EPLink Transmission Line Demolition

Native Vegetation Clearance

Data Report

Clearance under the *Native Vegetation Regulations 2017*

24 February 2022

Prepared by J. Carpenter – EBS Ecology (NVC Accredited Consultant)

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Version 2.0

Prepared by EBS Ecology for ElectraNet

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Glossary and abbreviations

BAM	Bushland Assessment Method
BDBSA	Biological Database of South Australia (maintained by DEW)
CAZ	Construction Activity Zones
DA	Development Application
DAWE	Department of Agriculture, Water and the Environment (Commonwealth)
DEW	Department for Environment and Water (South Australia)
EBS Ecology	Environment and Biodiversity Services Pty Ltd (trading as EBS Ecology)
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999*
ha	Hectare(s)
HA	Heritage Agreement
IBRA	Interim Biogeographical Regionalisation of Australia
km	Kilometre(s)
kV	kilovolt
LSA Act	*Landscape South Australia Act 2019*
m	metre(s)
MNES	Matters of National Environmental Significance
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
NPW Act	*National Parks and Wildlife Act 1972*
NV Act	*Native Vegetation Act 1991*
NVC	Native Vegetation Council
PMST	Protected Matters Search Tool (under the EPBC Act; maintained by DAWE)
Project	Removal of the existing Eyre Peninsula Transmission Line
Project Area	Eyre Peninsula Transmission Line easement
RAM	Rangelands Assessment Method
SA	South Australia(n)
Search Area	5 km buffer of the Project Area considered in the desktop assessment database searches
SEB	Significant Environmental Benefit
sp.	Species
spp.	Species (plural)
ssp.	Sub-species
STAM	Scattered Tree Assessment Method
TEC	Threatened Ecological Community
VA	Vegetation Association
var.	Variety (a taxonomic rank below that of species and subspecies, but above that of form)
WoNS	Weeds of National Significance

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1. Application information

Table 1. Application details.

Applicant:	ElectraNet		
Key contact:	Alecia Wright E: wright.alecia@electranet.com.au T: 08 8404 7510		
Landowner:	ElectraNet		
Site Address:	Various		
Local Government Area:	Franklin Harbor Cleve Tumby Bay Lower Eyre Peninsula	**Hundred:**	Various
Title ID:	See Appendix 1.	**Parcel ID**	See Appendix 1.

Table 2. Summary of the proposed clearance.

Purpose of clearance:	Clearance required for the removal of obsolete electricity supply infrastructure., including associated access tracks and laydown areas.
Native Vegetation Regulation:	Regulation 12, Schedule 1; clause 34, Infrastructure.
Description of the vegetation under application:	The application is for 17.35 hectares (ha) of native vegetation that includes 36 Vegetation Associations (VAs). All clearing of vegetation, with the exception of some access tracks, is limited to within the easement of an electricity transmission line. Most vegetation under application is impacted by disturbance associated with maintaining vegetation as required for the operation of the transmission line infrastructure. This vegetation maintenance includes trimming and lopping of larger trees and some clearing of ground vegetation around towers.
Total proposed clearance – area (ha) and/or number of trees:	17.35 ha of 36 Vegetation Associations. No Scattered trees are included in the application.
Level of clearance:	Level 4.
Overlay (Planning and Design Code):	The Native Vegetation Overlay applies. The State Significant Vegetation Overlay applies in some instances.
Map of proposed clearance area:	Refer to Figure 2.
Mitigation Hierarchy:	**Avoidance** As the Project involves the removal of existing infrastructure that in some instances is surrounded by native vegetation, some clearing cannot be avoided. **Minimisation** Steps will be taken to minimise vegetation clearing associated with the Project. This includes: • Use of existing access tracks where possible. • Clearing of disturbed and managed vegetation within the existing transmission line easement in preference to impacting on intact vegetation. • Clear designation of areas to be cleared and areas of vegetation to avoid.

	• Use of existing cleared areas for laydown, site office (where required) and vehicle and machinery parking. Further impact minimisation measures are detailed in Section 4.4, Table 51. **<u>Rehabilitation</u>** All clearing associated with the project is temporary. Cleared areas will be rehabilitated according to the steps discussed in Section 4.4. The applicant has not applied for a SEB reduction for rehabilitation.
SEB Offset proposal	Payment of $636,797.18, including an administration fee of $33,197.98.

2. Purpose of clearance

2.1. Description

ElectraNet is currently constructing an electricity transmission line (EPLink) between Cultana on the northern Eyre Peninsula to Port Lincoln in the south. This transmission line will replace the soon to be obsolete existing 132 kilovolt (kV) infrastructure, closely following the existing alignment. Following completion and energizing of the EPLink transmission line, the existing line will be decommissioned and demolished from the Middleback substation south to Port Lincoln.

Clearance of native vegetation will be required to allow for machinery access and laydown areas during removal of the obsolete infrastructure.

2.2. Background

2.2.1. Overview of the EPLink Project

The Eyre Peninsula has a single main radial electrical transmission supply of 132 kV, with radial 132 kV transmission lines extending from the Cultana to Yadnarie substations and from Yadnarie substation west to Wudinna and south to the Port Lincoln substation.

Electricity supply to Port Lincoln is supported by three generators located at the Port Lincoln substation and in recent years, demand has steadily increased as a result of agricultural, residential, commercial, mining and industrial development. In addition, forecasted demand has also increased due to proposed spot load mining developments and associated infrastructure projects such as new ports and processing facilities.

Therefore, it is anticipated that current electricity network infrastructure will become insufficient to accommodate for future load at Port Lincoln and across the peninsula. Furthermore, the age and condition of the existing 132 kV radial line means that replacement of sections of conductor was deemed likely be required from 2019 onwards, with replacement works between Yadnarie and Port Lincoln substations anticipated to take approximately 10 years to complete.

ElectraNet is currently to constructing a new transmission line from Cultana to Port Lincoln to replace the existing and soon to be insufficient transmission line. This replacement Transmission Line is located 50 – 100 metre (m) from the existing infrastructure and runs parallel to it. Once complete, ElectraNet plans to decommission and remove that part of the existing transmission line between the Middleback Range and Port Lincoln.

2.2.2. Native vegetation clearance application context

Construction of the replacement EPLink transmission line has required clearing of native vegetation as described in Table 3. This clearing has been approved (insert approval ref), with construction currently underway. Removal of existing infrastructure requires clearing of vegetation to enable access for machinery and equipment and laydown areas for materials.

Table 3. Summary of infrastructure impact requirements for the proposed EPLink transmission line.

Component	Description	Permanent impact area in native veg. (ha)
Transmission Line Structures (e.g., poles/towers) Cultana to Yadnarie – approximately 136 km	• Poles/towers will be located every 400 – 500 m over approximately 136 km. • Approximately 280 poles/towers will be required. • Each pole/tower will require a 30 m x 40 m (1200 m^2) construction footprint and within this, a likely permanent footprint of 15 m x 15 m (225 m^2). • Construction footprint: 280 poles/towers x 1200 m^2 = 33.6 ha. • Permanent footprint: 280 poles/towers x 225 m^2 = 6.30 ha.	**4.66**
Transmission Line Structures (e.g., poles/towers) Yadnarie to Port Lincoln – approximately 126 km	• Poles/towers will be located every 400 – 500 m over approximately 126 km. • Approximately 256 poles/towers will be required. • Each pole/tower will require a 30 m x 30 m (900 m^2) construction footprint and within this, a likely permanent footprint of 10 m x 10 m (100 m^2). • Construction footprint: 256 poles/towers x 900 m^2 = 23.04 ha. • Permanent footprint: 256 poles/towers x 100 m^2 = 2.56 ha.	**0.55**
Stringing Pads (for stringing of transmission line cables)	• Approximately 141 stringing areas will be required. • Each stringing area will require a maximum of 50 m x 50 m (2500 m^2). • Construction footprint: 141 stringing areas x 2500 m^2 = 352,500 m^2 or 35.25 ha (GIS calculation = 32.11 ha).	**0.00**
Stringing Access Corridor	• 10 m wide along the entire 262 km long transmission line. • Construction footprint: 10 m x 262 km = 262 ha (GIS calculation = 262.13 ha). • From Cultana to Structure 30, through Department of Defence land, a 5 m wide and 15 km long (75,000 m^2 or 7.50 ha) access track (within the Stringing Access Corridor impact area) will remain in place to provide maintenance access to structures. • All other Stringing Access Corridor impact areas will be rehabilitated.	**6.76**
Spur Tracks	• Approximately 214 spur tracks from the existing transmission line access track to each new pole/tower will be required during construction and maintenance. • Spur tracks will be 5 m wide and of various lengths (approximately ≤ 100 m), depending on the location of each new pole/tower relative to the existing transmission line access track (approximately 500 m^2 per spur track). • Construction footprint: 214 x 500 m^2 = 107,000 m^2 or 10.70 ha (GIS calculation = 9.71 ha).	**7.55**
Substations	• Existing substations at Whyalla (Cultana), Yadnarie and Port Lincoln will be upgraded. • A new substation (Yadnarie North) will also be constructed adjoining Yadnarie substation on the North side. • Substation sites will also serve as major laydown sites during construction. • The laydown areas (approximately 5.40 ha) will be rehabilitated.	**7.39**
Construction Laydown Areas	• Ten construction laydown areas (approximately 64.70 ha) will be required during construction and will be rehabilitated after.	**0.00**
Construction Camps	• Two construction camps, approximately 2.00 ha each, (4.00 ha total) will be required during construction and will be rehabilitated after.	**0.00**
Temporary Transmission Lines	• Approximately 6116 m of transmission line and 52 structures (poles/towers) will be required temporarily. • Each pole/tower will require a 30 m x 30 m (900 m^2) construction footprint, which will also be used for stringing. • Approximately 6116 m of 5 m wide access track (30,580 m^2) will be required = 3.06 ha. • Construction footprint: (52 structures x 900 m^2 = 4.68 ha) + 3.06 ha access track = 7.74 ha. • All temporary transmission line impacts will be rehabilitated.	**0.00**
	Total	**26.91**

2.2.3. Landscape context

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. Under the IBRA, the landscapes of South Australia (SA) are classified according to Bioregion, Subregion and Environmental Association.

The Project Area occurs within the Eyre Hills and Eyre Mallee IBRA subregions of the Eyre York Block IBRA bioregion. It falls across 12 Environmental Associations, as indicated in Table 4 and Figure 1.

Table 4. IBRA classification of the Project Area.

Bioregion	Subregion	Environmental Associations
Eyre York Block	Eyre Hills	Yalunda Mt Gawler Butler Cleve Mt Desperate Messenger Yalarna Ironstone Hill
	Eyre Mallee	Hincks Wharminda Hambridge Midgee

Current land use

The Project Area covers land used for primary production and agriculture, including dry-land cropping and grazing of exotic and native pasture in the south and grazing of native pasture in the north. The Project Area extends across a number of protected areas, including Heritage Agreements and Conservation Parks and reserves owned by the Department of Environment and Water (DEW). Protected areas affected by the Project are listed in Table 5. The relationship between protected areas and proposed Project impact is shown on the maps in Appendix 2.

Table 5. Protected areas impacted by the Project.

Protected Area	Type
Heritage Agreement (HA) 528	Heritage Agreement
Wharminda Conservation Park	Conservation Park – DEW
HA 833	Heritage Agreement
HA 381	Heritage Agreement
Sheoak Hill Conservation Park	Conservation Park – DEW
HA 137	Heritage Agreement
HA 774	Heritage Agreement
HA 1398	Heritage Agreement
Ironstone Hill Conservation Park	Conservation Park – DEW

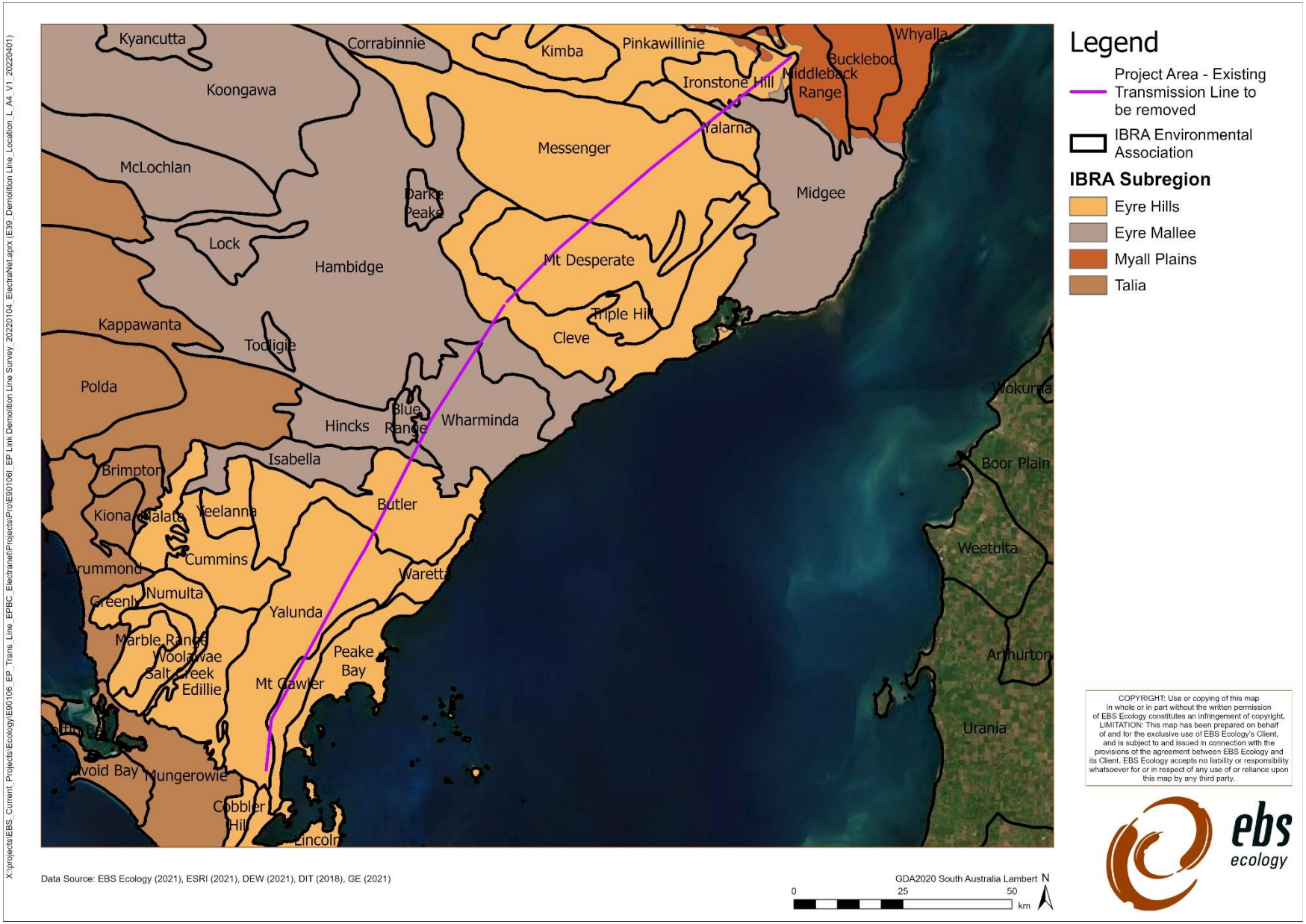


Figure 1. IBRA classification of the Project Area.

Watercourses and Wetlands

Throughout its length, the Project Area crosses numerous small, mostly ephemeral watercourses. In almost all instances, these occur beneath spans in the transmission line, with limited or no impact to watercourse vegetation. Six impact areas occur in close proximity to a watercourse, with riparian native vegetation impacted. Impacted watercourses are listed in Table 6, with maps provided as Appendix 3. There are no other wetland habitats impacted by the Project.

Table 6. Watercourses in the Project Area close to vegetation impact.

Watercourse	Flow	Impact	Vegetation Block
Pernalla Creek	Semi-permanent	Demolition pad	B
Unnamed	Ephemeral	Demolition pad	C
Unnamed	Ephemeral	Demolition pad	C
Oolanta Creek	Ephemeral	Demolition pad	C
Dutton River	Ephemeral	Demolition pad	D
Unnamed	Ephemeral	Demolition pad	G

2.2.4. Previous ecological studies

EBS Ecology has been undertaking flora and fauna surveys on the Eyre Peninsula on behalf of ElectraNet since 2012. Surveys were undertaken for the following purposes:

- Identify the location of ecological constraints (e.g., native vegetation, threatened species and communities) to help inform project design for the construction of the EPLink Transmission Line.
- Classify and map native Vegetation Associations along the proposed EPLink Transmission Line easement.
- Assess proposed clearing of native vegetation according to the *Native Vegetation Act 1991* (NV Act), including calculation of the Significant Environmental Benefit (SEB) obligation of the EPLink construction project.
- Targeted threatened flora surveys to quantify potential impact to species and communities listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
- Micro siting of project design to minimise impact on species listed as threatened under the EPBC Act and *National Parks and Wildlife Act 1972* (NPW Act).
- Assess pre-clearing condition of vegetation as per EPBC Act approval conditions.

This clearing assessment has used the findings of historical surveys extensively to provide information for relevant sections of the report. References used have been provided as Attachments to this document, as listed in Table 7.

Table 7. Previous ecological studies undertaken by EBS Ecology in the Project Area.

Study	Scope	Year	Attachment
Eyre Peninsula Transmission Line – Biodiversity Assessment Report (EBS Ecology, 2013)	• Identify areas that represent key fauna habitats and faunal or floral assemblages. • Identify flora and fauna species (including pest plants and animals) that are known to occur. • Identify any matters of National, State or local conservation significance.	2012, 2013	Attachment 1

Study	Scope	Year	Attachment
Eyre Peninsula Transmission Line Native Vegetation Assessment (EBS Ecology, 2019)	• Assess native vegetation within the Project Area for clearance using the Bushland Assessment Method and Rangelands Assessment Method; • Calculate the SEB offset for the Project, which is required for approval to clear native vegetation under Division 5 of the *Native Vegetation Regulations 2017*; • Identify, describe and map Commonwealth and State threatened flora, fauna and ecological communities, and significant weeds, across the Project Area; • Determine the potential impacts of the proposed development on flora, fauna and ecological communities, particularly those threatened at the Commonwealth and State level.	2019	Attachment 2
Eyre Peninsula Link EPBC Act Flora Survey – Winter 2020 (EBS Ecology, 2020a)	Establish the extent of occurrence within the EPLink Transmission Line corridor of: • *Acacia enterocarpa* (Jumping Jack Wattle, EPBC Act Endangered) • *Acacia pinguifolia* (Fat-leaved Wattle, EPBC Act Endangered) • *Pultenaea trichophylla* (Tufted Bush-pea, EPBC Act Endangered)	2020	Attachment 3
Eyre Peninsula Link EPBC Act Flora Survey – Spring 2020 (EBS Ecology, 2020b)	Establish the extent of occurrence within the EPLink Transmission Line corridor of: • *Caladenia macroclavia* (Large-club Spider Orchid, EPBC Act Endangered), • Eyre Peninsula Blue Gum (*Eucalyptus petiolaris*) Woodland (EPBC Act Endangered).	2020	Attachment 4
EPLink Transmission Line Vegetation Pre-clearing Condition Report (in development)	Assess pre-clearing condition of threatened species habitat to meet EPBC Act approval conditions.	2021/2022	Not completed.

2.3. General location map

The Project Area (existing Transmission Line easement) extends from the Middleback Range in the northern Eyre Peninsula to Port Lincoln in the south. The Project Area is shown in Figure 2.

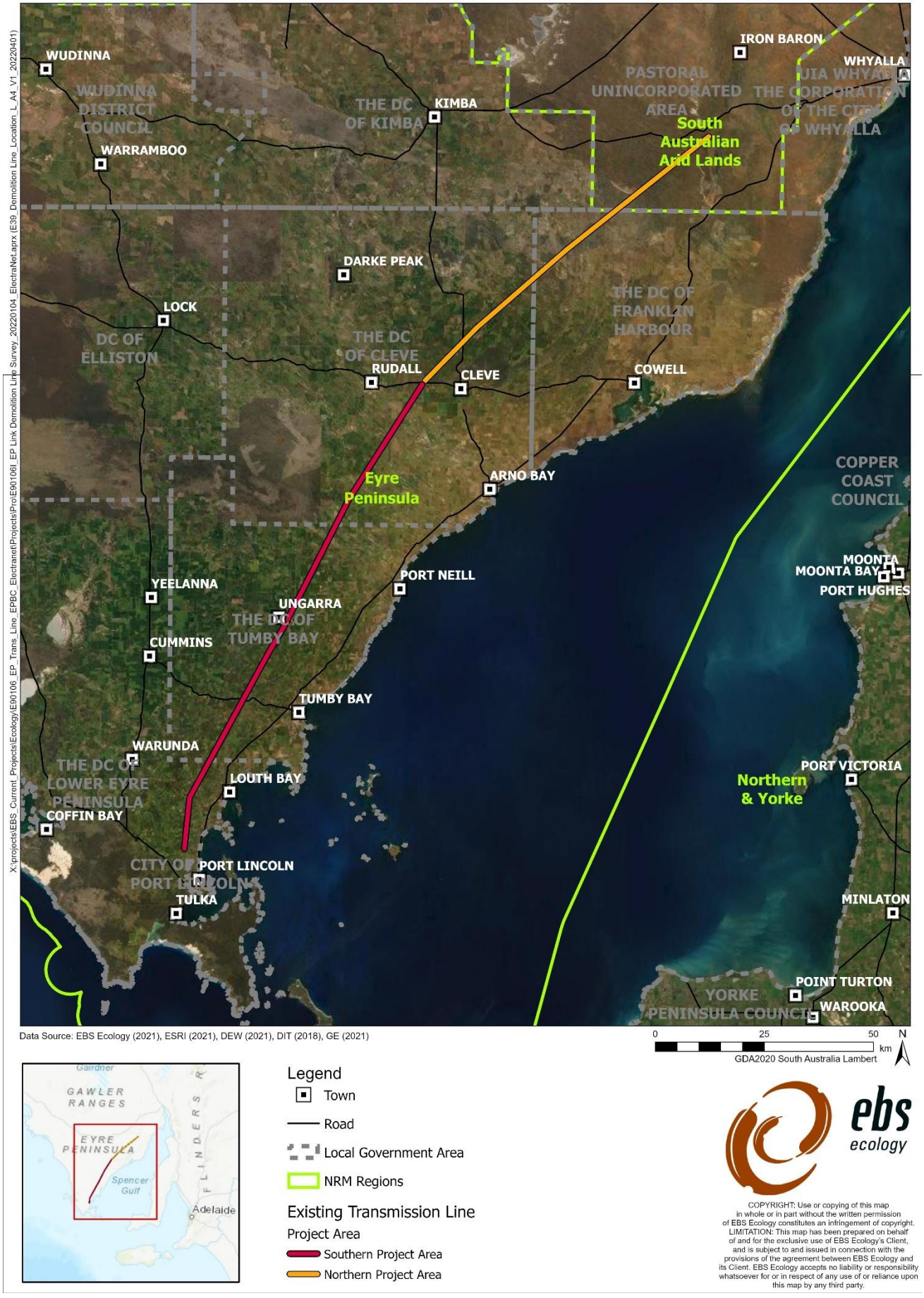


Figure 2. General location map of the Project Area, showing local government areas and Natural Resource Management regions.

2.4. Details of the Project

The Project includes the decommissioning and removal of the existing Eyre Peninsula transmission line and the rehabilitation of cleared areas of vegetation as a result. Existing access tracks will be used where possible, although some sites require the construction of new access or maintenance of existing tracks in poor condition. New access tracks will be cleared to no more than 5 metres (m) in width.

The Project will impact mostly cleared agricultural land, with clearing of native vegetation required in some instances. Areas impacted for each component of the Project area shown in Table 8.

Table 8. Details of the Project.

Impact Type	Total Area (ha)	Area of Native Vegetation (ha)
Demolition pad (towers)	75.36	16.65
Access tracks	15.03	0.09
Stringing pad (winch and brake)	3.90	0.60
TOTAL IMPACT	94.29	17.34

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

Native Vegetation Act 1991

This native vegetation clearance data report is for the decommissioning and demolition of the existing Eyre Peninsula Transmission Line, as described in Section 2.4. Clearing of native vegetation associated with the proposal will require approval under the NV Act.

Planning, Development and Infrastructure Act 2016 **(previously *Development Act 1993*)**

The Project will most likely be approved as an amendment to the Development Application (DA) approved for the EPLink construction project. Details of this DA are below:

- DA number – 921/V003/19

Environment Protection and Biodiversity Conservation Act 1999

Previous ecological studies associated with the EPLink Transmission Line development and a Protected Matters Search Tool (PMST) report identified that Matters of National Environmental Significance (MNES) protected by the EPBC Act may be impacted by the Project. Based on field survey results, MNES potentially impacted include the following:

One EPBC Act listed TEC

- Eyre Peninsula Blue Gum (*Eucalyptus petiolaris*) Woodland

Two EPBC Act listed threatened fauna species:

- Malleefowl (*Leipoa ocellata*) – Vulnerable
- Sandhill Dunnart (*Sminthopsis psammophila*) – Endangered

Six EPBC Act listed threatened flora species:

- Greencomb Spider-orchid (*Caladenia tensa*) – Endangered
- Large-club Spider-orchid (*Caladenia macroclavia*) -
- Silver Daisy-bush (*Olearia pannosa* ssp. *pannosa*) – Vulnerable
- Tufted Bush-pea (*Pultenaea trichophylla*) – Endangered
- Jumping-jack Wattle (Acacia enterocarpa) – Endangered
- Fat-leaved Wattle (*Acacia pinguifolia*) - Endangered

ElectraNet is currently undertaking an EPBC self-assessment to determine whether any significant impact on the above MNES is likely. If this process determines there is a significant impact, the project will be referred for assessment under the EPBC Act.

National Parks and Wildlife Act 1972

EBS Ecology has a Scientific Research Permit (K25613-20) which allows for flora collection.

Landscape South Australia Act 2019

The Project may require a Water Affecting Activities Permit, which will be obtained prior to any works impacting a water course.

A permit may also be required to transport any declared weeds on a public road.

The requirement for these permits will be discussed with the Eyre Peninsula Landscape Management Board and permits obtained where necessary.

2.6. Native Vegetation Regulation

The proposed clearance is suggested to be assessed under Schedule 1 *Regulation 12 (34) Infrastructure*.

34 — Infrastructure

(1) Clearance of vegetation—

(a) incidental to the construction or expansion of a building or infrastructure where the Minister has, by instrument in writing, declared that the Minister is satisfied that the clearance is in the public interest; or

(b) required in connection with the provision of infrastructure or services to a building or proposed building, or to any place, provided that any development authorisation required by or under the Development Act 1993 has been obtained.

2.7. Development Application information (if applicable)

The Project includes areas with the following zones and subzones:

- Rural
- Conservation

The Native Vegetation Planning Overlay applies, with the State Significant Vegetation Overlay relevant for those parts of the Project Area within Heritage Agreements and Conservation Parks.

The Project will most likely be approved as an amendment to the Development Application (DA) approved for the EPLink construction project. Details of this DA are below:

- DA number – 921/V003/19

3. Method

3.1. Flora assessment

The flora assessment was undertaken by NVC Accredited Consultant Senior Ecologist J. Carpenter and Ecologist H Whittenbury from 15 to 19 November and 15 to 16 December 2021 in accordance with the Bushland Assessment Method (BAM) and Rangelands Assessment Method (RAM).

The assessment also draws extensively on previous survey work in the Project Area undertaken in 2019 and 2020. Survey sites are shown in the maps provided as Attachment 5. Spatial data is provided as Attachment 6.

3.1.1. Bushland Assessment Method

That part of the Project Area that falls within the Eyre Peninsula Landscape Management Region has been assessed using the Bushland Assessment Method (BAM).

The BAM is derived from the Nature Conservation Society of South Australia's Bushland Condition Monitoring methodology (Croft, Pedler, & Milne, 2008). The BAM is used to assess areas of native vegetation requiring clearance and calculate the Significant Environmental Benefit (SEB) obligations of the clearance.

Details of site selection/stratification and assessment protocols, and the biodiversity value components assessed and the factors that influence these components are outlined in the *Bushland Assessment Manual* (Native Vegetation Council, 2020a). Due to the size of the Project and the large number of small, fragmented native vegetation patches concerned, Blocks of vegetation have been differentiated based on the Interim Biogeographical Regionalisation of Australia (IBRA) environmental association.

The Conservation Significance Scores were calculated from direct observations of flora and direct and historical observations of fauna species of conservation significance. All fauna identified as known to occur by the Protected Matters Search Tool (PMST), and fauna with Biological Database of South Australia (BDBSA) records since 1995 and with a spatial reliability of less than 1 km, within 5 km of the Project Area, were included in the BAM scoresheets. Species determined as unlikely to occur within the Project Area may be removed by the Native Vegetation Branch if the finding is supported. Marine and/or wetland species were omitted from the scoresheets given the Project impacts terrestrial habitats only.

Three sets of BAM data were used in this assessment:

- Data collected during field work undertaken specifically for this Project in November 2021.
- Data collected during targeted survey of Eyre Peninsula Blue Gum (*Eucalyptus petiolaris*) Woodland and EPBC Act listed Threatened species in 2020.
- Data collected during field work for the Vegetation Clearing Assessment for the construction of the EPLink Transmission Line in 2019.

Where impact extends to within protected areas, an additional scoresheet has been created for that area to enable the protected area loading to be accounted for within the Significant Environmental Benefit (SEB) calculations.

3.1.2. Rangelands Assessment Method

That part of the Project Area that falls within the South Australian Arid Lands Landscape Management Region has been assessed using the Rangelands Assessment Method (RAM). The RAM was developed by the Native Vegetation Management Unit for the purpose of assessing areas of native vegetation requiring clearance and to calculate SEB requirements in the arid zone of South Australia.

The RAM aligns with the methods used for the assessment of land and vegetation condition developed by Natural Resources South Australia Arid Lands, requiring quantitative on ground and desktop assessment of landscape, native vegetation and ecological values.

Details of site selection/stratification and assessment protocols, and the biodiversity value components assessed and the factors that influence these components are outlined in the *Rangelands Assessment Manual* (Native Vegetation Council, 2020b). The applicable part of the Project Area is entirely within protected areas without watering points or properly defined paddocks, with native vegetation condition homogenous throughout. Given this, Blocks of vegetation have been differentiated by IBRA subregion rather than by paddock and distance from watering points for the purposes of this assessment.

The Conservation Significance Scores were calculated from direct observations of flora and direct and historical observations of fauna species of conservation significance. All fauna identified as known to occur in the PMST, and fauna with BDBSA records since 1995 and with a spatial reliability of less than 1 km, within 5 km of the Project Area, were included in the RAM scoresheets. Species determined as unlikely to occur within the Project Area will be removed by the Native Vegetation Branch if the finding is supported. Marine and/or wetland species were omitted from the scoresheets given the Project Area is terrestrial.

All areas subjected to the RAM occur within protected areas, either Heritage Agreements or Conservation Parks. There are no artificial watering points in these areas, with grazing impacts homogenous throughout the impacted areas. Sites have been stratified by Vegetation Association, since grazing gradient does influence condition of vegetation in this instance, or has not been mapped.

Two sets of RAM data were used in this assessment:

- Data collected during field work undertaken specifically for this Project in November 2021.
- Data collected during field work for the Vegetation Clearing Assessment for the construction of the EPLink Transmission Line in 2019.

3.1.3. Targeted EPBC Act threatened flora survey

Based on results from previous surveys, three species of plants listed as threatened under the EPBC Act were considered highly likely to occur in impact areas and targeted during the survey. These species are listed in Table 9.

Impact areas close to known records or located in areas of similar Vegetation Associations to previous records were searched using parallel transects. Two observers walked parallel transects through the impact footprint, spaced at intervals determined by the ease of detection for specific species. Transect intervals are indicated in Table 9 and are based on *Surveying threatened plants and their habitats* (Department of Planning, Industry & Environment, 2020).

Previous records of two species thought to occur in the Project Area, Fat-leaved Wattle (*Acacia pinguifolia*) and Large-club Spider-orchid (*Caladenia macroclavia*), were shown to be due to mis-identification of similar species (EBS Ecology 2020a and 2020b). They were not targeted during this survey.

Table 9. EPBC Act listed threatened flora species targeted during the survey.

Scientific Name	Common Name	Status		Vegetation Association of EBS Ecology Records	Survey Transect Intervals (m)
		EPBC Act	NPW Act		
Acacia enterocarpa	Jumping Jack Wattle	EN	E	*Eucalyptus peninsularis +/- Eucalyptus phenax* Mallee over *Gahnia deusta* *Eucalyptus odorata +/- Eucalyptus pileata / Eucalyptus leptophylla* Mallee *+/- Melaleuca uncinata*	10 – 20
Olearia pannosa ssp. *pannosa*	Silver Daisy-bush	VU	V	*Eucalyptus cladocalyx* Woodland / Open Woodland. *Eucalyptus cladocalyx* Very Open Woodland over scattered native shrubs and exotics.	10 – 15
Pultenaea trichophylla	Tufted Bush-pea	EN	E	*Allocasuarina verticillata* Low Woodland *Eucalyptus cladocalyx* Woodland / Open Woodland. *Eucalyptus cladocalyx* Very Open Woodland over scattered native shrubs and exotics. *Eucalyptus incrassata* Mallee over *Melaleuca uncinata.* *Eucalyptus odorata +/- Eucalyptus pileata / Eucalyptus leptophylla* Mallee *+/- Melaleuca uncinata.* *Melaleuca uncinata* Shrubland.	10 – 15

Conservation status

Aus.: Australia (*Environment Protection and Biodiversity Conservation Act 1999*). SA: South Australia (*National Parks and Wildlife Act 1972*). Conservation Codes: CE/CR: Critically Endangered. EN/E: Endangered. VU/V: Vulnerable. R: Rare.

