South Australian (BDBSA) Supertable search was obtained from the South Australian Department for Environment and Water (DEW) on the 12th August 2022 to identify flora and fauna species previously recorded within a 10 km buffer around the Project area (DEW 2020). The increased buffer size of 10km and no time constraint or spatial reliability was utilised due to the limited number of observations within the project area 5km buffer.

The BDBSA is comprised of an integrated collection of corporate databases which meet DEWNR standards for data quality, integrity and maintenance. In addition to DEWNR biological data the BDBSA also includes data from partner organisations (Birds Australia, Birds SA, Australasian Wader Study Group, SA Museum, and other State Government Agencies). This data is included under agreement with the partner organisation for ease of distribution, but they remain owners of the data and should be contacted directly for further information.

3.1.3 Assessment of the likelihood of occurrence

The likelihood of each threatened flora and fauna species occurring within the Project areas was assessed. A likelihood of occurrence rating (Highly Likely / Known, Likely, Possible and Unlikely) was assigned to each threatened species identified in the desktop PMST and BDBSA search (Table 1).

Table 1. Criteria for the likelihood of occurrence of species within the Project area.

Likelihood	Criteria
Highly Likely/Known	Recorded in the last 10 years, the species does not have highly specific niche requirements, the habitat is present and falls within the known range of the species distribution or; The species was recorded as part of field surveys.
Likely	Recorded within the previous 20 years, the area falls within the known distribution of the species and the area provides habitat or feeding resources for the species.
Possible	Recorded within the previous 20 years, the area falls inside the known distribution of the species, but the area provides limited habitat or feeding resources for the species. Recorded within 20-40 years, survey effort is considered adequate, habitat and feeding resources present, and species of similar habitat needs have been recorded in the area.
Unlikely	Recorded within the previous 20 years, but the area provides no habitat or feeding resources for the species, including perching, roosting or nesting opportunities, corridor for movement or shelter. Recorded within 20 -40 years; however, suitable habitat does not occur, and species of similar habitat requirements have not been recorded in the area. No records despite adequate survey effort.

3.2 Field Survey

The field survey was conducted on 1st September.2022 by Native Vegetation Council (NVC) accredited ecologist Andrew Sinel with assistance provided by ecologist Imogen Marshall. The field survey included a vegetation survey and an opportunistic fauna assessment.

3.2.1 Vegetation survey

The NVC scattered tree assessment method is suitable for assessing scattered trees in the following instances:

- Individual scattered trees (i.e., canopy does not overlap). Spatial distribution of trees may vary from approach what would be considered their original distribution (pre-European) through to single isolated trees in the middle of a paddock or;
- Dead trees (when a dead tree is considered native vegetation) or;
- Clumps of trees (contiguous overlapping canopies) if the clump is small (~<0.1 ha) and;
- For both scattered trees and clumps;
    - the ground layer comprising wholly or largely of introduced species
    - some scattered colonising native species may be present, but represents <5% of the ground cover
    - the area around the trees consists of introduced pasture or crops.

3.2.2 Fauna survey

For fauna species, opportunistic observations were recorded, or alternatively, the native vegetation within the project area buffer was assessed for fauna habitat value. Therefore, the likelihood of specific species occurring within the project footprint buffer was made based on the presence of suitable habitat and included:

- reviewing previous field survey results and database records.
- assessing the habitat value of the vegetation during the field survey to determine the fauna species likely to occur within the Project area; and
- highlighting any areas of significant fauna value.

4. Assessment Outcomes

4.1 Vegetation Assessment

The project area forms a transitional vegetation community which in its poorest for constitutes a *Eucalyptus. diversifolia* (Coastal White Mallee) and/or *E. incrassata* (Ridge Fruited Mallee) and is associated with calcareous coastal dune systems stranded inland from the present coastline when the sea-level fluctuated during the Pleistocene ice-ages (Specht 1972). These occur largely at the northern extent of the project area.
The *Eucalyptus leucoxylon* (SA Blue-gum) / *E. fasciculosa* (Pink Gum) sclerophyll woodlands alliance were associated with lateritic podzols soils low in plant nutrients-especially phosphorus and nitrogen. These were almost always accompanied by an understorey of *Xanthorrhoea caespitosa* (Yacca) and located more towards the southern end of Carcuma Road and associated with the flatter terrain in the area.
Condition of the understorey varied, often dependent on the width of the road reserve but also heavily driven by neighbouring land management. Some area had little to no indigenous vegetation remaining while other aeras were semi-intact and had a dominant understorey of native vegetation.
Most commonly occurring weeds in the understorey were *Ehrharta calycina* (Perennial Veldt Grass), *Vicia sativa* (Vetch), *Asparagus asparagoides* (Bridal Creeper) and *Dactylis glomerata* (Cocksfoot).
Habitat value for the area was generally high as the road reserve provides significant links between other remnant patches and scattered paddock trees within the wider area. Numerous dead trees were present that had many hollow bearing limbs.

Fifty-four scattered trees were marked on the design drawings however refining of the plans has allowed for many of these to be retained though mechanical methods such as barriers and through design alterations such as realignment. In total 21 trees are remaining as requiring removal to accommodate the extent of works.

Table 2. Scattered trees proposed for removal. See appendix 2 for photos.

Tree #	Species	No. of Trees	Height (m)	Hollows	Diameter (cm)	Dieback (%)	Biodiversity Score	Remove	General Comments	Photo #
1	*Eucalyptus leucoxylon*	1	14	None	60.1	5		N		1
2	*Eucalyptus leucoxylon*	1	14	None	76.0	30		Y		2
3	*Eucalyptus fasciculosa*	1	13	1 small	66.0	30		Y		3
4	*Eucalyptus fasciculosa*	1	9	1 small	51.0	10		Y		4
5	*Eucalyptus fasciculosa*	1	10	None	50.2	10		N	Acacia cyclops at base. Multi stem but one stem broken.	5
6	*Eucalyptus leucoxylon*	1	12	None	67.0	0		Y		6
7	*Eucalyptus leucoxylon*	1	1.6	None	4.1	0		Y		7
8	*Eucalyptus gracilis*	1	9	None	30.0	10		Y		10
9	*Dead tree*	1	10	4 small, 1 medium	51.0	100		Y	High Value. Dead tree. Not overly stable.	11
10	*Eucalyptus leucoxylon*	1	12	None	67.2	5		Y		12
11	*Eucalyptus leucoxylon*	1	12	None	47.6	40		N		13
12	*Eucalyptus diversifolia*	1	5.5	None	48.0	5		N		14
13	*Eucalyptus leptophylla*	1	3.5	None	10.8	30		N		15
14	*Eucalyptus diversifolia*	1	8.5	None	56.0	10		N		16
15	*Eucalyptus leucoxylon*	1	18	1 large	72.0	5		Y		17
16	*Eucalyptus fasciculosa*	1	11	None	80.8	20		Y	High Value.	18
17	*Eucalyptus fasciculosa*	1	14	1 small	90.7	20		Y	High Value.	19
18	*Eucalyptus leucoxylon*	1	13	2 medium	61.0	5		Y		20
19	*Eucalyptus leucoxylon*	1	11	1 small	45.0	40		N	Multi stem, one stem dead. Heavily pruned.	21
20	*Dead tree*	1	10	2 small	41.0	100		N	Dead tree.	22
21	*Eucalyptus diversifolia*	1	3	None	15.6	10		N	Heavily pruned.	23
22	*Eucalyptus fasciculosa*	1	11	None	68.0	15		N		24
23	*Eucalyptus fasciculosa*	1	10	1 small	53.7	20		Y		25
24	*Eucalyptus fasciculosa*	1	13	None	65.0	30		N		26
25	*Eucalyptus fasciculosa*	1	10	None	49.0	15		N		27
26	*Eucalyptus leucoxylon*	1	11	None	92.1	20		N		28
27	*Eucalyptus leucoxylon*	1	8	None	60.0	10		N		29
28	*Eucalyptus leucoxylon*	1	9	None	66.0	5		N	High Value.	30

Tree #	Species	No. of Trees	Height (m)	Hollows	Diameter (cm)	Dieback (%)	Biodiversity Score	Remove	General Comments	Photo #
29	*Eucalyptus leucoxylon*	1	8	None	54.4	5		N	High Value.	31
30	*Eucalyptus fasciculosa*	1	14	None	97.0	10		N	High Value.	36
31	*Dead Tree*	1	10	3 small, 3 medium, 3 large	82.0	100		Y	High Value. Dead tree. Not overly stable - termite damage. Protective barrier recommended. However, tree may have low longevity.	37
32	*Eucalyptus fasciculosa*	1	12	None	59.1	15		N		38
33	*Eucalyptus fasciculosa*	1	12	1 medium	52.0	20		Y		39
34	*Eucalyptus fasciculosa*	1	12	None	74.7	10		Y		40
35	*Eucalyptus fasciculosa*	1	10	None	62.0	5		Y	High Value. Pruned. Protective barrier recommended.	41
36	*Eucalyptus fasciculosa*	1	12	None	62.0	40		Y		42
37	*Dead Tree*	1	8	2 small	57.0	100		N	Dead tree.	43
38	*Eucalyptus leucoxylon*	1	13	1 medium	65.0	30		N		44
39	*Eucalyptus fasciculosa*	1	6	None	37.0	50		N	Pruned.	45
40	*Eucalyptus leucoxylon*	1	7	None	31.0	10		N		46
41	*Eucalyptus porosa*	1	3	None	25.0	40		N	Heavily pruned. Realign road to avoid tree.	47
42	*Eucalyptus fasciculosa*	1	10	None	38.0	15		Y	Realign road to avoid tree.	48
43	*Eucalyptus fasciculosa*	1	12	None	52.0	30		Y		49
44	*Eucalyptus leucoxylon*	1	12	None	49.0	10		N		50
45	*Eucalyptus diversifolia*	1	8	None	36.8	5		Y	Pruned.	51
46	*Acacia pycnantha*	1	5	None	12.0	40		Y	Low Value.	52
47	*Eucalyptus leucoxylon*	1	13	None	60.1	10		N		53
48	*Eucalyptus leucoxylon*	1	8	None	37.0	10		N		54
49	*Eucalyptus leucoxylon*	1	11	None	30.0	10		N		55
50	*Eucalyptus leucoxylon*	1	10	None	33.0	70		N		56
51	*Dead Tree*	1	10	4 small, 2 medium, 2 large	44.0	100		N	High Value. Dead tree. Pardalotes in hollow.	57
52	*Eucalyptus fasciculosa*	1	16	None	64.0	10		Y	High Value. Protective barrier recommended.	58

Tree #	Species	No. of Trees	Height (m)	Hollows	Diameter (cm)	Dieback (%)	Biodiversity Score	Remove	General Comments	Photo #
53	*Eucalyptus leucoxylon*	1	9	None	27.0	80		N		59
54	*Eucalyptus leucoxylon*	1	4	None	27.0	90		Y	Heavily pruned.	60

Site map showing areas of proposed impact

Figure 2. Project footprint depicting proposed tree removal. Trees 2, 3, 4, 6 and 7 are proposed for removal.