3.2. Fauna assessment

A desktop assessment was undertaken to determine the potential for any threatened fauna species, and Threatened Ecological Communities (TECs) (both Commonwealth and State listed) to occur within the Project Area. This was achieved by undertaking database searches using a 5 km buffer of the Project Area (Search Area). A literature review of previous studies undertaken in the Project Area by EBS Ecology, listed in Section 2.2.4., was also undertaken.

3.2.1. PMST report

A Protected Matters Search Tool (PMST) report was generated on 04/08/2021 to identify nationally threatened flora and fauna, migratory fauna and TECs under the EPBC Act relevant to the Project Area (DAWE 2020). Only species and TECs identified in the PMST report that are likely or known to occur within the Search Area were assessed for their likelihood of occurrence within the Project Area.

3.2.2. BDBSA data extract

A data extract from the Biological Database of South Australia (BDBSA) was obtained from NatureMaps to identify flora and fauna species that have been recorded within 5 km of the southern Project Area and 50 km of the northern Project Area (data extracted 04/08/2021; DEW 2021). This difference in buffer distance between south and north was used to capture the larger dataset required for assessment using RAM.

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 the Department for Environment and Water's (DEW) standards for data quality, integrity and maintenance. Only species with records since 1995 and a spatial reliability of less than 1 km were assessed for their likelihood of occurrence.

3.2.3. Field survey

Dedicated bird surveys were undertaken at each BAM site during this survey. The area search method was used, a 2-hectare search area surveyed for 20 minutes by one observer. Each site was surveyed only once. While undertaking the vegetation survey, observers opportunistically recorded fauna observed on the site, including scats, tracks and other signs.

Further fauna survey work has been undertaken in the Project Area throughout the life of the EPLink Project. Methods and results of these studies are presented in the relevant reports provided as Attachment 1 and Attachment 2.

3.2.4. Likelihood of occurrence

The criteria for the likelihood of occurrence of threatened species within the Project Area are described in Table 10.

Table 10. Criteria for the likelihood of occurrence of threatened 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.

Likelihood	Criteria
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.

4. Assessment outcomes

4.1. Vegetation assessment

4.1.1. General description of the vegetation, the site and matters of significance

The Eyre Peninsula has significant areas of remnant native vegetation and contains important habitats dominated by woodland and mallee communities, with shrublands, grasslands and sedgelands. The vegetation communities across the Project Area varied greatly given the distance from the southern extent at Port Lincoln and the northern extent south of Whyalla.

Remnant patches in the southern section of the Project Area were highly fragmented and dominated by stands of mature *Eucalyptus cladocalyx* (Sugar Gum) Woodland, *Eucalyptus odorata* (Peppermint Box) Mallee Woodland and scattered patches of *Acacia* spp. (Wattle) Tall Shrubland. The Project Area crosses several creeklines in the southern section that were frequently dominated by *Juncus* spp. (Rush) Sedgeland, nationally endangered *Eucalyptus petiolaris* (Eyre Peninsula Blue Gum) Woodland.

The northern semi-arid regions were largely dominated by Acacia and Casuarina woodlands with scattered patches of Bullock Bush low woodlands and chenopod shrublands grading into tall shrublands dominating the rocky hills associated with the Middleback range. On the lower slopes of the ranges mallee and chenopod communities became more prominent. These areas were frequently interspersed with large dune complexes characterized by mixed mallee communities over *Triodia* (Spinifex) understories, *Melaleuca uncinata* (Broombush), *Senna* spp. (Cassia) and *Dodonaea* spp. (Hopbush) tall shrublands.

All areas subjected to the RAM occur within protected areas, either Heritage Agreements or Conservation Parks. There are no artificial watering points in these areas, with grazing impacts homogenous throughout the impacted areas.

A total of 55 Vegetation Associations were described, mapped and assessed as BAM and RAM sites across the Project Area during surveys associated with construction of the new EPLink Transmission Line (EBS Ecology, 2019). Of these, 36 are impacted by this Project, as indicated in Table 11.

Table 11. Vegetation Associations impacted by the Project. Survey sites and impact areas for each are also indicated.

Vegetation Association Number	Vegetation Association Name	Survey Site (BAM/RAM)	Impact Area (ha)
VA1	*Acacia dodonaeifolia* Tall Shrubland	B1	0.072
VA2	*Acacia paradoxa* shrubland +/- *Eucalyptus* spp.	B2a, B2b	0.202
VA3	*Acacia wilhelmiana +/- Senna artemisioides* ssp. *coriacea +/- Eucalyptus gracilis +/- Melaleuca uncinata* Tall Shrubland	I6, H12	0.908
VA4	*Allocasuarina verticillata* Low Woodland	C3a, C3b	0.214
VA5	*Austrostipa scabra +/- Lomandra effusa* Grassland	H1	0.384
VA6	*Callitris gracilis* Low Woodland over *Alyxia buxifolia* and *Beyeria lechenaultii +/- Alectryon oleifolius* ssp. *canescens +/- Dodonaea viscosa* ssp. *angustissima*	I7	0.372
VA7	*Callitris gracilis* Very Open Woodland over *Austrostipa* spp.	H8	0.100
VA8	*Eucalyptus calycogona* ssp. *calycogona +/- Eucalyptus phenax* ssp. *phenax* Mallee over *Maireana brevifolia* and exotics	E4, G2	0.228
VA9	*Eucalyptus brachycalyx +/- Callitris verrucosa* Mallee over *Calytrix involucrata* and *Phebalium bullatum*	H10	0.332
VA10	*Eucalyptus cladocalyx* Very Open Woodland over scattered native shrubs and exotics	C7	0.312
VA11	*Eucalyptus cladocalyx* Woodland / Open Woodland	A1, B7, C1a, C1b, C1c	0.640
VA12	*Eucalyptus incrassata +/- Callitris verrucosa* Mallee over *Leptospermum coriaceum, Phebalium bullatum, Triodia* spp. and *Calytrix tetragona*	H6, I8	0.914
VA13	*Eucalyptus incrassata +/- Callitris verrucosa Mallee* over *Melaleuca uncinata* and *Calytrix tetragona*	H5a, H5A-PA, H5b, H5b-PA, H9	0.831
VA14	*Eucalyptus incrassata +/- Melaleuca uncinata +/- Melaleuca lanceolata* Mallee	E1a, E1b	0.301
VA15	*Eucalyptus incrassata +/- Melaleuca uncinata +/- Melaleuca lanceolata* Mallee over *Ehrharta calycina*	E2a, E2b, F1	0.437
VA16	*Eucalyptus incrassata* Mallee over *Melaleuca uncinata*	C6a, C6b	0.077
VA17	*Eucalyptus leptophylla +/- Eucalyptus oleosa +/- Melaleuca lanceolata* mixed Mallee over *Cratystylis conocephala* and *Atriplex vesicaria*	I4	0.402
VA18	*Eucalyptus odorata +/- Eucalyptus pileata / Eucalyptus leptophylla* Mallee +/- *Melaleuca uncinata*	B5a, B5b, C5a, C5b	0.396
VA19	*Eucalyptus oleosa / Eucalyptus brachycalyx* Mallee	H7, I3a, I3b, I3c, J3	3.538
VA20	*Eucalyptus peninsularis +/- Eucalyptus phenax Mallee over Gahnia deusta*	D2	0.133
VA21	*Eucalyptus petiolaris +/- Eucalyptus odorata +/- Allocasuarina verticillata* Open Grassy Woodland	C10	0.049
VA22	*Eucalyptus petiolaris* Woodland over *Acacia pycnantha*	C9	0.100
VA23	*Eucalyptus porosa* Mallee over *Dodonaea viscosa* ssp. *angustissima, Senna artemisioides* ssp. *coriacea, Acacia wilhelmiana*	J4	0.067
VA24	*Eucalyptus porosa* Open Woodland +/- *Acacia notabilis*	G1	0.132
VA25	*Eucalyptus socialis / Eucalyptus oleosa / Eucalyptus brachycalyx +/- Eucalyptus leptophylla* Mallee over *Triodia scariosa / Triodia lanatus*	D3, E3, H4a, H4b, H4c, I5, J1	3.908
VA26	*Geijera linearifolia +/- Senna artemisioides* ssp. *coriacea +/- Callitris gracilis +/- Acacia notabilis +/- Alyxia buxifolia* Shrubland	J2	0.201
VA27	*Melaleuca lanceolata +/- Eucalyptus phenax* ssp. *phenax* Tall Shrubland over exotic grasses	E5	0.0002

Vegetation Association Number	Vegetation Association Name	Survey Site (BAM/RAM)	Impact Area (ha)
VA28	*Melaleuca uncinata +/- Eucalyptus brachycalyx +/- Callitris gracilis +/- Eucalyptus* oleosa Tall Shrubland	I9	0.201
VA29	*Melaleuca uncinata* Shrubland	C7, G3, H3	0.673
VA30	*Melaleuca uncinata* Tall Shrubland +/- *Eucalyptus incrassata* and *Eucalyptus brachycalyx*	G4, H11	0.416
VA31	*Gahnia* spp. / *Juncus kraussii* Sedgeland +/- *Eucalyptus petiolaris*	B6	0.008
VA32	*Eucalyptus odorata +/- Eucalyptus pileata Mallee over Acacia imbricata, Melaleuca uncinata*	B8	0.099
VA33	*Rytidosperma* spp. / *Austrostipa* ssp. +/- *Themeda triandra* Tussock Grassland	B3, C2	0.491
VA34	*Tecticornia* sp. Low Open Shrubland	D1	0.170
VA35	*Melaleuca halmaturorum* Tall Open Shrubland over *Juncus kraussii* and *Juncus pallidus*	B9	0.030
VA36	*Eucalyptus peninsularis +/- Eucalyptus dumosa* Mallee over *Enchylaena tomentosa*	D4	0.030
Total Impact			**17.350**

Impact is largely restricted to areas around transmission line structures and within the easement. Vegetation within these areas is periodically managed by ElectraNet by trimming and/or slashing, particularly of taller trees and regrowth. Vegetation condition is poor to moderate, often with a modified overstorey, but a diverse and regenerating mid and lower storey.

Introduced plants or weeds were recorded at most sites. Highly fragmented vegetation in the southern Project Area tended to be heavily disturbed by weed infestation, while larger patches of vegetation in the northern Project Area were less so. A total of 65 introduced plant species have been recorded by EBS Ecology in the Project Area, 47 during this November 2021 survey. This includes nine species of Declared plants under the *Landscape South Australia Act 2019* (LSA Act) and four Weeds of National Significance (WoNS). These species are listed in Table 12. All other introduced plants recorded in the Project Area are shown in Appendix 4.

Table 12. Declared weeds and Weeds of National Significance recorded in the Project Area.

Scientific Name	Common Name	LSA Act Declared	WoNS	Recorded Nov 2021
Asparagus asparagoides	Bridal Creeper	Declared	WoNS	Yes
Asparagus declinatus		Declared	WoNS	
Echium plantagineum	Salvation Jane	Declared		Yes
Euphorbia terracina	False Caper	Declared		Yes
Juncus acutus	Sharp Rush	Declared		
Lycium ferocissimum	African Boxthorn	Declared	WoNS	Yes
Marrubium vulgare	Horehound	Declared		Yes
Rosa canina	Dog Rose	Declared		Yes
Rubus fruticosus	Blackberry	Declared	WoNS	Yes

4.1.2. Details of the vegetation associations proposed to be impacted

Each Vegetation Association has been described in the tables below, Tables 13 to 48.

Table 13. Summary of VA1.

Vegetation Association	VA1 – *Acacia dodonaeifolia* Tall Shrubland				
					
General description	**Upper storey** *Acacia dodonaeifolia* *Allocasuarina verticillata* (emergent) **Mid storey** *Lycium ferocissimum* **Lower storey** *Avena barbata* *Bromus diandrus* *Ehrharta longiflora* *Themeda triandra* Tall shrubland situated on rocky hilltops and upper slopes. This Association occurs as small, isolated patches of vegetation surrounded by cleared agricultural land. It is heavily impacted by grassy weeds, such as *Avena barbata* and *Bromus diandrus,* which are dominant in the lower storey. Woody weeds including Lycium ferocissimum are also present. The Association was probably formerly Mallee or low woodland.				
Benchmark Community	EP 4 Mallee with Dense Sclerophyll Shrub Understorey & Sclerophyll Shrublands				
Threatened species or community	• *Acacia dodonaeifolia* (NPW Act Rare) – occurs as the dominant overstorey species.				
Landscape context score	1.18	**Vegetation Condition Score**	4.14	**Conservation significance score**	1.14
Unit biodiversity Score	5.56	**Area (ha)**	0.07	**Total biodiversity Score**	0.39

Table 14. Summary of VA2

Vegetation Association	*Acacia paradoxa* Shrubland +/- *Eucalyptus* spp.				
					
General description	**Upper storey** *Acacia paradoxa* **Mid storey** Absent **Lower storey** *Avena barbata* *Ehrharta longiflora* *Bromus diandrus* *Austrostipa hemipogon* *Rytidosperma caespitosum* Low to mid closed shrubland, occurring on hilltops and mid slopes. This Association occurs as small, isolated patches of vegetation surrounded by cleared agricultural land. It is heavily impacted by grassy weeds, such as *Avena barbata* and *Bromus diandrus,* which are dominant in the lower storey. Native grasses and forbs are present, particularly in more open areas. Emergent *Eucalyptus odorata* mallee occurs at Bam site B2b, indicating that the association may formerly have been a Mallee / Woodland association.				
Benchmark Community	EP 4 Mallee with Dense Sclerophyll Shrub Understorey & Sclerophyll Shrublands				
Threatened species or community	• Diamon Firetail (*Stagonopleura guttata* – NPW Act rare). A small flock of eight birds were seen at BAM site B2b.				
Landscape context score	1.18	**Vegetation Condition Score**	5.35 (Mean)	**Conservation significance score**	1.1
Unit biodiversity Score	6.92 (Mean)	**Area (ha)**	0.202	**Total biodiversity Score**	1.39 (Mean)

Table 15. Summary of VA3.

<table>
<tr><td>Vegetation Association</td><td colspan="5">Acacia wilhelmiana +/- Senna artemisioides ssp. coriacea +/- Eucalyptus gracilis +/- Melaleuca uncinata Tall Shrubland over Triodia spp. +/- Eucalyptus incrassata +/- Eucalyptus brachycalyx</td></tr>
<tr><td colspan="6">  </td></tr>
<tr><td>General description</td><td colspan="5"><u>Upper storey</u>
Acacia wilhelmiana
Melaleuca uncinata
Dodonaea viscosa ssp. angustissima
Eucalyptus gracilis
Senna artemisioides ssp. coriacea
<u>Mid storey</u>
Acacia notabilis
Beyeria lechenaultii
Rinzia orientalis
Leucopogon cordifolius
Dodonaea bursariifolia
<u>Lower storey</u>
Triodia scariosa
Lomandra sp.
Dianella revoluta
Austrostipa sp.
Shrubland occurring on undulating plains with sandy and skeletal soils, occasionally with some rock outcrop. The Association is present in the northern Project Area and is generally part of large, connected patches of native vegetation.
Largely unimpacted by processes such as weed invasion, grazing by feral and native herbivores and vegetation management of the transmission line easement are the main disturbances impacting vegetation.
The association was surveyed using both the BAM and RAM methods.</td></tr>
<tr><td>Benchmark Community</td><td colspan="5">EP 4 Mallee with Dense Sclerophyll Shrub Understorey & Sclerophyll Shrublands</td></tr>
<tr><td>Threatened species or community</td><td colspan="5">No threatened species were recorded at the BAM and RAM survey sites.</td></tr>
<tr><td>Landscape context score</td><td>1.12 (H12 – BAM)
1.04 (I6 – RAM)</td><td>Vegetation Condition Score</td><td>44.85 (H12 – BAM)
65.73 (I6 – RAM)</td><td>Conservation significance score</td><td>1.1</td></tr>
<tr><td>Unit biodiversity Score</td><td>55.26 (H12 – BAM)
75.20 (I6 – RAM)</td><td>Area (ha)</td><td>0.908</td><td>Total biodiversity Score</td><td>16.63 (H12 – BAM)
7.52 (I6 – RAM)</td></tr>
</table>

Table 16. Summary of VA4.

Vegetation Association	*Allocasuarina verticillata* Low Woodland				
					
General description	**<u>Upper storey</u>** *Allocasuarina verticillata* **<u>Mid storey</u>** *Calytrix tetragona* *Callistemon rugulosus* *Bursaria spinosa* **<u>Lower storey</u>** *Lepidosperma viscidum* *Gonocarpus mezianus* *Themeda triandra* *Lomandra collina* *Rytidosperma setaceum* *Austrostipa trichophylla* *Astroloma humifusum* *Avena barbata* *Briza maxima*				
Benchmark Community	EP 1 Open Forests & Woodlands with Dense Sclerophyll Shrub Understorey				
Threatened species or community	No threatened species were recorded at the survey site.				
Landscape context score	1.16	**Vegetation Condition Score**	39.98 (Mean)	**Conservation significance score**	1.1
Unit biodiversity Score	51.02 (Mean)	**Area (ha)**	0.214	**Total biodiversity Score**	10.92 (Mean)

Table 17. Summary of VA5.

Vegetation Association	*Austrostipa scabra +/- Lomandra effusa* Grassland				
					
General description	**<u>Upper storey</u>** Not present **<u>Mid storey</u>** *Enchylaena tomentosa* *Maireana brevifolia* **<u>Lower storey</u>** *Avena barbata* *Austrostipa spp.* *Lomandra effusa* *Aizoon pubescens* *Echium plantagineum* *Asphodelus fistulosus* Situated on rocky rises, the Association consists of grasslands derived from Woodland associations that are fragmented, surrounded by cropping land and in poor. Grassy and herbaceous weed species are abundant to dominant.				
Benchmark Community	EP 3.1 Woodlands with Grassy or Low Sedge Understorey				
Threatened species or community	• *Lomandra effusa* Tussock Grassland on shallow loams in low hills (Provisional List of Threatened Ecosystems - Endangered) The Association does not meet the condition thresholds for listing as the EPBC Act Critically Endangered *Iron-grass Natural Temperate Grasslands of South Australia.*				
Landscape context score	1.12	**Vegetation Condition Score**	10.46	**Conservation significance score**	1.4
Unit biodiversity Score	16.41	**Area (ha)**	0.384	**Total biodiversity Score**	6.3

Table 18. Summary of VA6.

Vegetation Association	*Callitris gracilis* Low Woodland over *Alyxia buxifolia* and *Beyeria lechenaultii +/- Alectryon oleifolius* ssp. *canescens +/- Dodonaea viscosa* ssp. *angustissima*				
					
General description	**Upper storey** *Callitris gracilis* **Mid storey** *Alyxia buxifolia* *Beyeria lechenaultii* *Alectryon oleifolius ssp. canescens* *Dodonaea viscosa ssp. angustissima* *Calytrix tetragona* *Eremophila glabra ssp. glabra* *Senna artemisioides ssp. petiolaris* *Rhagodia spinescens* *Geijera linearifolius* **Lower storey** *Triodia scariosa* *Roepera apiculata* *Roepera aurantiaca ssp. aurantiaca* Located in the northern Project Area on loam soils of undulating plains. The association generally occurs in moderate to good condition with few weeds and low grazing impact. It has significant connectivity with surrounding Mallee and Shrublands. Areas impacted by the project have been disturbed by vegetation management of the transmission line easement.				
Benchmark Community	Assessed using RAM. Benchmark not applicable.				
Threatened species or community	No threatened species were recorded at the survey site.				
Landscape context score	1.04	**Vegetation Condition Score**	54.50	**Conservation significance score**	1.1
Unit biodiversity Score	62.35	**Area (ha)**	0.372	**Total biodiversity Score**	23.19

Table 19. Summary of VA7.

Vegetation Association	*Callitris gracilis* Very Open Woodland over *Austrostipa* spp.				
					
General description	**<u>Upper storey</u>** *Callitris gracilis* *Pittosporum angustifolium* *Allocasuarina verticillata* **<u>Mid storey</u>** *Dodonaea viscosa ssp. angustissima* *Senna artemisioides ssp. petiolaris* *Atriplex vesicaria* *Exocarpos aphyllus* *Rhagodia spinescens* *Maireana brevifolia* *Enchylaena tomentosa* **<u>Lower storey</u>** *Austrostipa sp.* *Lomandra effusa* *Triodia scariosa* *Austrostipa elegantissima* *Carrichtera annua* *Avena barbata* *Bromus rubens* The Association occurs in the northern Project Area on undulating plains and low hills. Weeds are dominant in patches in the lower storey, including grassy and herbaceous species such as *Avena barbata* and *Carrichtera annua*. The Association is generally in moderate condition. Generally fragmented by neighbouring agricultural land cleared for cropping, although some connectivity with Mallee and Shrubland vegetation further north is present.				
Benchmark Community	EP 2 Open Forests & Woodlands with Mid dense Shrub & Grassy Understorey				
Threatened species or community	No threatened species were recorded at the survey site.				
Landscape context score	1.12	**Vegetation Condition Score**	39.6	**Conservation significance score**	1.1
Unit biodiversity Score	48.79	**Area (ha)**	0.1	**Total biodiversity Score**	4.88

Table 20. Summary of VA8.

<table>
<tr><td>Vegetation Association</td><td colspan="2">Eucalyptus calycogona ssp. calycogona +/- Eucalyptus phenax ssp. phenax Mallee over Maireana brevifolia and exotics</td></tr>
<tr><td colspan="2"> 
BLOCK E</td><td> 
BLOCK F</td></tr>
<tr><td colspan="2"> 
BLOCK G</td><td></td></tr>
<tr><td>General description</td><td colspan="2"><u>Upper storey</u>
Eucalyptus calycogona ssp. calycogona
Eucalyptus gracilis
Eucalyptus phenax
<u>Mid storey</u>
Rhagodia candolleana
Maireana brevifolia
Eremophila crassifolia
Westringia rigida
<u>Lower storey</u>
Carrichtera annua
Avena barbata
Austrostipa elegantissima

Within the Project Area, the association is limited to long, narrow, linear strips in road and fence corridors. Situated on undulating plains on sandy loam over limestone, the lower storey is sparse, with the weeds Carrichtera annua and Avena barbata widespread, although not dominant.
Vegetation condition ranges from poor to moderate, with disturbances such as vegetation management, spray drift from nearby cropping paddocks and weeds present.</td></tr>
<tr><td>Benchmark Community</td><td colspan="2">EP 9.1 Open Mallee & Low Open Woodlands with a Chenopod Shrub Understorey</td></tr>
<tr><td>Threatened species or community</td><td colspan="2">No threatened species were recorded at the survey site.</td></tr>
</table>

Landscape context score	Block E – 1.14 Block F – 1.07 Block G – 1.09	**Vegetation Condition Score**	Block E – 47.15 Block F – 24.11 Block G – 12.23	**Conservation significance score**	Block E – 1.1 Block F – 1.1 Block G – 1.1
Unit biodiversity Score	Block E – 59.12 Block F – 28.37 Block G – 14.67	**Area (ha)**	Block E – 0.065 Block F – 0.083 Block G – 0.133	**Total biodiversity Score**	Block E – 3.84 Block F – 2.35 Block G – 1.95

Table 21. Summary of VA9.

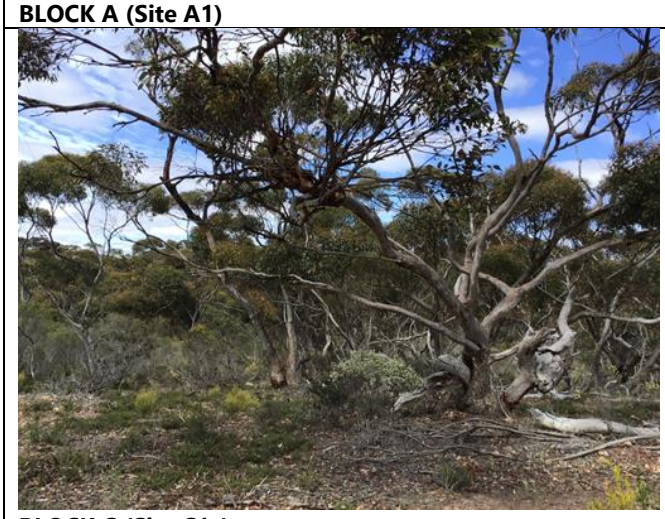
<table>
<tr><td>Vegetation Association</td><td colspan="5">Eucalyptus brachycalyx +/- Callitris verrucosa Mallee over Calytrix involucrata and Phebalium bullatum</td></tr>
<tr><td colspan="6">  </td></tr>
<tr><td>General description</td><td colspan="5"><u>Upper storey</u>
Eucalyptus brachycalyx
Callitris verrucosa
<u>Mid storey</u>
Phebalium bullatum
Calytrix involucrata
Allocasuarina muelleriana
Leptospermum coriacea
Thryptomene micrantha
Rinzia orientalis
Cryptandra tomentosa
<u>Lower storey</u>
Triodia scariosa
Lomandra leucocephala ssp. leucocephala
Lepidosperma viscidum
Gahnia lanigera

The Association occurs on deep sands of low dunes in the northern Project Area and consists of regenerating Mallee, disturbed by ongoing vegetation maintenance on the transmission line easement. Regenerating shrubs are common in areas regularly disturbed by vegetation trimming and pruning. Vegetation is in good condition, with little disturbance from other factors such as weed infestation and grazing.</td></tr>
<tr><td>Benchmark Community</td><td colspan="5">EP 5.1 Mallee on Inland Sand Dunes and Deep Sands</td></tr>
<tr><td>Threatened species or community</td><td colspan="5">• Olearia adenolasia (NPW Act Rare)</td></tr>
<tr><td>Landscape context score</td><td>1.12</td><td>Vegetation Condition Score</td><td>64.59</td><td>Conservation significance score</td><td>1.14</td></tr>
<tr><td>Unit biodiversity Score</td><td>82.47</td><td>Area (ha)</td><td>0.332</td><td>Total biodiversity Score</td><td>27.38</td></tr>
</table>

Table 22. Summary of VA10.

Vegetation Association	*Eucalyptus cladocalyx* Very Open Woodland over scattered native shrubs and exotics				
					
General description	**Upper storey** *Eucalyptus cladocalyx* *Allocasuarina verticillata* **Mid storey** *Acacia paradoxa* *Acacia spinescens* *Acacia pycnantha* *Acacia rupicola* *Gonocarpus mezianus* *Lissanthe strigosa* ssp. *subulata* *Eutaxia microphylla* *Stenanthera conostephioides* *Xanthorrhoea semiplana* ssp. *semiplana* **Lower storey** *Austrostipa sp.* *Dianella revoluta* *Ehrharta longiflora* *Romulea rosea* var. *australis* Open Woodland occurring on upper slopes and hilltops on shallow soil, often with some rock outcrops. Patches of this Association are generally small, fragmented by cleared agricultural land and disturbed by stock grazing and weed infestation. Impact areas are generally also impacted by routine vegetation maintenance beneath the transmission line towers and easement and range from poor to moderate condition.					
Benchmark Community	EP 2 Open Forests & Woodlands with Mid dense Shrub & Grassy Understorey				
Threatened species or community	No threatened species were recorded at the survey sites. Impacted areas of this Vegetation Association were searched for the following EPBC Act listed plant species, recorded by EBS Ecology near the Project Area in 2019 and 2020: • *Olearia pannosa* ssp. *pannosa* (Silver Daisy-bush) • *Pultenaea trichophylla* (Tufted Bush-pea) Neither species was detected in the impacted areas.				
Landscape context score	1.16	**Vegetation Condition Score**	53.44	**Conservation significance score**	1.1
Unit biodiversity Score	68.19	**Area (ha)**	0.311	**Total biodiversity Score**	21.21

Table 23. Summary of VA11.

Vegetation Association	*Eucalyptus cladocalyx* Woodland / Open Woodland
 **BLOCK A (Site A1)**	 **Block B (Site B7)**
 **BLOCK C (Site C1c)**	
General description	**<u>Upper storey</u>** *Eucalyptus cladocalyx* *Eucalyptus odorata* *Allocasuarina verticillata* **<u>Mid storey</u>** *Acacia pycnantha* *Acacia rupicola* *Calytrix tetragona* *Acacia imbricata* *Daviesia pectinata* *Lissanthe strigosa ssp. subulata* *Grevillea ilicifolia* *Acacia paradoxa* *Callistemon rugulosus* **<u>Lower storey</u>** *Austrostipa sp.* *Briza maxima* *Avena barbata* *Gonocarpus mezianus* *Bromus rubens* *Lomandra effusa* *Rytidosperma caespitosum*

	Bromus diandrus *Ehrharta longiflora* The Association occurs on hilltops and upper slopes in the southern Project Area, often on shallow soils with some rock outcrops. Condition ranges from poor in small, fragmented patches to good in larger areas with connectivity to surrounding vegetation. Disturbances include weeds, grazing and vegetation maintenance of the transmission line easement.				
Benchmark Community	EP 2 Open Forests & Woodlands with Mid dense Shrub & Grassy Understorey				
Threatened species or community	The following threatened species were recorded at the survey sites: • *Daviesia pectinata* (NPW Act Rare) • *Acacia imbricata* (NPW Act Rare) Impacted areas of this Vegetation Association were searched for the following EPBC Act listed plant species, recorded by EBS Ecology near the Project Area in 2019 and 2020: • *Olearia pannosa* ssp. *pannosa* (Silver Daisy-bush) • *Pultenaea trichophylla* (Tufted Bush-pea) Neither species was detected in the impacted areas.				
Landscape context score	Block A – 1.15 Block B – 1.18 Block C – 1.16	**Vegetation Condition Score**	Block A – 52.25 Block B – 21.66 Block C – 50.98	**Conservation significance score**	Block A – 1.1 Block B – 1.1 Block C – 1.18
Unit biodiversity Score	Block A – 66.1 Block B – 28.11 Block C – 68.92	**Area (ha)**	Block A – 0.1 Block B – 0.036 Block C – 0.504	**Total biodiversity Score**	Block A – 6.61 Block B – 1.01 Block C – 34.73

Table 24. Summary of VA12.

<table>
<tr><td>Vegetation Association</td><td colspan="5">Eucalyptus incrassata +/- Callitris verrucosa Mallee over Leptospermum coriaceum, Phebalium bullatum, Triodia spp. and Calytrix tetragona</td></tr>
<tr><td colspan="3"> 
BLOCK H</td><td colspan="3"> 
BLOCK I</td></tr>
<tr><td>General description</td><td colspan="5"><u>Upper storey</u>
Eucalyptus incrassata
Callitris verrucosa
Santalum acuminatum
<u>Mid storey</u>
Leptospermum coriaceum
Calytrix tetragona
Acacia halliana
Hakea francisiana
Phebalium bullatum
Cryptandra tomentosa
Allocasuarina pusilla
Leucopogon cordifolius
Acacia calamifolia
<u>Lower storey</u>
Triodia scariosa
Austrostipa eremophila

Low Mallee on deep sands of low dune crests. The Association occurs in the northern Project Area and is in good condition throughout. Impacted areas are generally subjected to vegetation management activities on the transmission line easement, with few other impacts evident.</td></tr>
<tr><td>Benchmark Community</td><td colspan="5">EP 5.1 Mallee on Inland Sand Dunes and Deep Sands</td></tr>
<tr><td>Threatened species or community</td><td colspan="5">No threatened species were recorded at the survey sites.</td></tr>
<tr><td>Landscape context score</td><td>Block H – 1.12
Block I – 1.04</td><td>Vegetation Condition Score</td><td>Block H – 50.5
Block I – 58.35</td><td>Conservation significance score</td><td>Block H – 1.1
Block I – 1.1</td></tr>
<tr><td>Unit biodiversity Score</td><td>Block H – 62.22
Block I – 66.75</td><td>Area (ha)</td><td>Block H – 0.223
Block I – 0.691</td><td>Total biodiversity Score</td><td>Block H – 13.87
Block I – 46.12</td></tr>
</table>

Table 25. Summary of VA13.

<table>
<tr><td>Vegetation Association</td><td colspan="5">Eucalyptus incrassata +/- Callitris verrucosa Mallee over Melaleuca uncinata and Calytrix tetragona</td></tr>
<tr><td colspan="6">  </td></tr>
<tr><td>General description</td><td colspan="5"><u>Upper storey</u>
Eucalyptus incrassata
Callitris verrucosa
Eucalyptus oleosa
<u>Mid storey</u>
Melaleuca uncinata
Calytrix tetragona
Hysterobaeckea behrii
Acacia hexaneura
Exocarpos aphyllus
Rinzia orientalis
<u>Lower storey</u>
Lomandra leucocephala ssp. robusta
Dianella revoluta

Low Mallee on deep sands of undulating plains and low dunes, distinguished from VA12 by the dominance of Melaleuca uncinata in the mid storey and absence of Triodia spp. The Association occurs in the north of the Project Area and is in good condition with few disturbances.</td></tr>
<tr><td>Benchmark Community</td><td colspan="5">EP 5.1 Mallee on Inland Sand Dunes and Deep Sands</td></tr>
<tr><td>Threatened species or community</td><td colspan="5">• Acacia hexaneura (NPW Act Rare)</td></tr>
<tr><td>Landscape context score</td><td>1.12</td><td>Vegetation Condition Score</td><td>62.29</td><td>Conservation significance score</td><td>1.14</td></tr>
<tr><td>Unit biodiversity Score</td><td>78.22</td><td>Area (ha)</td><td>0.229 (H5a, H5b)
0.603 (H5a-PA, H5b-PA)</td><td>Total biodiversity Score</td><td>7.82 (H5a, H5b)
47.16 (H5a-PA, H5b-PA)</td></tr>
</table>

Table 26. Summary of VA14.

Vegetation Association	*Eucalyptus incrassata +/- Melaleuca uncinata +/- Melaleuca lanceolata* Mallee				
					
General description	**<u>Upper storey</u>** *Eucalyptus incrassata* *Eucalyptus pileata* *Melaleuca lanceolata* **<u>Mid storey</u>** *Melaleuca uncinata* *Calytrix tetragona* *Lasiopetalum behrii* *Dodonaea lobulata* *Dodonaea bursariifolia* *Enchylaena tomentosa* *Prostanthera serpyllifolia ssp. serpyllifolia* *Eutaxia microphylla* *Acacia spinescens* **<u>Lower storey</u>** *Austrostipa sp.* *Dianella revoluta* Low Mallee distinguished from VA12 and VA13 by the presence of Melaleuca lanceolata in the upper storey and its occurrence on sandy undulating plains and low rises. It occurs in the Wharminda Conservation Park in the southern Project Area. The Association is in good condition, although impact areas are disturbed by access tracks and periodic vegetation maintenance associated with transmission line infrastructure and easement. Weeds are few with a very sparse lower storey.				
Benchmark Community	EP 5.1 Mallee on Inland Sand Dunes and Deep Sands				
Threatened species or community	No threatened species were recorded at the survey sites.				
Landscape context score	1.14	**Vegetation Condition Score**	45.65	**Conservation significance score**	1.1
Unit biodiversity Score	57.24	**Area (ha)**	0.301	**Total biodiversity Score**	17.23

Table 27. Summary of VA15.

<table>
<tr><td>Vegetation Association</td><td colspan="5">Eucalyptus incrassata +/- Melaleuca uncinata +/- Melaleuca lanceolata Mallee over Ehrharta calycina</td></tr>
<tr><td colspan="3"> 
BLOCK E</td><td colspan="3"> 
BLOCK F</td></tr>
<tr><td>General description</td><td colspan="5"><u>Upper storey</u>
Eucalyptus incrassata
Melaleuca lanceolata
Eucalyptus leptophylla
<u>Mid storey</u>
Melaleuca uncinata
Exocarpos aphyllus
Leptospermum coriaceum
Dodonaea viscosa
Hysterobaeckea behrii
Lycium ferocissimum
<u>Lower storey</u>
Ehrharta calycina
Lomandra spp.
Lepidosperma carphoides
Avena barbata
Arctotheca calendula
Brassica tournefortii
Mesembryanthemum crystallinum

Occurring on deep sands of low dunes, the Association is similar to VA14 except for a lower storey dominated by introduced weed species, particularly Ehrharta calycina. The Association occurs mainly as narrow, fragmented linear strips following road corridors or dune crests and is generally in poor condition.
Grazing and weed impacts are high, although roadside remnants show less impact from grazing and are mostly in better condition (e.g., Block E).</td></tr>
<tr><td>Benchmark Community</td><td colspan="5">EP 5.2 Mallee on Sandy Loams of Inland Swales and Low Dunes</td></tr>
<tr><td>Threatened species or community</td><td colspan="5">No threatened species were recorded at the survey sites.</td></tr>
<tr><td>Landscape context score</td><td>Block E – 1.14
Block F – 1.07</td><td>Vegetation Condition Score</td><td>Block E – 15.94
Block F – 6.45</td><td>Conservation significance score</td><td>Block E – 1.1
Block F – 1.1</td></tr>
<tr><td>Unit biodiversity Score</td><td>Block E – 19.99
Block F – 7.59</td><td>Area (ha)</td><td>Block E – 0.174
Block F – 0.263</td><td>Total biodiversity Score</td><td>Block E – 3.48
Block F – 2.00</td></tr>
</table>

Table 28. Summary of VA16.

Vegetation Association	*Eucalyptus incrassata* Mallee over *Melaleuca uncinata*
	
General description	**<u>Upper storey</u>** *Eucalyptus incrassata* *Eucalyptus cladocalyx* **<u>Mid storey</u>** *Melaleuca uncinata* *Acacia paradoxa* *Acacia imbricata* *Bursaria spinosa* *Olearia ramulosa* *Lissanthe strigosa* ssp. *subulata* *Grevillea aspera* *Acacia rupicola* *Daviesia pectinata* *Cassina laevis* **<u>Lower storey</u>** *Austrostipa nitida* *Austrostipa elegantissima* *Gahnia lanigera* *Dianella revoluta* *Avena barbata* Distributed in the south of the Project Area on mid to upper slopes on shallow soils. Vegetation is in good condition and characterised by a diverse sclerophyllous shrub mid storey. Some grassy and herbaceous weeds are present, although sparse.
Benchmark Community	EP 4 Mallee with Dense Sclerophyll Shrub Understorey & Sclerophyll Shrublands
Threatened species or community	The following threatened species were recorded at the survey sites: • *Acacia imbricata* (NPW Act Rare) • *Daviesia pectinata* (NPW Act Rare) • *Philotheca angustifolium ssp. angustifolium* (NPW Act Rare) • *Spyridium spathulatum* (NPW Act Rare) Impacted areas of this Vegetation Association were searched for the following EPBC Act listed plant species, recorded by EBS Ecology near the Project Area in 2019 and 2020: • *Olearia pannosa* ssp. *pannosa* (Silver Daisy-bush) • *Pultenaea trichophylla* (Tufted Bush-pea) Neither species was detected in the impacted areas.

Landscape context score	1.16	**Vegetation Condition Score**	53.12	**Conservation significance score**	1.18
Unit biodiversity Score	71.69	**Area (ha)**	0.077	**Total biodiversity Score**	5.52

Table 29. Summary of VA17.

Vegetation Association	*Eucalyptus leptophylla +/- Eucalyptus oleosa +/- Melaleuca lanceolata* mixed Mallee over *Cratystylis conocephala* and *Atriplex vesicaria*				
					
General description	**<u>Upper storey</u>** *Eucalyptus leptophylla* *Eucalyptus oleosa* **<u>Mid storey</u>** *Melaleuca lanceolata* *Cratystylis conocephala* *Alyxia buxifolia* *Olearia pimeleoides* *Eremophila scoparia* *Westringia rigida* *Senna cardiosperma ssp. gawlerensis* *Geijera linearifolia* *Grevillea huegelii* **<u>Lower storey</u>** *Austrostipa sp.* Mallee on undulating plains in the northern Project Area, occurring on red, sandy loam soils. Vegetation is in good condition, with few weeds and only light grazing pressure present. The Association is part of extensive remnant vegetation in the north that has not been subjected to historical broad-scale clearing for agriculture.				
Benchmark Community	Assessed using RAM. Benchmark not applicable.				
Threatened species or community	No threatened species were recorded at the survey sites.				
Landscape context score	1.04	**Vegetation Condition Score**	61.38	**Conservation significance score**	1.1
Unit biodiversity Score	70.22	**Area (ha)**	0.402	**Total biodiversity Score**	42.34

Table 30. Summary of VA18.

<table>
<tr><td>Vegetation Association</td><td colspan="2">Eucalyptus odorata +/- Eucalyptus pileata / Eucalyptus leptophylla Mallee +/- Melaleuca uncinata</td></tr>
<tr><td colspan="2"> 
BLOCK B</td><td> 
BLOCK C</td></tr>
<tr><td>General description</td><td colspan="2"><u>Upper storey</u>
Eucalyptus odorata
Eucalyptus pileata
Eucalyptus leptophylla
<u>Mid storey</u>
Melaleuca uncinata
Acacia paradoxa
Calytrix tetragona
Cryptandra tomentosa
Acacia rupicola
Grevillea halmaturina ssp. laevis
Xanthorrhoea semiplana ssp. semiplana
Acacia imbricata
Daviesia pectinata
<u>Lower storey</u>
Austrostipa hemipogon
Rytidosperma setaceum
Neurachne alopecuroidea
Avena barbata
Briza maxima
Ehrharta longiflora

Situated on hill tops on shallow, clay loam soils, this Association is characterised by a low Mallee upper storey and a diverse sclerophyllous shrub mid storey. Condition varied from poor to good, with smaller, more fragmented patches commonly with a less diverse mid storey and lower storey dominated by introduced grasses such as Ehrharta longiflora.
Areas of the Association within the transmission line easement are disturbed by routine vegetation maintenance activity, with considerable regeneration of shrub and tree species in disturbed areas.</td></tr>
<tr><td>Benchmark Community</td><td colspan="2">EP 4 Mallee with Dense Sclerophyll Shrub Understorey & Sclerophyll Shrublands</td></tr>
<tr><td>Threatened species or community</td><td colspan="2">The following threatened species were recorded at the survey sites:
• Acacia imbricata (NPW Act Rare)
• Daviesia pectinata (NPW Act Rare)
• Grevillea halmaturina ssp. laevis (NPW Act Rare)
• Philotheca angustifolia ssp. angustifolia (NPW Act Rare)
Impacted areas of this Vegetation Association were searched for the following EPBC Act listed plant species, recorded by EBS Ecology near the Project Area in 2019 and 2020:
• Olearia pannosa ssp. pannosa (Silver Daisy-bush)
• Pultenaea trichophylla (Tufted Bush-pea)
Neither species was detected in the impacted areas.</td></tr>
</table>

Landscape context score	Block B – 1.18 Block C – 1.16	**Vegetation Condition Score**	Block B – 49.24 Block C – 48.61	**Conservation significance score**	Block B – 1.14 Block C – 1.18
Unit biodiversity Score	Block B – 65.1 Block C – 64.62	**Area (ha)**	Block B – 0.301 Block C – 0.095	**Total biodiversity Score**	Block B – 19.59 Block C – 6.14

Table 31. Summary of VA 19.

Vegetation Association	*Eucalyptus oleosa / Eucalyptus brachycalyx* Mallee
 **BLOCK H**	 **BLOCK I**
 **BLOCK J**	
General description	**<u>Upper storey</u>** *Eucalyptus oleosa* *Eucalyptus brachycalyx* **<u>Mid storey</u>** *Enchylaena tomentosa* *Olearia muelleri* *Maireana pentatropis* *Dodonaea stenozyga* *Rhagodia candolleana* *Geijera linearifolia* *Myoporum platycarpum* *Melaleuca lanceolata* *Alyxia buxifolia* *Eremophila scoparia* *Senna artemisioides ssp. petiolaris* *Acacia wilhelmiana* *Pittosporum angustifolium* **<u>Lower storey</u>** *Austrostipa eremophila* *Lomandra effusa* *Triodia scariosa* *Dianella revoluta* Mallee on undulating plains in the northern Project Area, occurring on red, sandy loam soils. Vegetation is in good condition, with few weeds and only light grazing pressure present. The

	Association is part of extensive remnant vegetation in the north that has not been subjected to historical broad-scale clearing for agriculture.				
Benchmark Community	EP 5.1 Mallee on Inland Sand Dunes and Deep Sands				
Threatened species or community	No threatened species were recorded at the survey sites.				
Landscape context score	Block H – 1.12 Block I – 1.04 Block J -	**Vegetation Condition Score**	Block H – 50.0 Block I – 56.29 Block J -	**Conservation significance score**	Block H – 1.1 Block I – 1.1 Block J -
Unit biodiversity Score	Block H – 61.6 Block I – 64.40 Block J -	**Area (ha)**	Block H – 0.46 Block I – 2.92 Block J – 0.15	**Total biodiversity Score**	Block H – 28.34 Block I – 188.04 Block J -

Table 32. Summary of VA 20.

<table>
<tr><td>Vegetation Association</td><td colspan="5">Eucalyptus peninsularis +/- Eucalyptus dumosa Mallee over Enchylaena tomentosa</td></tr>
<tr><td colspan="6">  </td></tr>
<tr><td>General description</td><td colspan="5"><u>Upper storey</u>
Eucalyptus peninsularis
Eucalyptus dumosa
<u>Mid storey</u>
Melaleuca uncinata
Melaleuca acuminata
Enchylaena tomentosa
Senecio quadridentatus
Exocarpos aphyllus
Eremophila crassifolia
Eutaxia microphylla
Templetonia retusa
<u>Lower storey</u>
Gahnia deusta
Austrostipa sp.
Vittadinia gracilis
Ehrharta longiflora
Bromus diandrus
Gahnia deusta

Situated on rises and low dunes in the north of the southern Project Area, often with shallow sandy-loam soils over limestone. The Association occurs as fragmented patches and in linear roadside corridors and is impacted by stock grazing and grassy weeds.
Impact areas are also disturbed by vegetation management on the transmission line easement.</td></tr>
<tr><td>Benchmark Community</td><td colspan="5">EP 5.2 Mallee on Sandy Loams of Inland Swales and Low Dunes</td></tr>
<tr><td>Threatened species or community</td><td colspan="5">No threatened species were recorded at the survey sites.

Impacted areas of this Vegetation Association were searched for the following EPBC Act listed plant species, recorded by EBS Ecology near the Project Area in 2019 and 2020:
• Acacia enterocarpa (Jumping-jack Wattle)
• Acacia pinguifolia (Fat-leaved Wattle)
Neither species was detected in the impacted areas.</td></tr>
<tr><td>Landscape context score</td><td>1.19</td><td>Vegetation Condition Score</td><td>57.04</td><td>Conservation significance score</td><td>1.1</td></tr>
<tr><td>Unit biodiversity Score</td><td>95.02</td><td>Area (ha)</td><td>0.133</td><td>Total biodiversity Score</td><td>9.5</td></tr>
</table>

Table 33. Summary of VA21.

Vegetation Association	*Eucalyptus petiolaris +/- Eucalyptus odorata +/- Allocasuarina verticillata* Open Grassy Woodland
	
General description	**<u>Upper storey</u>** *Eucalyptus petiolaris* *Eucalyptus odorata* **<u>Mid storey</u>** *Melaleuca uncinata* *Acacia imbricata* *Hibbertia riparia* *Grevillea ilicifolia* *Lasiopetalum behrii* *Enchylaena tomentosa* *Chrysocephalum apiculatum* *Hakea rugosa* *Acacia nematophylla* **<u>Lower storey</u>** *Themeda triandra* *Anthosachne scabra* *Rytidosperma spp.* *Lomandra collina* *Austrostipa sp.* *Avena barbata* *Ehrharta longiflora* *Eragrostis curvula* *Arctotheca calendula* An open grassy woodland situated on mid slopes to higher hill tops in the southern Project Area. Moderate condition, impacted by grassy weeds co-dominating the lower storey. The Association contains large, hollow-bearing trees that are a significant habitat attribute within the wider landscape.
Benchmark Community	EP 2 Open Forests & Woodlands with Mid dense Shrub & Grassy Understorey
Threatened species or community	The Association meets criteria for listing as the EPBC Act Endangered Ecological Community: • *Eyre Peninsula Blue Gum (<u>Eucalyptus petiolaris</u>) Woodland.* The following threatened species were recorded at the survey sites: • *Acacia imbricata* (NPW Act Rare).

	Impacted areas of this Vegetation Association were searched for the following EPBC Act listed plant species, recorded by EBS Ecology near the Project Area in 2019 and 2020: • *Olearia pannosa* ssp. *pannosa* (Silver Daisy-bush) • *Pultenaea trichophylla* (Tufted Bush-pea) Neither species was detected in the impacted areas.				
Landscape context score	1.16	**Vegetation Condition Score**	36.12	**Conservation significance score**	1.54
Unit biodiversity Score	64.52	**Area (ha)**	0.049	**Total biodiversity Score**	3.16

Table 34. Summary of VA22.

Vegetation Association	*Eucalyptus petiolaris* Woodland over *Acacia pycnantha.*
	
General description	**Upper storey** *Eucalyptus petiolaris* *Allocasuarina verticillata* **Mid storey** *Acacia pycnantha* *Acacia imbricata* *Lissanthe strigosa ssp. subulata* *Bursaria spinosa* *Acacia spinescens* *Hibbertia riparia* *Stenanthera conostephioides* *Acacia rupicola* *Callistemon rugulosus* *Daviesia pectinata* **Lower storey** *Acaena echinata* *Lomandra effusa* *Rytidosperma sp.* *Gonocarpus mezianus* *Neurachne alopecuroidea* Woodland with a sclerophyllous shrub mid storey situated on mid slopes to higher hill tops in the southern Project Area. Good condition, impacted by sparse grassy weeds in the lower storey. The Association contains large, hollow-bearing trees that are a significant habitat attribute within the wider landscape.
Benchmark Community	EP 2 Open Forests & Woodlands with Mid dense Shrub & Grassy Understorey
Threatened species or community	The Association meets criteria for listing as the EPBC Act Endangered Ecological Community: • *Eyre Peninsula Blue Gum (*Eucalyptus petiolaris*) Woodland.* The following threatened species were recorded at the survey sites: • *Acacia imbricata* (NPW Act Rare) • *Daviesia pectinata* (NPW Act Rare). Impacted areas of this Vegetation Association were searched for the following EPBC Act listed plant species, recorded by EBS Ecology near the Project Area in 2019 and 2020: • *Olearia pannosa* ssp. *pannosa* (Silver Daisy-bush) • *Pultenaea trichophylla* (Tufted Bush-pea) Neither species was detected in the impacted areas.

Landscape context score	1.16	**Vegetation Condition Score**	47.7	**Conservation significance score**	1.58
Unit biodiversity Score	87.52	**Area (ha)**	0.1	**Total biodiversity Score**	8.74

Table 35. Summary of VA23.

Vegetation Association	*Eucalyptus porosa* Mallee over *Dodonaea viscosa ssp. angustissima, Senna artemisioides* ssp. *coriacea* and *Acacia wilhelmiana*				
					
General description	**Upper storey** *Eucalyptus porosa* *Callitris gracilis* **Mid storey** *Dodonaea viscosa ssp. angustissima* *Senna artemisioides ssp. coriaceum* *Acacia wilhelmiana* *Rhagodia parabolica* *Alyxia buxifolia* *Geijera linearifolia* *Pittosporum angustissima* *Hakea leucoptera ssp. leucoptera* *Beyeria lechenaultii* *Rhagodia spinescens* **Lower storey** *Lomandra effusa* Mallee on undulating plains in the northern Project Area, occurring on red, sandy loam soils. Vegetation is in good condition, with few weeds and only light grazing pressure present. The Association is part of extensive remnant vegetation in the north that has not been subjected to historical broad-scale clearing for agriculture. Impact areas are also disturbed by vegetation management on the transmission line easement.				
Benchmark Community	Assessed using RAM. Benchmark not applicable.				
Threatened species or community	No threatened species were recorded at the survey sites.				
Landscape context score	1.04	**Vegetation Condition Score**	61.72	**Conservation significance score**	1.1
Unit biodiversity Score	70.61	**Area (ha)**	0.067	**Total biodiversity Score**	4.73

Table 36. Summary of VA24.

Vegetation Association	*Eucalyptus porosa* Open Woodland *+/- Acacia notabilis*				
					
General description	**Upper storey** *Eucalyptus porosa* *Allocasuarina verticillata* **Mid storey** *Melaleuca uncinata* *Acacia notabilis* *Bursaria spinosa* *Dodonaea hexandra* *Enchylaena tomentosa* *Acacia continua* *Acacia calamifolia* **Lower storey** *Gonocarpus mezianus* *Dianella revoluta* *Astroloma humifusum* *Austrostipa flavescens* *Rytidosperma setaceum* *Lomandra effusa* *Avena barbata* *Ehrharta calycina* Situated on steep, rocky lower slopes of hills in the northern Project Area. The association is a low woodland with a dense sclerophyllous shrub mid storey in good condition.				
Benchmark Community	EP 7.1 Woodlands & Mallee with Mid dense Sclerophyll Shrub Understorey				
Threatened species or community	No threatened species were recorded at the survey sites.				
Landscape context score	1.09	**Vegetation Condition Score**	50.31	**Conservation significance score**	1.1
Unit biodiversity Score	60.32	**Area (ha)**	0.132	**Total biodiversity Score**	7.96

Table 37. Summary of VA26.

<table>
<tr><td>Vegetation Association</td><td colspan="3">Eucalyptus socialis / Eucalyptus oleosa / Eucalyptus brachycalyx +/- Eucalyptus leptophylla Mallee over Triodia scariosa / Triodia lanatus</td></tr>
<tr><td colspan="4"> 
BLOCK D</td></tr>
<tr><td colspan="4"> 
BLOCK E</td></tr>
<tr><td colspan="4"> 
BLOCK H</td></tr>
<tr><td colspan="4"> 
BLOCK I</td></tr>
<tr><td colspan="4"> 
BLOCK J</td></tr>
<tr><td>General description</td><td colspan="3"><u>Upper storey</u>
Eucalyptus socialis
Eucalyptus brachycalyx
Eucalyptus oleosa
Eucalyptus leptophylla
<u>Mid storey</u>
Enchylaena tomentosa
Eremophila scoparia
Eutaxia microphylla
Acacia rigens
Phebalium bullatum
Grevillea ilicifolia
Daviesia pectinata
Leptospermum coriaceum
Melaleuca uncinata
Pittosporum angustifolium
Grevillea huegelii
Acacia sclerophylla ssp. sclerophylla
Alyxia buxifolia
Lycium ferocissimum
<u>Lower storey</u>
Triodia scariosa
Lepidosperma viscidum
Dianella revoluta
Avena barbata
Ehrharta calycina</td></tr>
<tr><td>Benchmark Community</td><td colspan="3">EP 7.1 Woodlands & Mallee with Mid dense Sclerophyll Shrub Understorey</td></tr>
<tr><td>Threatened species or community</td><td colspan="3">The following threatened species were recorded at the survey sites:
• Daviesia pectinata (NPW Act Rare)
• Olearia adenolasia (NPW Act Rare)
• Goodenia benthamiana (NPW Act Rare)</td></tr>
</table>

Landscape context score	Block D – 1.19 Block E – 1.14 Block H – 1.12 Block I – 1.04 Block J – 1.04	**Vegetation Condition Score**	Block D – 50.71 Block E – 34.53 Block H – 48.35 Block I – 57.82 Block J – 58.53	**Conservation significance score**	Block D – 1.14 Block E – 1.1 Block H – 1.14 Block I – 1.14 Block J – 1.1
Unit biodiversity Score	Block D – 68.79 Block E – 43.30 Block H – 60.92 Block I – 68.55 Block J – 66.96	**Area (ha)**	Block D – 0.029 Block E – 0.039 Block H – 0.563 Block H (Protected Area) – 1.268 Block I – 1.553 Block J – 0.201	**Total biodiversity Score**	Block D – 1.97 Block E – 1.69 Block H – 34.29 Block H (Protected Area) – 76.59 Block I – 106.46 Block J – 13.46

Table 38. Summary of VA27.

Vegetation Association	*Geijera linearifolia +/- Senna artemisioides ssp. coriacea +/- Callitris gracilis +/- Acacia notabilis +/- Alyxia buxifolia* Shrubland				
					
General description	**<u>Upper storey</u>** *Callitris gracilis* **<u>Mid storey</u>** *Geijera linearifolia* *Alyxia buxifolia* *Senna artemisioides ssp. coriacea* *Alectryon oleifolius* ssp. *canescens* *Pittosporum angustifolium* *Acacia notabilis* *Scaevola spinescens* *Eremophila glabra* ssp. *glabra* **<u>Lower storey</u>** *Austrostipa sp.* *Carrichtera annua* On sandy loam soils of undulating plains in the northern Project Area, this association is part of extensive remnant vegetation in the north that has not been subjected to historical broad-scale clearing for agriculture. Impact areas are disturbed by vegetation management on the transmission line easement.				
Benchmark Community	Assessed using RAM. Benchmark not applicable.				
Threatened species or community	No threatened species were recorded at the survey sites.				
Landscape context score	1.04	**Vegetation Condition Score**	59.77	**Conservation significance score**	1.1
Unit biodiversity Score	68.37	**Area (ha)**	0.201	**Total biodiversity Score**	13.46

Table 39. Summary of VA28.

Vegetation Association	*Melaleuca lanceolata +/- Eucalyptus phenax* ssp. *phenax* Tall Shrubland over exotic grasses				
					
General description	**<u>Upper storey</u>** *Melaleuca lanceolata* *Eucalyptus phenax* ssp. *phenax* **<u>Mid storey</u>** *Enchylaena tomentosa* *Lycium ferocissimum* **<u>Lower storey</u>** *Avena barbata* *Hordeum leporinum* *Bromus diandrus* *Mesembryanthemum nodiflorum* On low-lying heavy soil plains, the association is in poor condition and impacted by dominant weed species in the lower storey. Mid storey is sparse to absent.				
Benchmark Community	EP 10.1 Open Woodlands with Open Sclerophyll Shrub Understorey on Heavy Soil Plains				
Threatened species or community	No threatened species were recorded at the survey sites.				
Landscape context score	1.14	**Vegetation Condition Score**	15	**Conservation significance score**	1.1
Unit biodiversity Score	18.81	**Area (ha)**	0.001	**Total biodiversity Score**	0.02

Table 40. Summary of VA29.

Vegetation Association	*Melaleuca uncinata +/- Eucalyptus brachycalyx +/- Callitris gracilis +/- Eucalyptus oleosa* Tall Shrubland				
					
General description	**Upper storey** *Melaleuca uncinata* *Eucalyptus brachycalyx* **Mid storey** *Alyxia buxifolia* *Calytrix tetragona* *Acacia sericophylla* *Dodonaea lobulata* *Baeckea crassifolia* *Daviesia benthamii* ssp. *humilis* *Westringia rigida* *Scaevola spinescens* **Lower storey** *Roepera Ammophila* *Triodia scariosa* *Dianella revoluta* The Association occurs on rocky outcrops within undulating plains in the northern Project Area. It exists in good condition and is part of extensive remnant vegetation in the north that has not been subjected to historical broad-scale clearing for agriculture. Impact areas are disturbed by vegetation management on the transmission line easement.				
Benchmark Community	Assessed using RAM. Benchmark not applicable.				
Threatened species or community	No threatened species were recorded at the survey sites.				
Landscape context score	Block I – 1.04 Block J – 1.04	**Vegetation Condition Score**	Block I – 57.39 Block J – 57.39	**Conservation significance score**	Block I – 1.1 Block J – 1.1
Unit biodiversity Score	Block I – 65.66 Block J – 65.66	**Area (ha)**	Block I – 0.1 Block J – 0.1	**Total biodiversity Score**	Block I – 6.57 Block J – 6.57

Table 41. Summary of VA30.

Vegetation Association	*Melaleuca uncinata* Shrubland
 **BLOCK C**	 **BLOCK G**
 **BLOCK H**	
General description	**<u>Upper storey</u>** *Melaleuca uncinata* *Eucalyptus brachycalyx* *Eucalyptus odorata* **<u>Mid storey</u>** *Enchylaena tomentosa* *Hysterobaeckea behrii* *Calytrix tetragona* *Eutaxia microphylla* *Acacia hexaneura* *Acacia continua* *Bursaria spinosa* **<u>Lower storey</u>** *Austrostipa eremophila* *Triodia irritans* *Gonocarpus mezianus* *Ehrharta longiflora* Shrubland situated on stony hill tops, often with rock outcrops and shallow soils. Low mallee occurs as emergent in some patches. Weeds are sparse, with impact areas disturbed by maintenance of vegetation on the transmission line easement.
Benchmark Community	EP 7.2 Broombush Closed Shrubland

Threatened species or community	The following threatened species were recorded at survey sites: • *Acacia hexaneura*				
Landscape context score	Block C – 1.16 Block G – 1.09 Block H – 1.12	**Vegetation Condition Score**	Block C – 64.44 Block G – 54.52 Block H – 59.99	**Conservation significance score**	Block C – 1.1 Block G – 1.1 Block H – 1.12
Unit biodiversity Score	Block C – 82.22 Block G – 65.37 Block H – 76.59	**Area (ha)**	Block C – 0.213 Block G – 0.348 Block H – 0.111	**Total biodiversity Score**	Block C – 17.51 Block G – 22.75 Block H – 8.5

Table 42. Summary of VA31.

Vegetation Association	*Melaleuca uncinata* Tall Shrubland +/- *Eucalyptus incrassata* and *Eucalyptus brachycalyx*				
 **BLOCK G**			 **BLOCK H**		
General description	**<u>Upper storey</u>** *Melaleuca uncinata* *Eucalyptus incrassata* *Allocasuarina verticillata* **<u>Mid storey</u>** *Bursaria spinosa* **<u>Lower storey</u>** *Bromus diandrus* *Avena barbata* *Arctotheca calendula* *Medicago polymorpha* Shrubland situated on stony hill tops, often with rock outcrops and shallow soils. Low mallee occurs as emergent in some patches. Weeds are sparse, with impact areas disturbed by maintenance of vegetation on the transmission line easement.				
Benchmark Community	EP 7.2 Broombush Closed Shrubland				
Threatened species or community	No threatened species were recorded at the survey sites.				
Landscape context score	Block G – 1.09 Block H – 1.12	**Vegetation Condition Score**	Block G – 28.00 Block H – 64.5	**Conservation significance score**	Block G – 1.1 Block H – 1.1
Unit biodiversity Score	Block G – 33.57 Block H – 79.46	**Area (ha)**	Block G – 0.037 Block H – 0.379	**Total biodiversity Score**	Block G – 1.24 Block H – 30.12

Table 43. Summary of VA32.

Vegetation Association	*Gahnia spp. / Juncus kraussii* Sedgeland *+/- Eucalyptus petiolaris*				
					
General description	**<u>Upper storey</u>** No upper storey present. **<u>Mid storey</u>** *Juncus kraussii* **<u>Lower storey</u>** *Lomandra effusa* *Distichlis distichophylla* *Avena barbata* *Hordeum vulgare* *Bromus hordeaceus* *Solanum elaeagnifolium* Sedgelands in poor condition with exotic grasses co-dominant in the lower storey. The Association is restricted to watercourses and heavily impacted by stock grazing and trampling.				
Benchmark Community	EP 13.6 Cutting Grass & Other Sedgelands of Brackish & Freshwater Swamps, Watercourses				
Threatened species or community	No threatened species were recorded at the survey site.				
Landscape context score	1.18	**Vegetation Condition Score**	20.15	**Conservation significance score**	1.1
Unit biodiversity Score	26.16	**Area (ha)**	0.008	**Total biodiversity Score**	0.21

Table 44. Summary of VA33.

<table>
<tr><td>Vegetation Association</td><td colspan="5">Eucalyptus odorata +/- Eucalyptus pileata Mallee over Acacia imbricata</td></tr>
<tr><td colspan="6">  </td></tr>
<tr><td>General description</td><td colspan="5"><u>Upper storey</u>
Eucalyptus odorata
Eucalyptus pileata
<u>Mid storey</u>
Melaleuca uncinata
Acacia imbricata
Acacia spinescens
Acacia rupicola
Hibbertia devitata
Eutaxia microphylla
Grevillea halmaturina ssp. laevis
Bursaria spinosa
<u>Lower storey</u>
Lepidosperma viscidum
Rytidosperma caespitosum
Neurachne alopecuroidea

Low Mallee on shallow clay-loam soils of hill tops in the southern Project Area. The upper storey is modified by vegetation maintenance on the transmission line corridor, with a regenerating mid storey. A sparse lower storey of exotic and native grasses is present.</td></tr>
<tr><td>Benchmark Community</td><td colspan="5">EP 4 Mallee with Dense Sclerophyll Shrub Understorey & Sclerophyll Shrublands</td></tr>
<tr><td>Threatened species or community</td><td colspan="5">The following threatened species were recorded at the survey site:
• Acacia imbricata (NPW Act Rare)
• Grevillea halmaturina (NPW Act Rare)</td></tr>
<tr><td>Landscape context score</td><td>1.18</td><td>Vegetation Condition Score</td><td>48.23</td><td>Conservation significance score</td><td>1.18</td></tr>
<tr><td>Unit biodiversity Score</td><td>67.16</td><td>Area (ha)</td><td>0.099</td><td>Total biodiversity Score</td><td>6.65</td></tr>
</table>

Table 45. Summary of VA34.