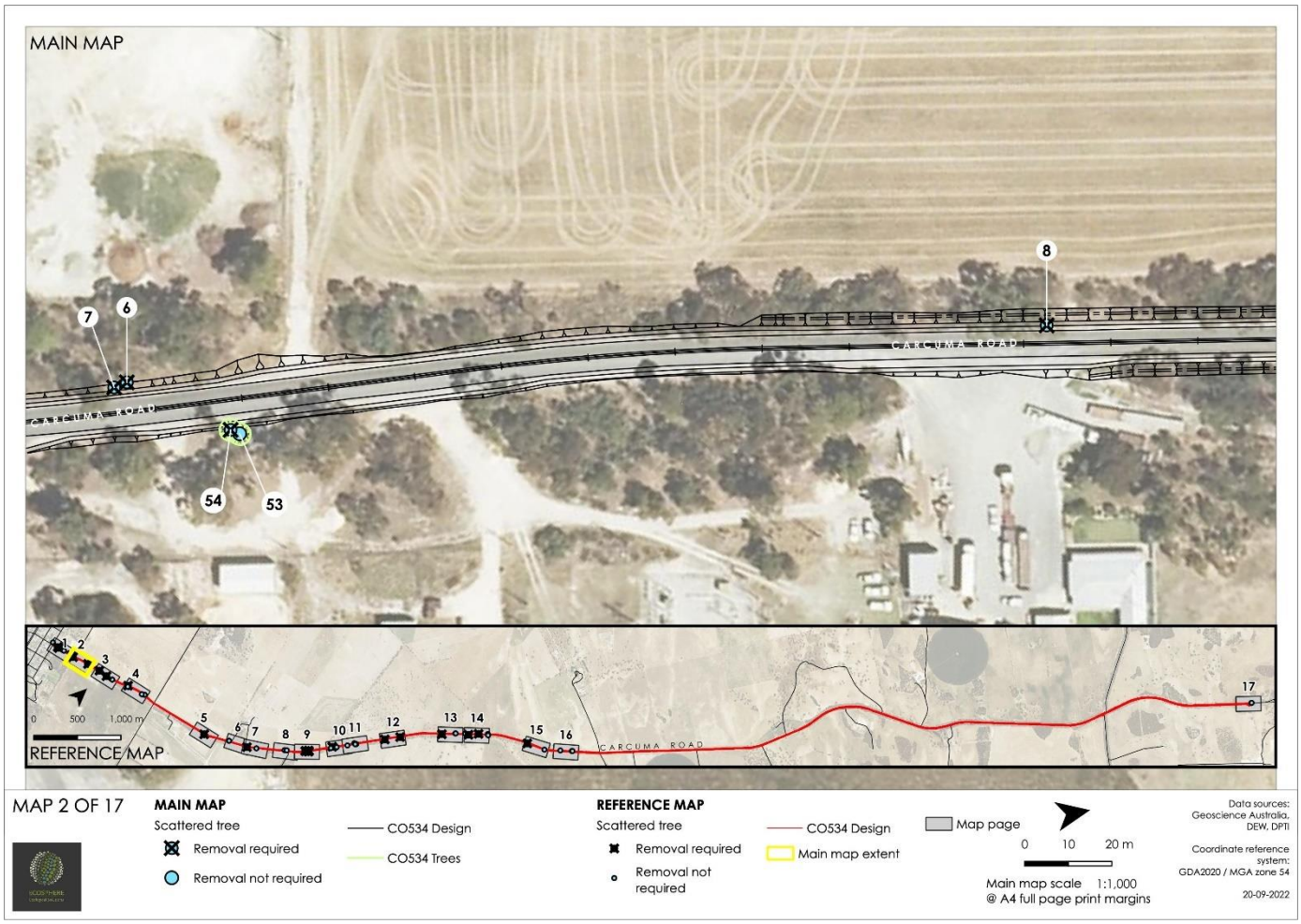


Figure 3. Project footprint depicting proposed tree removal. Trees 6, 7, 8 and 54 are proposed for removal.

Figure 4. Project footprint depicting proposed tree removal. Trees 9 and 52 are proposed for removal.

Figure 5. Project footprint depicting proposed tree removal. Trees 10 is proposed for removal.

Figure 6. Project footprint depicting proposed tree removal. Trees 46 is proposed for removal.

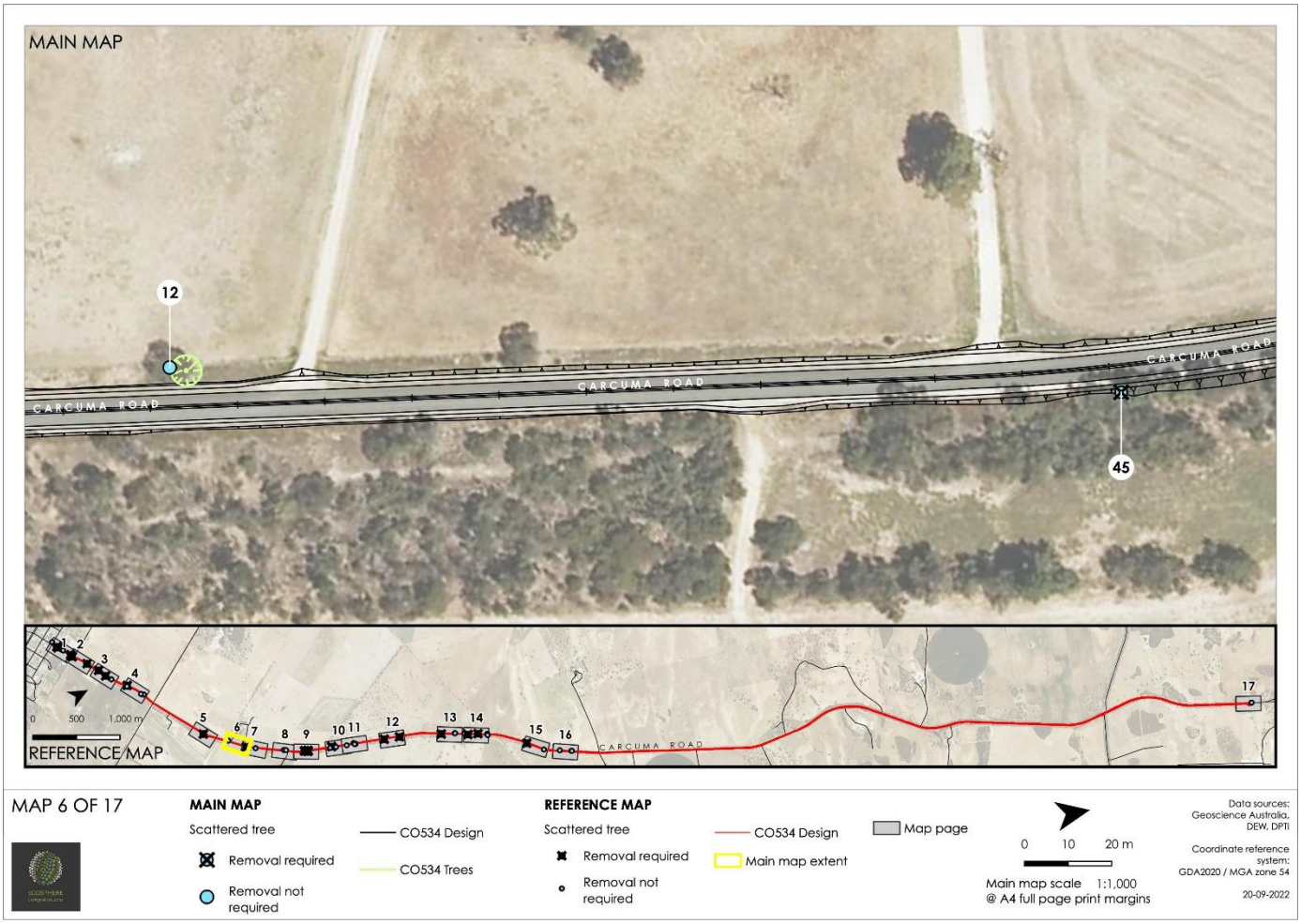


Figure 7. Project footprint depicting proposed tree removal. Trees 45 is proposed for removal.

Figure 8. Project footprint depicting proposed tree removal. Tree 45 is proposed for removal.

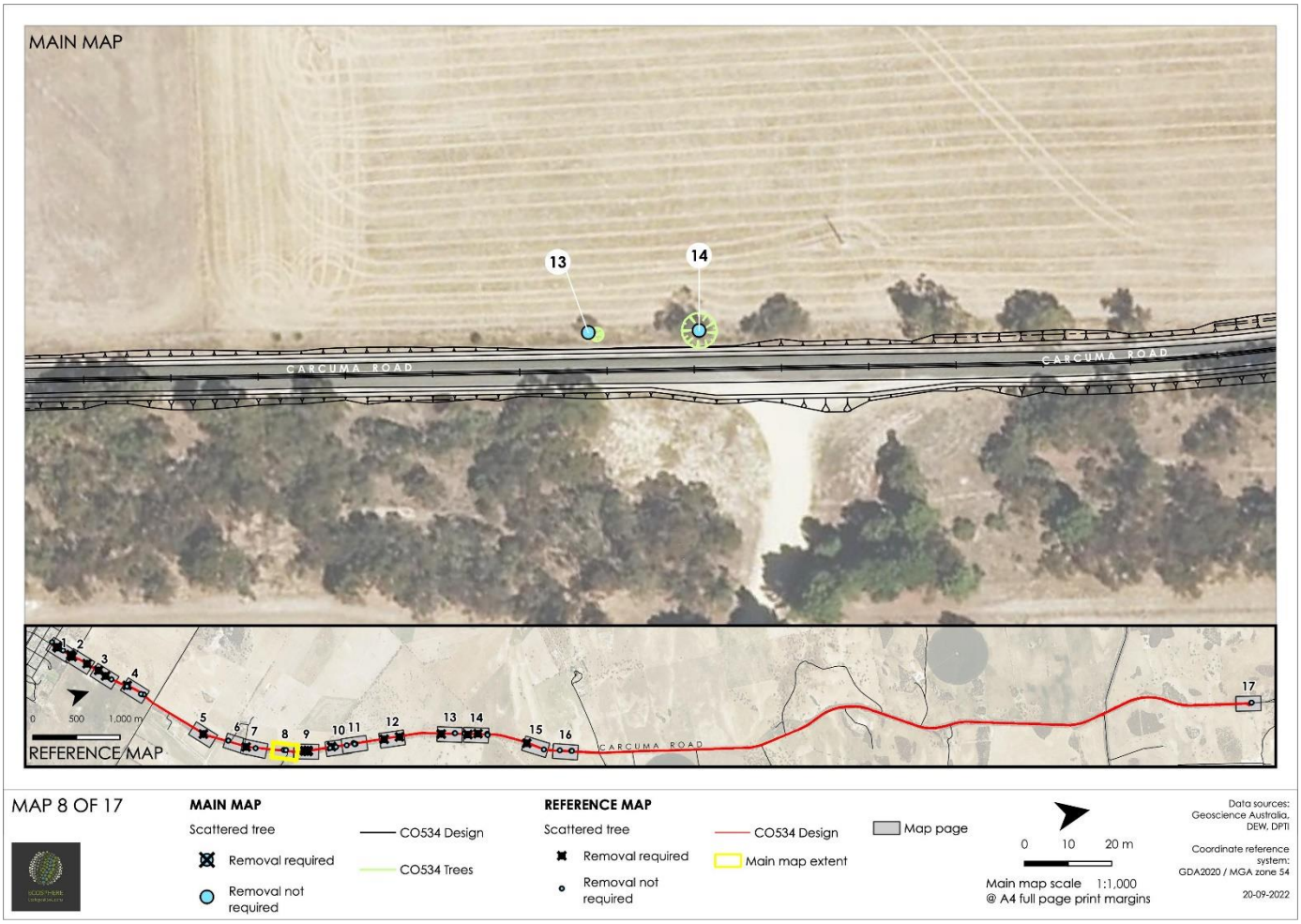


Figure 9. Project footprint depicting proposed tree removal.

Figure 10. Project footprint depicting proposed tree removal. Trees 15, 16, 17, 42 and 43 are proposed for removal.

Figure 11. Project footprint depicting proposed tree removal. Trees 18 is proposed for removal.

Figure 12. Project footprint depicting proposed tree removal.

Figure 13. Project footprint depicting proposed tree removal. Trees 35 and 36 are proposed for removal.

Figure 14. Project footprint depicting proposed tree removal. Tree 34 is proposed for removal.

Figure 15. Project footprint depicting proposed tree removal. Trees 23 and 33 are proposed for removal.

Figure 16. Project footprint depicting proposed tree removal. Trees 31 is proposed for removal.

Figure 17. Project footprint depicting proposed tree removal.

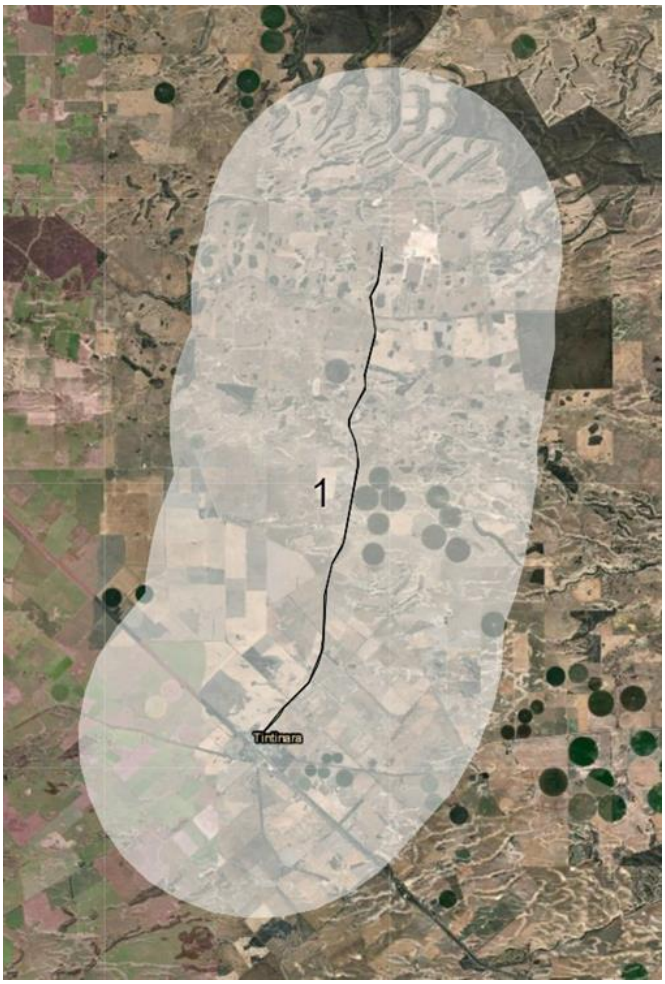
Figure 18. Project footprint depicting proposed tree removal.