<table>
<tr><td>Vegetation Association</td><td colspan="5">Rytidosperma spp. / Austrostipa spp. +/- Themeda triandra Tussock Grassland</td></tr>
<tr><td colspan="3"> 
BLOCK B</td><td colspan="3"> 
BLOCK C</td></tr>
<tr><td>General description</td><td colspan="5"><u>Upper storey</u>
Allocasuarina verticillata (emergent – off site)
Eucalyptus porosa (emergent – off site)
<u>Mid storey</u>
Cryptandra tomentosa
<u>Lower storey</u>
Rytidosperma caespitosum
Themeda triandra
Austrostipa trichophylla
Austrostipa acrociliata
Rytidosperma fulvum
Neurachne alopecuroidea
Vittadinia gracilis
Acaena echinata
Dichondra repens
Avena barbata
Echium plantagineum
Arctotheca calendula
Morea setifolia
Bromus diandrus

Grasslands on mid to upper slopes of hills in the Southern Project Area. Likely derived from grassy woodland communities, given presence of nearby scattered trees and woodland.</td></tr>
<tr><td>Benchmark Community</td><td colspan="5">Block B - EP 3.2 Grasslands
Block C - EP 3.1 Woodlands with Grassy or Low Sedge Understorey</td></tr>
<tr><td>Threatened species or community</td><td colspan="5">No threatened species were recorded at the survey site.</td></tr>
<tr><td>Landscape context score</td><td>Block B – 1.18
Block C – 1.16</td><td>Vegetation Condition Score</td><td>Block B – 40.64
Block C – 10.50</td><td>Conservation significance score</td><td>Block B – 1.1
Block C – 1.1</td></tr>
<tr><td>Unit biodiversity Score</td><td>Block B – 52.74
Block C – 13.4</td><td>Area (ha)</td><td>Block B – 0.15
Block C – 0.341</td><td>Total biodiversity Score</td><td>Block B – 7.93
Block C – 4.57</td></tr>
</table>

Table 46. Summary of VA35.

Vegetation Association	*Tecticornia* spp. Low Open Shrubland				
					
General description	**Upper storey** No upper storey present. **Mid storey** *Tecticornia indica ssp. bidens* *Tecticornia arbuscula* *Enchylaena tomentosa* *Threlkeldia diffusa* **Lower storey** *Distichlis distichophylla* *Cynodon dactylon* *Avena barbata* *Reichardia tingitana* *Mesembryanthemum crystallinum* *Bromus diandrus* Low shrubland situated in saline drainage depressions and watercourses.				
Benchmark Community	EP 13.2 Samphire or Chenopod Shrublands with Infrequent Inundation /Saline Soils				
Threatened species or community	No threatened species were recorded at the survey site.				
Landscape context score	1.19	**Vegetation Condition Score**	35.8	**Conservation significance score**	1.1
Unit biodiversity Score	46.86	**Area (ha)**	0.17	**Total biodiversity Score**	7.97

Table 47. Summary of VA36.

Vegetation Association	*Melaleuca halmaturina* Tall Open Shrubland over *Juncus kraussii* and *Juncus pallidus*				
					
General description	**<u>Upper storey</u>** *Melaleuca halmaturina* **<u>Mid storey</u>** *Callistemon rugulosus* *Lissanthe strigosa* ssp. *subulata* *Senecio pterophorus* **<u>Lower storey</u>** *Juncus kraussii* *Juncus pallida* *Ficinia nodosa* *Carex tereticaulis* *Ehrharta longiflora* *Arctotheca calendula* Restricted to semi-permanent saline watercourses in the southern Project Area.				
Benchmark Community	EP 13.3 Swamp Paperbark Low Forest & Tall Shrubland of Saline & Brackish Swamps				
Threatened species or community	No threatened species were recorded at the survey site.				
Landscape context score	1.18	**Vegetation Condition Score**	11.24	**Conservation significance score**	1.1
Unit biodiversity Score	14.59	**Area (ha)**	0.03	**Total biodiversity Score**	0.44

Table 48. Summary of VA36.

Vegetation Association	*Eucalyptus peninsularis +/- Eucalyptus dumosa* Mallee over *Enchylaena tomentosa*				
					
General description	**Upper storey** *Eucalyptus peninsularis* **Mid storey** *Enchylaena tomentosa* *Acacia spinescens* *Melaleuca uncinata* *Rhagodia candolleana* **Lower storey** *Dianella revoluta* *Austrostipa sp.* *Avena barbata* *Bromus diandrus*				
Benchmark Community	EP 8.1 Mallee & Low Woodlands with Open Sclerophyll Shrub & Chenopod Understorey				
Threatened species or community	No threatened species were recorded at the survey site.				
Landscape context score	1.19	**Vegetation Condition Score**	32.13	**Conservation significance score**	1.14
Unit biodiversity Score	43.59	**Area (ha)**	0.03	**Total biodiversity Score**	1.44

4.1.3. Site map showing areas of proposed impact

Maps of the proposed impact are provided as Attachment 5, with spatial data provided as Attachment 6.

4.2. Threatened species assessment

4.2.1. Flora and fauna recorded in the Project Area

EBS Ecology has recorded 403 flora (Appendix 4) and 100 fauna (Appendix 5) species since environmental survey work first began on the EPLink project in 2012. During this survey in November 2021, 290 flora and 56 fauna species were observed, as indicated in the appendices.

4.2.2. Threatened species

Species observed on site, or recorded within 5 km (50 km in the arid zone) of the application area since 1995, or the vegetation is considered to provide suitable habitat

This and previous surveys undertaken by EBS Ecology have recorded 18 threatened flora species and 13 threatened fauna species in the Project Area. These species are considered as known to occur in the Project Area and are listed in Table 49. This survey recorded nine threatened flora and two threatened fauna species in the area impacted by the Project, as indicated in the Table.

Database searches identified a further 39 threatened flora and 76 threatened or migratory fauna as having been recorded within 5 km of the southern Project Area and 50 km of the northern Project Area. The likelihood of occurrence assessment for each species identified in the database searches is provided as Appendix 6.

Even where considered unlikely to occur, species have been included in scoresheets used for the calculation of the SEB obligations of the Project. However, marine and aquatic species have been excluded, since the Project will only clear terrestrial habitats.

Populations of three EPBC Act listed plant species occur within the easement of the EPLink replacement transmission line, although they were not located within the impacted areas of the existing infrastructure. These species are listed below. Their populations have been mapped and discussed in Attachment 3 and Attachment 4.

- Jumping-jack Wattle (*Acacia enterocarpa*).
- Silver Daisy-bush (*Olearia pannosa* ssp. *pannosa*)
- Tufted Bush-pea (*Pultenaea trichophylla*)

Impact to threatened species will be managed according to *EP Transmission Line Threatened Species Management Plan (Construction)*, provided as Attachment 7. The locations of threatened species records are mapped and listed in this Attachment.

Table 49. Threatened species recorded by EBS Ecology in the Project Area during this and previous surveys. Extent of occurrence within the area impacted by this Project is also indicated in the Table.

Species Name	Common Name	EPBC Act	NPW Act	Source of Record	Occurrence in the Impact Area
FLORA					
Acacia dodonaeifolia	Hop-bush Wattle		R	1, 2, 3	Recorded at the following sites: A1 – Not counted. Common mid storey shrub throughout VA. B1 – Not counted. Dominant upper storey species of VA.
Acacia enterocarpa	Jumping-jack Wattle	EN	E	2	Absent. Not detected despite targeted survey in impacted areas of suitable Vegetation Associations.
Acacia hexaneura	Six-nerve Wattle		R	1, 2, 3	Recorded at the following sites: H3 – common understorey shrub throughout patch.
Acacia imbricata	Feathery Wattle		R	1, 2, 3	B8 – Not counted. Co-dominant mid storey shrub throughout VA. C1b, C1c – Not counted. Co-dominant mid storey shrub throughout VA. C6a, C6b – Not counted. Co-dominant mid storey shrub throughout VA. C9 – Not counted. Common mid storey shrub throughout VA. C10 – Not counted. Common mid storey shrub throughout VA.
Acacia rhigiophylla	Dagger-leaf Wattle		R	2	Absent. Not detected despite targeted survey in impacted areas of suitable Vegetation Associations.
Austrostipa breviglumis	Bamboo Spear-grass		R	2	Not recorded in the impact area.
Austrostipa tenuifolia			R	2	Not recorded in the impact area.
Caladenia tensa	Greencomb Spider-orchid	EN		2	Absent. Not detected despite targeted survey in impacted areas of suitable Vegetation Associations.
Daviesia benthamii ssp. humilis	Mallee Bitter-pea		R	2	Absent. Not detected despite targeted survey in impacted areas of suitable Vegetation Associations.
Daviesia pectinata	Zig-zag Bitter Pea		R	1, 2, 3	C1c – One plant in impact area, but species is widespread and common throughout VA. C5a – Not counted. Mid storey shrub distributed throughout VA. C6a – Not counted. Mid storey shrub distributed throughout VA. C9 – Not counted. Mid storey shrub distributed throughout VA. D3 – Not counted. Mid storey shrub distributed throughout VA. D4 – Not counted. Mid storey shrub distributed throughout VA.
Eremophila gibbifolia	Coccid Emubush		R	1, 2, 3	C1b – Three plants located within the impact area. Species is widespread throughout the unimpacted area of the VA.
Goodenia benthamiana	Bentham's Goodenia		R	1, 2, 3	Not recorded in the impact area.
Grevillea halmaturina ssp. laevis	Prickly Grevillea		R	1	Recorded at the following sites: B5b – Not counted. Common mid storey shrub throughout VA. B8 – Not counted. Common mid storey shrub throughout VA.
Maireana excavata	Bottle Fissure-plant		V	3	Not recorded in the impact area.
Maireana suaedifolia	Lax Bluebush		R	2	Not recorded in the impact area.
Microtis sp. Nash (R. Bates 44740)	Nash's Onion Orchid		R	2	Not recorded in the impact area.
Olearia adenolasia	Musk Daisy Bush		R	1, 2, 3	H4b – Not counted. Common mi-storey shrub in open areas of the VA, including those areas disturbed by ongoing vegetation maintenance of the transmission line.

Species Name	Common Name	EPBC Act	NPW Act	Source of Record	Occurrence in the Impact Area
					H10 – Not counted. Common mi-storey shrub in open areas of the VA, including those areas disturbed by ongoing vegetation maintenance of the transmission line.
Olearia pannosa ssp. pannosa	Silver Daisy-bush	VU	V	2, 3, 4	Absent. Not detected despite targeted survey in impacted areas of suitable Vegetation Associations.
Philotheca angustifolia ssp. *angustifolia*	Narrow-leaf Wax-flower		R	1, 3	C5a – Two plants located in BAM survey plot, however outside impact area. C6a – Not counted. Uncommon mid-storey shrub throughout VA.
Pultenaea trichophylla	Tufted Bush-pea	EN	E	2, 4	Absent. Not detected despite targeted survey in impacted areas of suitable Vegetation Associations.
Prostanthera chlorantha	Green Mintbush		R	2	Not recorded in the impact area.
Santalum spicatum	Sandalwood		V	2, 3	Absent. Not detected despite targeted survey in impacted areas of suitable Vegetation Associations.
Spyridium bifidum var. bifidum	Forked Spyridium		V	2	Not recorded in the impact area.
Spyridium erymnocladum	Cloaked Spyridium		V	3	Absent. Not detected despite targeted survey in impacted areas of suitable Vegetation Associations.
Spyridium leucopogon	Silvery Spyridium		R	2	Absent. Not detected despite targeted survey in impacted areas of suitable Vegetation Associations.
Spyridium spathulatum	Spoon-leaf Spyridium		R	1, 2	C6a – One plant located in BAM site.
FAUNA					
Acanthiza iredalei iredalei	Slender-billed Thornbill (western)		R	2, 3	Likely in chenopod shrublands in the northern Project Area. These associations are not impacted by the Project.
Amytornis striatus	Striated Grasswren		R	2	Likely in Mallee / Triodia Associations in the Northern Project Area.
Amytornis textilis myall	Western Grasswren	VU	V	2	Likely in chenopod shrublands in the northern Project Area. These associations are not impacted by the Project.
Calamanthus cauta	Shy Heathwren		R	2	Likely in southern and northern Project Area.
Corcorax melanorhamphos	White-winger Chough		R	2, 3	Likely in southern and northern Project Area.
Falco peregrinus	Peregrine Falcon		R	2	Likely in southern and northern Project Area.
Gerygone fusca	Western Gerygone		R	3	Likely in Woodland habitat in the southern Project Area.
Leipoa ocellata	Malleefowl	VU	V	2, 3	Likely in woodland and mallee associations in the northern Project Area.
Lichenostomus cratitius	Purple-gaped Honeyeater		R	2	Likely in southern and northern Project Area.
Myiagra inquieta	Restless Flycatcher		R	2	Likely in southern and northern Project Area.
Pachycephala inornata	Gilbert's Whistler		R	1, 2	Likely in woodland and mallee associations in the northern Project Area.
Sminthopsis psammophila	Sandhill Dunnart	EN	E	2	Likely in Mallee / Triodia Associations in the Northern Project Area.
Stagonopleura guttata	Diamond Firetail		V	1, 2, 3	Likely in woodland Vegetation Associations.

Source; 1 = This survey (Nov 2021), 2 = EBS Ecology 2013, 3 = EBS Ecology 2019, 4 = EBS Ecology 2020a
NPW Act; E= Endangered, V = Vulnerable, R= Rare
EPBC Act; Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable

4.2.3. Threatened Ecological Communities

Database searches undertaken as part of the vegetation clearing assessment for the EPLink construction project identified three nationally Threatened Ecological Communities (TEC) may occur in the Project Area, listed below (EBS Ecology, 2019):

- Eyre Peninsula Blue Gum (*Eucalyptus petiolaris*) Woodland (EPBC Act Endangered)
- Subtropical and Temperate Coastal Saltmarsh (EPBC Act Vulnerable)
- Peppermint Box (*Eucalyptus odorata*) Grassy Woodland of South Australia (EPBC Act Critically Endangered)

The above report found that the only one of these TEC occurs in the Project Area: Eyre Peninsula Blue Gum (*Eucalyptus petiolaris*) Woodland. Further survey work carried out in September 2020 found that two Vegetation Associations met condition thresholds for listing as the TEC, falling into condition category A (exceptional quality), as defined by the *Approved Conservation Advice for the Eyre Peninsula Blue Gum (Eucalyptus petiolaris) Woodland* (Threatened Species Scientific Committee, 2013). Impact to Eyre Peninsula Blue Gum (*Eucalyptus petiolaris*) Woodland as a result of this Project is summarised in Table 50.

One Vegetation Association impacted by the Project (*Austrostipa scabra +/- Lomandra effusa* Grassland) meets the description of a community listed on the Department of Environment and Water's *Provisional List of Threatened Ecosystems* (Native Vegetation Council, 2020a)*:*

- *Lomandra effusa* Tussock Grassland on shallow loams in low hills.

Due to its condition and lack of native species diversity, the Vegetation Association does not meet condition thresholds for listing as the EPBC Act Critically Endangered *Iron-grass Natural Temperate Grassland of South Australia,* as defined in the *Approved Conservation Advice for Iron-grass Natural Temperate Grassland of South Australia* (Threatened Species Scientific Committee, 2008). Impact to *Lomandra effusa* Tussock Grassland as a result of this Project is summarised in Table 50.

Table 50. Threatened Ecological Communities impacted by the Project.

Threatened Ecological Community	Status*	Block	Vegetation Association	Impact Area (ha)
Eyre Peninsula Blue Gum (*Eucalyptus petiolaris*) Woodland	EN	C	*Eucalyptus petiolaris +/- Eucalyptus odorata +/- Allocasuarina verticillata* Open Grassy Woodland	0.049
	EN	C	*Eucalyptus petiolaris* Woodland over *Acacia pycnantha*	0.100
Lomandra effusa Tussock Grassland on shallow loams on low hills	E	H	*Austrostipa scabra +/- Lomandra effusa* Grassland	0.384

***EN, EPBC Act Endangered. E, *Provisional List of Threatened Ecosystems* Endangered**

4.3. Cumulative impacts

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.

As the clearing is required for the removal of infrastructure only and is temporary in nature, impact to vegetation has been limited to the smallest possible area required for access, safe use of required machinery and equipment and

temporary laydown areas. These areas include access tracks, stringing pads for the positioning of winch brakes and construction pads at each existing transmission line tower. These impacts are summarised in Table 8.

No subsequent clearing will be required for asset protection zones or future stages of the development, since all infrastructure will be removed.

The Project represents additional clearing to that approved for the construction of the EPLink replacement transmission line (see Section 2.5). Clearing for that Project was approved in 2019, with vegetation clearing and construction works beginning in 2020. A total of 26.91 ha of native vegetation has been approved for clearance.

4.4. Addressing 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

As the project involves removing existing infrastructure, impact areas cannot be relocated to areas without native vegetation in some situations, such as where it occurs around the footings of transmission line towers. While every effort has been made to limit the extent of clearing, such as using existing access tracks, it cannot be completely avoided.

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).

In situations where clearing of native vegetation cannot be avoided, ElectraNet and/or its contractors will seek to minimise the extent of native vegetation cleared and its impact on other matters of significance, such as threatened species. Measures taken to minimise clearing and other impacts are summarised in Table 51.

Table 51. Management measures to minimise clearing of native vegetation and associated impacts.

Impact	Management	Timing
Clearing and over clearing of native vegetation.	Construction contractor to have a Vegetation Management Plan approved by ElectraNet.	Planning Construction
	Disturbed or managed areas of vegetation (e.g., within transmission line easement) will be cleared in preference to intact vegetation where practicable.	Planning Construction
	Existing access tracks will be utilised where possible. Where new access tracks are required, they will be constructed to a maximum width of 5 m.	Planning Construction
	Clearance will be limited to a maximum extent of 100 m^2 at towers and stringing pads.	Planning Construction

Impact	Management	Timing
	Areas of vegetation within the Construction Activity Zone to be retained will be clearly delineated using fencing, flagging, roping off and/or signage.	Planning
	All vehicle and machinery parking, laydown areas and stockpiles will be restricted to designated Construction Activity Zones (CAZ). No clearing, parking, laydown, stockpiles or other disturbance of native vegetation outside of CAZ.	Planning Construction
	Unless earthworks are required for access, stability or safety reasons, ground vegetation will be rolled rather than cleared to minimise disturbance to topsoil, seedstock and rootstock.	Construction
Weed invasion and disease	Construction contractor to have a Weed, Pest and Disease Management Plan (including Phytophthora) approved by ElectraNet.	Planning Construction
	Limit entry/exit points to the Project Area to the minimum number possible.	Planning
	Undertake weed surveys of all proposed disturbance areas prior to commencement of construction works.	Planning
	Relocate entry/exit points and stockpile/laydown areas that have a high risk for the spread of weeds. If not possible, take corrective action (e.g., weed control).	Planning
	Designate/establish vehicle and machinery washdown and inspection sites.	Planning
	All fill materials required for construction (e.g., sand, soil, gravel) will be sourced from certified weed and phytophthora free sites.	Planning Construction
	Restrict all vehicle and machinery traffic to designated (existing and new) roads and access tracks that are approved by landowners.	Planning Construction
	All vehicles and machinery accessing the Project Area will be washed down and inspected by a trained responsible officer in accordance with the Weed Management Plan. This will occur at the designated washdown/inspection sites. Heavy vehicles/machinery must be certified weed and soil free by the responsible officer prior to entering the Project Area.	Construction
	Location of entry and exit points, laydown areas and vehicle and machinery washdown and inspection procedures will form part of toolbox meetings for site crews.	Construction
	The Project Area and construction sites will be regularly surveyed for weed outbreaks. Outbreaks and recommended corrective action will be communicated to ElectraNet.	Construction
	New weed outbreaks will be controlled in accordance with the Weed, Pest and Disease Management Plan. Any weed control will be undertaken only after consent from landowners.	Construction

Impact	Management	Timing
Disturbance of threatened species	Construction contractor to have a Biodiversity Management Plan that includes clearing procedures, approved by ElectraNet. This will include the use of geospatial data and mapping for identification of protected areas and establishment of No-Go zones and recommendations for clearing of different vegetation types.	Planning
	Threatened EPBC listed plant individuals or populations in proximity to vegetation being cleared will be fenced using temporary flagging or otherwise clearly marked.	Planning
	Construction activities will occur during daylight hours wherever possible so as not to disturb nocturnal wildlife or roosting raptors.	Construction
	Where access points and tracks intersect public roads, they will be fenced with access restricted by locked gates where possible and only with landholder agreement.	Construction
	Designated Construction Activity Zones will be planned and approved by ElectraNet via a Land Disturbance Permit. All works will be confined to those approved activity zones.	Construction
	Where vegetation being cleared adjoins *Eucalyptus petiolaris* woodland Endangered Ecological Community, the EEC will be clearly delineated using fencing, flagging, roping off and/or signage.	Planning
	Areas of vegetation likely to have hollow-bearing trees being removed will be surveyed for hollow- bearing trees prior to clearing. Hollow-bearing trees will be mapped and clearly marked in the field. Where the removal of a hollow-bearing tree is required, the hollows will be retained on site to provide fauna habitat. Bush rocks and tree barrels will also be retained where they are identified as providing valuable habitat.	Planning
	Malleefowl mounds will be managed in accordance with the Malleefowl Management Plan (see separate plan) including delineation, avoidance of impacts in protection buffers, fauna inspections and rehabilitation of habitat within 50m of a mound.	Construction
	Any weed control will be undertaken in accordance with the Weed Control Handbook for Declared Plants in South Australia (Invasive Species Unit, Biosecurity SA, 2018) and the Weed, Pest and Disease Management Plan	Construction

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.

It is anticipated that clearing associated with the Project is temporary. All areas not required as permanent clearance will be rehabilitated according to the following:

- Cleared areas will be ripped and scarified.
- Stockpiled top soil will be raked back over the cleared area.
- Cleared vegetation material will be pulled back over cleared area.

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*.

The Project has been assessed against the principles as discussed in Table 52.

Table 52. Assessment against the Principles of Clearance.

Principle of clearance	Considerations
Principle 1(a) – it comprises a high level of diversity of plant species	Relevant information 403 plant species have been recorded in the Project Area. They are listed in Appendix 3. Bushland Plant Diversity Score The following Vegetation Associations scored a Plant Species Diversity Score of 10-20: VA33 VA21 VA18 VA34 VA35 VA20 VA4 VA6 VA15 VA5 VA19 VA7 VA17 VA27 VA23 The following Vegetation Associations scored a Plant Species Diversity Score of >20: VA32 VA16 VA10 VA11 VA29 VA22 VA25 VA36 VA14 VA8 VA24 VA12 VA13 VA9 VA30 VA3
	Assessment against the principles Seriously at Variance VA32 VA16 VA10 VA11 VA29 VA22 VA25 VA36 VA14 VA8 VA24 VA12 VA13 VA9 VA30 VA3 At Variance VA33 VA21 VA18 VA34 VA35 VA20 VA4 VA6 VA15 VA5 VA19 VA7 VA17 VA27 VA23

	Moderating factors that may be considered by the NVC Where only a very small area of vegetation will be impacted relative to the amount of vegetation within the local vicinity (less than 0.25% of the native vegetation within a 5 km radius to be impacted) it may reduce the impact from 'at variance' to 'not at variance'.
Principle 1(b) – significance as a habitat for wildlife	**Relevant information** See Section 4.2.2, Section 4.2.3 and Appendix 6 for threatened species that have been recorded or are likely to occur in the Project Area. Patches Threatened Fauna Score • >0.05 for all Vegetation Associations Unit biodiversity Score The following Vegetation Associations have a UBS >50: VA11 VA25 VA33 VA14 VA18 VA8 VA32 VA24 VA4 VA13 VA16 VA12 VA10 VA19 VA21 VA9 VA22 VA28 VA20 VA3 VA17 VA6 VA27 VA23
	Assessment against the principles Seriously at Variance All Vegetation Associations
	Moderating factors that may be considered by the NVC Impact Significance The following criteria are used to determine whether an action will have a significant impact on listed threatened fauna species and therefore clearance will be raised to 'Seriously at variance'**.** A clearance action will have or is likely to have a significant impact on a threatened species if it may: • lead to a long-term decrease in the size of a population, or • reduce the area of occupancy of the species, or • fragment an existing population into two or more populations, or • adversely affect habitat critical to the survival of a species, or • modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline, or • result in invasive species that are harmful to a threatened species becoming established in the threatened species habitat, or • interfere with the recovery of the species. If the NVC are of the opinion that the clearance will not have a significant impact on fauna habitat, the clearance may be reduced to At variance.

	Significant benefit If the SEB provides a benefit to the threatened species that is well over and above what is required in the SEB Policy and Guide, it may be reduced to 'At variance'. Common species If the vegetation provides habitat for native species that are relatively common, and the area of clearance is not considered essential habitat to maintain the local population, it may be reduced to 'At variance'. Non-essential habitat If the clearance is of non-essential habitat for threatened species and the clearance will have a negligible impact on that species local population over the long term (i.e., next 20 to 50 years), it may be reduced to 'At variance'.
Principle 1(c) – plants of a rare, vulnerable or endangered species	**Relevant information** See Section 4.2.2, Section 4.2.3 and Appendix 6 for threatened species that have been recorded or are likely to occur in the Project Area. Threatened Flora Score(s) The following sites and Vegetation Associations have a Threatened Flora Score of >0. B1 (VA1) – 0.04 B5a (VA18) – 0.04 B8 (VA32) – 0.08 C1b, C1b (VA11) – 0.08 C5a (VA18) – 0.08 C6a, C6b (VA16) – 0.08 C9 (VA22) – 0.08 C10 (VA21) – 0.04 D3 (VA25) – 0.04 D4 (VA36) – 0.04 H3 (VA29) – 0.04 H4b (VA25) – 0.04 H5b (VA13) – 0.04 H10 (VA9) – 0.04 I5 (VA25) – 0.04
	Assessment against the principles Seriously at Variance No Vegetation Associations At Variance VA1 VA25 VA18 VA36 VA32 VA29 VA11 VA13 VA18 VA9 VA16 VA22 VA21
	Moderating factors that may be considered by the NVC Impact Significance The following criteria are used to determine whether an action will have a significant impact on listed threatened fauna species and therefore clearance will be raised to 'Seriously at variance'**.** A clearance action will have or is likely to have a significant impact on a threatened species if it may:

	• lead to a long-term decrease in the size of a population, or • reduce the area of occupancy of the species, or • fragment an existing population into two or more populations, or • adversely affect habitat critical to the survival of a species, or • modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline, or • result in invasive species that are harmful to a threatened species becoming established in the threatened species habitat, or • interfere with the recovery of the species. If the NVC are of the opinion that the clearance will not have a significant impact on fauna habitat, the clearance may be reduced to At variance. <u>Number of plants to be cleared</u> If less than 1% of the individual plants are affected within the immediate vicinity (within a 1 km radius) of the proposed clearance, or the affected individuals can be transplanted or replaced easily, the proposed clearance may be tempered to 'At variance'. <u>Significant benefit</u> If the SEB provides a benefit to the threatened species that is well over and above what is required as detailed in the related SEB Policy and Guide, it may be reduced to 'At variance'.
Principle 1(d) – the vegetation comprises the whole or part of a plant community that is Rare, Vulnerable or endangered	**<u>Relevant information</u>** Two threatened ecological communities are impacted: • VA21, VA22 – Eyre Peninsula Blue Gum (Eucalyptus petiolaris) Woodland (EPBC Act Endangered). • VA5 - *Lomandra effusa* Tussock Grassland on shallow loams in low hills (Provisional List Endangered). <u>Threatened Community Score</u> C9(VA22) – 1.4 C10 (VA21) – 1.4 H1 (VA5) – 1.3
	<u>Assessment against the principles</u> <u>Seriously at Variance</u> VA5 VA21 VA22
	<u>Moderating factors that may be considered by the NVC</u> <u>Impact Significance</u> The following criteria are used to determine whether a clearance proposal will have a significant impact on a listed threatened plant community and therefore clearance will be raised to 'Seriously at variance' with this principle. An action has, will have, or is likely to have a significant impact on a threatened plant community if it does, will, or is likely to: • lead to a long-term adverse effect on a plant community, or • reduce the extent of a community, or • fragment an occurrence of the community, or • adversely affect habitat critical to the survival of a plant community, or

	• modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for the community's survival, or • result in invasive species that are harmful to the threatened plant community becoming established in an occurrence of the community, or • interfere with the recovery of a plant community. Area of impact If less than 1% of the area of that vegetation community within the immediate vicinity (within a 1 km radius) of proposed clearance is to be affect, the proposed clearance may be tempered to 'At variance'. Condition of the vegetation If the vegetation is in a highly degraded state and is unlikely to return to a functional state without significant human intervention, the proposed clearance may be tempered to 'At variance'.
Principle 1(e) – it is significant as a remnant of vegetation in an area which has been extensively cleared	**Relevant information** See table below Vegetation in the southern end of the Project Area (Blocks A to G) generally consists of small, fragmented and isolated patches in poor to good condition. Vegetation in the northern Project Area (Blocks H, I and J) is generally part of large areas of native vegetation in good condition that has not been historically cleared. Most impacted areas are disturbed by ongoing vegetation maintenance activities in the transmission line easement. Total Biodiversity Score The Total Biodiversity Score for the Project: 1062
	Assessment against the principles Seriously at Variance Block A Block E Block B Block F Block C Block G Block D Block H Block I At Variance Block J
	Moderating factors that may be considered by the NVC Impact significance The following criteria are used to determine whether a clearance proposal will have a significant impact on a remnant in a highly landscape and therefore clearance will be raised to 'Seriously at

IBRA Subregion	Remnancy (%)	IBRA Association	Remnancy (%)	Vegetation Block
Eyre Hills	29	Yalunda	20	A, C
		Mt Gawler	9	B
		Butler	7	D
		Mt Desperate	38	G
		Messenger	32	H
		Yalarna	68	I
		Ironstone Hill	Not available	I
Eyre Mallee	38	Wharminda	9	E
		Hambridge	28	F
		Midgee	61	J

	variance' with this principle. An action has, will have, or is likely to have a significant impact on a remnant in a highly cleared landscape if it does, will, or is likely to: • impact on a tree species or vegetation community that has been selectively removed within the IBRA Association or IBRA Subregion and are therefore underrepresented in the vegetation that remains. • Impact on a remnant in relatively good condition, particularly if the vegetation within the IBRA Association or IBRA Subregion where vegetation has largely been degraded. Quality of remnant If the vegetation is in poor to very poor condition, is continuing to degrade and its long term (next 20 to 50 years) persistence is unlikely, then it may be reduced to 'At variance'.
Principle 1(f) – it is growing in, or in association with, a wetland environment	**Relevant information** Two Vegetation Associations occur in, or on the banks of, a watercourse.
	Assessment against the principles Seriously at Variance VA31 VA35
	Moderating factors that may be considered by the NVC Impact Significance The following criteria are used to determine whether a clearance action will have a significant impact on a wetland, and therefore be considered 'Seriously at variance' with the principle. Clearance will have a significant impact on the ecological character of a wetland if it is likely to result in: • areas of the wetland being destroyed or substantially modified • a substantial and measurable change in the hydrological regime of the wetland (e.g., a change in the volume, timing, duration and frequency of ground and surface water flows to and within the wetland) • the habitat or lifecycle of native species dependent upon the wetland being seriously affected • a substantial and measurable change in the physio-chemical status of the wetland (e.g., change in the level of salinity, pollutants or nutrients in the wetland, change in water temperature which may adversely impact on biodiversity) • the introduction of invasive species. If the NVC are of the opinion that the clearance will not have a significant impact on a wetland environment, the clearance may be reduced to At variance. Quality of Wetland If the wetland has been highly degraded and is in poor to very poor condition, then it may be reduced to 'At variance'. Area of Impact If the wetland is relatively small, considering the wetlands within the same system or within a close proximity (within a 5 km radius), then it may be reduced to **'**At variance'.
Principle 1(g) – it contributes significantly to the amenity of	**Relevant information** The Project is likely to significantly improve the amenity of the area by removing steel towers, and rehabilitating access tracks and cleared areas that currently dominate the landscape of the transmission line easement. Vegetation will no longer be subjected to routine maintenance activities, such as lopping of tall trees and control of regrowth, which may also improve the amenity of impacted areas.

the area in which it is growing or is situated	**Assessment against the principles** Assessment against this principle will be undertaken during the approval process.

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

The risk level associated with the Project is shown in Table 53.

Table 53. Summary of the level of risk associated with the application.

Total clearance	No. of trees	0
	Area (ha)	17.35
	Total biodiversity Score	1062
Seriously at variance with principle 1(b), 1(c) or 1 (d)		1(a), 1(b), 1(d), 1(e), 1(f)
Risk assessment outcome		Level 4

5. Clearance summary

The Significant Environmental Benefit obligations of the proposal have been calculated according to that summarised in Table 54. A Totals summary table is provided as Table 55. Scoresheets used to calculate the SEB are provided as Attachment 8.

Table 54. Clearance areas summary table.

Block	Site	Species diversity score	Threatened Ecological community Score	Threatened plant score	Threatened fauna score	UBS	Area (ha)	Total Biodiversity score	Loss factor	Loadings	Reductions	SEB Points required	SEB payment	Admin Fee
A	A1	18	1	0	0.1	66.1	0.1	6.61	1	0	0	6.94	$4,817.34	$264.95
A Subtotal						**66.1**	**0.1**	**6.61**				**6.94**	**$4,817.34**	**$264.95**
B	B1	2	1	0.04	0.1	5.56	0.07	0.39	1	0	0	0.41	$259.79	$14.29
	B2a	2	1	0	0.1	2.19	0.201	0.44	1	0	0	0.46	$286.46	$15.76
	B2b	4	1	0	0.1	11.68	0.201	2.35	1	0	0	2.47	$1,530.01	$84.15
	MEAN	3				6.935	0.201	1.395				1.47	$908.24	$49.96
	B3	16	1	0	0.1	52.74	0.15	7.93	1	0	0	8.32	$5,166.22	$284.14
	B5a	16	1	0.04	0.1	67.93	0.301	20.45	1	0	0	21.47	$14,041.59	$772.29
	B5b	20	1	0	0.1	62.27	0.301	18.74	1	0	0	19.68	$12,871.46	$707.93
	MEAN	18				65.1	0.301	19.595				20.56	$13,456.53	$740.11
	B6	6	1	0	0.1	26.16	0.008	0.21	1	0	0	0.22	$136.37	$7.50
	B7	8	1	0	0.1	28.11	0.036	1.01	1	0	0	1.06	$667.91	$36.74
	B8	9	1	0.08	0.1	67.16	0.099	6.65	1	0	0	6.98	$4,463.20	$245.48
	B9	14	1	0	0.1	14.59	0.03	0.44	1	0	0	0.46	$285.79	$15.72
B Subtotal						**266.36**	**0.895**	**37.62**	**1**	**0**	**0**	**39.49**	**$25,344.04**	**$1,393.94**
C	C1a	12	1	0	0.1	35.77	0.504	18.03	1	0	0	18.93	$12,050.18	$662.76
	C1b	16	1	0.08	0.1	77.9	0.504	39.26	1	0	0	41.23	$26,245.08	$1,443.48
	C1c	24	1	0.08	0.1	93.08	0.504	46.91	1	0	0	49.26	$31,555.70	$1,735.56
	MEAN	17.3				68.92	0.504	34.73				36.47	$23,283.65	$1,280.60
	C2a	6	1	0	0.1	13.4	0.341	4.57	1	0	0	4.8	$3,015.47	$165.85

Block	Site	Species diversity score	Threatened Ecological community Score	Threatened plant score	Threatened fauna score	UBS	Area (ha)	Total Biodiversity score	Loss factor	Loadings	Reductions	SEB Points required	SEB payment	Admin Fee
	C3a	18	1	0	0.1	36.68	0.214	7.85	1	0	0	8.24	$5,180.46	$284.93
	C3b	14	1	0	0.1	65.36	0.214	13.99	1	0	0	14.69	$9,329.32	$513.11
	MEAN	16				51.02	0.214	10.92				11.465	$7,254.89	$399.02
	C5a	16	1	0.08	0.1	76.65	0.095	7.28	1	0	0	7.65	$4,744.96	$260.97
	C5b	16	1	0	0.1	52.59	0.095	5	1	0	0	5.25	$3,255.49	$179.05
	MEAN	16				64.62	0.095	6.14				6.45	$4,000.23	$220.01
	C6a	26	1	0.08	0.1	84.87	0.077	6.53	1	0	0	6.86	$4,147.86	$228.13
	C6b	20	1	0.04	0.1	58.5	0.077	4.5	1	0	0	4.73	$2,859.41	$157.27
	MEAN	23				71.685	0.077	5.515				5.79	$3,503.64	$192.70
	C7	20	1	0	0.1	68.19	0.311	21.21	1	0	0	22.27	$14,175.13	$779.63
	C8	28	1	0	0.1	82.22	0.213	17.51	1	0	0	18.39	$11,706.45	$643.85
	C9	22	1.4	0.08	0.1	87.42	0.1	8.74	1	0	0	9.18	$5,843.91	$321.41
	C10	18	1.4	0.04	0.1	64.52	0.049	3.16	1	0	0	3.32	$1,797.99	$98.89
C Subtotal						**571.99**	**1.904**	**112.49**				**118.14**	**$74,581.35**	**$4,101.96**
D	D1	18	1	0	0.1	46.86	0.17	7.97	1	0	0	8.36	$3,714.00	$204.27
	D2	16	1.3	0	0.1	95.02	0.133	12.64	1	0	0	13.27	$6,442.53	$354.34
	D3	22	1	0.04	0.1	68.79	0.0287	1.97	1	0	0	2.07	$995.30	$54.74
	D4	20	1.3	0.04	0.1	43.59	0.033	1.44	1	0	0	1.51	$727.28	$40.00
D Subtotal						**254.26**	**0.3647**	**24.02**				**25.21**	**$11,879.11**	**$653.35**
E	E1a	18	1	0	0.1	55.18	0.301	16.61	1	0	0	34.88	$9,063.22	$498.48
	E1b	20	1	0	0.1	59.3	0.301	17.85	1	0	0	37.48	9827.61	540.52
	MEAN	19				57.24	0.301	17.23	1	0	0	36.18	$9,445.42	$519.50
	E2a	12	1	0	0.1	28.38	0.174	4.94	1	0	0	5.18	$1,351.40	$74.33
	E2b	6	1	0	0.1	11.6	0.174	2.02	1	0	0	2.12	$544.14	$29.93
	MEAN	9				19.99	0.174	3.48	1	0	0	3.65	$947.77	$52.13
	E3	14	1	0	0.1	43.3	0.039	1.69	1	0	0	1.77	$456.63	$25.11
	E4	24	1	0	0.1	59.12	0.065	3.84	1	0	0	4.04	$1,001.62	$55.09
	E5	4	1	0	0.1	18.81	0.001	0.02	1	0	0	0.02	$4.86	$0.27

Block	Site	Species diversity score	Threatened Ecological community Score	Threatened plant score	Threatened fauna score	UBS	Area (ha)	Total Biodiversity score	Loss factor	Loadings	Reductions	SEB Points required	SEB payment	Admin Fee
E Subtotal						**198.46**	**0.58**	**26.26**				**45.66**	**$11,856.30**	**$652.10**
F	F1	4	1	0	0.1	7.59	0.263	2	1	0	0	2.1	$531.78	$29.25
	F2	10	1	0	0.1	28.37	0.083	2.35	1	0	0	2.47	$646.41	$35.55
F Subtotal						**35.96**	**0.346**	**4.35**				**4.57**	**$1,178.19**	**$64.80**
G	G1	24	1	0	0.1	60.32	0.132	7.96	1	0	0	8.36	$3,091.91	$170.06
	G2	10	1	0	0.1	14.67	0.133	1.95	1	0	0	2.05	$680.83	$37.45
	G3	26	1	0	0.1	65.37	0.348	22.75	1	0	0	23.89	$8,832.86	$485.81
	G4	8	1	0	0.1	33.57	0.037	1.24	1	0	0	1.3	$468.89	$25.79
G Subtotal						**173.93**	**0.65**	**33.9**				**35.6**	**$13,074.49**	**$719.11**
H	H1a	10	1.3	0	0.1	16.41	0.384	6.3	0	0	0	6.61	$2,223.15	$122.27
	H3	22	1	0.04	0.1	76.59	0.111	8.5	0	0	0	8.93	$2,824.66	$155.36
	H4a	14	1	0	0.1	45.22	0.563	25.46	0	0	0	26.73	$8,633.80	$474.86
	H4b	20	1	0.04	0.1	76.61	0.563	43.13	0	0	0	45.29	$14,627.24	$804.50
	MEAN	17				60.915	0.563	34.295				36.01	$11,630.52	$639.68
	H4a-PA	14	1	0	0.1	43.97	1.268	55.76	0	1	0	117.09	$37,817.61	$2,079.97
	H4b-PA	20	1	0.04	0.1	76.61	1.268	97.41	0	1	0	203.99	$65,887.54	$3,623.81
	MEAN	17				60.29	1.268	76.585				160.54	$51,852.58	$2,851.89
	H5a	22	1	0	0.1	72.69	0.1	7.27	0	0	0	7.63	$2,486.58	$136.76
	H5b	24	1	0.04	0.1	83.74	0.1	8.37	0	0	0	8.79	$2,864.73	$157.56
	MEAN	23				78.215	0.1	7.82				8.21	$2,675.66	$147.16
	H5a-PA	22	1	0	0.1	72.69	0.603	43.83	0	1	0	92.04	$29,988.18	$1,649.35
	H5b-PA	24	1	0.04	0.1	83.74	0.603	50.5	0	1	0	106.04	$34,548.67	$1,900.18
	MEAN	23				78.215	0.603	47.165				99.04	$32,268.43	$1,774.77
	H6	20	1	0	0.1	62.22	0.223	13.87	0	0	0	29.14	$9,083.27	$499.58
	H7	16	1	0	0.1	61.6	0.46	28.34	0	0	0	59.51	$17,994.17	$989.68
	H8	18	1	0	0.1	48.79	0.1	4.88	0	0	0	5.12	$1,721.71	$94.69
	H9	20	1	0	0.1	61.34	0.129	7.91	0	0	0	8.31	$2,613.65	$143.75
	H10	22	1	0.04	0.1	82.47	0.332	27.38	0	0	0	28.75	$8,720.82	$479.65

Block	Site	Species diversity score	Threatened Ecological community Score	Threatened plant score	Threatened fauna score	UBS	Area (ha)	Total Biodiversity score	Loss factor	Loadings	Reductions	SEB Points required	SEB payment	Admin Fee
	H11	24	1	0	0.1	79.46	0.379	30.12	0	0	0	63.25	$18,651.38	$1,025.83
	H12	16	1	0	0.1	55.26	0.301	16.63	0	0	0	34.93	$10,103.90	$555.71
H Subtotal						**821.78**	**0.384**	**309.795**				**548.35**	**$172,363.89**	**$9,480.02**
I	I3a	14.64	1	0	0.1	72.23	2.92	210.91	0	1	0	442.9	$119,418.54	$6,568.02
	I3b	16.04	1	0	0.1	63.54	2.92	185.53	0	1	0	389.6	$102,859.09	$5,657.25
	I3c	10.7	1	0	0.1	57.43	2.92	167.69	0	1	0	352.15	$91,323.64	$5,022.80
	MEAN	13.79				64.40	2.92	188.04				394.88	$104,533.76	$5,749.36
	I4	13.38	1	0	0.1	70.22	0.603	42.34	0	1	0	88.92	$24,308.63	$1,336.97
	I5	14.82	1	0.04	0.1	68.55	1.553	106.46	0	1	0	223.56	$56,719.74	$3,119.59
	I6	11.73	1	0	0.1	75.2	0.1	7.52	0	1	0	15.79	$4,701.24	$258.57
	I7	14.5	1	0	0.1	62.35	0.372	23.19	0	1	0	48.71	$14,226.92	$782.48
	I8	12.85	1	0	0.1	66.75	0.691	46.12	0	1	0	96.86	$26,478.29	$1,456.31
	I9	11.89	1	0	0.1	65.66	0.1	6.57	0	1	0	13.79	$4,027.44	$221.51
I Subtotal						**473.13**	**6.339**	**420.24**				**882.51**	**$234,996.02**	**$12,924.79**
J	J1	13.03	1	0	0.1	66.96	0.201	13.46	0	1	0	28.26	$8,176.64	$449.71
	J2	14.27	1	0	0.1	68.37	0.201	13.74	0	1	0	28.86	$8,348.92	$459.19
	J3	12.19	1	0	0.1	68.86	0.15	10.33	0	1	0	21.69	$6,274.72	$345.11
	J4	13.72	1	0	0.1	70.61	0.067	4.73	0	1	0	9.93	$2,892.47	$159.09
	I9-J	11.89	1	0	0.1	65.66	0.1	6.57	0	1	0	13.79	$4,027.44	$221.51
	I6-J	65.73	1	0	0.1	75.2	0.506	38.05	0	1	0	79.9	$23,788.29	$1,308.36
J Subtotal						**415.66**	**1.225**	**86.88**				**182.43**	**$53,508.48**	**$2,942.97**
						SEB Total	**17.35**	**1062**				**1889**	**$603,599.20**	**$33,197.98**

Table 55. SEB Totals Summary

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	1062	1889	$603,599.20	$33,197.98	$636,797.18

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

The proponent intends to pay in to the Native Vegetation Fund the amount shown below:

$636,797.18 (including administration fee of $33,197.98).

7. References

Croft, S. J., Pedler, J. A., & Milne, T. I. (2008). *Bushland Condition Monitoring Manual: Eyre Peninsula Region.* Adelaide: Nature Conservation Society of South Australia.

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Threatened Species Scientific Committee. (2013). *Approved Conservation Advice for the Eyre Peninsula Blue Gum (Eucalyptus petiolaris) Woodland.* Canberra: Department of Agriculture, Water and the Environment.

8. Appendices

Appendix 1. Land tenure details

Plan/Parcel	Land Owner	Substitute CT Reference
D83666AL81	Minister for Sustainability, Environment & Conservation - Ironstone	CR 6059/794
D83666AL84	Minister for Sustainability, Environment & Conservation - Ironstone	CR 6059/797
H560600SE10	Minister for Sustainability, Environment & Conservation - Ironstone	CR 6072/724
H560700SE4	Ecological Horizons Pty Ltd	CL 6181/881
H560700SE3	Ecological Horizons Pty Ltd	CL 6181/881
H530900SE27	O'Brien, SG	CL 6182/263
H530900SE24	O'Brien, SG	CL 6182/263
H531400SE27	Burton, FW & NE	CT 6190/222
D38006AL100	Minister for Sustainability, Environment & Conservation - Sheoak	CR6247/155
H531400SE40	Deer, MP	CT 5673/580
H531400SE32	Deer, MP	CT 5673/580
H531400SE50	Minister for Sustainability, Environment & Conservation - Sheoak	CR6247/156
H531400SE33	Wishford Nominees Pty Ltd	CT 5979/39
H531400SE12	Rogers, GW & HM	CT 6185/838
H531400SE10	L S Harris Nominees Pty Ltd	CT 6182/681
H531400SE9	L S Harris Nominees Pty Ltd	CT 6182/681
H531400SE5	L S Harris Nominees Pty Ltd	CT 6182/681
H531400SE46	L S Harris Nominees Pty Ltd	CT 6182/681
H531400SE6	L S Harris Nominees Pty Ltd	CT 6182/681
H531200SE6	Story, PJ & LK	CT 6184/167
H531600SE30	Story, PJ & LK	CT 6184/167
H531600SE12	Nield, JD & BL	CT 6197/644
H531600SE11	Nield, JD & BL	CT 6197/643
H531600SE37	Norris, PL & KA	CT 6185/567
H531600SE17	Hannemann, GK & ML	CT 6186/571
F178594AL182	Norris, PL & KA	CT 6185/566
F147689AL4	Story, PJ & LK	CT 6184/166
H531600SE23	Story, PJ & LK	CT 6184/168
F178593AL181	Hannemann, MR & AC	CT 6189/229
H530500SE1	Hannemann, MR & AC	CT 6189/230
H533400SE414	Dreckow, BW & LK	CT 6197/361
H533400SE104	Quinn, W & J	CT 6173/414
H533400SE103	Quinn, W & J	CT 6173/412
H533400SE95	Quinn, W & J	CT 6173/413
H533400SE96	Crosby, BE & KH	CT 6197/261
H533400SE88	Harris, BM & L	CT 6197/823
H533400SE74	Turner, PS	CT 6185/901
H533400SE75	Turner, PS	CT 6185/901
H533400SE64	Harris, BM & L	CT 6197/822
D95003AL5002	Crosby, BE & KH	CT 6151/567
D95003AL5001	ElectraNet	CT 6151/566

H533400SE55	RBQ Holdings Pty Ltd	CT 5940/707
H533400SE46	RBQ Holdings Pty Ltd	CT 5940/707
H533400SE39	RBQ Holdings Pty Ltd	CT 6205/513
H533400SE28	Quinn, RM & KJ	CT 6214/633
H533400SE22	Bammann, GW & SM	CT 6200/907
H533400SE1	Bammann, GW & SM	CT 6200/907
H533400SE24	Stephenson, J T & L J	CT 6205/934
H532700SE33	Stephenson, J T & L J	CT 6205/934
H532700SE73	Bammann, GW & SM	CT 6203/248
H532700SE55	Bammann, GW & SM	CT 6203/248
H532700SE32	Bates, KP & SL	CT 6200/915
H532700SE29	Smith, KJ & B	CT 6217/523
H533100SE35	Nield, K J and E A	CT 6202/553
H533100SE55	Minister for Transport	CT 5665/342
H533100SE78	Lovegrove, MB	CT 6204/364
F35330QP1	Lovegrove, MB	CT 6216/414
H533100SE42	Rosenzweig, TC	CT6233/683
H533100SE44	Masters, GD & GH	CT 6200/953
H533100SE20	Rosenzweig, TC	CT 6226/62
H533100SE46	Jones, JM & JK	CT 6216/199
H533100SE13	Millard, D J	CT 6210/303
H533100SE14	Millard, D J	CT 6210/303
F199822QP91	Prime, DL	CT 6214/532
H533100SE48	Minister for Environment and Planning - Wharminda	CT 5957/792
H533100SE94	Minister for Sustainability, Environment & Conservation - Wharminda	CR6247/153
H533100SE77	Minister for Environment and Planning - Wharminda	CT 5880/963
F199822QP92	Prime, DL	CT 6214/532
H533100SE4	Masters, PG & LM	CT 6202/301
D93642AL50	G K Prime Pty Ltd	CT 6203/228
F178754AL342	G K Prime Pty Ltd	CT 5547/715
F178753AL341	G K Prime Pty Ltd	CT 5547/716
F217080QP27	Minister for Transport, Infrastructure & Local Government	CT 5680/304
F178751AL339	Cameron, MA & AL	CT 6198/268
F199449QP93	Prime, PG, AJ & CG	CT 6197/363
H530400SE32	Pedler & Swaffer, DT & AM	CT 6198/265
F178747AL335	Malcolm, SW & VB	CT 6197/522
H530400SE31	Charlton, CI	CT 6205/236
D56914AL71	Charlton, CI	CT 6209/702
H530400SE34	Houston, JA & EE	CT 5951/411
H530400SE67	Houston, JA & EE	CT 5605/481
H530400SE45	R M Cane Nominees Pty Ltd	CT 6203/597
H530400SE37	Houston, JA & EE	CT 5605/479
F215905QP92	Houston, JA & EE	CT 5605/478
H530400SE1	Garra Land Pty Ltd	CT 6230/333

D80728AL14	Lawrie, JN, SA & CJT	CT 6230/436
H511600SE365	Lawrie, JN, SA & CJT	CT 6230/435
H511600SE433	Lawrie, JN, SA & CJT	CT 6230/435
D58399AL50	Telfer, LC, SJ & IN	CT 6215/330
D32252AL3	Jillandra Farming Pty Ltd	CT 6204/279
D32252AL4	Jillandra Farming Pty Ltd	CT 6204/280
D32252AL5	Jillandra Farming Pty Ltd	CT 6204/281
H511600SE400	Liddicoat, TC & DK	CT6237/698
H511000SE99	Liddicoat, TC & DK	CT6237/697
H511000BL10C	Telfer, JK & MK	CT 6200/807
F178914AL502	Fauser, D & S	CT 6201/387
F6395AL1	Roediger, KJ & TJ	CT 6199/714
F6395AL2	RoeCo Pty Ltd	CT 6199/572
D66450QP51	Roediger, KJ & TJ	CT 6199/713
D69546AL102	Telfer, GK & DH	CT 6199/569
F178907AL495	Bawden, RL & GM	CT 5547/325
F42968QP9	Richardson, AG	CT 5934/51
F42968AL7	Richardson, AG	CT 5934/51
H510300SE129	Richardson, AG	CT 5549/527
H510300SE130	Richardson, AG & SJ	CT 5465/916
F42968AL6	D J Butler	CT 6208/233
H510300SE125	Butler, GJ	CT 5194/335
F216882AL91	Cabot, AJ & KA	CT 6202/932
F216604AL357	Borthwick, EL	CT 6204/53
F216604QP361	Borthwick, EL	CT 6204/53
F216604QP363	Borthwick, EL	CT 6204/53
F216604AL355	Borthwick, EL	CT 6204/53
F216604AL354	Borthwick, EL	CT 6204/53
F216409AL128	Borthwick, CED	CT 6200/924
F216409AL127	Borthwick, CED	CT 6200/924
H510400SE130	Cullen, RW & LA	CT 6202/972
H510400SE134	Cullen, RW & LA	CT 6202/972
H510400SE136	Calderwood, CJ & IC	CT 6199/818
H510400SE36	Calderwood, RJ	CT 6200/312
H510400SE35	Calderwood, RJ	CT 6200/311
H510400SE38	Barns & Shapalova, NS & N	CT 6204/9
H510400SE37	Calderwood, RJ	CT 6200/311
H510400SE67	Calderwood, RJ	CT 6200/313
H510400SE68	Docking, PAJ & EL	CT 6215/945
H510400SE16	Docking, PAJ & EL	CT 6215/944
F1597AL2	Docking, PAJ & EL	CT 6215/943
F130554AL1	Cummings, GR & AM	CT 5253/903
F214542AL151	K D and W G MacDonald Pty Ltd	CT 6206/496
F214542AL153	K D and W G MacDonald Pty Ltd	CT 6206/496

F130554AL2	Smits, GM	CT 6122/308
F130554AL3	Smits, GM	CT 6122/309
F130554AL5	Cummings, GR & AM	CT 5253/903
H510700SE145	Docking, PAJ & EL	CT 6106/418
H510700SE144	Docking, PAJ & EL	CT 6106/417
H510700SE204	Tucknott, SI	CT 5546/775
H510700SE223	Carter, W&S	CT 5446/676
F208389AL91	Bilney, J & C	CT 5549/22
F214991AL93	Low, DJ	CT 5792/848
F199758QP95	Low, DJ	CT 5955/875
F199757QP92	Stoneleigh Nominees Pty Ltd	CT 5388/607
D51226AL32	Low, DJ	CT 6214/530
D52679AL33	Proude, RD	CT 6201/453
F213007QP92	Murray, ME	CT 6211/232
H510700SE333	Dorward, CA	CT 6210/465
H510700SE334	Dorward, CA	CT 6210/463
H510700SE165	Murray, PD	CT6223/983
H510700SE329	Bell, RS	CT 6201/590
H510700SE163	Bell, RS	CT 6201/589
H510700SE376	Bell, RS	CT 6201/591
H510700SE343	Bell, RS	CT 6138/342
H510700SE373	Pressmora Nominees Pty Ltd	CT 6209/961
H510700SE374	Pressmora Nominees Pty Ltd	CT 6209/961
H510700SE363	Whillas, LG & KL	CT 6209/2
H510700SE362	Henderson, S & D	CT 6209/831
H510700SE364	Turvey General Supplies Pty Ltd	CT 6218/147
H510700SE365	Murray, PD	CT6223/984
F216503AL91	Whillas, LG & KL	CT 6209/1
F216503AL92	Whillas, LG & KL	CT 6209/1
F216503AL94	Whillas, LG & KL	CT 6209/1
F216503AL93	Whillas, LG & KL	CT 6209/1
F17131AL33	Whillas, JP	CT 6202/929
F147915AL7	Whillas, JP	CT 6202/930
F156084AL1	Seaford Holdings Pty Ltd	CT 6202/485
D115114AL53	Sheehan, P	CT 6205/801
F148263AL23	ElectraNet	CT 5274/145