4.2 Threatened Species assessment

4.2.1 Matters of National Significance

A total of 22 listed threatened species and 10 migratory species were identified by the EPBC Act PMST report as potentially occurring or having suitable habitat potentially occurring within 5km of the project area (Table 3) (DCCEEW 2022). The relevant MNES protected under the EPBC Act are discussed in detail below.

Table 3. EPBC Act PMST report results summary.

Search Area (10km Buffer)	Matters of National Environmental Significance	Identified within search area
	World Heritage Properties	0
	National Heritage Places	0
	Wetlands of International Importance (RAMSAR)	0
	Great Barrier Reef Marine Park	0
	Commonwealth Marine Area	0
	Listed Threatened Ecological Communities	3
	Listed Threatened Species	22
	Listed Migratory Species	10
	Other Matters Protected by the EPBC	
	Commonwealth Lands	4
	Commonwealth Heritage Places	0
	Listed Marine Species	16
	Whales and Other Cetaceans	0
	Critical Habitats	0
	Commonwealth Reserves Terrestrial	0
	Australian Marine Parks	0
	Habitat Critical to the Survival of Marine Turtles	0
	Extra Information	
	State and Territory Reserves	5
	Regional Forest Agreements	0
	Nationally Important Wetlands	0
	EPBC Act Referrals	4
	Key Ecological Features	0
	Biologically Important Areas	0
	Bioregional Assessments	0
	Geological and Bioregional Assessments	0

4.2.2 Threatened ecological communities.

Three Threatened Ecological Communities (TEC) were found in the PMST as potentially occurring within 5 km of the project area (Table 4). The plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions is listed as Critically Endangered. The Mallee Bird Community of the Murray Darling Depression Bioregion and the Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions are both listed as Endangered. All three communities were considered as not occurring within the project area following the field assessment.

Table 4. Threatened Ecological Communities identified in the PMST.

Threatened Ecological Community	**EPBC Status**	**Likelihood of Occurrence in the Project Area**
Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions	Critically Endangered	Unlikely.
Mallee Bird Community of the Murray Darling Depression Bioregion	Endangered	Unlikely.
Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions	Endangered	Unlikely.

4.2.3 Nationally threatened flora

Nine flora species listed as threatened under the EPBC Act were identified in the PMST report as potentially occurring or having suitable habitat within the project area (Table 5). One species of national conservation significance had historical records within 10 km of the project area, *Thelymitra epipactoides*, the Metallic Sun-orchid. The species was considered unlikely to be present in the project area due to lack of suitable habitat.

4.2.4 State threatened flora.

Twelve flora species of state conservation significance had historical records within 10km of the project site from the BDBSA (Table 5, Figure 19). One species, *Eucalyptus fasciculosa*, Pink Gum, was considered highly likely to be present in the project area and was observed during the field survey.

A list of all flora species with historical records within 10 km of the project area is in shown Appendix 3.

Table 5. Threatened flora species listed under the EPBC Act and NPW Act identified in the PMST (Source 5, 5km buffer) and Naturemaps (Source 3, 10km buffer) database searches.

Scientific Name	Common Name	EPBC Act	NP&W Act	Data Source	Date of last record	Species known habitat preferences	Likelihood of use for habitat - comments
Acacia enterocarpa	Jumping-jack Wattle	EN	E	5		Open forest, mallee woodlands, grassy woodlands.	Unlikely
Acacia lineata	Streaked Wattle		R	3	11/10/1989	Open scrub vegetation.	Unlikely
Austrostipa echinata	Spiny Spear-grass		R	3	11/10/1953	Coastal and near coastal areas, mallee and open scrub.	Unlikely
Caladenia colorata	Coloured Spider-orchid, Painted Spider-orchid	EN	E	5		Intact woodland and scrubland not previously disturbed.	Unlikely
Caladenia conferta	Coast Spider-orchid	EN	E	5		Intact woodland, shrubland and sedgelands.	Unlikely
Caladenia fragrantissima	Scented Spider-orchid		V	3	11/09/1991	Intact dense heath or healthy forest in near coastal areas.	Unlikely
Caladenia tensa	Greencomb Spider-orchid, Rigid Spider-orchid	EN		5		Intact woodland not previously disturbed.	Unlikely
Eucalyptus fasciculosa	Pink Gum		R	3	5/12/2000	Well drained soil on hills.	Highly Likely/Known
Leionema microphyllum	Limestone Phebalium		R	3	15/09/2000	Mallee heathland.	Unlikely
Lepidium monoplocoides	Winged Pepper-cress	EN	E	5		Mallee scrub and open woodland in semi-arid areas.	Unlikely
Melaleuca wilsonii	Wilson's Honey-myrtle		R	3	12/09/1991	Mallee or dry woodland.	Unlikely
Philotheca angustifolia ssp. angustifolia	Narrow-leaf Wax-flower		R	3	12/09/1991	Mallee.	Unlikely
Podolepis decipiens			R*	3	1/01/1910	Open forest, woodland, grassland.	Unlikely
Pterostylis arenicola	Sandhill Greenhood Orchid	VU	V	5		Intact coastal woodland, scrubland and grasslands.	Unlikely
Pterostylis chlorogramma	Green-striped Greenhood	VU	E	5		Intact woodland not previously disturbed.	Unlikely
Senecio macrocarpus	Large-fruit Fireweed, Large-fruit Groundsel	VU	V	5		Ephemeral drainage lines and steep gorges	Unlikely
Spyridium fontis-woodii	Woods Well Spyridium	CR	E	3	22/09/1973	Mallee over dense understorey.	Unlikely
Styphelia clelandii	Cleland's Beard-heath		R	3	30/10/2014	Mallee scrub and heath.	Unlikely
Thelymitra epipactoides	Metallic Sun-orchid	EN	E	3,5	13/09/2006	Intact woodlands.	Unlikely
Xanthorrhoea minor ssp. lutea	Little Yacca		E	3	12/11/1935	Heathlands and heathy woodlands.	Unlikely

Source; 1- BDBSA, 2 - AoLA, 3 – NatureMaps 4 – Observed/recorded in the field, 5 - Protected matters search tool, 6 – others
NP&W Act; E= Endangered, V = Vulnerable, R= Rare EPBC Act; Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable

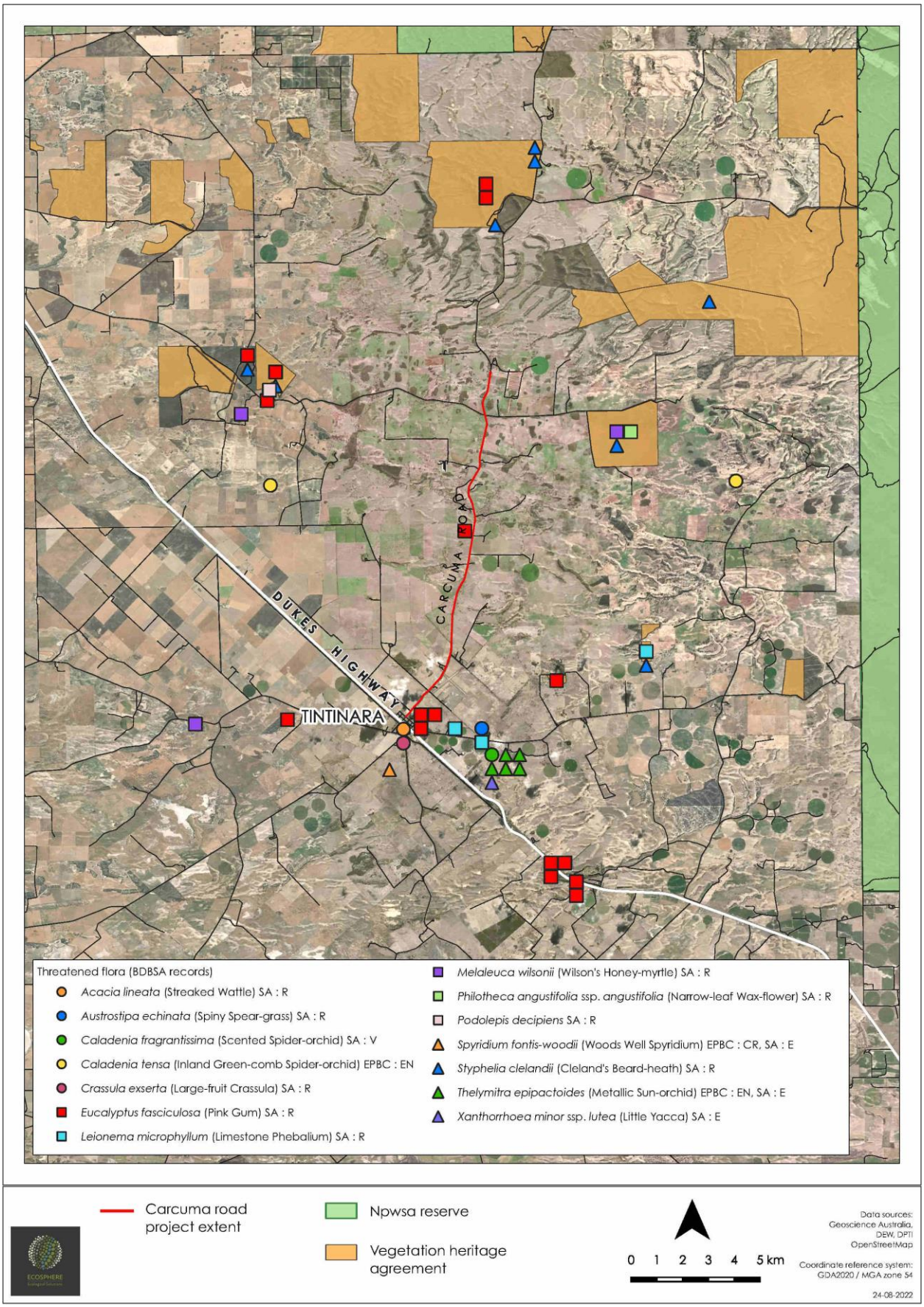


Figure 19. BDBSA records for conservation significant flora observations within 10km of the study area.

4.2.5 Nationally threatened fauna

Seven fauna species listed as threatened under the EPBC Act were identified in the PMST report as potentially occurring or having suitable habitat within the project area (Table 6). This included five bird, one mammal and one frog species. One species of national conservation significance had historical records within 10 km of the project area, *Stipiturus mallee*, the Mallee Emu-wren. This species is considered unlikely to use the project area due to a lack of suitable habitat and was not observed during the field survey.

4.2.6 Migratory species

Ten migratory species listed under the EPBC Act were highlighted as potentially present within 5km of the project area. None were considered likely to occur within the project area.

4.2.7 State threatened fauna.

Twelve fauna species of state conservation significance had historical records from the NatureMaps BDBSA search within 10km of the project area (Table 6, Figure 20).

Melanodryas cucullata cucullata Hooded Robin (SA:R) and *Microeca fascinans*, Jacky Winter (SA:R) were considered possible in the project area due to areas of suitable habitat and records of the species within 5km of the project area. However, the species are considered more likely to use patches of more intact vegetation adjacent to the project area. The removal of a few scattered trees from the project area would have little impact on the populations of both species as long as a sufficient trees remained as not to reduce habitat quality in the area and retain the connectivity provided by the road reserve as a biodiversity corridor and linkage to nearby paddock trees.

Neophema chrysostoma, Blue-winged Parrot (SA:V) and *Neophema elegans elegans*, Elegant Parrot (SA:R) were considered likely in the project area due to habitat suitability and observations of the species within 5km. Roadside trees and vegetation in the project area contribute to connecting intact patches of native vegetation in the area. This is important as both species are typically transient in nature, moving regularly across the landscape. The numerous large trees with hollows in the project area provide important resources required for breeding for both species. The removal of large trees with medium to large hollows has the potential to negatively impact Blue-winged Parrot and Elegant Parrot populations within the area. As a minimum, any trees with hollows allotted for removal should be retained as fallen habitat logs within the better-quality parts of the road reserve.