Appendix 2. Maps of Protected Areas Impacted by the Project


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HA 729
HA 729
HA 528
HA 528
Legend
Conservation Reserves
Heritage Agreements
Project Area - Existing Transmission Line to be removed
Impact Areas
Demolition pad
Stringing pad
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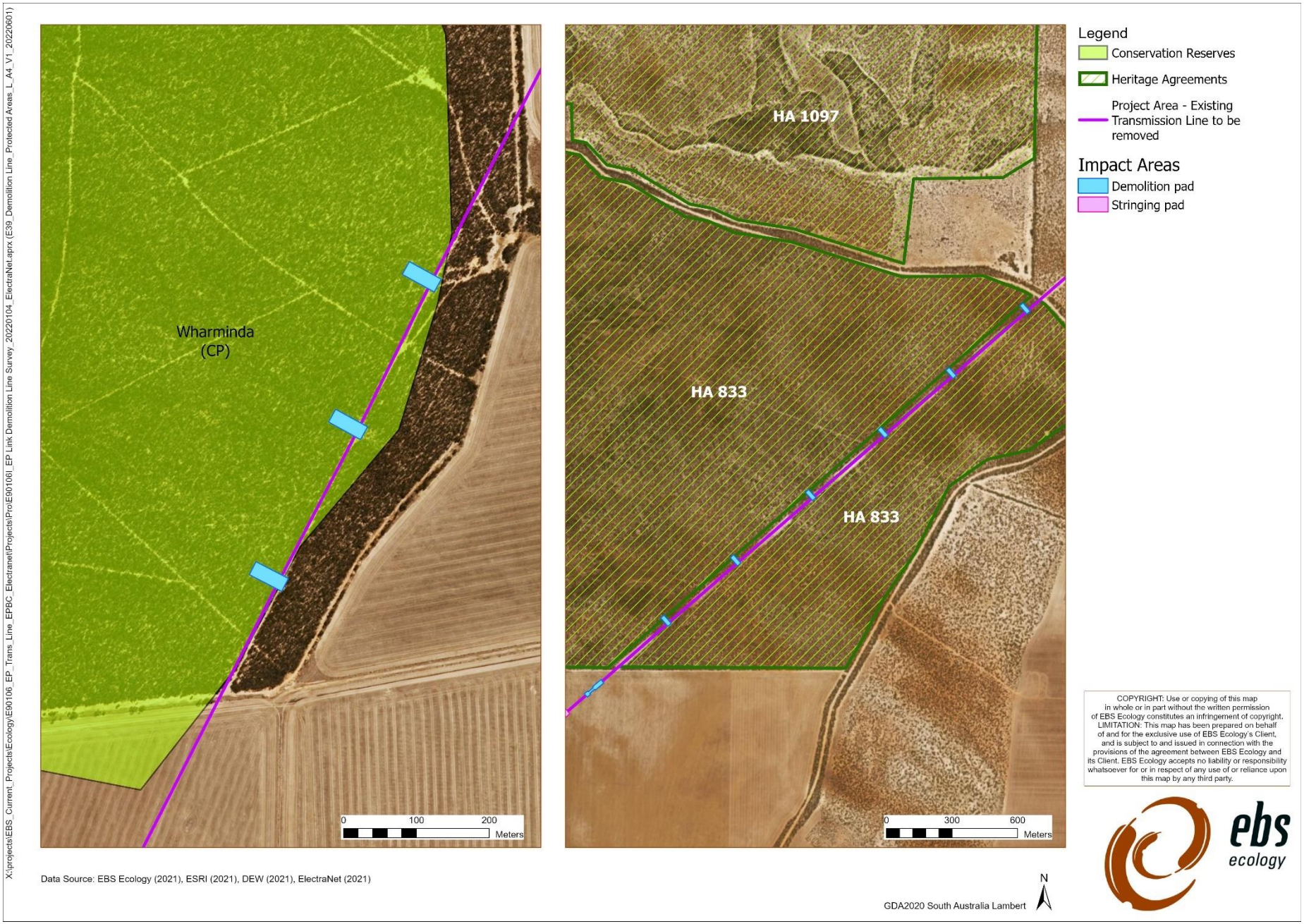
Data Source: EBS Ecology (2021), ESRI (2021), DEW (2021), ElectraNet (2021)
GDA2020 South Australia Lambert
0
100
200
Meters
N
ebs ecology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Wharminda (CP)
HA 1097
HA 833
HA 833
0 100 200 Meters
0 300 600 Meters
Legend
Conservation Reserves
Heritage Agreements
Project Area - Existing Transmission Line to be removed
Impact Areas
Demolition pad
Stringing pad
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Data Source: EBS Ecology (2021), ESRI (2021), DEW (2021), ElectraNet (2021)
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HA 137
HA 137
HA 137
Sheoak Hill (CP)
HA 381
0 300 600 Meters
HA 137
HA 137
Sheoak Hill (CP)
0 100 200 Meters
Legend
Conservation Reserves
Heritage Agreements
Project Area - Existing Transmission Line to be removed
Impact Areas
Demolition pad
Stringing pad
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Data Source: EBS Ecology (2021), ESRI (2021), DEW (2021), ElectraNet (2021)
GDA2020 South Australia Lambert
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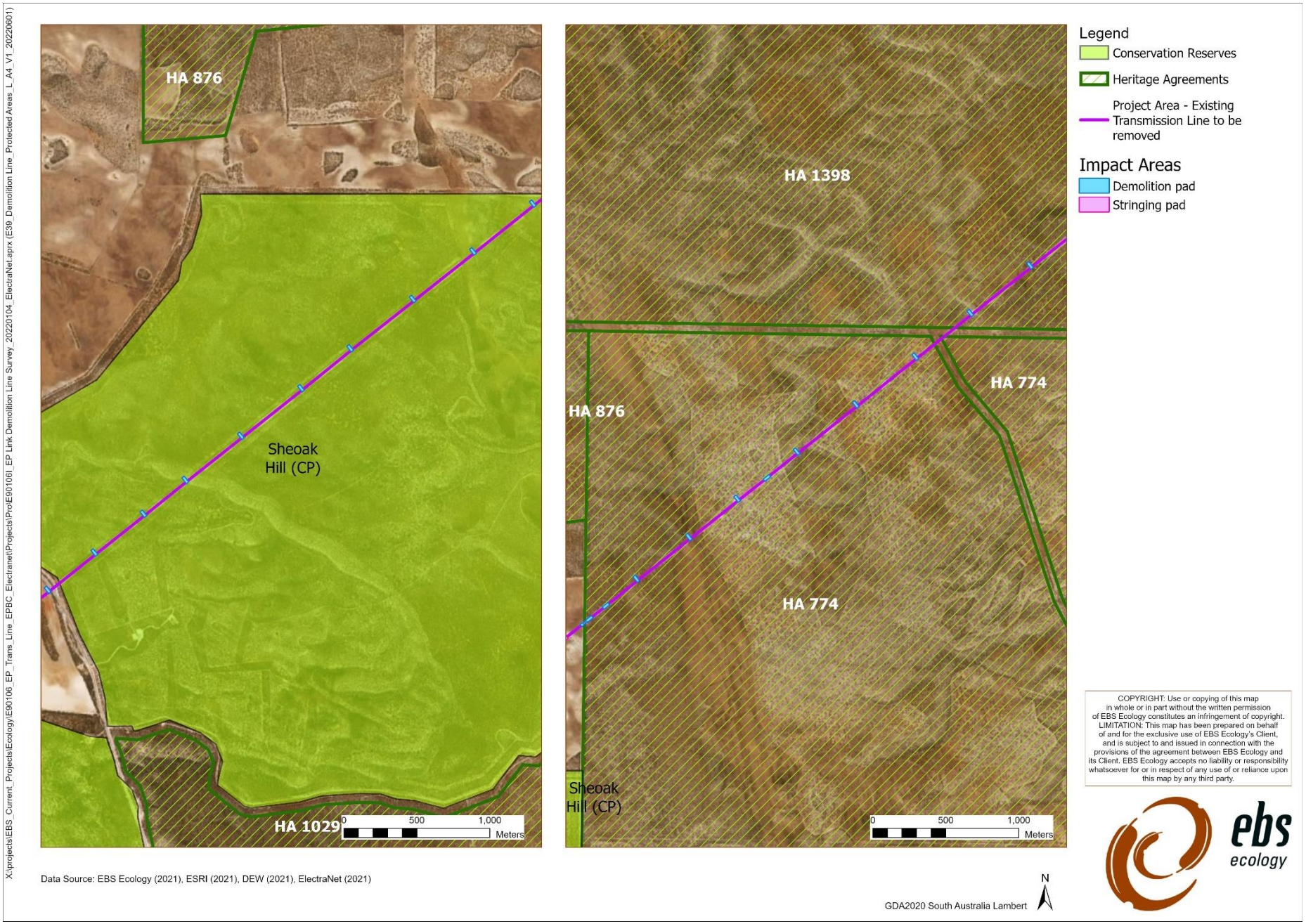
ebs ecology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HA 876
Sheoak Hill (CP)
HA 1029
0 500 1,000 Meters
HA 1398
HA 876
HA 774
HA 774
Sheoak Hill (CP)
0 500 1,000 Meters
Legend
Conservation Reserves
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Impact Areas
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ebs ecology
Data Source: EBS Ecology (2021), ESRI (2021), DEW (2021), ElectraNet (2021)
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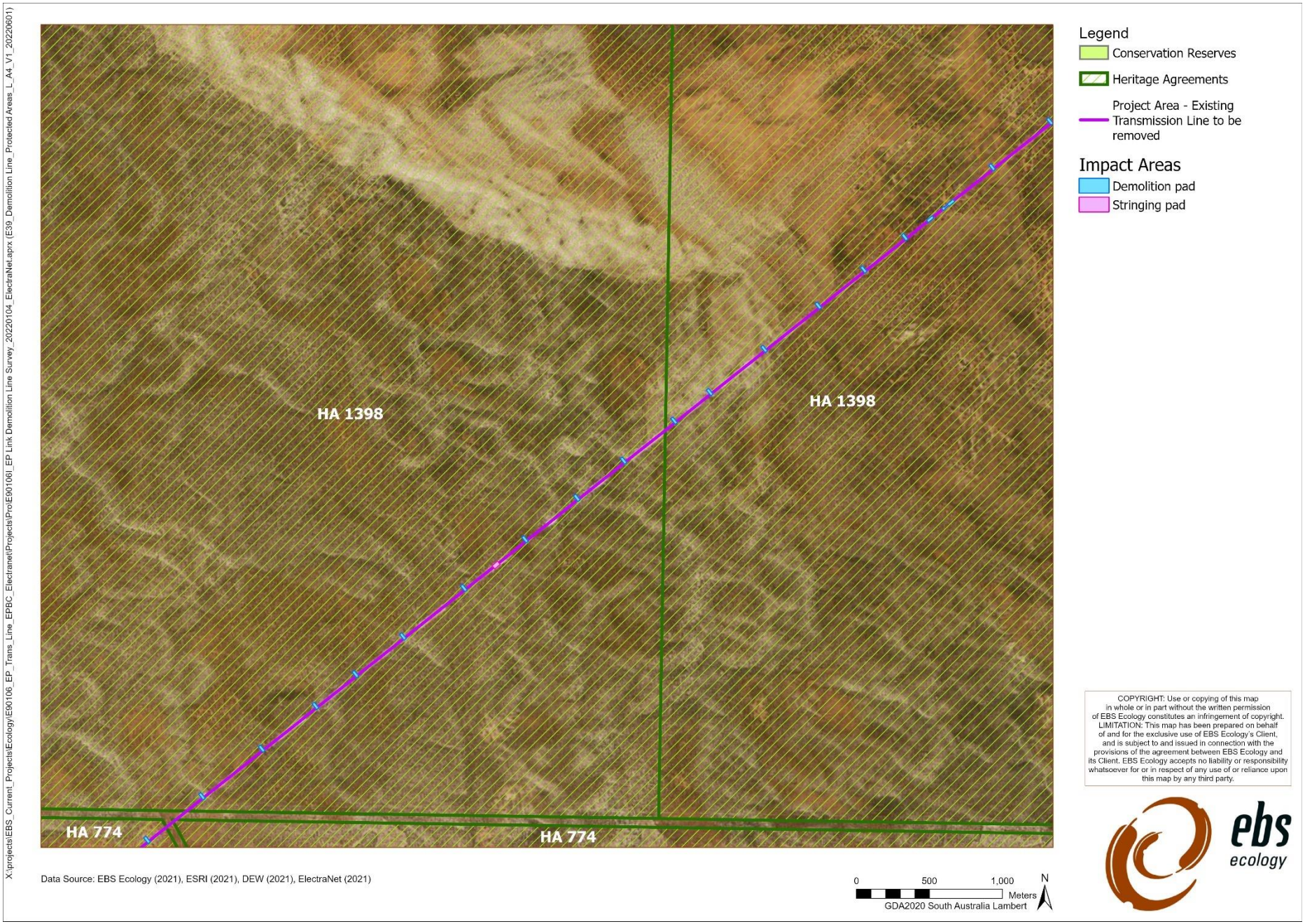
GDA2020 South Australia Lambert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HA 1398
HA 1398
HA 774
HA 774
Legend
Conservation Reserves
Heritage Agreements
Project Area - Existing Transmission Line to be removed
Impact Areas
Demolition pad
Stringing pad
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ebs ecology
Data Source: EBS Ecology (2021), ESRI (2021), DEW (2021), ElectraNet (2021)
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Meters
GDA2020 South Australia Lambert
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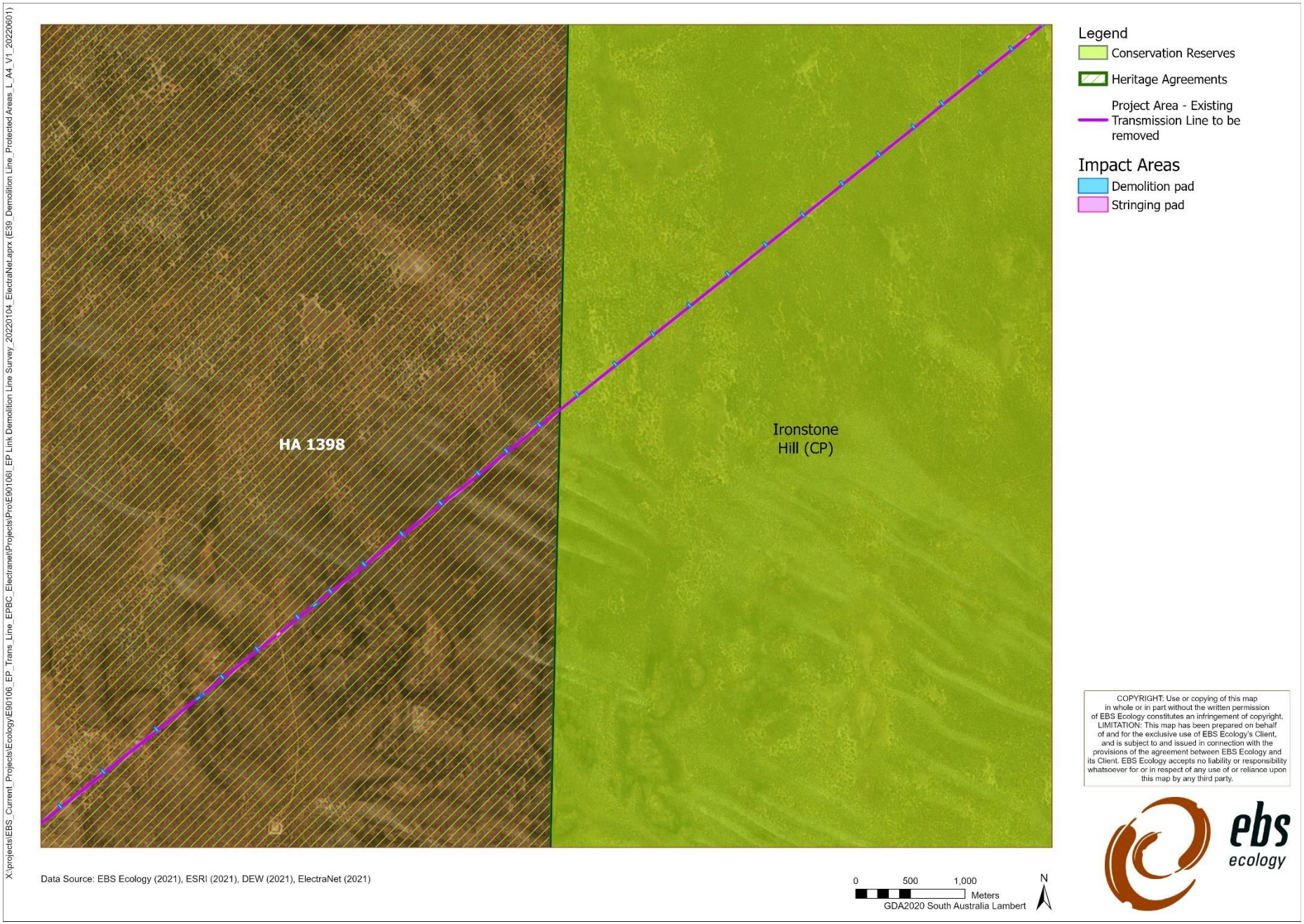
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HA 1398
Ironstone Hill (CP)
Legend
Conservation Reserves
Heritage Agreements
Project Area - Existing Transmission Line to be removed
Impact Areas
Demolition pad
Stringing pad
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ebs ecology
Data Source: EBS Ecology (2021), ESRI (2021), DEW (2021), ElectraNet (2021)
0 500 1,000
Meters
GDA2020 South Australia Lambert
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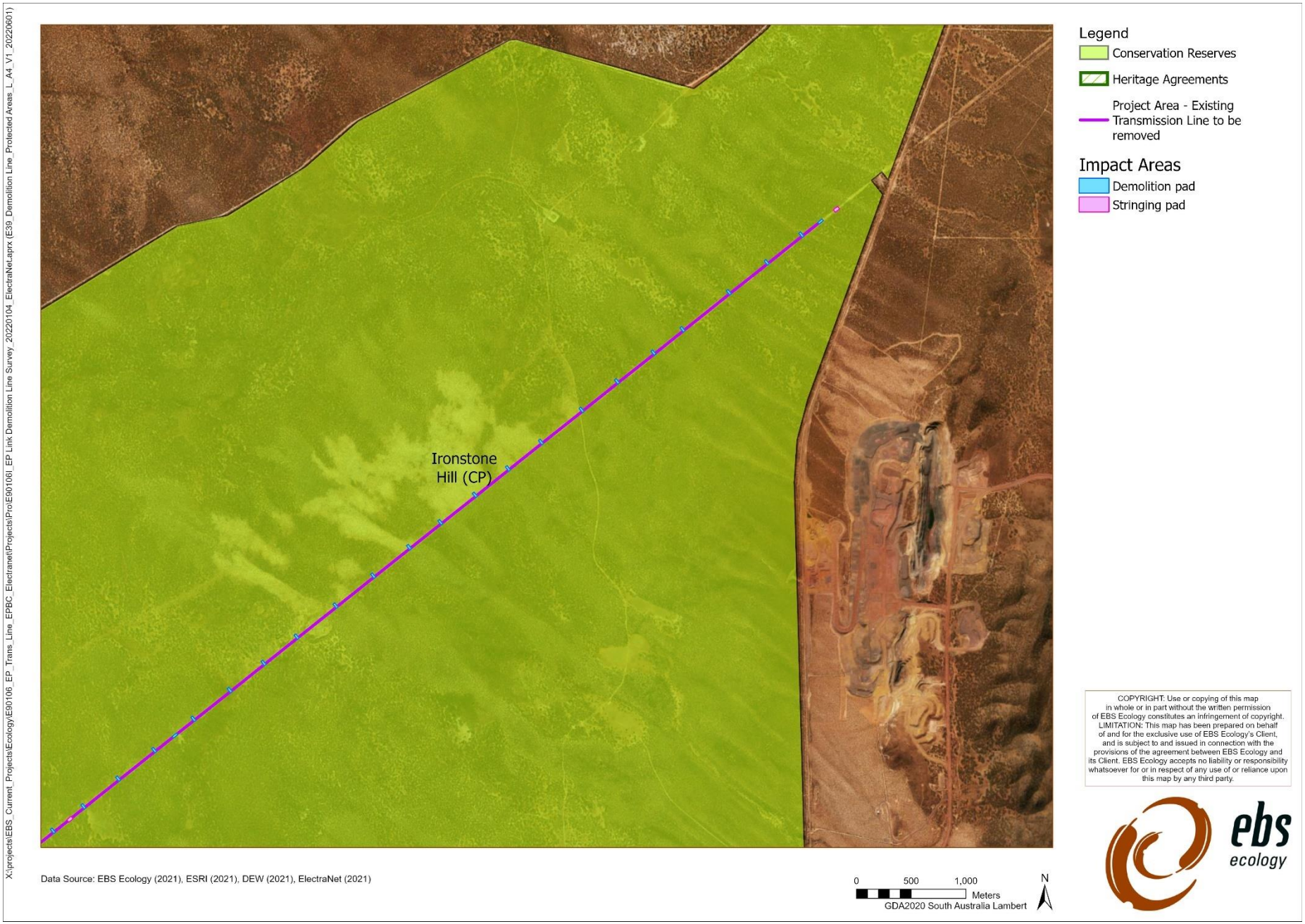
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Ironstone Hill (CP)
Legend
Conservation Reserves
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Project Area - Existing Transmission Line to be removed
Impact Areas
Demolition pad
Stringing pad
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Data Source: EBS Ecology (2021), ESRI (2021), DEW (2021), ElectraNet (2021)
0
500
1,000
Meters
GDA2020 South Australia Lambert
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ebs ecology

Appendix 3. Watercourses potentially impacted by the Project.


Pernalla Creek
Pernalla Creek
Legend
Project Area - Existing Transmission Line to be removed
Watercourse
Impact Areas
Demolition pad
Stringing pad
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ebs ecology
Data Source: EBS Ecology (2021), ESRI (2021), DEW (2021), ElectraNet (2021)
0
100
200
Meters
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GDA2020 South Australia Lambert
X:\projects\EBS_Current_Projects\Ecology\E90106_EP_Trans_Line_EPBC_Electranet\Projects\Pro\E90106l_EP Link Demolition Line Survey_20220104_ElectraNet.aprx (E39_Demolition Line_Protected Areas_L_A4_V1_20220601)

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Data Source: EBS Ecology (2021), ESRI (2021), DEW (2021), ElectraNet (2021)

0 100 200 Meters

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Oolanta Creek
Dutton River
Legend
Project Area - Existing Transmission Line to be removed
Watercourse
Impact Areas
Demolition pad
Stringing pad
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ebs ecology
Data Source: EBS Ecology (2021), ESRI (2021), DEW (2021), ElectraNet (2021)
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GDA2020 South Australia Lambert


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Legend
DESC_
BAM
RAM
Project Area - Existing Transmission Line to be removed
Watercourse
Impact Areas
Demolition pad
Stringing pad
Salt Creek
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ebs ecology
Data Source: EBS Ecology (2021), ESRI (2021), DEW (2021), ElectraNet (2021)
0
100
200
Meters
GDA2020 South Australia Lambert
N

Appendix 4. Flora recorded during the field survey

Conservation Status: EPBC Act. SA: NPW Act. CE: Critically Endangered. EN/E: Endangered. VU/V: Vulnerable. R: Rare. Weed Status: *Introduced, D: Declared (LSA Act). WoNS: Weed of National Significance. E: Environmental Weed.

Weed Status	Scientific Name	Common Name	Conservation Status		Recorded Nov 2021
			EPBC Act	NPW Act	
	Acacia acanthoclada ssp. acanthoclada	Harrow Wattle			
	Acacia ancistrophylla var. lissophylla	Hook-leaf Wattle			
	Acacia burkittii	Pin-bush Wattle			
	Acacia calamifolia	Wallowa			Yes
	Acacia continua	Thorn Wattle			Yes
	Acacia dodonaeifolia	Hop-bush Wattle		R	Yes
	Acacia enterocarpa	Jumping-jack Wattle	EN	E	
	Acacia gillii	Gill's Wattle			Yes
	Acacia halliana	Hall's Wattle			Yes
	Acacia hexaneura	Six-nerve Spine-bush		R	Yes
	Acacia imbricata	Feathery Wattle		R	Yes
	Acacia ligulata	Umbrella Bush			Yes
	Acacia nematophylla	Coast Wallowa			Yes
	Acacia notabilis	Notable Wattle			
	Acacia nyssophylla	Spine Bush			
	Acacia oswaldii	Umbrella Wattle			
	Acacia papyrocarpa	Western Myall			
	Acacia paradoxa	Kangaroo Thorn			Yes
	Acacia pycnantha	Golden Wattle			Yes
	Acacia rhigiophylla	Dagger-leaf Wattle		R	
	Acacia rigens	Nealie			Yes
	Acacia rupicola	Rock Wattle			Yes
E	*Acacia saligna*	Golden Wreath Wattle			
	Acacia sclerophylla var. sclerophylla	Hard-leaf Wattle			Yes
	Acacia sericophylla	Wirewood			
	Acacia sp.	Wattle			
	Acacia spinescens	Spiny Wattle			Yes
	Acacia verticillata ssp. ovoidea	Prickly Moses			Yes
	Acacia wilhelmiana	Dwarf Nealie			Yes
	Acaena echinata	Sheep's Burr			Yes
	Acrotriche patula	Prickly Ground-berry			Yes
*	*Aira sp.*	Hair-grass			Yes
E	*Aizoon pubescens*	Coastal Galenia			Yes
	Alectryon oleifolius ssp. canescens	Bullock Bush			Yes
	Allocasuarina muelleriana ssp.	Common Oak-bush			Yes
	Allocasuarina pusilla	Dwarf Oak-bush			Yes
	Allocasuarina verticillata	Drooping Sheoak			Yes

Weed Status	Scientific Name	Common Name	Conservation Status		Recorded Nov 2021
			EPBC Act	NPW Act	
	Alyxia buxifolia	Sea Box			Yes
	Amyema quandang var. quandang	Grey Mistletoe			
	Anacampseros australiana	Australian Anacampseros			Yes
*	*Anagallis sp.*				Yes
	Anthosachne scabra				Yes
	Aotus subspinescens	Mallee Aotus			Yes
E	*Arctotheca calendula*	Cape Weed			Yes
D, WoNS	*Asparagus asparagoides f.*	Bridal Creeper			Yes
D, WoNS	*Asparagus declinatus*				
E	*Asphodelus fistulosus*	Onion Weed			Yes
	Atriplex semibaccata	Berry Saltbush			Yes
	Atriplex sp.				Yes
	Atriplex stipitata	Bitter Saltbush			Yes
	Atriplex vesicaria	Bladder Saltbush			Yes
	Austrostipa acrociliata	Graceful Spear-grass			Yes
	Austrostipa breviglumis	Bamboo Spear-grass		R	
	Austrostipa drummondii	Cottony Spear-grass			Yes
	Austrostipa elegantissima	Feather Spear-grass			Yes
	Austrostipa eremophila	Rusty Spear-grass			Yes
	Austrostipa exilis	Heath Spear-grass			Yes
	Austrostipa flavescens	Coast Spear-grass			Yes
	Austrostipa hemipogon	Half-beard Spear-grass			Yes
	Austrostipa nitida	Balcarra Spear-grass			Yes
	Austrostipa scabra ssp. falcata	Slender Spear-grass			Yes
	Austrostipa scabra ssp. scabra	Rough Spear-grass			Yes
	Austrostipa sp.	Spear-grass			Yes
	Austrostipa tenuifolia			R	
	Austrostipa trichophylla				Yes
E	*Avena barbata*	Bearded Oat			Yes
	Baeckea crassifolia	Desert Baeckea			Yes
	Beyeria lechenaultii	Pale Turpentine Bush			Yes
	Billardiera cymosa	Sweet Apple-berry			Yes
	Billardiera versicolor	Yellow-flower Apple-berry			Yes
	Boronia coerulescens ssp. coerulescens	Blue Boronia			Yes
	Brachyscome ciliaris var.	Variable Daisy			Yes
E	*Brassica tournefortii*	Wild Turnip			Yes
*	*Briza maxima*	Large Quaking-grass			Yes
*	*Bromus diandrus*	Great Brome			Yes
*	*Bromus hordeaceus ssp. hordeaceus*	Soft Brome			Yes
*	*Bromus rubens*	Red Brome			Yes

Weed Status	Scientific Name	Common Name	Conservation Status		Recorded Nov 2021
			EPBC Act	NPW Act	
	Bulbine bulbosa	Bulbine-lily			
	Bursaria spinosa	Bursaria			Yes
	Caladenia aurulenta				
	Caladenia tensa	Greencomb Spider-orchid	EN		
	Calandrinia eremaea	Dryland Purslane			Yes
	Callistemon rugulosus	Scarlet Bottlebrush			Yes
	Callitris gracilis	Southern Cypress Pine			Yes
	Callitris verrucosa	Scrub Cypress Pine			Yes
	Calytrix involucrata	Cup Fringe-myrtle			Yes
	Calytrix tetragona	Common Fringe-myrtle			Yes
	Carex inversa	Knob Sedge			Yes
	Carex tereticaulis	Rush Sedge			Yes
	Carpobrotus rossii	Native Pigface			Yes
E	*Carrichtera annua*	Ward's Weed			Yes
E	*Carthamus lanatus*	Saffron Thistle			Yes
	Cassinia laevis	Curry Buch			Yes
	Cassytha melantha	Coarse Dodder-laurel			Yes
	Cassytha sp.	Dodder-laurel			
	Casuarina pauper	Black Oak			
*	*Cerastium glomeratum*	Common Mouse-ear Chickweed			
	Chamaescilla corymbosa var. corymbosa	Blue Squill			
	Cheilanthes austrotenuifolia	Annual Rock-fern			Yes
	Cheilanthes lasiophylla	Woolly Cloak-fern			
	Cheilanthes sp.	Rock-fern			Yes
	Cheiranthera alternifolia	Hand-flower			Yes
	Chenopodium curvispicatum	Cottony Goosefoot			Yes
	Chenopodium desertorum ssp.	Desert Goosefoot			
	Chrysocephalum apiculatum	Common Everlasting			Yes
	Clematis microphylla	Old Man's Beard			Yes
	Comesperma volubile	Love Creeper			Yes
	Convolvulus remotus	Grassy Bindweed			Yes
	Convolvulus sp.	Bindweed			
	Correa reflexa var.				Yes
	Craspedia variabilis	Billy-buttons			
	Cratystylis conocephala	Bluebush Daisy			
	Cryptandra sp. Floriferous (W.R. Barker 4131)	Pretty Cryptandra			
	Cryptandra tomentosa	Heath Cryptandra			Yes
	Cyperus sp.	Flat-sedge			
	Cynodon dactylon	Couch			
	Dampiera rosmarinifolia	Rosemary Dampiera			Yes

Weed Status	Scientific Name	Common Name	Conservation Status		Recorded Nov 2021
			EPBC Act	NPW Act	
	Daviesia benthamii ssp. humilis	Mallee Bitter-pea		R	
	Daviesia brevifolia	Leafless Bitter-pea			
	Daviesia pectinata	Zig-zag Bitter-pea		R	Yes
	Daviesia ulicifolia	Gorse Bitter-pea			Yes
	Dianella revoluta var. revoluta	Black-anther Flax-lily			Yes
	Disphyma crassifolium ssp. clavellatum	Round-leaf Pigface			
	Distichlis distichophylla	Emu-grass			Yes
	Dodonaea bursariifolia	Small Hop-bush			Yes
	Dodonaea hexandra	Horned Hop-bush			Yes
	Dodonaea lobulata	Lobed-leaf Hop-bush			Yes
	Dodonaea stenozyga	Desert Hop-bush			Yes
	Dodonaea viscosa ssp. angustissima	Narrow-leaf Hop-bush			Yes
	Drosera peltata s.str.	Swamp Sundew			Yes
D	*Echium plantagineum*	Salvation Jane			Yes
E	*Ehrharta calycina*	Perennial Veldt Grass			Yes
E	*Ehrharta longiflora*	Annual Veldt Grass			Yes
	Einadia nutans	Climbing Saltbush			Yes
	Enchylaena tomentosa	Ruby Saltbush			Yes
	Enneapogon nigricans	Black-head Grass			Yes
	EPACRIDACEAE sp.	Heath Family			
*	*Eragrostis curvula*	African Lovegrass			Yes
	Eremophila alternifolia	Narrow-leaf Emubush			
	Eremophila behriana	Rough Emubush			Yes
	Eremophila crassifolia	Thick-leaf Emubush			Yes
	Eremophila gibbifolia	Coccid Emubush		R	Yes
	Eremophila glabra ssp. glabra	Tar Bush			Yes
	Eremophila oppositifolia ssp. oppositifolia	Opposite-leaved Emubush			
	Eremophila scoparia	Broom Emubush			Yes
*	*Erodium botrys*				
	Erodium cicutarium				
*	*Erodium moschatum*	Musky Herons-bill			Yes
	Erodium sp.	Heron's-bill/Crowfoot			
	Eucalyptus brachycalyx	Gilja			Yes
	Eucalyptus calycogona	Square-fruit Mallee			Yes
	Eucalyptus camaldulensis ssp. camaldulensis	River Red Gum			
	Eucalyptus cladocalyx ssp. cladocalyx	Sugar Gum			Yes
	Eucalyptus cretata	Darke Peak Mallee		R	
	Eucalyptus diversifolia ssp. diversifolia	Coastal White Mallee			Yes
	Eucalyptus gracilis	Yorrell			Yes
	Eucalyptus incrassata	Ridge-fruited Mallee			Yes

Weed Status	Scientific Name	Common Name	Conservation Status		Recorded Nov 2021
			EPBC Act	NPW Act	
	Eucalyptus intertexta	Gum-barked Coolibah			
	Eucalyptus leptophylla	Narrow-leaf Red Mallee			Yes
	Eucalyptus odorata	Peppermint Box			Yes
	Eucalyptus oleosa	Red Mallee			Yes
	Eucalyptus peninsularis	Merrit			Yes
	Eucalyptus petiolaris	Eyre Peninsula Blue Gum			Yes
	Eucalyptus phenax ssp. phenax	White Mallee			Yes
	Eucalyptus pileata	Capped Mallee			Yes
	Eucalyptus porosa	Mallee Box			Yes
	Eucalyptus socialis ssp. socialis	Beaked Red Mallee			Yes
	Eucalyptus socialis ssp. viridans	Beaked Red Mallee			
	Eucalyptus viminalis ssp. cygnetensis	Rough-bark Manna Gum			
	Euphorbia drummondii group				
*	*Euphorbia peplus*	Petty Spurge			
D	*Euphorbia terracina*	False Caper			Yes
	Eutaxia diffusa	Large-leaf Eutaxia			
	Eutaxia microphylla	Common Eutaxia			Yes
	Exocarpos aphyllus	Leafless Cherry			Yes
	Exocarpos sparteus	Slender Cherry			Yes
	Ficinia nodosa	Knobby Club-rush			Yes
E	*Freesia cultivar*	Freesia			
E	*Freesia laxa*				Yes
	Gahnia deusta	Limestone Saw-sedge			Yes
	Gahnia filum	Thatching Grass			
	Gahnia lanigera	Black Grass Saw-sedge			Yes
	Geijera linearifolia	Sheep Bush			Yes
	Geranium potentilloides var. potentilloides	Downy Geranium			
	Geranium retrorsum	Grassland Geranium			Yes
	Geranium sp.	Geranium			
	Glischrocaryon behrii	Golden Pennants			Yes
	Gonocarpus elatus	Hill Raspwort			Yes
	Gonocarpus mezianus	Broad-leaf Raspwort			Yes
	Gonocarpus sp.	Raspwort			
	Goodenia benthamiana	Bentham's Goodenia		R	
	Goodenia cycloptera	Serrated Goodenia			
	Goodenia ovata	Hop Goodenia			Yes
	Goodenia robusta	Woolly Goodenia			Yes
	Goodenia willisiana	Silver Goodenia			Yes
	Grevillea aspera	Rough Grevillea			Yes
	Grevillea halmaturina ssp. laevis	Prickly Grevillea		R	Yes

Weed Status	Scientific Name	Common Name	Conservation Status		Recorded Nov 2021
			EPBC Act	NPW Act	
	Grevillea huegelii	Comb Grevillea			Yes
	Grevillea ilicifolia	Holly-leaf Grevillea			Yes
	Grevillea juncifolia ssp. juncifolia	Honeysuckle Grevillea			Yes
	Hakea cycloptera	Elm-seed Hakea			Yes
	Hakea francisiana	Bottlebrush Hakea			Yes
	Hakea leucoptera ssp. leucoptera	Silver Needlewood			Yes
	Hakea rugosa	Dwarf Hakea			Yes
	Hakea sp.	Hakea/Needlewood			
	Halgania andromedifolia	Scented Blue-flower			Yes
	Halgania cyanea	Rough Blue-flower			Yes
	Helichrysum leucopsideum	Satin Everlasting			Yes
	Hibbertia devitata	Smooth Guinea-flower			Yes
	Hibbertia exutiacies	Prickly Guinea-flower			Yes
	Hibbertia riparia	Bristly Guinea-flower			Yes
	Hibbertia sericea	Silky Guinea-flower			Yes
	Hibbertia virgata	Twiggy Guinea-flower			Yes
	Homoranthus wilhelmii	Wilhelm's Homoranthus			Yes
*	*Holcus lanatus*	Yorkshire Fog			
*	*Hordeum leporinum*	Wall Barley-grass			Yes
*	*Hordeum vulgare*	Barley			Yes
	Hovea sp.	Hovea			
	Hyalosperma glutinosum ssp. glutinosum	Golden Sunray			Yes
*	*Hypochaeris glabra*	Smooth Catsear			Yes
*	*Hypochaeris radicata*	Rough Cat's Ear			Yes
	Hypoxis glabella	Yellow Star-lily			
	Hysterobaeckea behrii	Silver Broombush			Yes
D	*Juncus acutus*	Sharp Rush			
	Juncus kraussii	Sea Rush			Yes
	Juncus pallidus	Pale Rush			Yes
	Lagenophora gunniana	Course Bottle-daisy			Yes
*	*Lagurus ovatus*	Hare's Tail Grass			
	Lasiopetalum baueri	Slender Velvet-bush			Yes
	Lasiopetalum behrii	Pink Velvet-bush			Yes
*	*Lepidium africanum*	Common Peppercress			Yes
	Lepidosperma carphoides	Black Rapier-sedge			Yes
	Lepidosperma sp.	Sword-sedge/Rapier-sedge			Yes
	Lepidosperma viscidum	Sticky Sword-sedge			Yes
	Leptorhynchos sp.	Buttons			
	Leptorhynchos squamatus ssp. squamatus	Scaly Buttons			
	Leptospermum coriaceum	Dune Tea-tree			Yes

Weed Status	Scientific Name	Common Name	Conservation Status		Recorded Nov 2021
			EPBC Act	NPW Act	
	Leucopogon cordifolius	Heart-leaf Beard-heath			Yes
	Limonium lobatum	Winged Sea-lavender			
*	*Limonium sinuatum*	Notch-leaf Sea-lavender			
	Lissanthe strigosa ssp. subulata	Peach Heath			Yes
E	*Lolium sp.*	Ryegrass			Yes
	Lomandra collina	Sand Mat-rush			Yes
	Lomandra effusa	Scented Mat-rush			Yes
	Lomandra leucocephala ssp. robusta	Woolly Mat-rush			Yes
	Lomandra micrantha	Small-flower Mat-rush			Yes
	Lycium australe	Australian Boxthorn			
D, WoNS	*Lycium ferocissimum*	African Boxthorn			Yes
	Lysiana exocarpi ssp. exocarpi	Harlequin Mistletoe			
	Maireana brevifolia	Short-leaf Bluebush			Yes
	Maireana enchylaenoides	Wingless Fissure-plant			Yes
	Maireana erioclada	Rosy Bluebush			
	Maireana excavata	Bottle Fissure-plant		V	
	Maireana pentatropis	Erect Mallee Bluebush			Yes
	Maireana pyramidata	Black Bluebush			
	Maireana sedifolia	Bluebush			
	Maireana suaedifolia	Lax Bluebush		R	
	Maireana turbinata	Top-fruit Bluebush			
E	*Malva parviflora*	Small-flower Marshmallow			Yes
*	*Malva sp.*	Mallow			
D	*Marrubium vulgare*	Horehound			Yes
*	*Medicago polymorpha*	Burr-medic			Yes
	Melaleuca acuminata ssp. acuminata	Mallee Honey-myrtle			Yes
	Melaleuca brevifolia	Short-leaf Honey-myrtle			Yes
	Melaleuca decussata	Totem-poles			Yes
	Melaleuca halmaturorum	Swamp Paper-bark			Yes
	Melaleuca lanceolata	Dryland Tea-tree			Yes
	Melaleuca uncinata	Broombush			Yes
E	*Mesembryanthemum crystallinum*	Common Iceplant			Yes
*	*Mesembryanthemum nodiflorum*	Slender Iceplant			Yes
	Microcybe pauciflora ssp. pauciflora	Yellow Microcybe			Yes
	Microseris lanceolata	Yam Daisy			Yes
	Microtis sp.	Onion-orchid			Yes
	Microtis sp. Nash (R. Bates 44740)	Nash's Onion Orchid		R	
	Minuria cunninghamii	Bush Minuria			
*	*Moraea setifolia*	Thread Iris			Yes
	Myoporum platycarpum	False Sandalwood			Yes

Weed Status	Scientific Name	Common Name	Conservation Status		Recorded Nov 2021
			EPBC Act	NPW Act	
	Neurachne alopecuroidea	Fox-tail Mulga-grass			Yes
*	*Olea europaea*	Olive			
	Olearia adenolasia	Musk Daisy-bush		R	Yes
	Olearia lepidophylla	Clubmoss Daisy-bush			Yes
	Olearia muelleri	Mueller's Daisy-bush			Yes
	Olearia pannosa ssp. pannosa	Silver Daisy-bush	VU	V	
	Olearia pimeleoides	Pimelea Daisy-bush			Yes
	Olearia ramulosa	Twiggy Daisy-bush			Yes
	Opercularia turpis	Twiggy Stinkweed			Yes
	Oxalis perennans	Native Sorrel			Yes
*	*Oxalis pes-caprae*	Soursob			Yes
*	*Papaver hybridum*	Rough Poppy			
	Pauridia glabella var. glabella	Tiny Star			Yes
E	*Phalaris aquatica*	Phalaris			
	Phebalium bullatum	Silvery Phebalium			Yes
	Philotheca angustifolia ssp. angustifolia	Narrow-leaf Wax-flower		R	Yes
	Pimelea flava	Diosma Riceflower			Yes
	Pimelea glauca	Smooth Riceflower			Yes
	Pimelea octophylla	Woolly Riceflower			Yes
	Pimelea sp.	Riceflower			
	Pimelea stricta	Erect Riceflower			Yes
	Pittosporum angustifolium	Native Apricot			Yes
*	*Pittosporum crassifolium*				
	Podolepis capillaris	Wiry Podolepis			Yes
	Pomaderris paniculosa ssp. paniculosa	Mallee Pomaderris			Yes
	Prostanthera chlorantha	Green Mintbush		R	
	Prostanthera florifera	Gawler Ranges Mintbush			
	Prostanthera serpyllifolia ssp. serpyllifolia	Thyme Mintbush			Yes
	Prostanthera sp.	Mintbush			
	Prostanthera spinosa	Spiny Mintbush			
	Pterostylis plumosa	Bearded Greenhood			
	Pterostylis sp.	Greenhood			Yes
	Ptilotus obovatus	Silver Mulla Mulla			Yes
	Ptilotus spathulatus	Pussy-tails			Yes
	Pultenaea pedunculata	Matted Bush-pea			Yes
	Pultenaea teretifolia var.	Terete-leaf Bush-pea			Yes
	Pultenaea trichophylla	Tufted Bush-pea	EN	E	
*	*Reichardia tingitana*	False Sowthistle			Yes
	Rhagodia candolleana	Sea-berry Saltbush			Yes
	Rhagodia crassifolia	Fleshy Saltbush			