Corcorax melanorhamphos, White-winged Chough (SA:R), were observed during the field survey. This species has no previous records in the region on NatureMaps. White-winged Chough typically inhabit forests and woodlands with lots of leaf-litter and available mud for nesting. The species was observed once, in the north of the project area associated with Mallee vegetation. This was where larger fragments of intact vegetation in patches between 5 and 10 hectares in size were present spaced 2-300m apart. The nature of this proposal, where removal of scattered trees in areas of sparser roadside vegetation is being proposed, is unlikely to significantly impact White-winged Chough populations in the area.

A list of all fauna species with records within 10 km of the Project area is shown in Appendix 4.

Table 6. Threatened fauna species and migratory listed under the EPBC Act and NPW Act identified in the PMST (Source 5, 5km buffer) and BDBSA (Source 3, 10km buffer) database searches.

Scientific Name	Common Name	EPBC Act	NP&W Act	Data Source	Date of last record	Species known habitat preferences	Likelihood of use for habitat - comments
Acanthiza iredalei	Slender-billed Thornbill		R	3	21/11/1991	Coastal marshes, heath, and around salt lakes.	Unlikely
Actitis hypoleucos	Common Sandpiper	Mi	R	5		Shorebird. Coastal and inland wetlands. Saline and freshwater.	Unlikely
Apus pacificus	Fork-tailed Swift	Mi		5		Aerial species.	Unlikely
Calidris acuminata	Sharp-tailed Sandpiper	Mi		5		Shorebird. Coastal and inland wetlands. Saline and freshwater.	Unlikely
Calidris ferruginea	Curlew Sandpiper	CR, Mi		5		Shorebird. Intertidal mudflats, beaches, rocky shores as well as lakes, dams and floodwater.	Unlikely
Calidris melanotos	Pectoral Sandpiper	Mi		5		Shorebird. Intertidal mudflats, beaches, rocky shores as well as lakes, dams and floodwater.	Unlikely
Gallinago hardwickii	Latham's Snipe, Japanese Snipe	Mi	R	5		Freshwater wetlands, saltmarshes and creeks with dense vegetation.	Unlikely
Gerygone fusca	Western Gerygone		R	3	12/10/1991	Forests and woodlands dominated by eucalypts and wattles.	Unlikely
Hylacola cauta cauta	Shy Heathwren (EP, YP, FR, MM, upper SE)		R	3	23/10/2014	Open mallee and heathland.	Unlikely
Leipoa ocellata	Malleefowl	VU	V	3	20/10/2014	Mallee eucalypt woodlands with varied shrubby understorey. Frequently burnt areas are unsuitable.	Unlikely
Lichenostomus cratitius occidentalis	Purple-gaped Honeyeater (mainland SA)		R	3	23/10/2014	Mallee woodland and heathland.	Unlikely
Litoria raniformis	Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog	VU	V	5		Vegetation within or at the edges of permanent water such as slow flowing streams, swamps, lagoons and lakes.	Unlikely
Melanodryas cucullata cucullata	Hooded Robin (YP, MN, AP, MLR, MM, SE)		R	3	1/10/1991	Lightly timbered woodland, mainly dominated by acacia and/or eucalypts.	Possible
Microeca fascinans	Jacky Winter		R	3	17/11/1991	Open woodland with an open shrub layer and a lot of bare ground. Often seen in farmland and parks.	Possible
Motacilla cinerea	Grey Wagtail	Mi				Strong association with water, particularly rocky substrates along water courses but also lakes and marshes. Rare non-breeding summer visitor to northern Australia.	Unlikely
Motacilla flava	Yellow Wagtail	Mi		5		Regular wet season visitor to northern Australia. The species is considered a vagrant to Victoria, South Australia and southern Western Australia	Unlikely
Myiagra cyanoleuca	Satin Flycatcher	Mi	E	5		Tall forests, preferring wetter habitats such as heavily forested gullies.	Unlikely
Neophema chrysostoma	Blue-winged Parrot		V	3	23/10/2014	Grasslands and grassy woodlands. Often found near wetlands both near the coast and in semi-arid zones.	Likely

Scientific Name	Common Name	EPBC Act	NP&W Act	Data Source	Date of last record	Species known habitat preferences	Likelihood of use for habitat - comments
Neophema elegans elegans	Elegant Parrot		R	3	22/11/1991	Open habitats such as grasslands, shrublands, mallee, woodlands, heath and farmland.	Likely
Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew	CR, Mi	V	5		Coastal shorebird.	Unlikely
Pedionomus torquatus	Plains-wanderer	CR	E	5		Open plains in arid and semi-arid areas.	Unlikely
Polytelis anthopeplus monarchoides	Regent Parrot (eastern)	VU	V	5		The eastern population is found in River Red Gum, Eucalyptus camaldulensis, floodplain, woodland and mallee.	Unlikely
Psophodes leucogaster leucogaster	Mallee Whipbird	VU	V	5		Dense mallee or mallee-heath habitat	Unlikely
Pteropus poliocephalus	Grey-headed Flying-fox	VU	R	5		Urban areas, forests and woodlands, intertidal mangroves.	Unlikely
Rostratula australis	Australian Painted Snipe	EN	V	5		Migratory wetlands species likely in adjacent salt pans and saline wetlands.	Unlikely
Stipiturus mallee	Mallee Emu-wren	EN	E	3,5	12/10/1991	Dense stands of *Spinifex Triodia* in mature mallee woodland associations. Low, semi-arid, mallee–heath.	Unlikely
Turnix varius varius	Painted Buttonquail		R	3	1/10/1991	Forests and woodlands. Prefer closed canopies with some understory and deep leaf litter on the ground.	Unlikely
Zanda funerea whiteae	Yellow-tailed Black Cockatoo		V	3	20/10/2014	Favours eucalypt woodland and pine plantations.	Unlikely
Corcorax melanorhamphos,	White-winged Chough		R	7	30/08/2022	Open forests and woodlands. Prefer wetter areas, with lots of leaf-litter, for feeding, and available mud for nest building.	Present/Known

Source; 1- BDBSA, 2 - AoLA, 3 – NatureMaps 4 – Observed/recorded in the field, 5 - Protected matters search tool, 6 – others, 7 – field survey
NP&W Act; E= Endangered, V = Vulnerable, R= Rare
EPBC Act; Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable; Mi = Migratory

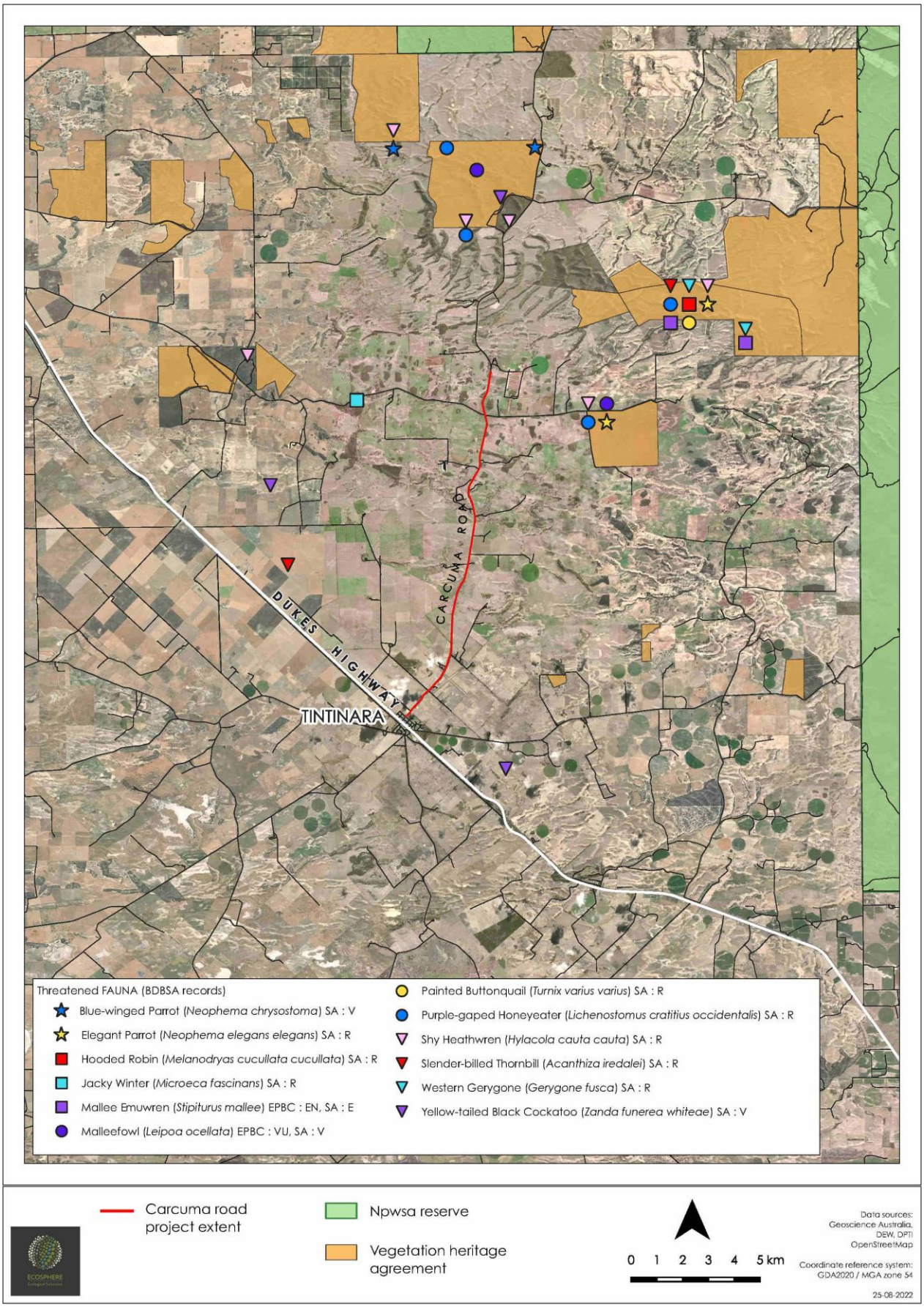


Figure 20. BDBSA records for conservation significant fauna observations within 10km of the study area.

4.3 Cumulative impact

When exercising a power or making a decision under Division 5 of the Native Vegetation Regulations 2017, the NVC must consider the potential cumulative impact, both direct and indirect, that is reasonably likely to result from a proposed clearance activity.

The project is limited to the immediate road shoulder area and no other impact outside of the shoulder is anticipated. The primary impact of the road upgrade is the loss of hollow bearing limbs within trees associated with the clearance buffer.

The work will incorporate limited cut and fill so the impact to root zones of trees not marked for removal is not expected to be an impact associated with this project. the upgrade is expected to make the road suitable for use for the ongoing future and further upgrades are unlikely.

No additional upgrades related to other infrastructure such as drainage or stormwater is required and therefore no other impacts associated with waster dispersal or siltation of vegetation id expected.

The additional length of sealed surface is likely to reduce overall impacts to surrounding road reserve vegetation through the reduction of dust loads associated with the movement of heavy transport that currently exists.

4.4 Address the Mitigation Hierarchy

When exercising a power or making a decision under Division 5 of the Native Vegetation Regulations 2017, the NVC must have regard to the mitigation hierarchy. The NVC will also consider, with the aim to minimize, impacts on biological diversity, soil, water and other natural resources, threatened species or ecological communities under the EPBC Act or listed species under the NP&W Act.

a) Avoidance – outline measures taken to avoid clearance of native vegetation

The project has minimised clearance in numerous areas along the alignment. Trees marked on drawings from an engineering perspective for removal under the relevant Australian standards have been modified to suit the local area and allow for trees size and structure with retention enable wherever possible. Avoidance has primarily been undertaken in the following ways:

- Identification of areas where the opposite road alignment has less, or lower value and slight realignment of the road will be undertaken
- Use of 'W' barriers to maintain safety values without removing trees to maintain presence.

b) Minimization – if clearance cannot be avoided, outline measures taken to minimize the extent, duration and intensity of impacts of the clearance on biodiversity to the fullest possible extent (whether the impact is direct, indirect or cumulative).

Minimising of clearance has occurred through management of the following design elements

- Allowing existing batters to remain as is with minimal widening to occur along the immediate edge of intact zones on dune crests

c) Rehabilitation or restoration – outline measures taken to rehabilitate ecosystems that have been degraded, and to restore ecosystems that have been degraded, or destroyed by the impact of clearance that cannot be avoided or further minimized, such as allowing for the re-establishment of the vegetation.

Retention of any hollows removed as pert of the proposal with replacement within alternative areas of the road reserve would offset much of the losses of breeding habitat for small bird species. Many trees within the area allotted for removal had hollow bearing limbs.

d) Offset – any adverse impact on native vegetation that cannot be avoided or further minimized should be offset by the achievement of a significant environmental benefit that outweighs that impact.