Weed Status	Scientific Name	Common Name	Conservation Status		Recorded Nov 2021
			EPBC Act	NPW Act	
	Rhagodia parabolica	Mealy Saltbush			Yes
	Rhagodia spinescens	Spiny Saltbush			Yes
	Rhagodia ulicina	Intricate Saltbush			Yes
	Rhodanthe floribunda	White Everlasting			
	Rinzia orientalis	Desert Heath-myrtle			Yes
	Roepera ammophila	Sand Twinleaf			Yes
	Roepera apiculata	Pointed Twinleaf			Yes
	Roepera crenata	Notched Twinleaf			Yes
	Roepera eremaea				Yes
	Roepera sp.	Twinleaf			Yes
E	*Romulea rosea var. australis*	Common Onion-grass			Yes
D	*Rosa canina*	Dog Rose			Yes
D, WoNS	*Rubus fruticosus aggregate*	Blackberry			Yes
	Rytidosperma caespitosum	Common Wallaby-grass			Yes
	Rytidosperma erianthum	Hill Wallaby-grass			Yes
	Rytidosperma fulvum	Leafy Wallaby-grass			Yes
	Rytidosperma setaceum	Small-flower Wallaby-grass			Yes
	Rytidosperma sp.	Wallaby-grass			Yes
	Salsola australis				Yes
E	*Salvia verbenaca*	Wild Sage			Yes
	Santalum acuminatum	Quandong			Yes
	Santalum spicatum	Sandalwood		V	
E	*Scabiosa atropurpurea*	Pincushion			
	Scaevola linearis	Rough Fanflower			Yes
	Scaevola sp.	Fanflower			
	Scaevola spinescens	Spiny Fanflower			Yes
*	*Schismus arabicus*	Arabian Grass			Yes
	Sclerolaena diacantha	Grey Bindyi			Yes
	Sclerolaena obliquicuspis	Oblique-spined Bindyi			
	Senecio glossanthus	Annual Groundsel			
E	*Senecio pterophorus*	African Daisy			Yes
	Senecio quadridentatus	Cotton Groundsel			
	Senna artemisioides ssp. artemisioides	Silver Senna			
	Senna artemisioides ssp. coriacea	Broad-leaf Desert Senna			Yes
	Senna artemisioides ssp. petiolaris				Yes
	Senna cardiosperma ssp. gawlerensis	Gawler Ranges Senna			
	Sida corrugata	Corrugated Sida			
	Sida petrophila	Rock Sida			
	Solanum elaeagnifolium	Silver-leaf Nightshade			Yes
	Solanum petrophilum	Rock Nightshade			

Weed Status	Scientific Name	Common Name	Conservation Status		Recorded Nov 2021
			EPBC Act	NPW Act	
	Solanum quadriloculatum	Plains Nightshade			
*	*Sonchus asper*	Rough Sow Thistle			Yes
E	*Sonchus oleraceus*	Common Sow-thistle			Yes
	Spyridium bifidum ssp. bifidum	Forked Spyridium		V	
	Spyridium erymnocladum	Cloaked Spyridium		V	
	Spyridium leucopogon	Silvery Spyridium		R	
	Spyridium parvifolium	Dusty Miller			Yes
	Spyridium sp.	Spyridium			Yes
	Spyridium spathulatum	Spoon-leaf Spyridium		R	Yes
	Spyridium stenophyllum ssp. renovatum	Forked Spyridium			Yes
	Stackhousia monogyna	Creamy Candles			Yes
	Stenanthemum leucophractum	White Cryptandra			Yes
	Stenanthera conostephioides	Flame Heath			Yes
	Suaeda australis	Austral Seablite			
	Tecticornia arbuscula	Shrubby Samphire			Yes
	Tecticornia indica ssp. bidens	Brown-head Samphire			Yes
	Tecticornia sp.	Samphire			
	Templetonia egena	Broombush Templetonia			Yes
	Templetonia retusa	Cockies Tongue			
	Tetragonia eremaea	Desert Spinach			
	Tetragonia implexicoma	Bower Spinach			Yes
	Tetragonia sp.	False Spinach			
	Thelymitra nuda				Yes
	Thelymitra rubra	Salmon Sun-orchid			Yes
	Thelymitra sp.	Sun-orchid			
	Themeda triandra	Kangaroo Grass			Yes
	Threlkeldia diffusa	Coast Bonefruit			Yes
	Thryptomene micrantha	Ribbed Thryptomene			Yes
	Thysanotus patersonii	Twining Fringe-lily			Yes
	Trachymene ornata	Cotton-ball Trachymene			Yes
*	*Trifolium arvense var. arvense*	Hare's-foot Clover			Yes
*	*Trifolium campestre*	Hop Clover			Yes
*	*Trifolium sp.*	Clover			
*	*Trifolium subterraneum*	Subterranean Clover			Yes
	Triodia irritans	Spinifex			Yes
	Triodia scariosa	Spinifex			Yes
E	*Vicia sativa*	Common Vetch			
	Vittadinia australasica	Sticky New Holland Daisy			Yes
	Vittadinia cuneata	Fuzzy New Holland Daisy			Yes
	Vittadinia gracilis	Woolly New Holland Daisy			Yes

Weed Status	Scientific Name	Common Name	Conservation Status		Recorded Nov 2021
			EPBC Act	NPW Act	
	Vulpia bromoides	Squirrel-tail Fescue			Yes
	Wahlenbergia aridicola	Dryland Bluebell			Yes
	Wahlenbergia gracilenta	Annual Bluebell			
	Wahlenbergia stricta	Tall Bluebell			Yes
	Westringia rigida	Stiff Westringia			Yes
	Xanthorrhoea semiplana ssp. semiplana	Yacca			Yes

Appendix 5. Fauna recorded by EBS Ecology in the Project Area

Conservation Status: EPBC Act. SA: NPW Act. CE: Critically Endangered. EN/E: Endangered. VU/V: Vulnerable. R: Rare.

Scientific Name	Common Name	Conservation status		Recorded November 2021
		EPBC Act	NPW Act	
BIRDS				
Acanthagenys rufogularis	Spiny-cheeked Honeyeater			Yes
Acanthiza apicalis	Inland Thornbill			Yes
Acanthiza chrysorrhoa	Yellow-rumped Thornbill			Yes
Acanthiza iredalei iredalei	Slender-billed Thornbill		R	
Accipiter fasciatus	Brown Goshawk			
*Alauda arvensis**	Eurasian Songlark			
Amytornis striatus	Striated Grasswren		R	
Amytornis textilis myall	Western Grasswren	VU	V	
Anthochaera carunculata woodwardi	Red Wattlebird			Yes
Anthochaera chrysoptera	Little Wattlebird			
Anthus australis	Australian Pipit			Yes
Aphelocephala leucopsis	Southern Whiteface			
Aquila audax	Wedge-tailed Eagle			
Artamus cyanopterus	Dusky Woodswallow			Yes
Artamus cinereus	Black-faced Woodswallow			
Artamus personatus	Masked Woodswallow			
Barnardius zonarius zonarius	Australian Ringneck			Yes
Calamanthus cauta	Shy Heathwren		R	
Artamus cyanopterus	Dusky Woodswallow			Yes
Cacomantis pallidus	Pallid Cuckoo			Yes
Certhionyx variegatus	Pied Honeyeater			
Chalcites osculans	Black-eared Cuckoo			
Chalcites novaehollandiae	Horsfield's Bronze Cuckoo			Yes
Chroicocephalus novaehollandiae	Silver Gull			
Climacteris rufus	Rufous Treecreeper			
Colluricincla harmonica	Grey Shrikethrush			Yes
Coracina novaehollandiae	Black-faced Cuckooshrike			Yes
Corcorax melanorhamphos	White-winger Chough		R	
Corvus coronoides	Australian Raven			
Corvus mellori	Little Raven			Yes
Corvus sp.	crow sp.			Yes
Cracticus torquatus	Grey Butcherbird			Yes
Dacelo novaeguineae	Laughing Kookaburra			
Dicaeum hirundinaceum	Mistletoebird			
Dromaius novaehollandiae	Emu			Yes
Egretta novaehollandiae	White-faced Heron			Yes
Eolophus roseicapilla	Galah			Yes

Eopsaltria griseogularis	Western Yellow Robin			Yes
Epthianura albifrons	White-fronted Chat			Yes
Falco berigora	Brown Falcon			
Falco cenchroides	Nankeen Kestrel			Yes
Falco longipennis	Australian Hobby			Yes
Falco peregrinus	Peregrine Falcon			
Gavicalis virescens	Singing Honeyeater			Yes
Gerygone fusca	Western Gerygone		R	
Glossopsitta concinna	Musk Lorikeet			Yes
Grallina cyanoleuca	Magpielark			
Gymnorhina tibicen	Australian Magpie			Yes
Hirundo neoxena	Welcome Swallow			Yes
Leipoa ocellata	Malleefowl	VU	V	
Lichenostomus cratitius	Purple-gaped Honeyeater		R	
Malurus cyaneus	Superb Fairywren			Yes
Malurus leucopterus	White-winged Fairywren			
Malurus lamberti	Variegated Fairywren			
Malurus splendens	Splendid Fairywren			
Manorina flavigula	Yellow-throated Miner			Yes
Megalurus cruralis	Brown Songlark			Yes
Megalurus gramineus	Little Grassbird			Yes
Melithreptus brevirostris	Brown-headed Honeyeater			
Merops ornatus	Rainbow Bee-eater			Yes
Myiagra inquieta	Restless Flycatcher		R	
Nesoptilotis leucotis	White-eared Honeyeater			Yes
Ocyphaps lophotes	Crested Pigeon			Yes
Oreoica gutturalis	Crested Bellbird			Yes
Pachycephala rufiventris	Rufous Whistler			Yes
Pardalotus punctatus	Spotted Pardalote			Yes
Pardalotus striatus	Striated Pardalote			Yes
Pachycephala inornata	Gilbert's Whistler		R	Yes
Parvipsitta porphyrocephala	Purple-crowned Lorikeet			Yes
*Passer domesticus**	House Sparrow			Yes
Petroica goodenovii	Red-capped Robin			
Phaps chalcoptera	Common Bronzewing			
Phylidonyris novaehollandiae	New Holland Honeyeater			Yes
Pomatostomus superciliosus	White-browed Babbler			
Psephotellus varius	Mulga Parrot			
Ptilotula ornata	Yellow-plumed Honeyeater			
Purnella albifrons	White-fronted Honeyeater			Yes
Rhipidura albiscapa	Grey Fantail			Yes
Rhipidura leucophrys	Willie Wagtail			Yes
Sericornis frontalis mellori	White-browed Scrubwren			
Smicrornis brevirostris	Weebill			Yes

Stagonopleura guttata	Diamond Firetail		V	Yes
Strepera versicolor intermedia	Brown Currawong			Yes
*Sturnus vulgaris**	Common Starling			Yes
Trichoglossus haematodus	Rainbow Lorikeet			Yes
*Turdus merula**	Common Blackbird			Yes
Zosterops lateralis	Silvereye			Yes
MAMMALIA	**Mammals**			
Macropus fuliginosus	Western Grey Kangaroo			Yes
Macropus rufus	Red Kangaroo			Yes
Sminthopsis psammophila	Sandhill Dunnart	EN	E	
*Oryctolagus cuniculus**	Rabbit (European Rabbit)			Yes
*Vulpes vulpes**	Red Fox			Yes
Capra hircus	Feral Goat			
REPTILIA	**Reptiles**			
Lialis burtonis	Burton's Snake-lizard			
Tiliqua rugosa	Sleepy Lizard			
Ctenophorus fordi	Mallee Dragon			Yes
Ctenophorus fionni	Peninsula Dragon			
Varanus gouldii	Sand Goanna			

Appendix 6. Likelihood of occurrence assessment for threatened species.

Flora

Conservation Status: EPBC Act/NPW Act. CE: Critically Endangered. EN/E: Endangered. VU/V: Vulnerable. R: Rare.
Source: PMST report generated 19/02/19. 2: BDBSA data extract 13/02/2019.

Species name	Common name	Conservation status[1]		Source	Likelihood of Occurrence Assessment	Rationale
		EPBC Act	NPW Act			
Acacia cretacea	Chalky Wattle	EN	E	1, 2	Highly Likely	Endemic to Eyre Peninsula. Grows in low shrubland and mallee scrub dominated by *Eucalyptus incrassata* (Ridge-fruited Mallee), *Melaleuca uncinata* (Broombush), *Triodia irritans* (Spinifex) and *Phebalium bullatum* (Silvery Phebalium) on deep red sand in gently undulating country, with low sand ridges.
Acacia dodonaeifolia	Hop-bush Wattle		R	2	Known	Usually grows on undulating hills on clay loams or sandy clay loams, in eucalypt woodland and open forest (not in Mallee communities according to P. Lang, *pers. comm.*). It is tolerant of calcareous soils.
Acacia enterocarpa	Jumping-jack Wattle	EN	E	1, 2	Known	The species occurs as a disjunct population on Eyre Peninsula. Recorded from *Eucalyptus incrassata* (Ridge-fruited Mallee) / *E. socialis* (Beaked Red Mallee) Mallee Woodland; *Eucalyptus calycogona* (Square-fruit Mallee) +/- *E. phenax* ssp. *phenax* (White Mallee) Mallee Woodland; *E. gracilis* (Yorrell) +/- *E. dumosa* (White Mallee) +/- *E. brachycalyx* (Gilja) +/- *E. oleosa* (Red Mallee) Mallee.
Acacia hexaneura	Six-nerve Spine-bush		R	2	Known	Endemic to Eyre Peninsula. Restricted to area between Cowell and Kimba. Grows in gravelly loam and sandy soils dominated by *Eucalyptus dumosa* (White Mallee) / *E. gracilis* (Yorrell) / *Melaleuca uncinata* (Broombush) over a sclerophyllous shrub understorey.
Acacia imbricata	Feathery Wattle		R	2	Known	Endemic to Eyre Peninsula. Restricted to areas between Ungarra, Cummins and Wanilla extending southeast into the Koppio Hills. Grows usually in sand in open forest, woodland or open scrub.
Acacia iteaphylla	Flinders Ranges Wattle		R	2	Likely	Occurs on Eyre Peninsula from Gairdner-Torrens eastwards to the southern Flinders Ranges. Prefers hillsides amongst rocky outcrops

Species name	Common name	Conservation status[1]		Source	Likelihood of Occurrence Assessment	Rationale
		EPBC Act	NPW Act			
						or valleys along rocky creek banks. Recent record 1 km NNW of Koppio.
Acacia montana	Mallee Wattle		R	2	Likely	Occurs in the north-east of the Eyre Peninsula. Grows in a variety of soils, often in *Eucalyptus gracilis* (Yorrell) and *E. socialis* (Beaked Red Mallee) Mallee.
Acacia pinguifolia	Fat-leaf Wattle	EN	E	1, 2	Known	Known from disjunct sub-populations on Eyre Peninsula, where it grows in undulating terrain with a westerly aspect in association with a range of mallee species including *Eucalyptus odorata* (Peppermint Box), *E. incrassata* (Ridge-fruited Mallee), *E. dumosa* (White Mallee), *E. foecundum* (Hooked Mallee), *E. calycogona* (Square-fruited Mallee), *E. cooperiana* (Coopers Mallee), *E. flocktoniae* (Merrit) and *E. pileata* (Capped Mallee). Also occurs in *Melaleuca uncinata* (Broombush) Shrubland. Sub-populations are known to occur near Cockaleechie, Ungarra and Butler, with many located on roadsides and rail reserves.
Acacia praemorsa	Senna Wattle	VU	E	1	Likely	Endemic to Eyre Peninsula where it occurs in localised populations in the ranges north-east of Cleve. Occurs in mallee woodlands, open scrubs and open heath scrubs dominated by *Melaleuca uncinata* (Broombush), *Acacia calamifolia* (Wallowa), *Eucalyptus odorata* (Peppermint Box) and other mallee species. Has been found on the lower slopes of small gullies in low, rocky ranges, on exposed north-facing slopes in thick, low scrub and in shady, sheltered sites in open mallee woodlands at the base of steep gullies.
Acacia rhetinocarpa	Resin Wattle	VU	V	1, 2	Highly Likely	Grows in disjunct sub-populations on Eyre Peninsula on dune crests and dunes/hills, plains and swales. It is also known to survive in degraded sites largely devoid of remnant vegetation. Normally associated with low mallee of *Eucalyptus dumosa* (White Mallee), *E. foecundum* (Hooked Mallee), *E. calycogona* (Square-fruited Mallee), *E. incrassata* (Ridge-fruited Mallee) and *E. brachycalyx* (Gilja). Occurs from Kimba to just north of Arno Bay, Cleve and Lock. Sub-populations are known to survive within roadside and rail reserve vegetation.

Species name	Common name	Conservation status[1]		Source	Likelihood of Occurrence Assessment	Rationale
		EPBC Act	NPW Act			
Acacia rhigiophylla	Dagger-leaf Wattle		R	2	Known	Small occurrences on Eyre Peninsula in open scrub associated with *Eucalyptus gracilis* (Yorrell) and *E. socialis* (Beaked Red Mallee).
Acacia whibleyana	Whibley's Wattle	EN	E	1, 2	Possible	Endemic to Eyre Peninsula where it is restricted to near-coastal areas near Tumby Bay. Grows on limestone and loam, sometimes near salt swamps. Although records occur within 5 km, the current extent of occurrence is southeast of Project Area, towards Tumby Bay.
Caladenia brumalis	Winter Spider-orchid	VU	V	1	Possible	Endemic to South Australia. Found in association with mallee-broombush associations, *Allocasuarina verticillata* (Drooping Sheoak) Woodland, *Eucalyptus diversifolia* ssp. *diversifolia* (Coastal White Mallee) Mallee Woodland and *E. cladocalyx* (Sugar Gum*)* Woodlands.
Caladenia conferta	Coast Spider-orchid	EN	E	1	Unlikely	Currently known from two distinct localities in the upper south-east of South Australia and on Yorke Peninsula. There is one record from 1968 from Hincks Wilderness Protection Area, but this sub-population is now considered extinct. Another collection, from Carrappee Hill, may not be *Caladenia conferta* and is possibly a subspecies of *C. toxochila*.
Caladenia macroclavia	Large-club Spider-orchid	EN	E	1	Known	Endemic to South Australia and rare on Eyre Peninsula. Records from Port Lincoln and Port Lincoln National Park. Favours fertile shallow loams in mallee-broombush associations, usually where other orchids are numerous.
Caladenia tensa	Inland Green-comb Spider-orchid	EN		1, 2	Known	Widespread in South Australia including throughout Eyre Peninsula and the adjacent pastoral zone. Occurs in dry woodland, mallee-heath, low scrub and about rock outcrops in a variety of soil types.
Calochilus pruinosus	Plains Beard-orchid		R	2	Possible	Several more recent records within and close to Hincks Wilderness Protection Area. Prior to settlement, this species was widespread across the Western Australia wheat belt and adjacent pastoral country wherever there were white sandhills with broombush cover, flowering mostly after fires but never common. Now more common in South Australia than Western Australia.

Species name	Common name	Conservation status[1]		Source	Likelihood of Occurrence Assessment	Rationale
		EPBC Act	NPW Act			
Daviesia benthamii ssp. *humilis*	Mallee Bitter-pea		R	2	Known	Numerous recent records from Hincks Wilderness Protection Area to The Plug Range Conservation Park. Habitat preferences include *Eucalyptus phenax* ssp. *phenax* (White Mallee) Low Mallee over *Melaleuca uncinata* (Broombush), *E. incrassata* (Ridge-fruited Mallee) Low Mallee and *E. oleosa* (Red Mallee) */ E. brachycalyx* (Gilja) Mallee.
Daviesia pectinata	Zig-zag Bitter-pea		R	2	Known	Numerous recent records widespread from Port Lincoln to Heggaton Conservation Park. Habitat includes *Eucalyptus dumosa* (White Mallee) / *E. calycogona* (Square-fruited Mallee) Low Mallee, *E. dumosa* (White Mallee) / *E. calycogona* Low Mallee over *Melaleuca uncinata* (Broombush), *M. uncinata* / *Ozothamnus retusus* (Notched-bush Everlasting) Shrubland and *E. incrassata* (Ridge-fruited Mallee) / *E. calycogona* / *M. lanceolata* (Dryland Teatree) Low Woodland.
Drosera striaticaulis	Erect Sundew		V	2	Possible	Records mainly confined to around the southern portion of the Project Area, with one recent outlying record from Dark Range Conservation Park. Occurs within *Eucalyptus cretata* (Darke Peak Mallee) / *E. odorata* (Peppermint Box) Mallee, granite rock run-off areas, damp clay/sand in water retentive soils, drainage lines in *E. camaldulensis* (River Red Gum) Woodlands.
Eremophila barbata	Blue Range Emubush		R	2	Possible	Endemic to Eyre Peninsula. Populations located around Ungarra and north and east of Hincks Wilderness Protection Area. Found with *Eucalyptus calycogona* (Square-fruited Mallee) / *E. socialis* (Beaked Red Mallee) Mallee over *Melaleuca uncinata* (Broombush), growing on rocky slopes and alongside creeklines.
Eremophila gibbifolia	Coccid Emubush		R	2	Known	Two disjunct populations on Eyre Peninsula, in the Koppio and Cleve Hills. Normally associated with mallee associations on stony hills.
Eucalyptus conglobata ssp. *conglobata*	Port Lincoln Mallee		R	2	Unlikely	Occurs in dense mallee scrub on the southern tip of Eyre Peninsula and on adjacent Taylor and Boston Islands.

Species name	Common name	Conservation status[1]		Source	Likelihood of Occurrence Assessment	Rationale
		EPBC Act	NPW Act			
Eucalyptus cretata	Darke Peak Mallee		R	2	Highly Likely	Endemic to Eyre Peninsula. Numerous records across upper Eyre Peninsula from Caralue Bluff to Lock and Cowell in the south, but particularly common in Darke Peak and Carappee Hill. Mainly associated with *Eucalyptus calycogona* (Square-fruited Mallee), *E. porosa* (Mallee Box) and *E. brachycalyx* (Gilja) Low Mallee over *Melaleuca uncinata* (Broombush) / *Melaleuca lanceolata* (Dryland Teatree).
Frankenia plicata		EN		1	Possible	Occurs in South Australia, from north of Port Augusta along the Stuart Highway to the Northern Territory border and from Port Augusta north-east to Maree (outside Project Area). It is likely that the species has been under reported due to difficulty of identification of *Frankenia* spp. No records in Eyre Hills or Eyre Mallee subregions. Grows in a range of habitats, including on small hillside channels, which take the first run-off after rain, and from swales of loamy sands to clay. Found in a wide range of vegetation communities that have good drainage.
Goodenia benthamiana	Bentham's Goodenia		R		Known	Located north of Cowell and Cleve, with additional subpopulations north of Kimba. Associated with *Eucalyptus calycogona* (Square-fruited Mallee) / *E. oleosa* (Red Mallee) Open Mallee. Also found on limestone outcropping and growing near *Melaleuca uncinata* (Broombush) Shrubland and in *E. incrassata* (Ridge-fruited Mallee) / *M. uncinata* / *Leptospermum coriaceum* (Dune Teatree) Mallee.
Haeckeria cassiniiformis	Dogwood Haeckeria		R	2	Possible	Populations scattered across Eyre Peninsula. Associated with sandy mallee associations.
Lepidosperma gahnioides			R	2	Possible	Small sub-population growing in Verran Tanks Conservation Park. Known from red clay loam with ironstone gravel growing near *Melaleuca uncinata* (Broombush), *Eucalyptus calycogona* (Square-fruited Mallee) and *Lepidosperma viscidum* (Sticky Sword-sedge).

Species name	Common name	Conservation status[1]		Source	Likelihood of Occurrence Assessment	Rationale
		EPBC Act	NPW Act			
Leucopogon clelandii	Cleland's Beard-heath		R	2	Likely	Eyre Peninsula sub-populations located near Wanilla and south of and in Hincks Wilderness Protection Area. Found growing in sandy soil associated with mallee communities.
Maireana suaedifolia	Lax Bluebush		R	2	Highly Likely	Subpopulation located between Cowell, Kimba and Whyalla. Associated with mallee with *Senna* spp. (Senna), *Olearia* spp. (Daisy-bush) and *Lomandra effusa* (Scented Mat-rush) on coarse red sands. Also, mallee-chenopod low open woodland and in seasonally damp alluvial heavy clay over calcrete with *Eucalyptus gracilis* (Yorrell), *Disphyma crassifolium* (Round-leaf Pigface) and *Roepera eremaea*.
Melaleuca oxyphylla	Pointed-leaf Honey-myrtle		R	2	Possible	Endemic to Eyre Peninsula. Numerous records across upper Eyre Peninsula from Sheoak Hill Conservation Park to Gawler Ranges National Park. Mainly associated with rocky skeletal loams with *Melaleuca uncinata* (Broombush) Shrubland, *Eucalyptus brachycalyx* (Gilja), *E. phenax* ssp. *phenax (*White Mallee) *E. calycogona* (Square-fruited mallee) Open Mallee over *M. uncinata*.
Microtis eremaea	Slender Onion-orchid		E	2	Possible	Found on the Eyre Peninsula growing on rock outcrops and along ephemeral watercourses.
Olearia adenolasia	Musk Daisy-bush		R	2	Known	Few individuals recorded along the Project Area. Sub-population located between Cowell and Kimba. Found in sandy soil associated with *Melaleuca acuminata* (Mallee Honey-myrtle) / *Eucalyptus socialis* (Beaked Red Mallee) / *E. dumosa* (White Mallee) Open Scrub.
Olearia pannosa ssp. *pannosa*	Silver Daisy-bush	VU	V	1, 2	Known	Two main sub-populations on Eyre Peninsula occurring in the Cleve Hills to Coolanie Range area, north-west of Cowell, and in the Koppio Hills and Greenpatch area, lower Eyre Peninsula. Southern population associated with *Eucalyptus cladocalyx* (Sugar Gum), *Allocasuarina verticillata (*Drooping Sheoak) and *Melaleuca uncinata (*Broombush), and less often with *Callitris* spp. (Native Pine). Northern population associated with *A. verticillata* Low Woodland, *E. odorata* (Peppermint Box) +/- *E. phenax* ssp. *phenax* (White Mallee*)* Mid Mallee Woodland,

Species name	Common name	Conservation status[1]		Source	Likelihood of Occurrence Assessment	Rationale
		EPBC Act	NPW Act			
						E. porosa (Mallee Box) Mid Open Mallee, *E. incrassata* (Ridge-fruited Mallee) +/- *E. socialis* (Beaked Red Mallee) Mid Mallee Woodland.
Olearia picridifolia	Rasp Daisy-bush		R	2	Possible	Found mainly in mallee and heath on alkaline soils derived from limestone or dunes. Three recent records near Verran.
Philotheca angustifolia ssp. *angustifolia*	Narrow-leaf Wax-flower		R	2	Known	Associated with the Cleve Hills and the Koppio Hills Woodland environments.
Pimelea williamsonii	Williamson's Riceflower		R	2	Possible	Scattered records from Hincks and Hambridge Wilderness Protection Areas, and Heggaton Conservation Park. Prefers recently burnt areas associated with sandy eucalypt woodlands and heathlands.
Prasophyllum fecundum	Self-pollinating Leek-orchid		R	2	Possible	Scattered across southern Eyre Peninsula in mallee heathland and *Callitris* spp. (Native Pine) Woodland, or on rock outcrops in the wheat belt in sandy or loamy soils.
Prasophyllum goldsackii	Goldsack's Leek-orchid	EN	E	1, 2	Possible	Found from 14 small populations on Eyre and Yorke Peninsulas. Not exceeding 500-1000 individuals. Occurs largely on limestone, in shallow soil pockets but also in calcareous sands. Found in *Eucalyptus cladocalyx* (Sugar Gum) Forest, as well as *Allocasuarina verticillata* (Drooping Sheoak) Low Woodlands and *Melaleuca uncinata* (Broombush) Tall Open Shrublands.
Prasophyllum laxum	Lax Leek-orchid	CE		1	Possible	Only known from one location in private property (Cockatoo Hill) near Koppio where it grows in sparse/open woodland, approximately 2.3 km from the proposed transmission line. There is a second (unconfirmed) record from Ungarra (approximately 1.5 km from the Project Area). Due to records within close proximity of the Project Area, it is possible that this species may occur in suitable habitat (i.e., woodland), particularly in the Koppio or Ungarra areas.
Prostanthera calycina	West Coast Mintbush	VU	V	1	Possible	Endemic to Eyre Peninsula where it is restricted to western coast from Port Lincoln to Streaky Bay. The southern populations in close proximity to the Project Area grow in association with *Eucalyptus incrassata* (Ridge-fruited Mallee) Mid Mallee Woodland over *Melaleuca uncinata* (Broombush) / *Leptospermum coriaceum* (Dune Tea-tree), and *E. diversifolia* ssp. *diversifolia* (Coastal White Mallee)

Species name	Common name	Conservation status[1]		Source	Likelihood of Occurrence Assessment	Rationale
		EPBC Act	NPW Act			
						+/- *Allocasuarina verticillata* (Drooping Sheoak) Mid Mallee Woodland over *M. lanceolata* (Dryland Tea-tree).
Pterostylis mirabilis	Nodding Rufoushood	VU		1	Possible	Occurs in coastal areas to areas about 100 km inland, in the high country (75–200 m above sea level) between Cleve and Kimba. This species grows mostly among rocks on hilly slopes, in *Melaleuca uncinata* (Broombush) Shrubland, but it is also known to occur in Native Pine and Eucalypt woodland, usually in stony brown loams. There are records for this species within close proximity to the Project Area (near Cleve) and therefore this species may occur within suitable habitat.
Pterostylis sp. Hale (R. Bates 21725)	Hale Dwarf Greenhood	EN		1	Unlikely	Occurs in mallee, broombush and native pine communities. It also occurs in understorey dominated by heath. There are records over 10 km from the Project Area from 1993. Therefore, this species is unlikely to occur.
Ptilotus beckerianus	Ironstone Mulla Mulla	VU	V	1, 2	Possible	Disjunct populations on Eyre Peninsula. Found in association with *Eucalyptus cladocalyx* (Sugar Gum) Forest, as well as *Allocasuarina verticillata* (Drooping Sheoak) Low Woodland and *E. diversifolia* ssp. *diversifolia* (Coastal White Mallee) +/- *E. incrassata* (Ridge-fruited Mallee) +/- *E. leptophylla* (Narrow-leaf Mallee) +/- *E. peninsularis* (Cummins Mallee) Mallee.
Pultenaea trichophylla	Tufted Bush-pea	EN	R	1, 2	Known	Endemic to Eyre Peninsula. Numerous recent records from 20 subpopulations in the Koppio Hills between Tod River Reservoir to just north of Ungarra, mainly along the western side to the Project Area. Commonly associated with *Eucalyptus cladocalyx* (Sugar Gum) Woodland, *E. peninsularis* (Cummins Mallee) Low Woodland / Mallee, *Allocasuarina verticillata* (Drooping Sheoak) Low Open Woodland, and *E. odorata* (Peppermint Box) / *E. angulosa* (Coast Ridge-fruited Mallee) / *E. foecundum* (Hooked Mallee) Mallee over *Melaleuca uncinata* (Broombush). Also occurs in all shrublands dominated by *M. uncinata* and *Acacia* spp. (Wattle).
Santalum spicatum	Sandalwood		V	2	Known	Found along the Project Area within the semi-arid pastoral areas. Occurs in tall Acacia woodlands and shrublands over chenopods,

Species name	Common name	Conservation status[1]		Source	Likelihood of Occurrence Assessment	Rationale
		EPBC Act	NPW Act			
						Callitris gracilis (Southern Cyperus Pine) Low Woodlands and semi-arid mallee communities.
Schoenus sculptus	Gimlet Bog-rush		R	2	Possible	Eyre Peninsula records scattered across upper Eyre Peninsula and concentrated around Edillilie and Wanilla on lower Eyre Peninsula. Mainly associated with stream channels, granite outcropping, clay loam and sandy soils with *Melaleuca armillaris* ssp. *akineta* (Needle-leaf Honey-myrtle) Low Closed Forest and *M. brevifolia* (Mallee Honey-myrtle), *M. decussata* (Totem Poles) and *M. uncinata* (Broombush) Shrublands, sometimes with *Gahnia trifida* (Rough Cutting-Grass).
Spyridium bifidum ssp. *bifidum*	Marble Range Spyridium		V	2	Unlikely	Endemic to the Marble Range on Eyre Peninsula, where it occurs in open mallee shrubland on quartzite and sometimes on sand over laterite. BDBSA and EBS (2014) record likely to be *Spyridium stenophyllum* ssp. *renovatum* (Forked Spyridium), which is widespread across eastern Eyre Peninsula. The *S. bifidum – S. halmaturinum* complex was revised in 2012 (Kellerman & Barker 2012).
Spyridium erymnocladum	Cloaked Spyridium		V	2	Known	Endemic to Eyre Peninsula. Occurs in mallee / broombush associations, with some populations occurring within roadside vegetation around and within Hincks Wilderness Protection Area.
Spyridium leucopogon	Silvery Spyridium		R	2	Known	Endemic to Eyre Peninsula. Confined to lower Eyre Peninsula where it is associated with mallee associations including *Eucalyptus incrassata* (Ridge-fruited Mallee) Mallee, *E. odorata* (Peppermint Box) Very Open Mallee over *Melaleuca uncinata* (Broombush), and *E. dumosa* (White Mallee) / *E. foecundum* (Hooked Mallee) Mallee.
Spyridium spathulatum	Spoon-leaf Spyridium		R	2	Known	Eyre Peninsula population mainly from lower Eyre Peninsula, with small sub-populations located north-west of Port Kenny, Cowell and north-east of Cleve. Associated with clayey sands dominated by

Species name	Common name	Conservation status[1]		Source	Likelihood of Occurrence Assessment	Rationale
		EPBC Act	NPW Act			
						Melaleuca uncinata (Broombush) Tall Shrubland with emergent mallee species.
Swainsona pyrophila	Yellow Swainson-pea	VU	R	1, 2	Highly Likely	Occurs across the Eyre Peninsula. Known to occur on sandy or loamy soil in mallee scrub and is usually found after fire.
Tecticornia flabelliformis	Bead Glasswort	VU		1	Unlikely	Mainly confined to coastal habitats. Records from Arno Bay and historically from Todd Reservoir.
Thelymitra epipactoides	Metallic Sun-orchid	EN	E	1, 2	Possible	Approximately half of all known sub-populations, including the largest sub-population, are located on roadsides and rail reserves in lower Eyre Peninsula. Habitat is mainly confined to *Allocasuarina verticillata* (Drooping Sheoak) Low Woodland, *Eucalyptus cladocalyx* (Sugar Gum) Woodland, *E. angulosa* (Coast Ridge-fruited Mallee), *E. diversifolia* ssp. *diversifolia* (Coastal White Mallee) Mid Mallee Woodland +/- *Melaleuca lanceolata* (Dryland Tea-tree) +/- *M. uncinata* (Broombush), and *M. uncinata* Tall Open Shrubland.
Thelymitra flexuosa	Twisted Sun-orchid		R	2	Possible	Widespread but uncommon across the southern, coastal, higher rainfall districts, including on Eyre Peninsula. Mostly in nitrogen deficient soils that are boggy in winter, in low heath and scrub, forest clearings and swamp margins where more obvious after fire or disturbance.
Thysanotus wangariensis	Eyre Peninsula Fringe-lily		R	2	Possible	Found on dunes/consolidated dune with *Eucalyptus incrassata* (Ridge-fruited Mallee) Low Mallee and other open mallee and shrublands on Eyre Peninsula.
Wurmbea decumbens	Trailing Nancy		R	2	Possible	Widespread and locally common on Eyre Peninsula. Mainly associated with rocky hills on central Eyre Peninsula, mostly on sheltered southern slopes at the base of rocks.