The NVC will only consider an offset once avoidance, minimization and restoration have been documented and fulfilled. The SEB Policy explains the biodiversity offsetting principles that must be met.

4.5 Principles of Clearance (Schedule 1, *Native Vegetation Act 1991*)

The Native Vegetation Council will consider Principles 1(b), 1(c) and 1(d) when assigning a level of Risk under Regulation 16 of the Native Vegetation Regulations. The Native Vegetation Council will consider all the Principles of clearance of the Act as relevant, when considering an application referred under the *Planning, Development and Infrastructure Act 2016*.

Principle of clearance	Considerations
Principle 1b - significance as a habitat for wildlife	Relevant information Five rare or vulnerable species were identified during the desktop assessment and field survey. White-winged Chough (SA: R) are known to be present in the project area. Blue-winged Parrot (SA: V), Elegant Parrot (SA: R), Jacky Winter (SA: R) and Hooded Robin (SA: R) are considered likely to utilise the scattered trees in the project area due to habitat suitability and past records within 10km of the project area. Trees 17, 18, 23, 31 and 33 provide hollows for Blue-winged Parrots and Elegant Parrots.
	Assessment against the principles Nineteen trees proposed for clearance are seriously at variance with principle 1b. Trees: 2, 3 ,4, 6, 7, 8, 17, 18, 23, 31, 33, 34, 35, 36, 42, 43, 45, 46 and 54). These trees all had a fauna habitat score of 1.4.
	Moderating factors that may be considered by the NVC The number of trees proposed for removal along the 14km stretch of road is very low compared to the number of trees that will remain. Therefore, the impact of the clearance is not expected to have any significant effects on population size or habitat quality. White-winged Chough, the only rare species observed during the assessment, are unlikely to use the scattered trees along the road verges. The species prefers more intact habitat with lots of leaf litter. Preferred habitat can be found towards the north of the project area (close to the feedlot) and this habitat is not proposed for clearance.
Principle 1c - plants of a rare, vulnerable or endangered species	Relevant information The eleven trees seriously at variance with principle 1c were all *Eucalytus fasciculosa* (Pink Gum) (SA: R).
	Assessment against the principles Twelve trees proposed for clearance are seriously at variance with principle 1c. Trees: 3, 4, 16,17, 23, 33, 34, 35, 36, 42, 43 and 52. These trees all had a threatened flora score of 0.3.

	Moderating factors that may be considered by the NVC Twelve Pink Gum are proposed for clearance along the 14km stretch of road. This is a small number of trees compared to the number of healthy Pink Gum remaining in the area. The removal of these trees is not expected to have any impact on population size or occupancy of the species and will not adversely affect habitat critical to the species.
***Principle 1d - the vegetation comprises the whole or part of a plant community that is Rare, Vulnerable or endangered*:**	Relevant information
	Assessment against the principles: Not at variance.
	Moderating factors that may be considered by the NVC: N/A

Principles of Clearance (h-m) will be considered by comments provided by the local NRM Board or relevant Minister. The Data Report should contain information on these principles where relevant and where sufficient information or expertise is available.

4.6 Risk Assessment

Determine the level of risk associated with the application

Total clearance	No. of trees	24
	Area (ha)	
	Total biodiversity Score	66.53
Seriously at variance with principle 1(b), 1(c) or 1 (d)		1b and 1c.
Risk assessment outcome		Level 4

4.7 NVC Guidelines

Provide any other information that demonstrates that the clearance complies with any relevant NVC guidelines related to the activity.

5. Clearance summary

Tintinara

Scattered trees Summary table

Tree or Cluster ID	Number of trees	Fauna Habitat score	Threatened flora score	Biodiversity score	Loss factor	SEB Points required	SEB Payment	Admin Fee
2	1	1.4	0	4.53	1	4.76	$2,678.08	$147.29
3	1	1.4	0.3	2.54	1	2.67	$1,501.62	$82.59
4	1	1.4	0.3	2.06	1	2.16	$1,217.85	$66.98
6	1	1.4	0	4.56	1	4.79	$2,695.81	$148.27
7	1	1.4	0	0.18	1	0.19	$106.41	$5.85
8	1	1.4	0	2.43	1	2.55	$1,436.58	$79.01
54	1	1.4	0	0.19	1	0.20	$112.33	$6.18
Total	**7**			**16.49**		**17.31**	**$9,748.67**	**$536.18**

Totals summary table

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	16.49	17.31	$9,748.67	$536.18	$10,284.85

Economies of Scale Factor	0.5
Rainfall (mm)	433

Culburra

Scattered trees Summary table

Tree or Cluster ID	Number of trees	Fauna Habitat score	Threatened flora score	Biodiversity score	Loss factor	SEB Points required	SEB Payment	Admin Fee
9	1	1.4	0	1.34	1	1.41	$779.38	$42.87
10	1	1.4	0	4.51	1	4.74	$2,623.15	$144.27
15	1	1.4	0	7.79	1	8.18	$4,530.90	$249.20
16	1	1.4	0.3	2.49	1	2.61	$1,448.26	$79.65
17	1	1.4	0.3	4.29	1	4.50	$2,495.19	$137.24
18	1	1.4	0	7.02	1	7.37	$4,083.04	$224.57
35	1	1.4	0.3	2.21	1	2.32	$1,285.40	$70.70
36	1	1.4	0.3	1.42	1	1.49	$825.91	$45.43
42	1	1.4	0.3	1.18	1	1.24	$686.32	$37.75
43	1	1.4	0.3	1.39	1	1.46	$808.47	$44.47

45	1	1.4	0	3.31	1	3.48	$1,925.19	$105.89
46	1	1.4	0	0.49	1	0.51	$285.00	$15.67
52	1	1.4	0.3	3.68	1	3.86	$2,140.40	$117.72
Total	**13**			**41.12**		**43.18**	**$23,916.62**	**$1,315.41**

Totals summary table

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	41.12	43.18	$23,916.62	$1,315.41	$25,232.03

Economies of Scale Factor	0.5
Rainfall (mm)	426

Cantana

Scattered trees Summary table

Tree or Cluster ID	Number of trees	Fauna Habitat score	Threatened flora score	Biodiversity score	Loss factor	SEB Points required	SEB Payment	Admin Fee
23	1	1.4	0.3	1.98	1	2.08	$1,151.63	$63.34
31	1	1.4	0	2.26	1	2.37	$1,314.48	$72.30
33	1	1.4	0.3	2.17	1	2.28	$1,262.14	$69.42
34	1	1.4	0.3	2.51	1	2.64	$1,459.89	$80.29
Total	**4**			**8.92**		**9.37**	**$5,188.14**	**$285.35**

Totals summary table

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	8.92	9.37	$5,188.14	$285.35	$5,473.49

Economies of Scale Factor	0.5
Rainfall (mm)	426

6. Significant Environmental Benefit

A Significant Environmental Benefit (SEB) is required for approval to clear under Division 5 of the *Native Vegetation Regulations 2017*. The NVC must be satisfied that as a result of the loss of vegetation from the clearance that an SEB will result in a positive impact on the environment that is over and above the negative impact of the clearance.

ACHIEVING AN SEB

Indicate how the SEB will be achieved by ticking the appropriate box and providing the associated information:

☐ Establish a new SEB Area on land owned by the proponent.
☐ Use SEB Credit that the proponent has established. Provide the SEB Credit Ref. No. _____
☐ Apply to have SEB Credit assigned from another person or body. The application form needs to be submitted with this Data Report.
☐ Apply to have an SEB to be delivered by a Third Party. The application form needs to be submitted with this Data Report.
☒ Pay into the Native Vegetation Fund.

PAYMENT SEB

If a proponent proposes to achieve the SEB by paying into the Native Vegetation Fund, summary information must be provided on the amount required to be paid and the manner of payment:

7. Appendices

Appendix 1. Scattered Tree Vegetation Assessment Scoresheets associated with the proposed clearance and SEB Area (to be submitted in Excel format)

Appendix 2. Scattered Tree Photos

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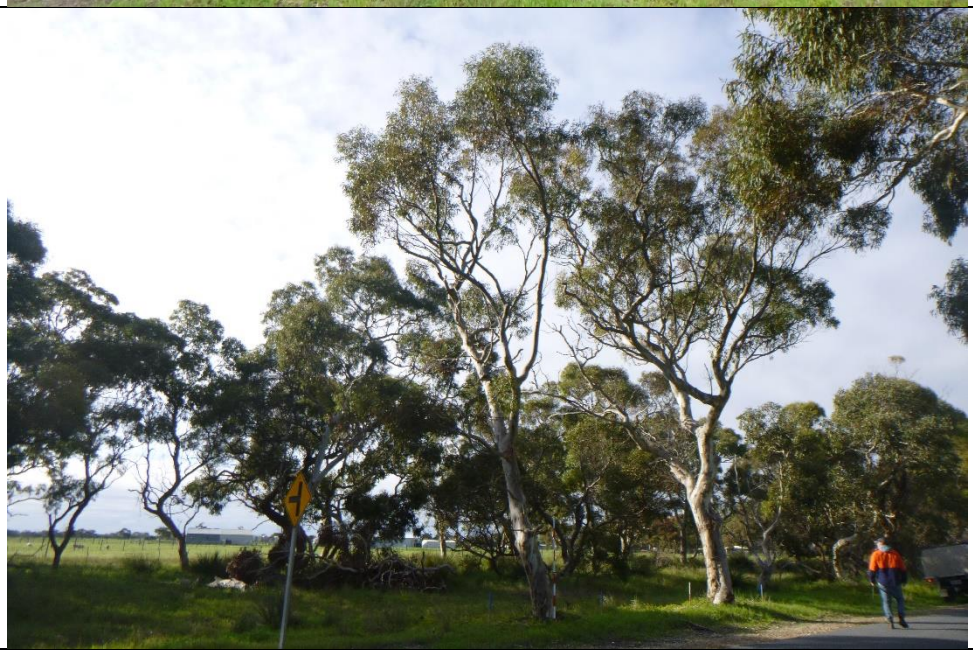
42		

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Appendix 3. Flora Species List

Scientific Name	Common Name	Date of Last Record
Acacia cupularis	Cup Wattle	26/05/2018
Acacia farinosa	Mealy Wattle	26/05/2018
Acacia hakeoides	Hakea Wattle	4/09/1990
Acacia leiophylla	Coast Golden Wattle	8/06/1987
Acacia ligulata	Umbrella Bush	9/02/1990
Acacia ligulata (NC)	Umbrella Bush	27/07/1990
Acacia lineata	Streaked Wattle	11/10/1989
Acacia microcarpa	Manna Wattle	29/09/1993
Acacia myrtifolia	Myrtle Wattle	30/10/2014
Acacia notabilis	Notable Wattle	12/08/1965
Acacia pycnantha	Golden Wattle	5/12/2000

Acacia rigens	Nealie	3/09/1965
Acacia rupicola	Rock Wattle	12/09/1991
Acacia salicina	Willow Wattle	5/12/2000
Acacia saligna	Golden Wreath Wattle	26/05/2018
Acacia spinescens	Spiny Wattle	31/10/2014
Acacia triquetra	Mallee Wreath Wattle	#########
Acianthus pusillus	Mosquito Orchid	27/07/1990
Acianthus sp.	Mosquito Orchid	12/09/1991
Acrotriche affinis	Ridged Ground-berry	12/09/1991
Acrotriche cordata	Blunt-leaf Ground-berry	12/09/1991
Acrotriche serrulata	Cushion Ground-berry	31/10/2014
Actinobole uliginosum	Flannel Cudweed	12/09/1991
Adenanthos terminalis	Yellow Gland-flower	26/05/2018
Agrostis capillaris	Brown-top Bent	0/01/1900
Aira cupaniana	Small Hair-grass	30/10/2014
Allium neapolitanum	Naples Onion	24/09/2014
Allocasuarina luehmannii	Bull Oak	1/05/1991
Allocasuarina muelleriana ssp. muelleriana	Common Oak-bush	26/05/2018
Allocasuarina pusilla	Dwarf Oak-bush	31/10/2014
Amphipogon strictus	Spreading Grey-beard Grass	30/10/2014
Amyema melaleucae	Tea-tree Mistletoe	26/05/2018
Amyema miquelii	Box Mistletoe	25/07/1990
Anchusa arvensis	Bugloss	29/11/1982
Aotus subspinescens	Mallee Aotus	18/07/1990
Aphanes australiana (NC)	Australian Piert	18/07/1990
Aphelia pumilio	Dwarf Aphelia	#########
Arctotheca calendula	Cape Weed	11/09/1991
Argentipallium blandowskianum	Woolly Everlasting	17/01/1908
Argentipallium obtusifolium	Blunt Everlasting	12/09/1991
Arthropodium fimbriatum	Nodding Vanilla-lily	11/09/1991
Arthropodium strictum	Common Vanilla-lily	11/09/1991
Asparagus asparagoides (NC)	Bridal Creeper	5/12/2000
Asparagus asparagoides f.	Bridal Creeper	11/09/1991
Atriplex semibaccata	Berry Saltbush	26/05/2018
Austrostipa acrociliata	Graceful Spear-grass	21/10/1966
Austrostipa curticoma	Short-crest Spear-grass	7/11/2013
Austrostipa drummondii	Cottony Spear-grass	11/10/1989
Austrostipa echinata	Spiny Spear-grass	11/10/1953
Austrostipa flavescens	Coast Spear-grass	25/09/1975
Austrostipa mollis	Soft Spear-grass	30/10/2014
Austrostipa mollis group	Soft Spear-grass	25/07/1990
Austrostipa mundula	Neat Spear-grass	29/09/1974
Austrostipa nitida	Balcarra Spear-grass	11/10/1953
Austrostipa scabra ssp. falcata	Slender Spear-grass	12/11/1935
Austrostipa sp.	Spear-grass	31/10/2014
Avena barbata	Bearded Oat	5/12/2000
Baeckea ericaea (NC)	Mat Baeckea	30/10/2014
Banksia marginata	Silver Banksia	31/10/2014
Banksia ornata	Desert Banksia	31/10/2014
Bellardia latifolia	Red Bartsia	11/09/1991
Bertya tasmanica ssp. vestita	Mitchell's Bertya	12/09/1991
Billardiera cymosa (NC)	Sweet Apple-berry	12/09/1991
Billardiera cymosa ssp.	Sweet Apple-berry	30/10/2014
Billardiera cymosa ssp. cymosa	Sweet Apple-berry	30/09/1973
Billardiera sp.	Apple-berry	31/10/2014
Billardiera versicolor	Yellow-flower Apple-berry	12/09/1991
Blennospora drummondii	Dwarf Button-flower	12/09/1991
Boronia coerulescens ssp. coerulescens	Blue Boronia	31/10/2014
Brachyloma ericoides ssp. ericoides	Brush Heath	12/09/1991
Brachyscome ciliaris var. ciliaris	Variable Daisy	9/02/1990

Brachyscome cuneifolia	Wedge-leaf Daisy	12/10/1989
Brachyscome goniocarpa	Dwarf Daisy	12/09/1991
Brachyscome perpusilla	Tiny Daisy	12/09/1991
Brassica tournefortii	Wild Turnip	5/12/2000
Briza minor	Lesser Quaking-grass	11/09/1991
Bromus diandrus	Great Brome	1/11/1953
Bromus rubens	Red Brome	11/09/1991
Burchardia umbellata	Milkmaids	1/10/1991
Bursaria spinosa ssp.	Bursaria	26/05/2018
Bursaria spinosa ssp. spinosa	Sweet Bursaria	11/09/1991
Caladenia cardiochila	Heart-lip Spider-orchid	12/09/1991
Caladenia carnea	Pink Fingers	11/09/1991
Caladenia carnea complex	Pink Fingers Caladenia	12/09/1991
Caladenia dilatata complex	Green-comb Spider-orchid	12/09/1991
Caladenia fragrantissima	Scented Spider-orchid	11/09/1991
Caladenia latifolia	Pink Caladenia	11/09/1991
Caladenia sp.	Spider-orchid	27/07/1990
Caladenia stricta	Upright Caladenia	11/09/1991
Caladenia strigosa	Coorong Spider-orchid	11/09/1991
Caladenia tensa	Inland Green-comb Spider-orchid	9/10/1979
Caladenia verrucosa	Yellow-club Spider-orchid	1/10/1989
Caladenia White spider orchid group	White Spider-orchid	12/09/1991
Callistemon rugulosus	Scarlet Bottlebrush	12/09/1991
Callitris sp.	Native Pine	9/02/1990
Calytrix alpestris	Snow Heath-myrtle	31/10/2014
Calytrix tetragona	Common Fringe-myrtle	31/10/2014
Carpobrotus modestus/rossii	Native Pigface	27/07/1990
Cassinia complanata	Sticky Cassinia	10/02/1991
Cassytha glabella f. dispar	Slender Dodder-laurel	31/10/2014
Cassytha melantha	Coarse Dodder-laurel	12/09/1991
Cassytha pubescens	Downy Dodder-laurel	30/10/2014
Cenchrus clandestinus	Kikuyu	5/12/2000
Centaurea calcitrapa	Star Thistle	9/04/1996
Centaurea melitensis	Malta Thistle	5/12/2000
Centaurium tenuiflorum	Branched Centaury	26/02/1972
Centrolepis aristata	Pointed Centrolepis	11/09/1991
Centrolepis polygyna	Wiry Centrolepis	11/09/1991
Centrolepis strigosa ssp. strigosa	Hairy Centrolepis	24/07/1990
Cerastium glomeratum	Common Mouse-ear Chickweed	11/09/1991
Cheiranthera alternifolia	Hand-flower	1/11/1952
Chenopodium opulifolium		15/02/1982
Choretrum chrysanthum/glomeratum	Sour-bush	12/09/1991
Chrysocephalum apiculatum	Common Everlasting	12/11/1935
Chrysocephalum semipapposum	Clustered Everlasting	12/12/1986
Clematis microphylla	Old Man's Beard	30/09/1973
Clematis microphylla var. microphylla (NC)	Old Man's Beard	12/09/1991
Comesperma calymega	Blue-spike Milkwort	31/10/2014
Comesperma polygaloides	Mauve Milkwort	17/11/1989
Coronidium scorpioides	Button Everlasting	30/10/2014
Correa reflexa (NC)	Common Correa	4/04/1984
Correa reflexa var. reflexa (NC)	Common Correa	12/09/1991
Correa reflexa var. scabridula	Common Correa	31/10/2014
Corybas incurvus	Slaty Helmet-orchid	16/08/2003
Corybas incurvus (NC)	Slaty Helmet-orchid	27/07/1990
Craspedia glauca (NC)	Billy-buttons	12/09/1991
Crassula closiana	Stalked Crassula	11/09/1991
Crassula colorata var. acuminata	Dense Crassula	11/09/1991
Crassula decumbens var. decumbens	Spreading Crassula	11/09/1991
Crassula exserta	Large-fruit Crassula	0/01/1900
Crassula sieberiana ssp. tetramera (NC)	Australian Stonecrop	11/09/1991

Cryptandra tomentosa	Heath Cryptandra	31/10/2014
Cryptandra tomentosa (NC)		27/07/1990
	Heath Cryptandra	12/09/1991
Cryptandra tomentosa complex	Cryptandra	25/07/1990
Cymbonotus preissianus	Austral Bear's-ear	12/11/1935
Cynodon dactylon (NC)	Couch	5/12/2000
Cynodon dactylon var. dactylon	Couch	18/06/1962
Cynoglossum australe	Australian Hound's-tongue	27/07/1990
Cyrtostylis robusta	Robust Gnat-orchid	27/07/1990
Dactylis glomerata	Cocksfoot	5/12/2000
Dampiera marifolia	Velvet Dampiera	30/10/2014
Dampiera rosmarinifolia	Rosemary Dampiera	24/09/2014
Daucus glochidiatus	Native Carrot	12/09/1991
Daviesia brevifolia	Leafless Bitter-pea	31/10/2014
Dianella brevicaulis/revoluta var.	Black-anther Flax-lily	12/09/1991
Dianella revoluta var. revoluta	Black-anther Flax-lily	31/10/2014
Digitaria sanguinalis	Crab Grass	22/02/1979
Dillwynia glaberrima	Smooth Parrot-pea	4/04/1984
Dillwynia hispida	Red Parrot-pea	31/10/2014
Dillwynia sericea	Showy Parrot-pea	9/02/1990
Dillwynia sparsifolia	Sparse-leaf Parrot-pea	27/07/1990
Diplotaxis muralis	Wall Rocket	11/08/1967
Distichlis distichophylla	Emu-grass	26/05/2018
Dittrichia graveolens	Stinkweed	18/07/1990
Diuris calcicola		11/09/1991
Diuris palustris	Little Donkey-orchid	12/09/1991
Dodonaea bursariifolia	Small Hop-bush	27/07/1990
Dodonaea hexandra	Horned Hop-bush	12/09/1991
Dodonaea humilis	Dwarf Hop-bush	12/09/1991
Drosera aberrans		12/09/1991
Drosera glanduligera	Scarlet Sundew	11/09/1991
Drosera macrantha ssp. planchonii	Climbing Sundew	31/10/2014
Drosera whittakeri (NC)	Scented Sundew	27/07/1990
Duma florulenta	Lignum	18/07/1990
Ehrharta calycina	Perennial Veldt Grass	5/12/2000
Ehrharta longiflora	Annual Veldt Grass	11/09/1991
Eragrostis barrelieri	Pitted Love-grass	22/02/1979
Eragrostis cilianensis	Stink Grass	22/02/1979
Eragrostis curvula	African Love-grass	5/12/2000
Eragrostis elongata	Clustered Love-grass	19/03/1934
Eragrostis minor	Small Stink-grass	21/02/1955
Eragrostis tef	Teff	1/01/1918
Erigeron karvinskianus	Bony-tip Fleabane	1/10/2005
Eriochilus cucullatus	Parson's Bands	0/01/1900
Eriochilus cucullatus (NC)	Parson's Bands	11/09/1991
Eriochloa pseudoacrotricha	Perennial Cupgrass	12/02/1997
Erodium botrys	Long Heron's-bill	11/09/1991
Erodium cicutarium	Cut-leaf Heron's-bill	11/09/1991
Erodium sp.	Heron's-bill/Crowfoot	25/07/1990
Eruca sativa	Purple-vein Rocket	8/11/1912
Eucalyptus arenacea/baxteri	Brown Stringybark	5/12/2000
Eucalyptus calycogona ssp. trachybasis	Square-fruit Mallee	26/08/1989
Eucalyptus camaldulensis ssp. camaldulensis	River Red Gum	18/07/1990
Eucalyptus camaldulensis var. camaldulensis (NC)	River Red Gum	2/08/1984
Eucalyptus diversifolia (NC)	Coastal White Mallee	5/12/2000
Eucalyptus diversifolia ssp. diversifolia	Coastal White Mallee	30/10/2014
Eucalyptus dumosa	White Mallee	12/09/1991
Eucalyptus fasciculosa	Pink Gum	5/12/2000
Eucalyptus foecunda (NC)	Narrow-leaved Mallee	25/07/1990
Eucalyptus gracilis	Yorrell	12/09/1991