Fauna

Conservation Status: EPBC Act/NPW Act. CE: Critically Endangered. EN/E: Endangered. VU/V: Vulnerable. R: Rare.
Source: PMST report generated 19/02/19. 2: BDBSA data extract 13/02/2019.

Species name	Common name	Conservation Status		Source	Likelihood of Occurrence Assessment	Likelihood rationale
		EPBC Act	NPW Act			
AVES	**Birds**					
Acanthiza iredalei iredalei	Slender-billed Thornbill (Western)		R	2	Highly Likely	Distributed across arid and semi-arid western South Australia, occurring near Port Pirie and in the Gawler Ranges and upper Eyre Peninsula, with a stronghold across the Nullarbor. Generally, inhabits treeless chenopod shrublands dominated by *Maireana* spp. (Bluebush) and *Atriplex* spp. (Saltbush), and saline flats associated with salt lakes, particularly where there is *Halosarcia* spp. (Glasswort).
Actitis hypoleucos	Common Sandpiper	Mi	R	1, 2	Possible (Fly-over)	Possible fly-over species during migration from Eurasia. Found in a variety of habitats from coastal areas to inland wetlands. Tends to avoid wide open mudflats, but spends time on narrow edges of dams and billabongs.
Amytornis striatus	Striated Grasswren		R	2	Highly Likely	Found in mallee woodlands over well-established *Triodia* spp. (Spinifex). Most widespread Grasswren in Australia, with numerous small fragmented populations known in South Australia, including populations in the Middleback Ranges and Pinkawillinie Conservation Park.
Amytornis textilis myall	Western Grasswren (Gawler Ranges)	VU		1, 2	Known	Distributed across north-eastern Eyre Peninsula. Prefers low-lying areas of *Maireana pyramidata* (Black Bluebush) and spiny shrubs including *Lycium australe* (Australian Boxthorn) and *Scaevola spinescens* (Spiny Fanflower), either as a shrubland or understorey of *Acacia papyrocarpa* (Western Myall) Low Open Woodland. Often observed in drainage line systems where large *M. pyramidata* and spiny shrubs with a dense structure extending to the ground occur. Known to occur in Project Area with five individuals observed at three sites by EBS (2014) in December 2012. Suitable habitat

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		EPBC Act	NPW Act			
						observed in Department of Defence land within the Project Area by EBS during native vegetation clearance assessment in 2019. One individual observed <1 km west of the Project Area adjacent to Iron Knob Road by EBS during *Santalum spicatum* (Sandalwood) survey in October 2019.
Anas rhynchotis rhynchotis	Australasian Shoveler		R	2	Possible	Occurs in all kinds of wetlands, but prefers large undisturbed heavily vegetated swamps.
Apus pacificus	Fork-tailed Swift	Mi		1	Possible (Fly-over)	More common in coastal and sub-coastal areas, however, regularly occurs in inland Australia. Almost exclusively aerial in Australia, flying over a range of habitats including open plains, forests and built-up areas.
Ardenna carneipes	Flesh-footed Shearwater	Mi		1	Unlikely	Pelagic species that commonly visits waters of the continental shelf and continental slope off southern Australia. Pairs breed on Smith Island off the south-eastern coast of Eyre Peninsula.
Ardenna tenuirostris	Short-tailed Shearwater	Mi		2	Possible (Fly-over)	Pelagic species that could possibly fly-over the Project Area during migration to coastal waters during summer months.
Ardeotis australis	Australian Bustard		V	2	Likely	Widely distributed across continental Australia with current strongholds in the north, but declining populations in the south and south-east. Occurs in tussock and hummock grasslands, grassy woodlands and low shrublands, also using denser habitat that has been opened up by recent fire.
Arenaria interpres	Ruddy Turnstone	Mi	R	2	Possible (Fly-over)	Widespread in coastal areas of Australia during non-breeding period of year, with occasional inland records. Strongly prefers rocky shores or beaches where there are large deposits of rotting seaweed.
Biziura lobata	Musk Duck		R	2	Unlikely	More common in wetter, fertile areas in the south of Australia, tending to avoid arid regions in the north. Prefer deep, still lakes and

Species name	Common name	Conservation Status		Source	Likelihood of Occurrence Assessment	Likelihood rationale
		EPBC Act	NPW Act			
						wetlands with areas of both open water and dense reed beds on the fringes.
Bubulcus ibis coromandus	Eastern Cattle Egret		R	2	Possible	Not common in South Australia, but widespread where conditions are suitable. Occurs in grasslands, woodlands and wetlands, and will use pastures, croplands and garbage dumps. Often seen with cattle and other stock.
Burhinus grallarius	Bush Stonecurlew		R	2	Possible	Commonly inhabits lightly timbered open forest and woodland. Key habitat components include fallen dead timber and leaf litter, which assist in camouflage, and an open ground layer with short sparse grass and few to no shrubs, which improves predator detection.
Calamanthus (Hylacola) cautus cautus	Shy Heathwren (EP, MM, upper SE, YP, FR)		R	2	Highly Likely	Found in heathy areas and generally dense thickets. Uncommon throughout its range, however has been noted in good numbers by Brandle (2010) on southern Eyre Peninsula.
Calidris acuminata	Sharp-tailed Sandpiper	Mi		1, 2	Possible (Fly-over)	In Australia, this species is widespread in inland and coastal habitats, occurring mostly in the south-east of the continent. Prefers muddy edges of shallow fresh and brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation.
Calidris alba	Sanderling	Mi	R	2	Possible (Fly-over)	In Australia, this species almost always found on the coast, mostly on open sandy beaches exposed to open sea-swell.
Calidris canutus	Red Knot	EN, Mi		1, 2	Possible (Fly-over)	In Australia, this species mainly inhabits intertidal mudflats, sandflats and sandy beaches of sheltered coasts, and in estuaries, bays, inlets, lagoons and harbours. Rarely use inland lakes or swamps. In South Australia, the species is found mostly from The Coorong, north and west to Yorke Peninsula and Port Pirie.
Calidris ferruginea	Curlew Sandpiper	CE, Mi		1, 2	Possible (Fly-over)	In South Australia, this species occurs in widespread coastal and sub-coastal areas east of Streaky Bay, occasionally occurring in inland areas mainly south of the Murray River. Mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and

Species name	Common name	Conservation Status		Source	Likelihood of Occurrence Assessment	Likelihood rationale
		EPBC Act	NPW Act			
						lagoons, and also around non-tidal swamps, lakes and lagoons near the coast.
Calidris melanotos	Pectoral Sandpiper	Mi		1	Possible (Fly-over)	In South Australia, this species is found mostly in the south-east, from north to the Murray River and west to Yorke Peninsula. Outside of this region the species is occasionally recorded in Innamincka, Welcome Bore and Mintabie. Prefers shallow fresh to saline wetlands including coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.
Calidris ruficollis	Red-necked Stint	Mi		2	Possible (Fly-over)	Distributed along most of the Australian coastline and is also found inland when conditions are suitable. Mostly occurs in sheltered inlets, bays, lagoons and estuaries with intertidal mudflats. Occasionally recorded on exposed or ocean beaches, and sometimes on stony or rocky shores, reefs or shoals. Also occur in ephemeral or permanent shallow wetlands near the coast or inland, including lagoons, lakes, swamps, riverbanks, waterholes, bore drains, dams, soaks and pools in salt flats.
Calidris subminuta	Long-toed Stint	Mi	R	2	Possible (Fly-over)	Found on the southern end of Eyre Peninsula. In Australia, this species occurs in a variety of terrestrial wetlands, preferring shallow freshwater or brackish lakes, swamps, river floodplains, streams and lagoons.
Calidris tenuirostris	Great Knot	CE, Mi	R	2	Possible (Fly-over)	In Australia, this species prefers sheltered coastal habitats, with large intertidal mudflats or sandflats, including inlets, bays, harbours, estuaries and lagoons. Rarely occurs in inland lakes and swamps.
Calyptorhynchus (Zanda) funereus whiteae	Yellow-tailed Black Cockatoo		V	2	Likely	Diverse woodland species. Eyre Peninsula sub-species have distinct migratory pattern, spending summer breeding in *Eucalyptus cladocalyx* (Sugar Gum) Woodlands in the Koppio Hills before

Species name	Common name	Conservation Status		Source	Likelihood of Occurrence Assessment	Likelihood rationale
		EPBC Act	NPW Act			
						heading north to Wudinna area. Unfortunately, small population affected by stochastic event, and now few individuals remain.
Cereopsis novaehollandiae novaehollandiae	Cape Barren Goose		R	2	Highly Likely	Breeds on offshore islands such as the Sir Joseph Banks Group off Eyre Peninsula, but is a frequent visitor to the mainland where it is usually observed in close proximity to livestock and in pastures.
Charadrius bicinctus	Double-banded Plover	Mi		2	Possible (Fly-over)	Common in southern Australian during the non-breeding season where it can be found in both coastal and inland areas in littoral, estuarine and fresh or saline terrestrial wetlands.
Charadrius veredus	Oriental Plover	Mi		1	Possible (Fly-over)	Shorebird species that inhabits coastal and inland areas. Found in coastal habitats such as estuarine mudflats and sandbanks, on sandy or rocky ocean beaches or nearby reefs, or in near-coastal grasslands. When inland, they occur in semi-arid or arid grasslands, where the grass is short and sparse, and interspersed with hard, bare ground, such as claypans, dry paddocks, playing fields, lawns and cattle camps.
Cladorhynchus leucocephalus	Banded Stilt		V	2	Likely	Salt lakes along the coast as well as inland areas. Congregates in large flocks, and will breed on many usual dry large inland lakes such as Lake Torrens or Lake Eyre. Very dispersive species.
Corcorax melanorhamphos	White-winged Chough		R	2	Known	Found in open Eucalypt woodlands, this species lives in small closely bonded family groups of up to 20 individuals. Tend to be locally common, but rather fragmented. Observed during the 2019 native vegetation clearance assessment.
Coturnix ypsilophora	Brown Quail		V	2	Possible	Occurs in rank grasses near wetlands, drains, green pastures, clover, lucerne, rice and other stubbles, swampy coastal heaths, bracken, sword grass, *Melaleuca* spp. (Honey-myrtle) and *Banksia* spp. (Banksia) Thickets, and *Triodia* spp. (Spinifex) Savanna. Patchy and limited records on Eyre Peninsula.

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		EPBC Act	NPW Act			
Diomedea antipodensis	Antipodean Albatross	VU		1	Unlikely	Pelagic species endemic to New Zealand, however forages widely in open water in the south-west Pacific Ocean, Southern Ocean and the Tasman Sea, notably off the coast of New South Wales.
Diomedea epomophora	Southern Royal Albatross	VU		1	Unlikely	Pelagic species that breeds on islands in the New Zealand region, however is relatively common in offshore waters of southern Australia.
Diomedea exulans	Wandering Albatross	VU, Mi		1	Unlikely	Pelagic species that breeds on six subantarctic island groups and feeds throughout the Southern Ocean, including Australian portions.
Diomedea sanfordi	Northern Royal Albatross	EN, Mi		1	Unlikely	Pelagic species that ranges widely over the Southern Ocean, with individuals seen in Australian waters off south-eastern Australia, regularly feeding in Tasmanian and South Australian waters.
Egretta garzetta	Little Egret		R	2	Possible	Prefers wetlands, both fresh and saline, usually foraging within the shallows of these areas. Widespread, and can be classed as nomadic or migratory.
Egretta sacra	Pacific Reef Heron (Eastern Reef Egret)		R	2	Unlikely	Found on the coast and islands of most of Australia, however not as common in South Australia and elsewhere as the Queensland coast. Found on beaches, rocky shores, tidal rivers inlets, mangroves and exposed coral reefs.
Falco peregrinus	Peregrine Falcon		R	2	Highly Likely	Found throughout a wide variety of habitat types across Australia, however are never classed as common. Nests on cliffs, and has adapted to utilise human structures such as communication towers, mines or buildings. As such, can be found in areas that once were unfavourable.
Gallinago hardwickii	Latham's Snipe	Mi		1	Possible (Fly-over)	Non-breeding visitor to south-eastern Australia, migrating through northern Australia. Inhabits freshwater and brackish and wetlands extensive vegetation cover such as samphire, reeds, rushes and grasses.

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Gerygone fusca fusca	Western Gerygone (EP)		R	2	Likely	Woodland species usually restricted to central arid Australia and areas of Western Australia and Queensland. A small fragmented population persist in and around the southern Eyre Peninsula, particularly the Tod Reservoir.
Haematopus fuliginosus	Sooty Oystercatcher		R	2	Unlikely	Found around the entire Australian coast, including offshore islands. Prefers rocky headlands, rocky shelves, exposed reefs with rock pools, beaches and muddy estuaries.
Haematopus longirostris	(Australian) Pied Oystercatcher		R	2	Unlikely	Occurs around the entire Australian coastline. Prefers intertidal flats of inlets and bays, open beaches and sandbanks.
Haliaeetus leucogaster	White-bellied Sea Eagle		E	2	Possible	Usually coastal, however can head inland, and may follow rivers or visit flooded lagoons or lakes.
Halobaena caerulea	Blue Petrel		VU	1	Unlikely	Pelagic species distributed throughout the southern oceans from the pack ice edge up to about 30 degrees south. Breeds on sub-Antarctic islands, including Macquarie Island (Australia).
Hydroprogne caspia	Caspian Tern	Mi		2	Possible (Fly-over)	Widespread and found in both coastal and inland habitat such as coastal waters, mudflats, estuaries, beaches and saltfields. In South Australia, the species occurs from Carpenters Rocks to Nuyts Archipelago and Ceduna, as well as inland along the Murray River.
Leipoa ocellata	Malleefowl	VU	V	1, 2	Known	Found in scattered locations through semi-arid rangelands and dry-land cropping zones in the south-east of South Australia, Murray region, Yorke Peninsula and Eyre Peninsula. Principally found in mallee eucalypt woodland and scrub as well as dry forest dominated by other eucalypts, mulga, and other *Acacia* spp. (Wattle).
Lichenostomus cratitius occidentalis	Purple-gaped Honeyeater (mainland SA)		R	2	Likely	Occurs in disjunct populations across southern Australia east from southern Western Australia, with the eastern population largely occurring south of the Murray River. Inhabits mallee heathlands and less commonly in associated mallee with a more open understorey

Species name	Common name	Conservation Status		Source	Likelihood of Occurrence Assessment	Likelihood rationale
		EPBC Act	NPW Act			
						(such as Spinifex associations). Occasionally recorded in River Red Gums bordering waterways.
Limosa lapponica baueri	Bar-tailed Godwit (Baueri)	VU, Mi	R	1, 2	Possible (Fly-over)	Shorebird species that inhabits coastal environments including beaches, tidal mudflats and saltfields.
Limosa lapponica menzbieri	Bar-tailed Godwit (Menzbieri)	CE, Mi		1	Unlikely	Shorebird species that inhabits coastal environments including beaches, tidal mudflats and saltfields. This subspecies very rarely occurs in South Australia.
Limosa limosa	Black-tailed Godwit	Mi	R	2	Possible (Fly-over)	Sheltered bays and lagoons, however will also visit sewerage ponds. More common in Northern Australia.
Macronectes giganteus	Southern Giant Petrel	EN, Mi		1	Unlikely	Pelagic species that breeds on six subantarctic and Antarctic islands in Australian territory.
Macronectes halli	Northern Giant Petrel	VU, Mi		1	Unlikely	Pelagic species that breeds in the sub-Antarctic, and visits areas off the Australian mainland mainly during the winter months.
Motacilla cinerea	Grey Wagtail	Mi		1	Unlikely	Vagrant to South Australia with very few records in the state. Inhabits wetlands and/or boggy vegetated areas, including irrigated lawns.
Motacilla flava	Yellow Wagtail	Mi		1	Unlikely	Vagrant to South Australia with very few records in the state. Inhabits wetlands and/or boggy vegetated areas, including irrigated lawns.
Myiagra inquieta	Restless Flycatcher		R	2	Likely	Occurs in open woodlands, River Red Gums near water, inland/coastal scrub and open areas such as farms. Can be classed as sedentary throughout its range.
Neophema elegans	Elegant Parrot		R	2	Highly Likely	Occurs in eastern parts of South Australia, north to the Flinders Ranges and west to the Eyre Peninsula. Found in a wide variety of habitats, including grasslands, shrublands, mallee, woodlands and thickets, bluebush plains, heathlands, saltmarsh and farmland.

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		EPBC Act	NPW Act			
Neophema petrophila	Rock Parrot		R	2	Unlikely	Restricted to coastlines and offshore rocky islands, frequenting windswept coastal dunes, mangroves, saline swamps and rocky islets. Seldom seen more than a few hundred metres from the sea.
Numenius madagascariensis	Far Eastern Curlew	CE, Mi		1	Possible (Fly-over)	Primarily coastal distribution within Australia where it feeds on intertidal mudflats. Patchily distributed from the Coorong north-west to the Streaky Bay area. Rarely recorded inland.
Oxyura australis	Blue-billed Duck		R	2	Possible	Breeds in deep permanently vegetated lakes and dams. Spends winters on more open waters.
Pachycephala inornata	Gilbert's Whistler		R	2	Highly Likely	Found in mallee habitats, as well as mulga, with a dense understorey. Can be nomadic in movements, and uncommon throughout their range.
Pachyptila turtur subantarctica	Fairy Prion (Southern)	VU		1	Unlikely	Pelagic species that breeds on Macquarie Island and a number of other subantarctic islands outside of Australia. Some individuals may migrate towards New Zealand and southern Australia in winter.
Pandion haliaetus	Osprey	Mi	E	1, 2	Possible (Fly-over)	Usual coastal, however will follow rivers many kilometres inland to well established pools and water courses. More common in Northern Australia.
Pedionomus torqatus	Plains-wanderer	CE		1	Unlikely	Ground-dwelling bird that lives in the grasslands of Queensland, New South Wales, Victoria and South Australia. Inhabits sparse native grasslands and are often absent from areas where grass becomes too dense or too sparse. They nest amongst native grasses and herbs, or sometimes amongst crops. Very few records for Eyre Peninsula.
Petroica boodang boodang	Scarlet Robin (SE, MLR, FR, EP)		R	2	Likely	Occurs predominantly in Eucalypt woodlands and forests. Good leaf litter, perches 1-2 m in height and fallen logs are important components of habitat. Recent reliable record and suitable habitat present within Project Area.

Species name	Common name	Conservation Status		Source	Likelihood of Occurrence Assessment	Likelihood rationale
		EPBC Act	NPW Act			
Pezoporus occidentalis	Night Parrot	EN		1	Unlikely	Highly elusive nocturnal ground dwelling parrot found in the arid and semi-arid zones of Australia. Thought to be extinct but in 2013 it was rediscovered in Queensland (Pullen Pullen Reserve). Current distribution remains unknown. Most habitat records are of *Triodia* spp. (Spinifex) grasslands and/or chenopod shrublands in the arid and semi-arid zones.
Phoebetria fusca	Sooty Albatross	VU, Mi		1	Unlikely	Pelagic species that breeds on islands in the southern Indian and Atlantic Oceans, and is sometimes observed foraging in inshore waters in southern Australia.
Pluvialis fulva	Pacific Golden Plover	Mi	R	2	Possible (Fly-over)	Widespread in coastal regions when in Australia, though there are also a number of inland records (in all states), sometimes far inland and usually along major river systems, especially the Murray and Darling Rivers and their tributaries. In South Australia, they are recorded at many sites between the Coorong and Streaky Bay, including the coasts of Gulf St Vincent and Spencer Gulf. Prefer beaches, mudflats and sandflats in sheltered areas including harbours, estuaries and lagoons.
Pluvialis squatarola	Grey Plover	Mi		2	Possible (Fly-over)	Found along the coasts when in Australia, especially abundant in South Australia between The Coorong and western beaches of the Eyre Peninsula in South Australia, as well as the Western Australian coast. Occur almost entirely in coastal areas, preferring sheltered bays, estuaries and lagoons with mudflats and sandflats, and occasionally on rocky coasts with wave-cut platforms or reef-flats, or on reefs within muddy lagoons.
Podiceps cristatus	Great Crested Grebe		R	2	Unlikely	Prefers well vegetated margins and reedbed channels near open waters. These tend to lakes or reservoirs. Strong hold of the species is the far south-east of Australia, but can disperse during non-breeding. Rarely seen on small farm stock dams or lakes.

Species name	Common name	Conservation Status		Source	Likelihood of Occurrence Assessment	Likelihood rationale
		EPBC Act	NPW Act			
Psophodes nigrogularis leucogaster	Western Whipbird (Eastern)	VU	E	1	Unlikely	Occurs in three isolated regional populations in southern South Australia, including on the southern Eyre Peninsula where it is restricted to sites around Coffin Bay and Lincoln National Parks.
Pterodroma mollis	Soft-plumaged Petrel	VU		1	Unlikely	Pelagic species generally found over temperate and subantarctic waters in the South Atlantic, southern Indian and western South Pacific Oceans. The species is a regular and quite common visitor to southern Australian seas, but is more common in the west than in the south and south-east.
Rostratula australis	Australian Painted Snipe	EN		1	Unlikely	Most common in eastern Australia, where it has been recorded at scattered locations throughout much of Queensland, New South Wales, Victoria and south-eastern South Australia. Recorded less frequently at fewer and more scattered locations farther west in South Australia. Prefers shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans.
Stagonopleura guttata	Diamond Firetail		V	2	Known	Inhabits open forests with grassy understoreys; commonly along the sides of watercourses or roadways. Can be found in pastoral areas or cropping land. Patchy occurrence, including on the Eyre Peninsula. Observed during the 2019 native vegetation clearance assessment.
Sterna hirundo	Common Tern	Mi	R	2	Possible (Fly-over)	Non-breeding migrant to Australia, where it is widespread and common on the eastern coast south to eastern Victoria, and common on parts of the northern coast, mainly east of Darwin. Rarely recorded in South Australia.
Sternula nereis nereis	Australian Fairy Tern	VU	E	1, 2	Unlikely	Found on isolated sandy inlets and along the coast from Dampier Archipelago, Western Australia, southward to Tasmania and Victoria, and is only vagrant to the east coast. Most common in Western Australia. Found on coastal beaches, inshore and offshore islands, sheltered inlets, sewage farms, harbours, estuaries and lagoons.

Species name	Common name	Conservation Status		Source	Likelihood of Occurrence Assessment	Likelihood rationale
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Stercorarius parasiticus	Parasitic Jaeger (Arctic Jaeger)	Mi		2	Possible (Fly-over)	Predominantly coastal when in Australia, but will migrate over land.
Stipiturus malachurus parimeda	Southern Emu-wren (Eyre Peninsula)	VU	E	2	Possible	Endemic to South Australia where it is confined to the extreme south of the Eyre Peninsula. Occurs in three types of habitat: shrubland or heathland (especially along creeklines), mallee and sedgeland. These habitats are characterised by one or two layers of dense vegetation up to 3 m in height. Population in Koppio Hills decimated by fire in 2005.
Thalassarche cauta cauta	Shy Albatross	VU, Mi		1	Unlikely	Pelagic species that occurs widely in the southern oceans and breeds on islands off Australia and New Zealand. Occasionally occurs in continental shelf waters, bay and harbours of mainland Australia.
Thalassarche cauta steadi	White-capped Albatross	VU, Mi		1	Unlikely	Pelagic species that occurs in subantarctic and subtropical waters and breeds on islands south of New Zealand. Common off the coast of south-eastern Australia throughout the year.
Thalassarche impavida	Campbell Albatross	VU, Mi		1	Unlikely	Pelagic species that inhabiting sub-Antarctic and subtropical waters. Non-breeding visitor to Australian waters most commonly foraging over the oceanic continental slopes off Tasmania, Victoria and New South Wales.
Thalassarche melanophris	Black-browed Albatross	VU, Mi		1	Unlikely	Pelagic species that breeds within Australian jurisdiction on a number of islands, during which it is an uncommon visitor to the continental shelf-break of southern Australia. Common in the non-breeding period at the continental shelf and shelf-break of South Australia.
Thinornis cucullatus cucullatus	Hooded Plover (Eastern), Eastern Hooded Dotterel	VU	V	1, 2	Unlikely	Widely dispersed in south-eastern Australia from Jervis Bay in New South Wales to Fowlers Bay in South Australia. Inhabits ocean beaches, particularly wide beaches backed by dunes with large amounts of seaweed, creek mouths and inlet entrances. May also occur on near-coastal saline and freshwater lakes and lagoons, tidal

Species name	Common name	Conservation Status		Source	Likelihood of Occurrence Assessment	Likelihood rationale
		EPBC Act	NPW Act			
						bays and estuaries, on rock platforms, or on rocky or sandy reefs close to shore.
Tringa brevipes	Grey-tailed Tattler	Mi	R	2	Possible (Fly-over)	Found in most coastal regions within Australia, however has a primarily northern coastal distribution. Uncommonly recorded along South Australian coasts between Port MacDonnell and Denial Bay, and also found west of Streaky Bay. Found on sheltered coasts with reefs and rock platforms or with intertidal mudflats.
Tringa nebularia	Common Greenshank	Mi		1, 2	Possible (Fly-over)	Non-breeding visitor to Australia where it has the widest distribution of any shorebird. Found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity, as well as sheltered coastal habitats, typically with large mudflats and saltmarsh, mangroves or seagrass.
Tringa stagnatilis	Marsh Sandpiper	Mi		2	Possible (Fly-over)	Found on coastal and inland wetlands throughout Australia. On Eyre Peninsula the species has been recorded from Whyalla to Little Swamp and Coffin Bay. Prefers in permanent or ephemeral wetlands of varying salinity, including swamps, lagoons, billabongs, saltpans, saltmarshes, estuaries, pools on inundated floodplains, and intertidal mudflats and also regularly at sewage farms and saltworks.
Turnix varius	Painted Buttonquail		R	2	Possible	Occurs almost continuously in suitable habitat from northern Queensland, round the coast to Eyre Peninsula. Prefer temperate forests and woodlands with closed canopies, some understorey and deep leaf litter.
MAMMALIA	**Mammals**					
Sminthopsis psammophila	Sandhill Dunnart	EN	V	1, 2	Known	Occurs in semi-arid mallee habitats in the central, east and north west regions of Eyre Peninsula. Recently recorded in Pinkawillinie Conservation Park and Hincks Wilderness Protection Area, and west of the Middleback Ranges. Further survey work is required to determine the species' distribution on Eyre Peninsula, where it

Species name	Common name	Conservation Status		Source	Likelihood of Occurrence Assessment	Likelihood rationale
		EPBC Act	NPW Act			
						prefers habitats characterised by parallel sand dunes with associations of open mallee with a diverse shrub layer and *Triodia* spp. (Spinifex).
Trichosurus vulpecula	Common Brushtail Possum		R	2	Possible	A solitary, nocturnal and arboreal marsupial, endemic to Australia. Prefer to make a nest in a tree-hole, but in their absence will make a nest in hollow logs, abandoned burrows and roof spaces. Small population exists on Eyre Peninsula, including the Koppio Hills.
REPTILIA	**Reptiles**					
Echiopsis curta	Bardick		R	2	Likely	Widely distributed from the coast and interior of south-western Western Australia, through southern Australia to western Victoria and south-western New South Wales. Inhabits hummock grasslands, mallee areas and tall shrublands on sandy or loamy soils, usually in association with run-off slopes and drainage from local sites. A variety of shelter sites are used, including under fallen timber and rocks, dense matted vegetation, among leaf-litter, and beneath the overhanging foliage of shrubs, grass tussocks or hummocks.
Morelia spilota	Carpet Python		R	2	Possible	Found throughout Australia in a variety of habitats, this species is found on the northern Eyre Peninsula mainly within unburnt mallee vegetation, with a number of records from in and around the Middleback Ranges and Ironstone Hill Conservation Park.
Neelaps bimaculatus	Western Black-naped Snake		R	2	Likely	Restricted to sandy areas supporting heaths, shrublands and woodlands. Reliable record within last 10 years and suitable habitat occurs within the Project Area.
AMPHIBIA	**Amphibians**					
Pseudophryne bibronii	Brown Toadlet		R	2	Likely	Found in damp areas containing logs and pebbles, common in east coast states and Kangaroo Island and south-east South Australia, rare in Mount Lofty Ranges. Few records exist on Eyre Peninsula, one

Species name	Common name	Conservation Status		Source	Likelihood of Occurrence Assessment	Likelihood rationale
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						15 km north-northwest of Port Lincoln, and one potential call recorded in Koppio Hills (Brandle 2010).

9. Attachments

Attachment 1 - Eyre Peninsula Transmission Line – Biodiversity Assessment Report (Bookmarked PDF)

Attachment 2 - Eyre Peninsula Transmission Line Native Vegetation Assessment (Bookmarked PDF)

Attachment 3 - Eyre Peninsula Link EPBC Act Flora Survey – Winter 2020 (Bookmarked PDF)

Attachment 4 - Eyre Peninsula Link EPBC Act Flora Survey – Spring 2020 (Bookmarked PDF)

Attachment 5 – Vegetation Association Maps (Bookmarked PDF)

Attachment 6 - Spatial Data (ARCGIS shapefiles)

Attachment 7 - EP Transmission Line Threatened Species Management Plan (Construction) (Bookmarked PDF)

Attachment 8 – SEB Scoresheets

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