Eucalyptus incrassata	Ridge-fruited Mallee	31/10/2014
Eucalyptus leptophylla	Narrow-leaf Red Mallee	25/03/1984
Eucalyptus leptophylla (NC)	Narrow-leaf Red Mallee	5/12/2000
Eucalyptus leucoxylon ssp.	South Australian Blue Gum	5/12/2000
Eucalyptus leucoxylon ssp. leucoxylon	South Australian Blue Gum	1/10/1911
Eucalyptus leucoxylon ssp. stephaniae	Scrubby Blue Gum	11/09/1991
Eucalyptus oleosa (NC)	Red Mallee	12/09/1991
Eucalyptus phenax ssp. phenax	White Mallee	26/08/1989
Eucalyptus porosa	Mallee Box	5/12/2000
Eucalyptus rugosa	Coastal White Mallee	12/09/1991
Eucalyptus socialis (NC)	Beaked Red Mallee	5/12/2000
Eucalyptus socialis ssp. socialis	Beaked Red Mallee	21/08/1967
Eucalyptus socialis ssp. viridans	Beaked Red Mallee	30/09/1973
Eucalyptus viminalis ssp. cygnetensis	Rough-bark Manna Gum	11/09/1991
Euchiton sphaericus	Annual Cudweed	12/11/1935
Eutaxia microphylla	Common Eutaxia	9/10/1994
Exocarpos sparteus	Slender Cherry	12/09/1991
Foeniculum vulgare	Fennel	5/12/2000
Gahnia deusta	Limestone Saw-sedge	12/09/1991
Gahnia filum	Thatching Grass	26/05/2018
Gahnia lanigera	Black Grass Saw-sedge	26/05/2018
Galium compactum	Compact Bedstraw	12/11/1935
Galium murale	Small Bedstraw	11/09/1991
Genoplesium nigricans	Black Midge-orchid	11/09/1991
Genoplesium nigricans/rufum	Midge-orchid	18/07/1990
Geranium solanderi	Austral Geranium	27/07/1990
Glischrocaryon behrii	Golden Pennants	30/10/2014
Glossodia major	Purple Cockatoo	11/09/1991
Gnaphalium sp.	Cudweed	12/09/1991
Gonocarpus tetragynus	Small-leaf Raspwort	12/09/1991
Goodenia blackiana	Native Primrose	18/07/1990
Goodenia geniculata	Bent Goodenia	31/10/2014
Goodenia robusta	Woolly Goodenia	12/09/1991
Goodenia varia	Sticky Goodenia	12/09/1991
Goodenia willisiana	Silver Goodenia	12/09/1991
Gramineae sp.	Grass Family	27/07/1990
Grevillea ilicifolia complex	Holly-leaf Grevillea	18/07/1990
Grevillea ilicifolia ssp. ilicifolia	Holly-leaf Grevillea	26/05/2018
Grevillea ilicifolia ssp. lobata	Lobed Holly-leaf Grevillea	31/10/2014
Grevillea ilicifolia var. angustiloba (NC)	Dissected Holly-leaf Grevillea	9/02/1990
Grevillea ilicifolia var. ilicifolia (NC)	Holly-leaf Grevillea	12/09/1991
Gyrostemon australasicus	Buckbush Wheel-fruit	27/07/1996
Hakea mitchellii	Heath Needlebush	31/10/2014
Hakea rugosa	Dwarf Hakea	2/08/1984
Hakea sp.	Hakea/Needlewood	4/04/1984
Hakea vittata	Limestone Needlebush	26/05/2018
Halgania cyanea	Rough Blue-flower	12/09/1991
Helichrysum leucopsideum	Satin Everlasting	30/10/2014
Helichrysum scorpioides (NC)	Button Everlasting	11/09/1991
Hibbertia devitata	Smooth Guinea-flower	31/10/2014
Hibbertia riparia	Bristly Guinea-flower	12/09/1991
Hibbertia riparia (NC)	Guinea-flower	27/07/1990
Hibbertia sericea	Silky Guinea-flower	31/10/2014
Hibbertia sericea var. (NC)	Silky Guinea-flower	2/08/1984
Hibbertia sericea var. scabrifolia (NC)	Rough-leaf Guinea-flower	21/02/1991
Hibbertia sericea var. sericea (NC)	Silky Guinea-flower	12/09/1991
Hibbertia virgata	Twiggy Guinea-flower	30/10/2014
Hyalosperma demissum	Dwarf Sunray	11/09/1991
Hydrocotyle laxiflora	Stinking Pennywort	12/11/1935
Hydrocotyle sp.	Pennywort	11/09/1991

Hypericum perforatum ssp. veronense	St John's Wort	5/12/2000
Hypochaeris glabra	Smooth Cat's Ear	11/09/1991
Hypochaeris radicata	Rough Cat's Ear	25/07/1990
Hypolaena fastigiata	Tassel Rope-rush	31/10/2014
Hysterobaeckea behrii	Silver Broombush	31/10/2014
Isolepis hookeriana	Grassy Club-rush	12/09/1991
Isopogon ceratophyllus	Horny Cone-bush	30/10/2014
Ixodia achillaeoides ssp. alata	Hills Daisy	10/02/1991
Kennedia prostrata	Scarlet Runner	12/09/1991
Kunzea pomifera	Muntries	31/10/2014
Lagurus ovatus	Hare's Tail Grass	5/12/2000
Lasiopetalum baueri	Slender Velvet-bush	12/09/1991
Lasiopetalum behrii	Pink Velvet-bush	12/09/1991
Lawrencia glomerata	Clustered Lawrencia	13/05/1944
Lawrencia squamata	Thorny Lawrencia	1/07/1952
Laxmannia orientalis	Dwarf Wire-lily	30/10/2014
Leionema microphyllum	Limestone Phebalium	15/09/2000
Lepidobolus drapetocoleus	Scale Shedder	31/10/2014
Lepidosperma carphoides	Black Rapier-sedge	31/10/2014
Lepidosperma concavum (NC)	Spreading Sword-sedge	31/10/2014
Lepidosperma congestum		26/05/2018
Lepidosperma congestum (NC)	Clustered Sword-sedge	12/09/1991
Lepidosperma laterale (NC)	Sharp Sword-sedge	25/07/1990
Lepidosperma sp.	Sword-sedge/Rapier-sedge	12/09/1991
Lepidosperma viscidum	Sticky Sword-sedge	30/10/2014
Leptomeria aphylla	Leafless Currant-bush	12/09/1991
Leptorhynchos squamatus ssp. squamatus	Scaly Buttons	12/11/1935
Leptospermum coriaceum	Dune Tea-tree	31/10/2014
Leptospermum myrsinoides	Heath Tea-tree	31/10/2014
Leucopogon costatus	Twiggy Beard-heath	21/02/1991
Levenhookia dubia	Hairy Stylewort	11/09/1991
Levenhookia pusilla	Tiny Stylewort	30/10/2014
Lichen sp.		27/07/1990
Linum marginale	Native Flax	26/05/2018
Lobelia gibbosa	Tall Lobelia	12/11/1935
Lobelia gibbosa (NC)	Tall Lobelia	9/02/1990
Logania linifolia	Flax-leaf Logania	12/09/1991
Lolium rigidum	Wimmera Ryegrass	4/11/1952
Lomandra collina	Sand Mat-rush	31/10/2014
Lomandra effusa	Scented Mat-rush	12/09/1991
Lomandra juncea	Desert Mat-rush	31/10/2014
Lomandra leucocephala ssp. robusta	Woolly Mat-rush	30/10/2014
Lomandra micrantha ssp.	Small-flower Mat-rush	12/09/1991
Lomandra micrantha ssp. micrantha	Small-flower Mat-rush	30/09/1973
Lomandra micrantha ssp. tuberculata	Small-flower Mat-rush	30/09/1973
Lomandra sp.	Mat-rush	4/04/1984
Luzula sp.	Wood-rush	18/07/1990
Lysiana exocarpi ssp. exocarpi	Harlequin Mistletoe	27/07/1990
Machaerina juncea	Bare Twig-rush	26/05/2018
Melaleuca acuminata ssp. acuminata	Mallee Honey-myrtle	5/12/2000
Melaleuca brevifolia	Short-leaf Honey-myrtle	12/11/1935
Melaleuca halmaturorum	Swamp Paper-bark	26/05/2018
Melaleuca lanceolata	Dryland Tea-tree	21/02/1991
Melaleuca lanceolata ssp. lanceolata (NC)	Dryland Tea-tree	5/12/2000
Melaleuca uncinata	Broombush	12/09/1991
Melaleuca uncinata (NC)	Broombush	5/12/2000
Melaleuca wilsonii	Wilson's Honey-myrtle	12/09/1991
Microseris walteri	Yam Daisy	12/09/1991
Microtis arenaria	Notched Onion-orchid	11/09/1991
Microtis unifolia complex	Onion-orchid	11/09/1991

Microtis/Prasophyllum sp.	Onion Orchid/Leek-orchid	27/07/1990
Millotia muelleri	Common Bow-flower	12/09/1991
Millotia myosotidifolia	Broad-leaf Millotia	11/09/1991
Millotia tenuifolia var.	Soft Millotia	30/10/2014
Millotia tenuifolia var. tenuifolia	Soft Millotia	11/09/1991
Moss sp.		27/07/1990
Myoporum platycarpum ssp.	False Sandalwood	12/09/1991
Myoporum platycarpum ssp. perbellum	Mallee Sandalwood	26/02/1972
Neatostema apulum	Hairy Sheepweed	13/11/1952
Neurachne alopecuroidea	Fox-tail Mulga-grass	31/10/2014
Not naturalised in SA sp.		5/12/2000
Oenothera stricta ssp. stricta	Common Evening Primrose	5/12/2000
Olearia ciliata var. ciliata	Fringed Daisy-bush	27/07/1990
Olearia floribunda	Heath Daisy-bush	26/05/2018
Olearia lanuginosa	Woolly Daisy-bush	12/12/1986
Olearia lepidophylla	Clubmoss Daisy-bush	5/04/1991
Olearia minor	Heath Daisy-bush	31/08/1965
Opercularia turpis	Twiggy Stinkweed	31/10/2014
Ophioglossum lusitanicum	Austral Adder's-tongue	18/07/1990
Oxalis perennans (NC)	Native Sorrel	11/09/1991
Oxalis perennans/exilis	Native Oxalis	12/09/1991
Panicum schinzii	Sweet Panic	1/01/1918
Pauridia glabella var. glabella	Tiny Star	18/07/1990
Peganum harmala	African Rue	9/04/1943
Pelargonium australe (NC)	Austral Stork's-bill	7/02/1990
Pelargonium rodneyanum	Magenta Pelargonium	12/09/1991
Phalaris aquatica	Phalaris	5/12/2000
Phebalium bullatum	Silvery Phebalium	0/01/1900
Pheladenia deformis	Bluebeard Orchid	11/09/1991
Philotheca angustifolia ssp. angustifolia	Narrow-leaf Wax-flower	12/09/1991
Philotheca pungens	Prickly Wax-flower	27/08/1975
Phleum pratense	Timothy Grass	1/01/1918
Phyllota pleurandroides	Heathy Phyllota	30/10/2014
Phyllota remota	Slender Phyllota	21/02/1991
Pimelea glauca	Smooth Riceflower	26/05/2018
Pimelea octophylla	Woolly Riceflower	21/02/1991
Pimelea sp.	Riceflower	31/10/2014
Pimelea stricta	Erect Riceflower	12/09/1991
Pinus sp.	Pine	5/12/2000
Piptatherum miliaceum	Rice Millet	5/12/2000
Pittosporum angustifolium	Native Apricot	2/03/1968
Plantago gaudichaudii	Narrow-leaf Plantain	12/11/1935
Plantago sp.	Plantain	12/09/1991
Poa halmaturina	Kangaroo Island Poa	12/11/1935
Poa sieberiana var. hirtella	Grey Tussock Grass	12/11/1935
Poa sp.	Meadow-grass/Tussock-grass	18/07/1990
Podolepis decipiens		1/01/1910
Podolepis tepperi	Delicate Copper-wire Daisy	1/10/1991
Podotheca angustifolia	Sticky Long-heads	11/09/1991
Polygonum arenastrum	Wireweed	28/03/1979
Polygonum aviculare	Wireweed	11/08/1979
Polypogon maritimus	Coast Beard-grass	1/11/1953
Pomaderris obcordata	Wedge-leaf Pomaderris	12/09/1991
Pomaderris paniculosa ssp.		27/07/1990
Poranthera microphylla	Small Poranthera	30/10/2014
Poranthera microphylla (NC)	Small Poranthera	7/02/1990
Prasophyllum odoratum	Scented Leek-orchid	10/10/1970
Prostanthera aspalathoides	Scarlet Mintbush	0/01/1900
Pterostylis dolichochila	Mallee Shell-orchid	18/07/1990
Pterostylis longifolia (NC)	Tall Greenhood	12/09/1991

Pterostylis nana	Dwarf Greenhood	11/09/1991
Pterostylis sp.	Greenhood	30/10/2014
Pterostylis vittata (NC)	Banded Greenhood	27/07/1990
Pultenaea densifolia	Dense Bush-pea	12/09/1991
Pultenaea penna	Feather Bush-pea	1/11/1952
Pultenaea prostrata	Silky Bush-pea	12/11/1935
Pultenaea tenuifolia	Narrow-leaf Bush-pea	31/10/2014
Pyrorchis nigricans	Black Fire-orchid	11/09/1991
Rhodanthe pygmaea	Pigmy Daisy	31/10/1977
Rinzia orientalis	Desert Heath-myrtle	31/10/2014
Rytidosperma sp.	Wallaby-grass	30/10/2014
Salvia verbenaca var. verbenaca	Wild Sage	30/09/1973
Santalum acuminatum	Quandong	12/09/1991
Scabiosa atropurpurea	Pincushion	5/12/2000
Schinus molle	Pepper-tree	5/12/2000
Schoenus apogon	Common Bog-rush	12/09/1991
Schoenus breviculmis	Matted Bog-rush	31/10/2014
Senecio picridioides	Purple-leaf Groundsel	12/09/1991
Senecio pinnatifolius (NC)	Variable Groundsel	12/09/1991
Senecio quadridentatus	Cotton Groundsel	27/07/1990
Senecio spanomerus	Native Groundsel	13/08/1958
Senecio squarrosus	Squarrose Groundsel	11/09/1991
Setaria verticillata	Whorled Pigeon-grass	22/02/1979
Siloxerus multiflorus	Small Wrinklewort	11/09/1991
Sisymbrium officinale	Hedge Mustard	22/02/1979
Solanum triflorum	Three-flower Nightshade	20/04/1967
Sonchus oleraceus	Common Sow-thistle	11/09/1991
Spyridium eriocephalum	Heath Spyridium	30/09/1973
Spyridium eriocephalum var. eriocephalum (NC)	Heath Spyridium	12/09/1991
Spyridium fontis-woodii	Woods Well Spyridium	22/09/1973
Spyridium phylicoides	Narrow-leaf Spyridium	1/10/1977
Spyridium subochreatum	Velvet Spyridium	31/10/2014
Spyridium subochreatum var. (NC)	Velvet Spyridium	18/07/1990
Spyridium subochreatum var. laxiusculum (NC)	Velvet Spyridium	7/02/1990
Spyridium subochreatum var. subochreatum (NC)	Velvet Spyridium	12/09/1991
Stackhousia aspericocca ssp.	Bushy Candles	12/09/1991
Stackhousia aspericocca ssp. One-sided inflorescence (W.R.Barker 697)	One-sided Candles	21/02/1991
Stackhousia monogyna (NC)	Creamy Candles	12/09/1991
Stackhousia sp.	Candles	30/10/2014
Stellaria media	Chickweed	27/07/1990
Stenanthemum leucophractum	White Cryptandra	31/10/2014
Stenanthera conostephioides	Flame Heath	31/10/2014
Stipa nitida group (NC)	Spear-grass	25/07/1990
Stuartina muelleri	Spoon Cudweed	12/02/1935
Stylidium armeria ssp. armeria	Grass Trigger-plant	13/11/1952
Stylidium graminifolium	Grass Trigger-plant	30/10/2014
Styphelia clelandii	Cleland's Beard-heath	30/10/2014
Styphelia cordifolia	Heart-leaf Beard-heath	30/10/2014
Styphelia exarrhena	Desert Heath	30/10/2014
Styphelia humifusa	Cranberry Heath	30/10/2014
Styphelia rufa	Ruddy Beard-heath	31/10/2014
Styphelia woodsii	Nodding Beard-heath	7/02/1990
Tecticornia pergranulata ssp. pergranulata	Black-seed Samphire	26/05/2018
Tecticornia syncarpa	Fused Samphire	26/05/2018
Tetraria capillaris	Hair Sedge	26/05/2018
Thelymitra alcockiae	Scented Sun-orchid	17/10/2002
Thelymitra antennifera	Lemon Sun-orchid	12/09/1991
Thelymitra azurea	Azure Sun-orchid	8/10/1930
Thelymitra canaliculata (NC)	Azure Sun-orchid	11/09/1991
Thelymitra epipactoides	Metallic Sun-orchid	13/09/2006

Thelymitra megcalyptra	Scented Sun-orchid	6/10/2005
Thelymitra nuda (NC)	Scented Sun-orchid	11/09/1991
Thelymitra pauciflora (NC)	Slender Sun-orchid	11/09/1991
Thelymitra rubra	Salmon Sun-orchid	#########
Thelymitra X macmillanii	Crimson Sun-orchid	11/09/1991
Themeda triandra	Kangaroo Grass	1/12/1940
Thomasia petalocalyx	Paper-flower	12/09/1991
Threlkeldia diffusa	Coast Bonefruit	26/05/2018
Thysanotus patersonii	Twining Fringe-lily	31/10/2014
Trachymene pilosa	Dwarf Trachymene	30/10/2014
Tricoryne elatior	Yellow Rush-lily	12/09/1991
Tricoryne elatior (NC)	Yellow Rush-lily	24/07/1990
Tricoryne tenella	Tufted Yellow Rush-lily	31/10/2014
Trifolium sp.	Clover	11/09/1991
Trifolium subterraneum	Subterranean Clover	18/07/1990
Triodia irritans complex	Spinifex	12/09/1991
Triodia irritans var. (NC)		25/07/1990
Triodia scariosa	Spinifex	31/10/2014
Urtica urens	Small Nettle	12/09/1991
Vittadinia australasica var. australasica	Sticky New Holland Daisy	14/12/1984
Vittadinia dissecta var. hirta	Dissected New Holland Daisy	27/07/1990
Vittadinia gracilis	Woolly New Holland Daisy	12/09/1991
Vittadinia sp.	New Holland Daisy	2/08/1984
Vulpia fasciculata	Sand Fescue	30/10/2014
Vulpia myuros f. myuros	Rat's-tail Fescue	1/10/1911
Vulpia sp.	Fescue	31/10/2014
Wahlenbergia gracilenta	Annual Bluebell	30/10/2014
Wahlenbergia littoricola	Coast Bluebell	18/07/1990
Wahlenbergia luteola	Yellow-wash Bluebell	1/10/1991
Wahlenbergia sp.	Native Bluebell	11/09/1991
Wahlenbergia stricta ssp. stricta	Tall Bluebell	27/07/1990
Westringia eremicola	Slender Westringia	27/08/1975
Wilsonia rotundifolia	Round-leaf Wilsonia	26/05/2018
Wurmbea dioica ssp. dioica (NC)	Early Nancy	12/09/1991
	Early Star-lily	27/07/1990
Xanthorrhoea caespitosa	Sand-heath Yacca	31/10/2014
Xanthorrhoea minor ssp. lutea	Little Yacca	12/11/1935
Zaluzianskya divaricata	Spreading Night-phlox	11/09/1991

Appendix 4. Fauna Species List

Scientific Name	Common Name	Date Of Last Record
Acanthagenys rufogularis	Spiny-cheeked Honeyeater	20/10/2014
Acanthiza apicalis	Inland Thornbill	23/10/2014
Acanthiza chrysorrhoa	Yellow-rumped Thornbill	22/10/2014
Acanthiza iredalei	Slender-billed Thornbill	21/11/1991
Acanthiza nana	Yellow Thornbill	28/04/2008
Acanthiza reguloides australis	Buff-rumped Thornbill	23/10/2014
Accipiter fasciatus fasciatus	Brown Goshawk	22/11/1991
Alauda arvensis arvensis	Eurasian Skylark	1/10/1991
Amegilla (Notomegilla) chlorocyanea	Blue Banded Bee	25/01/2017
Amphibolurus norrisi	Mallee Tree-dragon	20/11/1991
Anilios bituberculatus	Rough-nosed Blind Snake	19/11/1991
Anthochaera carunculata	Red Wattlebird	23/10/2014
Anthus australis	Australian Pipit	22/10/2014
Aphelocephala leucopsis leucopsis	Southern Whiteface	1/10/1991
Aquila audax audax	Wedge-tailed Eagle	1/10/1991
Artamus cyanopterus	Dusky Woodswallow	29/10/2014

Artamus personatus	Masked Woodswallow	22/11/1991
Artamus sp.	woodswallows	22/10/2014
Artamus superciliosus	White-browed Woodswallow	17/12/2014
Barnardius zonarius	Australian Ringneck	20/10/2014
Cacomantis flabelliformis flabelliformis	Fan-tailed Cuckoo	22/10/2014
Calamanthus campestris winiam	Rufous Fieldwren (upper SE)	1/10/1991
Capra hircus	Goat (Feral Goat)	23/10/2014
Cercartetus lepidus	Little Pygmy-possum	20/11/1991
Chalcites basalis	Horsfield's Bronze Cuckoo	22/10/2014
Christinus marmoratus	Marbled Gecko	18/11/1991
Cincloramphus cruralis	Brown Songlark	1/10/1991
Colluricincla harmonica	Grey Shrikethrush	23/10/2014
Coracina novaehollandiae	Black-faced Cuckooshrike	1/10/1991
Corvus bennetti	Little Crow	1/10/1991
Corvus coronoides	Australian Raven	22/10/2014
Corvus mellori	Little Raven	23/10/2014
Cracticus torquatus leucopterus	Grey Butcherbird	23/10/2014
Ctenophorus fordi	Mallee Dragon	21/11/1991
Ctenophorus pictus	Painted Dragon	23/11/1991
Ctenotus orientalis	Spotted Ctenotus	23/11/1991
Ctenotus spaldingi	Eastern Striped Skink	22/11/1991
Daphoenositta chrysoptera pileata	Black-capped Sittella	1/10/1991
Dromaius novaehollandiae	Emu	20/10/2014
Drymodes brunneopygia	Southern Scrub Robin	23/10/2014
Elanus axillaris	Black-shouldered Kite	10/11/1991
Eolophus roseicapilla	Galah	23/10/2014
Epthianura albifrons	White-fronted Chat	22/10/2014
Eurostopodus argus	Spotted Nightjar	7/02/1990
Falco berigora berigora	Brown Falcon	20/10/2014
Falco cenchroides cenchroides	Nankeen Kestrel	1/10/1991
Felis catus	Domestic Cat (Feral Cat)	17/11/1991
Gavicalis virescens	Singing Honeyeater	23/10/2014
Geopelia placida placida	Peaceful Dove	1/10/1991
Gerygone fusca	Western Gerygone	12/10/1991
Gliciphila melanops	Tawny-crowned Honeyeater	23/10/2014
Grallina cyanoleuca cyanoleuca	Magpielark	1/10/1991
Gymnorhina tibicen	Australian Magpie	23/10/2014
Hemiergis peronii	Four-toed Earless Skink	21/11/1991
Hirundo neoxena neoxena	Welcome Swallow	10/11/1991
Hylacola cauta cauta	Shy Heathwren (EP, YP, FR, MM, upper SE)	23/10/2014
Lalage tricolor	White-winged Triller	23/10/2014
Lampropholis delicata	Delicate Skink	21/11/1991
Leipoa ocellata	Malleefowl	20/10/2014
Lepus europaeus	European Brown Hare	21/11/1991
Lerista bougainvillii	Bougainville's Skink	21/11/1991
Lichenostomus cratitius occidentalis	Purple-gaped Honeyeater (mainland SA)	23/10/2014
Macropus fuliginosus	Western Grey Kangaroo	20/10/2014
Malurus assimilis assimilis	Purple-backed Fairywren	23/10/2014
Malurus cyaneus leggei	Superb Fairywren (Mainland SA)	22/10/2014
Manorina melanocephala	Noisy Miner	20/11/1991
Melanodryas cucullata cucullata	Hooded Robin (YP, MN, AP, MLR, MM, SE)	1/10/1991
Melithreptus brevirostris	Brown-headed Honeyeater	23/10/2014
Menetia greyii	Dwarf Skink	21/11/1991
Microeca fascinans	Jacky Winter	17/11/1991
Morethia obscura	Mallee Snake-eye	22/11/1991
Neophema chrysostoma	Blue-winged Parrot	23/10/2014
Neophema elegans elegans	Elegant Parrot	22/11/1991

Nesoptilotis leucotis leucotis	White-eared Honeyeater (SE)	23/10/2014
Nymphicus hollandicus	Cockatiel	18/11/1991
Ocyphaps lophotes lophotes	Crested Pigeon	20/10/2014
Oryctolagus cuniculus	Rabbit (European Rabbit)	21/11/1991
Pachycephala fuliginosa fuliginosa	Western Whistler	23/10/2014
Pardalotus punctatus	Spotted Pardalote	23/10/2014
Pardalotus striatus substriatus	Striated Pardalote	22/11/1991
Parvipsitta porphyrocephala	Purple-crowned Lorikeet	20/10/2014
Petrochelidon nigricans	Tree Martin	18/11/1991
Phaps chalcoptera	Common Bronzewing	23/10/2014
Phylidonyris novaehollandiae novaehollandiae	New Holland Honeyeater (mainland SA)	20/10/2014
Platycercus elegans	Crimson Rosella	1/10/1991
Platycercus eximius eximius	Eastern Rosella	23/10/2014
Podargus strigoides	Tawny Frogmouth	1/10/1991
Pomatostomus superciliosus	White-browed Babbler	23/10/2014
Psephotus haematonotus haematonotus	Red-rumped Parrot (eastern SA except NE)	17/11/1991
Pseudomys apodemoides	Silky Mouse	22/11/1991
Purnella albifrons	White-fronted Honeyeater	23/10/2014
Rhipidura albiscapa	Grey Fantail	18/11/1991
Rhipidura leucophrys leucophrys	Willie Wagtail	22/11/1991
Smicrornis brevirostris	Weebill	28/04/2008
Stipiturus mallee	Mallee Emuwren	12/10/1991
Strepera versicolor melanoptera	Black-winged Currawong (MLR, MM, SE)	23/10/2014
Sturnus vulgaris vulgaris	Common Starling	22/11/1991
Tachyglossus aculeatus	Short-beaked Echidna	22/10/2014
Thyreus waroonensis	n/a	23/01/2017
Tiliqua rugosa	Sleepy Lizard	22/11/1991
Turnix varius varius	Painted Buttonquail	1/10/1991
Vanellus miles	Masked Lapwing	18/11/1991
Vanellus tricolor	Banded Lapwing	1/10/1991
Vulpes vulpes	Fox (Red Fox)	21/11/1991
Zanda funerea whiteae	Yellow-tailed Black Cockatoo	20/10/2014
Zosterops lateralis	Silvereye	23/10/2014

Appendix 5. SEB Management Plan